

Metals and mining October 2026

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MINDING THE GAP

RE-ANALYSING THE DISCOUNT FROM PEA TO BFS

THEMES

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EDISON

Minding the gap

Re-analysing the discount from PEA to BFS

Metals and mining

26 October 2026

‘We can ignore reality, but we can’t ignore the consequences of ignoring reality.’

Ayn Rand

Edison has once again analysed pre-production junior miners to determine what their valuations tell the industry about investors’ appetites for exploration assets.

New deposits with exploration upside preferred

In sharp contrast to previous years, there is definite evidence that investors are giving precedence to lower confidence inferred gold resources over measured ones – presumably reflecting a desire to identify new deposits. This is also true for vanadium, lithium and iron ore deposits. By contrast, uranium appears to represent the other end of the spectrum, with almost all value in uranium deposits existing within the measured category of resources.

While the value of a number of in-situ resources demonstrated attractive gearing to their associated refined metals prices over the past seven years, the industry has been characterised by a distinct lack of the beta expected of junior mining companies. As a consequence, many resources are cheap relative to history, with gold resources arguably cheaper than at any time since at least July 2010 and nowhere near the levels of 2010–12. At the same time, almost all metals demonstrate investors’ willingness to pay premium prices for small deposits with blue-sky exploration potential (with the notable exception of bauxite, where investors instead seem happy to pay a size premium).

Market multiples yet to catch up with NPV increases

Further along the Lassonde curve, discount rates applied to projects by consultants have devolved down to very nearly just two: 5% (predominantly applied to precious metals) and 8% (applied to almost everything else). In contrast to these rates, Edison has calculated the definitive range of discount rates that the market implicitly applies to development projects (Exhibit 16). We have reconciled these with EV/NPV (sometimes called P/NAV) multiples, shown in Exhibit 19. Among other things, the analysis demonstrates the value contraction that occurs as companies progress their projects from PEA to PFS. In contrast to prior years however, there is almost no discernible relationship between companies’ valuations and either the grade, jurisdiction, size or internal rate of return (IRR) of their projects, leading us to speculate that the defining factor in determining company valuations is now the quality (or perceived quality) of management. This is in sharp contrast to the past, when we estimate that as much as 97% of a company’s valuation could be determined by its project’s grade, jurisdiction, size and IRR. Of interest to those looking to enter the market, we now estimate the ‘average’ project has an IRR of 39.7% and a net present value (NPV) of US$1,165.0m (79.6% higher than in 2018). However, in general, investors will now value a company with such a project at a much smaller multiple of NPV than they did previously.

Finally, on pages 60–63 we investigate what characterises a ‘typical’ gold deposit in 2026.

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Executive summary

In past publications, we have derived differentiated values for measured, indicated and inferred gold resource ounces listed in London, Canada and Australia. This report updates these numbers.

We have also performed an enterprise value (EV) to project NPV analysis for 93 companies. The analysis encompasses nine commodities at three distinct stages of development, namely preliminary economic assessment (PEA), pre-feasibility study (PFS) and bankable feasibility study (BFS), to update our understanding of the relationship between seven project variables (NPV, grade, IRR, size, jurisdiction, discount rate and product) and their host companies' valuations.

For both the in-situ value and the EV/NPV analyses, we have also performed multiple regression analyses in order to corroborate (or disprove) our findings.

Gold in-situ values

Results for gold explorers, including the variance in calculated values from our previous report (Gold stars and black holes: Analysing the discount from resource to sanction published in January 2019), are provided in the table below. Results for the whole suite of metals and minerals analysed are provided in Exhibit 5 on page 6.

Exhibit 1: Global average value of in-situ explorers' gold resources, by listing, US$/oz

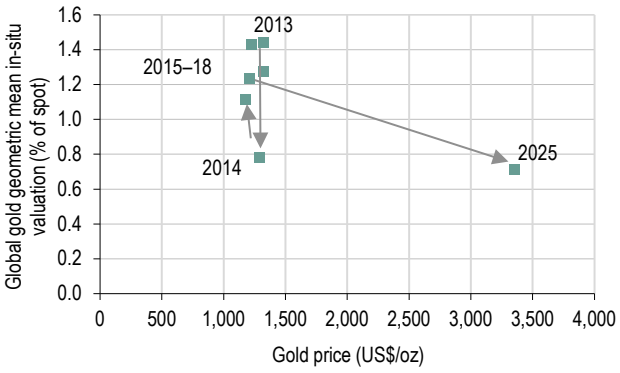
	August 2025				July 2018				Variance (%)			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
London market	N/A	2.29	114.31	26.71	61.19	8.68	7.87	9.88	-100.0	-73.6	1,352.5	170.4
Canadian market	(9.84)	6.34	56.75	21.47	29.12	13.82	7.87	13.83	-133.8	-54.1	621.1	55.2
Australian market	(123.65)	(37.82)	153.47	56.46	62.88	24.84	7.87	24.08	-296.6	-252.2	1,850.0	134.5
Arithmetic mean	**(66.74)**	**(9.73)**	**108.18**	**34.88**	**51.06**	**15.78**	**7.87**	**15.93**	**-230.7**	**-161.7**	**1,274.5**	**119.0**
Geometric mean	**(10.64)**	**(31.83)**	**114.31**	**23.84**	**32.78**	**12.33**	**11.07**	**14.95**	**-132.4**	**-358.2**	**932.6**	**59.4**

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

A number of features of the results are immediately apparent with respect to gold explorers:

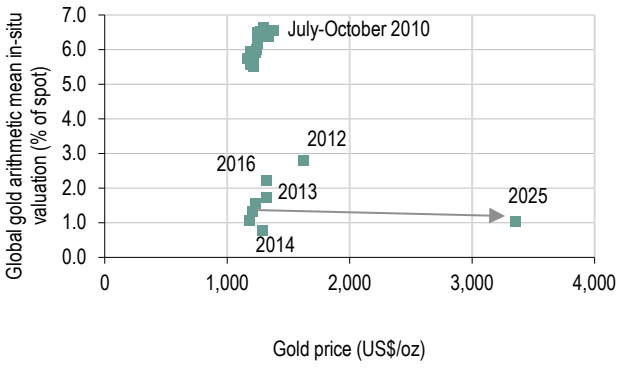
- The increase in the geometric average value of in-situ resources of 59.4% and the increase in the arithmetic value of in-situ resources of 119.0% both represent underperformance relative to the increase in the price of gold of 178.0% over the same period. Measured as a percentage of the price of gold therefore, the geographic mean in-situ value of gold ounces is at its lowest since this series of reports began, while the arithmetic mean (which tends to over-weight higher-value resources listed in Australia and London) is at its second lowest ever:

Exhibit 2: Global gold geometric mean in-situ value of gold resources as percent of the gold price, 2013–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

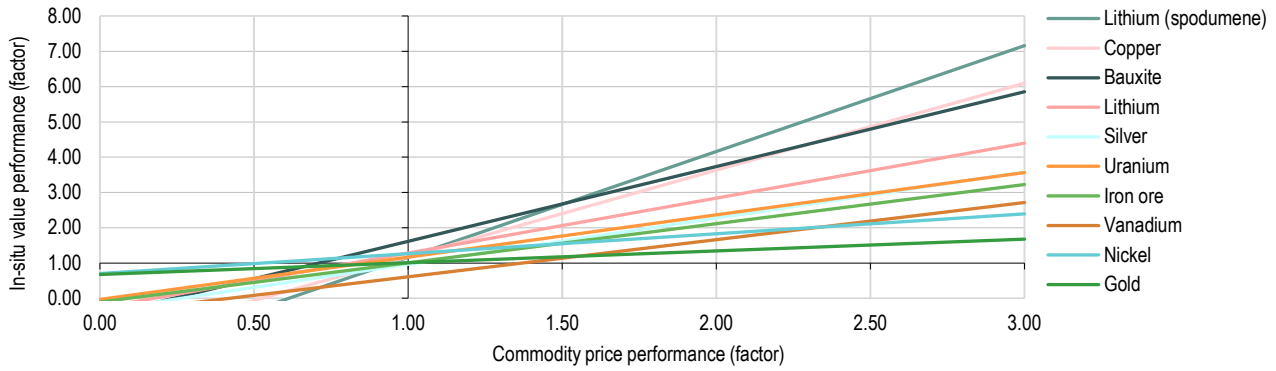
Exhibit 3: Global gold arithmetic mean in-situ value of gold resources as percent of the gold price, 2010–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

- By market, the highest valuation of in-situ ounces overall is in the Australian market, followed by the London market and the Canadian market, albeit this might reflect the average grade of the resources in question, which is highest in Australia and lowest in Canada (see Exhibit 28).
- The most striking feature of the results was their inverted nature, with (for the first time within the context of this series of reports) in-situ ounces in the inferred category being valued more highly in the market than indicated ounces, which themselves are valued more highly than measured ounces.
- As a result, we calculate that increasing a company's inferred (gold) resources is strongly value adding in the Australian market and that it could be value adding to increase its indicated resources in the Canadian market specifically, but that (at the current time) it is never value adding to increase a company's measured resources in any market.
- By means of a regression analysis, we calculate that gold in-situ resources have delivered the lowest gearing of any of the 10 metals and minerals profiled in this report (since we started tracking the data) with respect to the performance of their associated metal:

Exhibit 4: In-situ value change (factor) versus metal price change (factor) for metals/minerals profiled in this report



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Derived from regression analysis performed in 2025.

In-situ valuation summary

Exhibit 5: Selected metals and minerals in-situ values, costs of discovery, etc, 2025

Resource multiple	AIM gold	Canada gold	Australia gold	Global gold (geo)	Global gold (arith)	Silver	Uranium	Iron ore	Copper	Nickel	PtE	Coal (thermal)	Coal (met.)	Potash (SOP)	Potash (SOP Brine)	Potash (MOP)	Zinc	Vanadium	Tungsten	Lithium	Lithium (spodumene)	Graphite	Bauxite
Measured	0.00	-9.84	-123.65	-10.64	-66.74	4.20	9.73	-0.208	4.69	-24.37								-6.50		-29.27	-39.73		0.06
Indicated	2.29	6.34	-37.82	-31.83	-9.73	-0.15	0.64	0.144	188.75	66.40								35.90		85.94	75.41		1.09
Inferred	114.31	56.75	153.47	114.31	108.18	1.93	0.08	0.037	-8.88	23.90								10.73		4.83	59.67		1.64
Total/Average	26.71	21.47	56.46	23.84	34.88	1.16	1.49	0.046	76.75	37.10								13.76		23.94	63.26		1.10
Spot price	3,358	3,358	3,358	3,358	3,358	36.15	71.10	101.60	9,744	15,572								11,797		9,386	9,386		66.00
Unit	$/oz	$/oz	$/oz	$/oz	$/oz	$/oz	$/lb	$/t	$/t	$/t	$/oz	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t
Percentages of spot																							
Measured	0.00%	-0.29%	-3.68%	-0.32%	-1.99%	11.62%	13.68%	-0.20%	0.05%	-0.16%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.06%	N/A	-0.31%	-0.42%	N/A	0.09%
Indicated	0.07%	0.19%	-1.13%	-0.95%	-0.29%	-0.41%	0.90%	0.14%	1.94%	0.43%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.30%	N/A	0.92%	0.80%	N/A	1.65%
Inferred	3.40%	1.69%	4.57%	3.40%	3.22%	5.34%	0.11%	0.04%	-0.09%	0.15%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09%	N/A	0.05%	0.64%	N/A	2.48%
Total/Average	0.80%	0.64%	1.68%	0.71%	1.04%	3.21%	2.10%	0.05%	0.79%	0.24%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.12%	N/A	0.26%	0.67%	N/A	1.67%
Costs of discovery																							
Measured	36.82	36.82	36.82	36.82	36.82		1.37				4.18												
Indicated	10.5	10.5	10.5	10.5	10.5		0.92				1.26												
Inferred	7.16	7.16	7.16	7.16	7.16		0.09				0.90												
Total/Average	8.81	8.81	8.81	8.81	8.81		1.02				0.90												
Percentages	0.26%	0.26%	0.26%	0.26%	0.26%		1.43%				N/A												
Return on upgrade																							
Measured		-161.5	-426.1	-19.5	-316.6		1,920.0				-100.0												
Indicated	-3,453.9	-1,609.3	-5,827.2	-4,475.5	-3,630.2		-32.5				-100.0												
Inferred	1,496.5	692.6	2,043.4	1,496.5	1,410.9		-11.1				-100.0												
Number of companies	3	60	17	80	80	26	18	16	16	16								6		16	3		3

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Platinum equivalent (PtE) costs of discovery derived from Witwatersrand gold cost of discovery. Effective date: August 2025.

Exhibit 6: Selected metals and minerals in-situ values, costs of discovery, etc, 2018

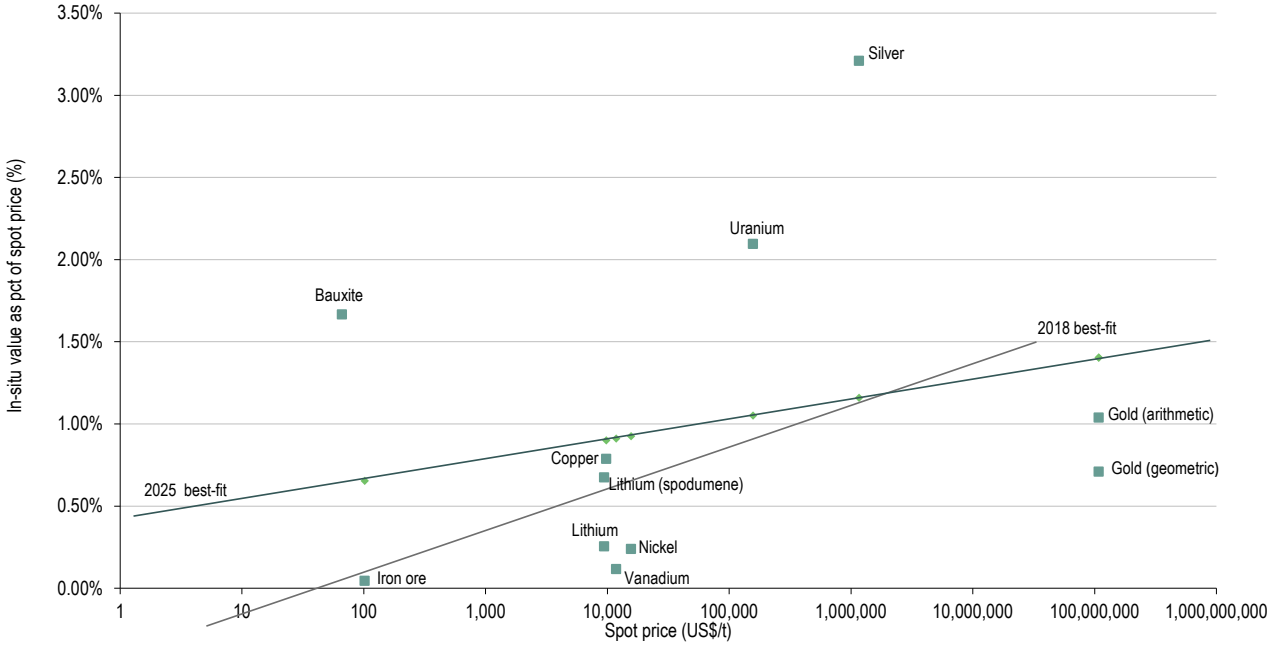
Resource multiple	AIM gold	Canada gold	Australia gold	Global gold (geo)	Global gold (arith)	Silver	Uranium	Iron ore	Copper	Nickel	PtE	Coal (thermal)	Coal (met.)	Potash (SOP)	Potash (SOP Brine)	Potash (MOP)	Zinc	Vanadium	Tungsten	Lithium	Lithium (spodumene)	Graphite	Bauxite
Measured	61.19	29.12	62.88	32.78	51.06	-0.65	-3.67	0.044	-269.56	144.18	-25.81	0.038	0.165	-6.58	4.40	-0.40	2.83	213.26	622.60	130.16	308.80	-10.83	6.47
Indicated	8.68	13.82	24.84	12.33	15.78	0.25	1.52	0.060	99.10	16.68	7.77	0.030	0.065	1.70	0.57	0.20	8.08	117.99	294.30	34.55	216.45	10.73	1.80
Inferred	7.87	7.87	7.87	11.07	7.87	1.29	0.22	0.021	11.87	4.51	3.61	0.015	0.019	0.41	0.57	0.003	7.23	8.48	154.27	34.55	216.45	2.80	-0.26
Total/Average	9.88	13.83	24.08	14.95	15.93	0.44	0.46	0.043	22.50	19.75	2.00	0.030	0.055	0.76	0.78	0.020	6.79	52.31	272.29	53.84	222.61	3.41	-0.03
Spot price	1,208	1,208	1,208	1,208	1,208	15.84	25.73	69.09	5,882	12,982	791	118	170	600	600	216	2,650	45,203	33,500	15,570	15,570	1,750	41.00
Unit	$/oz	$/oz	$/oz	$/oz	$/oz	$/oz	$/lb	$/t	$/t	$/t	$/oz	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t	$/t
Percentages of spot																							
Measured	5.07%	2.41%	5.20%	2.71%	4.23%	-4.10%	-14.29%	0.06%	-4.58%	1.11%	-3.26%	0.03%	0.10%	-1.10%	0.73%	-0.18%	0.11%	0.47%	1.86%	0.84%	1.98%	-0.62%	15.78%
Indicated	0.72%	1.14%	2.06%	1.02%	1.31%	1.56%	5.92%	0.09%	1.68%	0.13%	0.98%	0.03%	0.04%	0.28%	0.10%	0.09%	0.30%	0.26%	0.88%	0.22%	1.39%	0.61%	4.38%
Inferred	0.65%	0.65%	0.65%	0.92%	0.65%	8.12%	0.87%	0.03%	0.20%	0.03%	0.46%	0.01%	0.01%	0.07%	0.10%	0.00%	0.27%	0.02%	0.46%	0.22%	1.39%	0.16%	-0.63%
Total/Average	0.82%	1.14%	1.99%	1.24%	1.32%	2.78%	1.80%	0.06%	0.38%	0.15%	0.25%	0.03%	0.03%	0.13%	0.13%	0.01%	0.26%	0.12%	0.81%	0.35%	1.43%	0.19%	-0.06%
Costs of discovery																							
Measured	36.82	36.82	36.82	36.82	36.82		1.37				4.18												
Indicated	10.5	10.5	10.5	10.5	10.5		0.92				1.26												
Inferred	7.16	7.16	7.16	7.16	7.16		0.09				0.9												
Total/Average	8.81	8.81	8.81	8.81	8.81		1.02				0.9												
Percentages	0.73%	0.73%	0.73%	0.73%	0.73%		3.97%				0.11%												
Return on upgrade																							
Measured	99.5	-41.9	44.5	-22.3	34.0		-1,255.1				-1,249.7												
Indicated	-75.7	78.2	408.0	-62.4	136.8		56.6				1,053.3												
Inferred	10.0	10.0	10.0	54.7	10.0		148.5				301.6												
Number of companies	7	36	23	66	66	11	25	20	20	10	3	6	6	4	3	6	10	3	6	9	4	14	2

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Platinum equivalent (PtE) costs of discovery derived from Witwatersrand gold cost of discovery. Effective date: August 2018.

In-situ values of other metals

Plotted relative to the market value of each of their commodities, in-situ resources are valued as follows.

Exhibit 7: In-situ resource values versus spot prices, selected metals and minerals



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In contrast to previous years, the relationship between the logarithm of the price of a metal and its in-situ value can no longer be said to be statistically significant at the 5% level, given the number of data points in the analysis. However, it has been in the past and, we believe, is likely to be again in the future.

Of the three metals and minerals that may be considered to have 'above trend' in-situ valuations, bauxite valuations have been extremely volatile over the past seven years. Otherwise, uranium has been consistently above trend in terms of its valuation ever since it has been included in this series of reports. Silver's position may be rationalised (at least partly) in terms of its co-products – typically at least lead and zinc. Anecdotally, silver explorers' in-situ silver resources typically amount to about half of their silver equivalent resources. If this is adjusted for, then the silver equivalent point may be located at a level of 1.6% of the spot value of silver (on the y-axis) and thus within the error of estimation of the analysis.

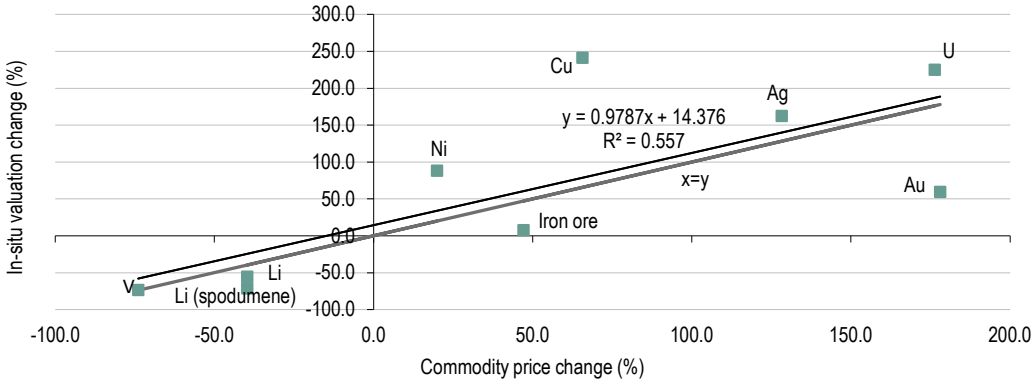
The best-fit line of the points in 2025 is much shallower than the equivalent line in 2018. This is largely a function of the position of bauxite within the analysis. If it is removed, the best-fit line reverts to almost exactly that observed in 2018. Alternatively, if the bauxite point shows itself to be sustainable at this level, then it suggests that low-value resources that have hitherto been unable to attract in-situ valuations (eg limestone) may now be able to do so.

Equity markets reflecting commodity markets

Of the nine distinct metals and minerals profiled, the prices of seven (copper, uranium, nickel, gold, silver, iron ore and bauxite) have increased since our last report (Gold stars and black holes, published in January 2019). In the same timeframe, the prices of two (lithium and vanadium) have declined.

Excluding bauxite (which was an obvious outlier), in the seven years since our last comparable analysis, if the price of a metal/mineral rose then so did the value of its in-situ resources:

Exhibit 8: In-situ value change (%) versus price change (%) for metals/minerals profiled in this report, 2025 versus 2018

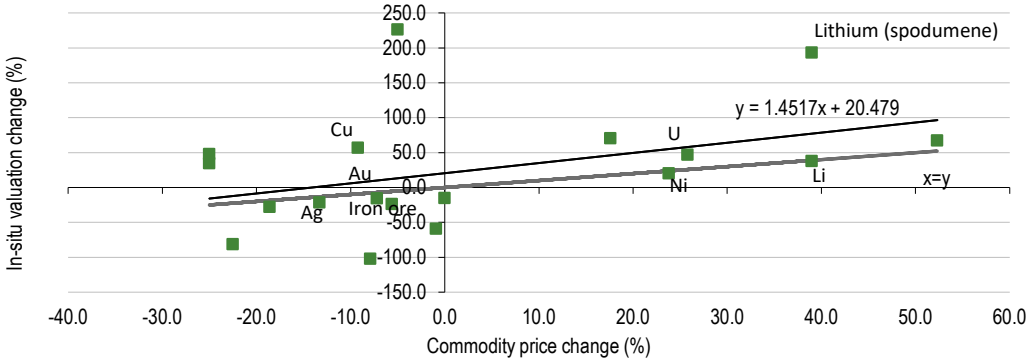


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Analysis of the best-fit line, however, shows that, while the performance of individual commodities varied widely, across the whole spectrum of the industry, in-situ resources offered little or no gearing (beta) relative to their refined product prices, although they did continue to offer some alpha (14.376% – see Exhibit 8, above). Within this context, readers should note the outsized performance of copper, lithium and bauxite (not shown) in-situ resources relative to the performance of their refined products and compare and contrast these with our findings in Exhibit 4, above.

Nevertheless, this absence of beta was in contrast to the finding of our report in 2018, which demonstrated gearing of 1.4517x relative to the commodity price in the value of in-situ resources as well as alpha of 20.479%:

Exhibit 9: In-situ value change (%) versus price change (%) for metals/minerals profiled in this report (vanadium removed), 2018 versus 2017



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The continued evidence for alpha in the value of in-situ resources persuades us that junior explorers continue to exist within a broadly 'bullish' investment environment. However, we find the absence of beta curious and will keep it under review. Either way, however, the equity markets do not appear to be pre-empting the commodity markets, or vice versa, as evidenced by the absence of points in either the top left or the bottom right quadrants of the graph.

Equity markets provide a fertile environment for prospective ground

For five metals/minerals (silver, iron ore, nickel, lithium and vanadium) equity markets demonstrate statistically significant discounting of future exploration success. For one (spodumene), the

correlation is similarly high, but the sample of companies from which it is derived is too small to say that it is statistically significant (at least at the 5% level). For three (copper, gold and uranium), the results are similarly statistically unsatisfactory; however, we believe that, in these cases, the result is more nuanced, with the populations of each group containing discrete sub-samples in which blue-sky exploration success is both discounted and not discounted (presumably predicated on geological considerations). Within this context, we note that uranium, for example, has exhibited this characteristic very strongly in the past.

Only one mineral (bauxite) exhibited a positive correlation between resource size and in-situ valuation (ie the larger the resource, the higher the in-situ resource multiple), although, once again, the sample size was too small for the result to be considered statistically significant.

Valuation pitfall of 'over-exploring'

A number of metals and minerals exhibit a discounted valuation for measured resources relative to indicated ones. Whether or not this reflects the market's approach to the valuation of equities, it clearly indicates that exploration to delineate measured resources is likely to be a value-destructive exercise for the companies concerned. Historically, these commodities have tended to be 'bulk' in nature. However, this feature of valuations now encompasses seven metals and minerals:

- In the cases of vanadium, lithium and iron ore, the finding that measured resources are at a discount in value to indicated ones in our in-situ analysis is also corroborated by the findings of our complementary multiple regression analyses.
- In the case of gold, evidence that the value of measured ounces in-situ was at a discount to the value of indicated ounces could be corroborated for the Canadian market only. There was evidence that this was true of the Australian and London markets as well. However, this could not be corroborated across all statistical techniques.
- For lithium (spodumene), the sample size of companies was too small for the multiple regression analysis to either confirm or contradict the finding of our in-situ analysis.
- The results from our multiple regression analyses for copper, nickel meanwhile flatly contradicted those of our in-situ analysis.

The reasons for this apparent anomaly whereby measured resources are valued at a discount to indicated ones are a matter for conjecture. In Edison's opinion, it could reflect something as simple as certain commodities (eg lithium) being out of favour with equity markets. Alternatively, it could reflect a market judgement that earlier-stage indicated and inferred resources are imbued with more valuation optionality than measured ones. It could also reflect the effect on the share prices of companies with measured resources of a prolonged and unsuccessful period of investment. Equally, it could be a combination of these.

Of the remaining three metals/minerals:

- For uranium, the in-situ analysis and the multiple regression analysis corroborate each other strongly that the vast majority of value in uranium deposits is contained within their measured resources only.
- Silver is unusual in that both in-situ and multiple regression analyses identify that measured resources command a premium valuation over indicated ones, but also that inferred resources command a premium valuation over indicated resources. Possibly, this could reflect silver exhibiting both precious characteristics (like gold) at the same time as reflecting industrial characteristics (like uranium).
- For bauxite, the sample size of companies was too small for the multiple regression analysis to either confirm or contradict the finding of our in-situ analysis (which nevertheless did exhibit a measured resource value premium, as it also did in our 2018 analysis).

Listing an explorer with no resources

One further feature of the multiple regression analyses is that, unlike the in-situ analyses (which implicitly imply that a company with no resources has no EV), they generate a 'constant' in the formulae of the equations that describe the valuations of the companies analysed. For each metal, for which a multiple regression analysis was possible, these are shown below. Albeit the absolute level of the intercept calculated may be subject to varying degrees of confidence, to some extent they provide a proxy indicator for conditions in their associated equity markets. In 2025, stand-out positive intercepts were calculated for copper, ASX-listed gold and nickel, with a negative one for uranium.

Exhibit 10: Valuation intercepts derived from multiple regression analyses, by commodity, with associated t-Stats and P-values

Commodity	Intercept (US$m)	Degree of confidence	Standard error	t Stat	P-value	Lower 95%	Upper 95%
Gold (TSX listed)	23.0	**Low**	35.05171174	0.656162844	0.514406517	-47.21738536	93.2166471
Gold (ASX listed)	76.8	**Low**	46.23629439	1.660997830	0.120626693	-23.08905655	176.6858258
Uranium	(38.6)	**Low**	147.7554	-0.26121	0.79748	-353.529	276.3373
Copper	143.4	**Moderate**	74.19148045	1.933381484	0.077126876	-18.20891488	305.089784
Silver	39.6	**Low**	64.25805	0.616952	0.543599	-93.6189	172.9071
Nickel	75.7	**Moderate**	37.36142744	2.027065735	0.065465798	-5.669488081	157.1376268
Iron ore	39.5	**High**	14.46035326	2.729387852	0.018287208	7.961509316	70.97431574
Vanadium	8.0	**Low***	4.22550741	1.901773512	0.197552668	-10.14493293	26.21684906
Lithium	43.6	**Weak**	25.31868415	1.723972664	0.110353431	-11.5159545	98.81339322
Average	**45.1**						

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Small sample size.

The implication of these constants is that aspiring uranium companies need to come to the world's equity markets with a material resource (preferably in the measured category of resources) in order to be afforded any value by the equity markets. By contrast, entrepreneurs looking to bring aspiring copper, nickel and gold (to the ASX specifically) companies to the world's equity markets can do so with no resources whatsoever and may still be afforded a material valuation in the form of their EVs.

EV/NPV analysis confirms PFS valuation discount over time

For the second time in as many reports, Edison has performed an EV to project NPV analysis on the largest sample of companies possible across three distinct stages of development, namely PEA, PFS and BFS. The intention of the analysis was to investigate the relationship between seven project variables (NPV, grade, IRR, size, jurisdiction, discount rate and product) and the valuations of their host operating companies.

In conducting our analysis, we concluded that the 'average' project has a published NPV of US$1,165m (cf US$649m previously in 2018 – an increase of 79.6%), but an almost unchanged IRR of 39.7% (cf 40.1% previously). While NPVs have increased however, as a percentage of NPV, valuations actually appear to have contracted, in particular for companies with projects at PFS and BFS stage of development. As before, the distribution of valuations relative to project economics remains skewed to the right, albeit to a much lesser extent than in 2018 and with almost no companies with negative valuations. Strikingly however, the pattern whereby valuations are lower for companies with projects at PFS stage than for companies with projects at PEA stage (despite the IRRs of projects at these stages being – on average – almost identical) has persisted for the third time in succession, over a period of eight years, leading Edison to conclude that it is not an 'anomaly' but an enduring feature of the market:

Exhibit 11: Company EV as percentage of attributable project NPV (%), by study type, statistical summary

	2025						2018					
	Minimum	Mode interval	Mean (excl outliers)	Mean	Maximum	Range	Minimum	Mode interval	Mean (excl outliers)	Mean	Maximum	Range
PEA	0.0%	0–10%	13.4%	16.7%	63.2%	63.2%	-24.3%	0–10%	11.7%	24.1%	154.2%	178.5%
PFS	0.0%	0–10%	7.6%	11.5%	74.0%	74.0%	-15.4%	0–10%	9.9%	18.2%	202.9%	218.3%
BFS	-0.1%	0–10%	16.7%	26.4%	217.4%	217.5%	-10.1%	10–20%	30.9%	66.5%	524.4%	534.5%
All studies	**-0.1%**	**0–10%**		**19.2%**	**217.4%**	**217.5%**	**-24.3%**	**0–10%**		**33.1%**	**524.4%**	**548.7%**

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

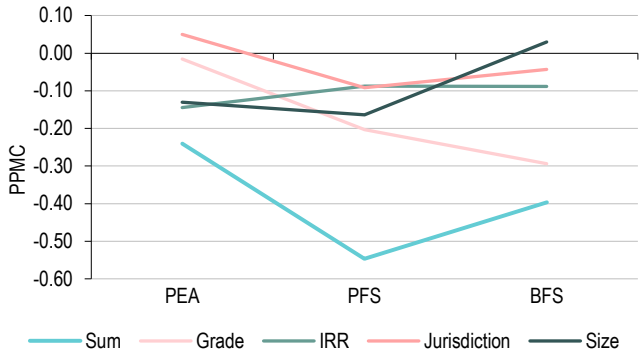
Grade, jurisdiction, IRR and project size

In analysing a company's valuation with respect to a number of variables in 2018, we were able to come to the following conclusions:

- As in 2017, IRRs remained very important to companies' valuations at early-stage, PEA-level projects, but became less so as the project was developed through to BFS.
- Jurisdiction was important to company valuations at BFS stage of development.
- Project size appeared to be very important in contributing to valuations for companies at BFS stage, but appeared to detract from companies' valuations at earlier stages of development.
- Grade appeared to be much less important for a company's valuation than in 2017.

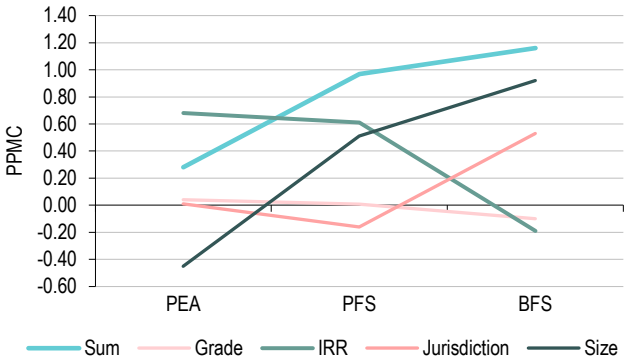
In 2025 however, none of these conclusions remained valid, with most of these variables, for most stages of development, recording negative Pearson product moment (correlation) coefficients (PPMCs), at first glance suggesting that the better its jurisdiction, the higher its grade, the bigger its size and the higher its IRR, the worse a company's valuation will be.

Exhibit 12: Graph of PPMC versus stage of development for four factors influencing valuation, 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: PPMC, Pearson product moment (correlation) coefficient.

Exhibit 13: Graph of PPMC versus stage of development for four factors influencing valuation, 2018 (final)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: PPMC, Pearson product moment (correlation) coefficient.

Edison considers the five principal variables affecting a company's valuation to be: geology, engineering and metallurgy (the three technical variables), jurisdiction and management (implicitly including financing risk). While the above result for 2025 is therefore highly counterintuitive, we can posit three possible explanations:

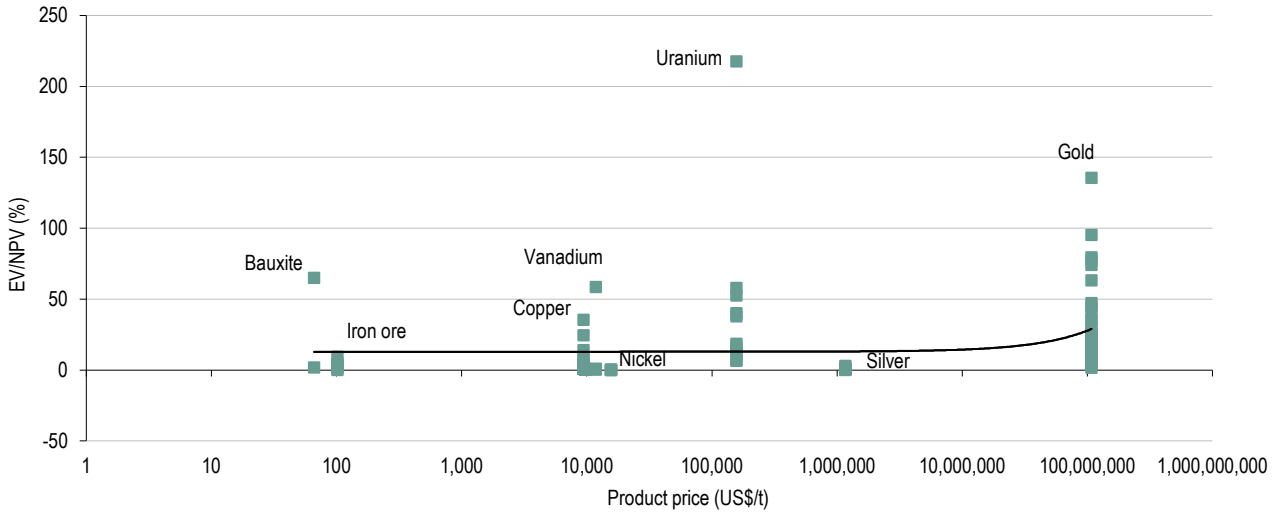
- Company's valuations are being determined by technical metallurgical and engineering factors, which have not been considered in the above analysis (given that they are extremely difficult/impossible to quantify); however, we feel that this is unlikely.
- Valuations in general could be reflecting a degree of chaos being created by 1) metals price volatility and 2) unexpected geo-political developments; we think that this is likely to be at least part of the explanation.
- Valuations could be being influenced more than ever by the quality of the one remaining variable that we have been unable to quantify, which is the quality (or perceived quality) of

management; we think this is a distinct possibility. In considering the closeness of the 'sum' line in Exhibit 12 to the value line (which we consider fully explains a company's valuation), we would therefore conclude that a management team's quality is most critical to valuations for companies at PFS stage of development and least critical (albeit still more important than any single other factor) for companies at PEA stage of development (with BFS stage companies placed somewhere between the two).

Marked market preference for gold and uranium

As in 2018, Edison analysed the effect of a project's main product on company valuations. Whereas in 2018, we found a marked preference for gold, silver and copper in company valuations (as defined by the range of their valuations and their ability to achieve outsized valuations), in 2025 that preference seems to have shifted away from copper and silver and in favour of uranium (with gold continuing to be favoured):

Exhibit 14: Graph of product price (US$/t) versus EV/NPV (%), whole sample



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: From left to right, columns represent bauxite, iron ore, copper, vanadium, nickel, uranium, silver, gold.

Note that the PPMC between price and valuation is statistically significant at the 5% level, with the positive gradient (just) of the best-fit line suggesting that the higher the metal price, the higher the valuation (on average).

Rationalising EV/NPV with discount rates

We first introduced differentiated market derived discount rates for companies at different stages of development in our report Gold: New benchmarks for old, published in November 2012, and updated them in subsequent reports. However, for the first time we have fully reconciled our EV/NPV valuation percentages with the discount rates observed in our earlier analyses.

In 2025, the final results for our EV/NPV percentages for companies at different stages of development is as follows:

Exhibit 15: Refined EV/NPV multiples, by stage of development (%)

	2025 (refined)			2025 (raw)		
Percent	Scoping study/PEA	PFS	BFS	Scoping study/PEA	PFS	BFS
Maximum	53.10	71.68	100.71	63.2	74.0	217.4
Mid	16.70	11.50	26.40	16.7	11.5	26.4
Minimum	3.36	5.63	8.95	0.0	0.0	-0.1

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These EV/NPV percentages correlate exactly to the following discount rates applied to dividends, cash flows and standardised cash flows (as are typically observed in technical reports):

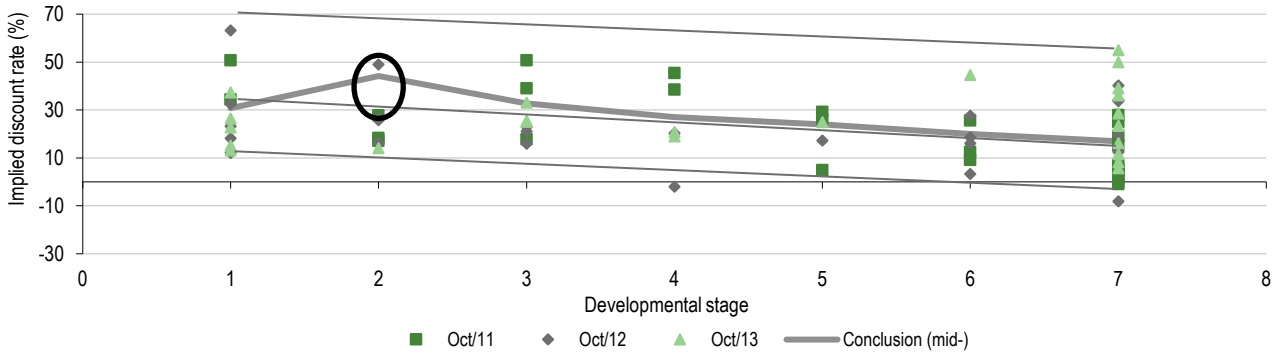
Exhibit 16: Discount rates for companies at different stages of development (%)

	Scoping study/PEA	PFS	BFS	Development	Ramp-up	Production
Original (to be applied to dividends)						
Max discount rate (%)	69.0	66.0	64.0	62.0	60.0	55.0
Mean discount rate (%)	35.0	33.0	30.0	27.0	24.0	17.0
Minimum discount rate (%)	15.0	13.0	10.0	8.0	5.0	0.0
Updated (to be applied to dividends)						
Max discount rate (%)	69.0	66.0	64.0	62.0	60.0	55.0
Mean discount rate (%)	30.8	44.2	32.7	27.0	24.0	17.0
Minimum discount rate (%)	15.0	13.0	10.0	8.0	5.0	0.0
Applied to cash flows						
Max discount rate (%)	61.1	69.5	56.8	69.4	56.8	52.8
Mean discount rate (%)	28.2	42.4	30.2	27.3	23.6	16.7
Minimum discount rate (%)	13.9	12.3	9.3	8.0	5.0	0.0
Applied to study-type cash flows						
Max discount rate (%)	56.3	52.7	47.8	41.7	34.7	27.0
Mean discount rate (%)	36.4	42.8	30.3	22.2	16.8	10.0
Minimum discount rate (%)	18.7	14.4	9.7	6.7	3.3	(0.7)

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Relative to the discount rates that we have employed hitherto, readers' attention is drawn to the upwards inflection at the mid-point of our range for companies at PFS stage (point 2 on the x-axis of the graph below) to reflect the anticipated decline in valuation as the project advances from the PEA stage.

Exhibit 17: Updated discount rates to be applied to dividends for companies at varying stages of development (originally derived in October 2013, October 2012 and October 2011)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: 1 – Scoping study/PEA; 2 – PFS; 3 – BFS; 4 – Development; 5 – Production ramp-up; 6 – Production from subsidiary asset (ie not the main asset); 7 – Full production from main asset.

Honing the EV/NPV analysis

Edison's EV/NPV analysis described above uses NPVs calculated at a variety of different discount rates. For the second time in this series, in 2025, we also conducted an analysis based on the NPVs calculated at two discrete discount rates, namely 5% and 8%, which (from our analysis) proved to be the most commonly used discount rates, accounting for the majority of technical documents studied, as shown below:

Exhibit 18: Discount rates used in technical reports

Discount rate (%)	5%	6%	6.5%	7%	7.5%	8%	9%	10%	11%	12%	Total
2018											
Number of companies within sample	26	0	1	3	4	55	0	12	0	1	**102**
Percentage of total (%)	25.5	0.0	1.0	2.9	3.9	53.9	0.0	11.8	0.0	1.0	**100.0**
2025											
Number of companies within sample	40	2	0	5	1	41	0	4	0	0	**93**
Percentage of total (%)	43.0	2.2	0	5.4	1.1	44.1	0	4.3	0	0	**100.0**

Source: Edison Investment Research, company data

In all other respects the subsequent EV/NPV analyses performed by Edison on the discrete 5% and 8% discount rate samples were identical to those performed on the broader sample of studies. In these cases, the resulting EV/NPV multiple ranges for companies at PEA, PFS and BFS stage were as follows:

Exhibit 19: Refined EV/NPV multiples, by stage of development (%)

	5% sample			8% sample			Whole sample		
Percent	**Scoping study/PEA**	**PFS**	**BFS**	**Scoping study/PEA**	**PFS**	**BFS**	**Scoping study/PEA**	**PFS**	**BFS**
Raw									
Maximum	63.2	74.0	135.3	57.9	35.3	217.4			
Mid	16.4	13.5	46.1	13.1	12.4	18.5			
Minimum	0.1	0.2	2.7	0.0	0.0	-0.1			
Refined									
Maximum	36.86	49.77	69.92	46.03	62.14	87.30	53.10	71.68	100.71
Mid	11.59	7.98	18.33	14.48	9.97	22.89	16.70	11.50	26.40
Minimum	2.33	3.91	6.22	2.91	4.88	7.76	3.36	5.63	8.95

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Parthian shot

In keeping with our 2019 report, we have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the EV/NPV analysis and the four factors that are presumed to influence their valuations: sovereign risk (as measured by the Fraser Institute Investment Attractiveness Index), project IRR, project NPV and type of study. Unlike in 2019 however, we performed this analysis for both projects that used a 5% discount rate in their technical reports and those that used an 8% discount rate.

The whole sample's multiple regression analysis

In the case of the whole sample, the formula for a company's valuation (in US$m) measured with respect to its jurisdiction, IRR, NPV, stage of development and discount rate is as follows:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

This compares with the equivalent formula, in 2018, which was:

EV = 264.9 + (0.09 × Fraser) + (0.5 × IRR) + (0.04 × NPV in millions) - (2.4 × study type) − (30.8 × discount rate)

As before, we believe that circumspection is required in interpreting the results of this analysis. Ub In our view, the features are:

- The decline in the value of the intercept, suggesting a lower (but more reasonable, in our opinion) base for valuations.
- Negative coefficients attached to the IRR and NPV variables (which is counterintuitive).
- The correction of the coefficient relating to study type to a positive one, rather than a negative one (which is intuitive).
- The reduced coefficient relating to discount rate (albeit with the correct negative sign).

- Our confidence in the coefficients generated by the analysis is not especially high, except for that relating to the intercept (which has an associated t-stat of 1.95 and a P-value of 0.054).

Exhibit 20: Junior mining company valuation multiple regression analysis, t-stats results (whole sample)

Variable	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	63.26960492	38.89311503	1.626755915	0.112511806	-15.60928835	142.1484982
Fraser Institute score	-0.562425136	0.412484884	-1.363504842	0.181189938	-1.398983254	0.274132982
IRR	-0.12980852	0.237805025	-0.545861129	0.588528275	-0.612099465	0.352482426
Project NPV	-0.000434417	0.002868263	-0.151456561	0.880461142	-0.006251525	0.00538269
Type of study	-1.138968385	6.774588437	-0.168123628	0.867427005	-14.87847055	12.60053378

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Thus, if a wholly 'average' company is considered, with 100% ownership of a project with an NPV of US$1,165.0m (achieved using a weighted average discount rate of 6.69%), an IRR of 39.7%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80 (the average of those surveyed and approximately the equivalent of New Brunswick in the latest survey), then the implied EV of the company at its various stages of development, as derived using the above equation, would be as follows:

Exhibit 21: Average valuation of company moving through the development pipeline as predicted by the results of a multiple regression analysis with four variables (whole sample)

	PEA	PFS	BFS
Valuation (US$m)	18.6	25.8	33.1
Percentage of NPV (%)	1.6	2.2	2.8

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These may be compared directly with the results of our EV/NPV analysis (Exhibit 19). In this case, the results do not recognise the decline in value between companies with projects at PEA stage or PFS stage of valuation. They also fall below the minimum valuations predicted by the results of our EV/NPV analysis, which appears overly conservative to be a useful tool at this stage. However, we will keep this methodology under review in future years.

The 5% sample's multiple regression analysis

For the sample of companies that used a 5% discount rate in their technical reports, the formula for the best-fit line (in US$m) was as follows:

EV = 16.6 + (0.60 × Fraser) - (0.85 × IRR) - (0.03 × NPV in millions) + (17.88 × study type)

This compares with our result for the whole sample of:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

As before, we believe that circumspection is required in interpreting the results of this analysis. In our view, the notable features are:

- The decline in the value of the intercept, suggesting a lower base for valuations.
- The sharp increase in the coefficient relating to the Fraser Institute, which appears reasonable.
- Negative coefficients attached to the IRR and NPV variables (which is counterintuitive).
- The greater weighting attached to the study type variable.

Moreover, in our confidence in the coefficients generated by the analysis is not especially high.

Nevertheless, if a wholly 'average' company is considered, with 100% ownership of a project with an NPV of US$588.4m (see Exhibit 191), an IRR of 39.3%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80, then the implied EV of the company at its various stages of development, as derived using the above equation, would be as follows:

Exhibit 22: Average valuation of company moving through the development pipeline as predicted by the results of a multiple regression analysis with four variables (5% sample)

	PEA	PFS	BFS
Valuation (US$m)	22.6	40.5	58.3
Percentage of NPV (%)	3.8	6.9	9.9

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These may be compared directly with the results of our EV/NPV analysis (Exhibit 19). In this case, it can be seen the results fall between the minimum and mean valuations predicted by the results of the EV/NPV analysis and may be regarded as 'of the right order of magnitude' but conservative and failing to recognise the expected decline in value as a company advances its project from PEA stage to PFS stage (although this may be too much to expect from a linear equation).

The 8% sample's multiple regression analysis

In contrast to the above, the formula for the best-fit line (in US$m) derived for the 8% sample is as follows:

EV = 63.3 - (0.56 × Fraser) - (0.13 × IRR) - (0.0004 × NPV in millions) − (1.14 × study type)

This compares with our previous result in 2018, of:

EV = -60.1 + (1.0 × Fraser) + (0.6 × IRR) + (0.04 × NPV in millions) − (1.1 × study type)

It also compares with our result for the whole sample of companies and projects of:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

Two features of this result are noteworthy:

- The reversion of the intercept to being a positive number, indicating a higher base for valuations.
- Negative coefficients pertaining to all four other variables, which appear illogical.

As above, statistical confidence in the coefficients relating to the variables is generally low (with the possible exception of that relating to the intercept):

Exhibit 23: Junior mining company valuation multiple regression analysis, t-stat results (5% sample only)

Variable	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	63.26960492	38.89311503	1.626755915	0.112511806	-15.60928835	142.1484982
Fraser Institute score	-0.562425136	0.412484884	-1.363504842	0.181189938	-1.398983254	0.274132982
IRR	-0.12980852	0.237805025	-0.545861129	0.588528275	-0.612099465	0.352482426
Project NPV	-0.000434417	0.002868263	-0.151456561	0.880461142	-0.006251525	0.00538269
Type of study	-1.138968385	6.774588437	-0.168123628	0.867427005	-14.87847055	12.60053378

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Hence, for a wholly 'average' company with 100% ownership of a project with an NPV of US$1,756.8m (at an 8% discount rate, see Exhibit 191), an IRR of 38.2%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80, the evolution of value would be as follows:

Exhibit 24: Average valuation of company moving through the development pipeline as predicted by the results of a multiple regression analysis with four variables (8% sample)

	PEA	PFS	BFS
Valuation (US$m)	18.8	17.7	16.6
Percentage of NPV (%)	1.1	1.0	0.9

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

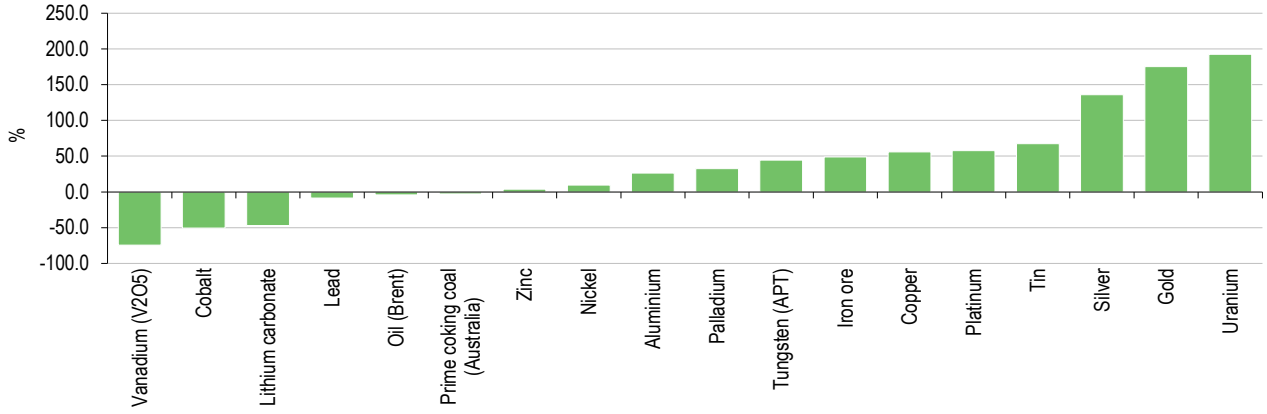
These may be compared directly with the results of our EV/NPV analysis (Exhibit 19). In this case, the results do recognise the decline in value between companies with projects at PEA stage and PFS stage of valuation. However, they also fall below the minimum valuations predicted by the results of our EV/NPV analysis, which appears overly conservative to be a useful tool at this stage.

Differentiated in-situ value analysis

In past publications, as well as average values for total resources, we have derived differentiated values for the measured, indicated and inferred categories of resources. The intention is to derive values for resources as they would be experienced by junior exploration companies and to therefore be able to predict what exploration strategies such a company should pursue to maximise returns for its shareholders. As a result, specifically excluded from this analysis are all major producing companies, because their resources will have already benefited from their parent companies' material investments in capital assets. Hence, their in-situ values will not be directly comparable with their more junior contemporaries.

In contrast to 2018, our 2025 analysis of the value of in-situ resources has been performed in an environment of generally rising metals prices. On average, over the intervening seven years, the prices of 12 commodities have risen, while the prices of only six have fallen, with the (simple) average of all 18 being a rise of 36.8% (between palladium and tungsten in the graph below). Thus, since our last report, nine metals (aluminium, palladium, iron ore, gold, tin, copper, silver, platinum and zinc) have switched from being fallers to risers, while three (vanadium, oil and cobalt) have switched from being risers to fallers, three (tungsten, nickel and uranium) have continued on a rising price profile and two (coal and lead) have continued on a falling profile. There is one new addition (lithium carbonate). In very general terms, it has been the prices of the precious metals that have led the sector.

Exhibit 25: Price performance of major metals and minerals, August 2018 to August 2025 (%)



Source: LSEG Data & Analytics, Edison Investment Research

In the sections below, we interpret the changes in in-situ values over the intervening seven years within the context of these commodity prices moves.

Gold in-situ resource valuations

The in-situ values for gold calculated by Edison across three markets are shown in Exhibit 26, below. While the average value of ounces globally increased by 59.4% (geometric mean) over the seven-year timeframe, this performance was considerably below the increase in the gold price over the same period of 178.0%, from US$1,208/oz to US$3,358/oz. As a percentage of the spot price therefore, valuations decreased across all three markets. Within that general trend however, there were very notable disparities – the most obvious of which is the concentration of value within the inferred category of resources and, possibly, the indicated category, but very definitely not the measured category.

Exhibit 26: Global average value of in-situ explorers' gold resources, by listing, US$/oz

	August 2025				July 2018				July 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
London market	N/A	2.29	114.31	26.71	61.19	8.68	7.87	9.88	17.88	10.27	7.33	10.34
Canadian market	(9.84)	6.34	56.75	21.47	29.12	13.82	7.87	13.83	47.49	6.92	11.64	15.68
Australian market	(123.65)	(37.82)	153.47	56.46	62.88	24.84	7.87	24.08	98.57	36.58	7.33	31.27
Arithmetic mean	**(66.74)**	**(9.73)**	**108.18**	**34.88**	**51.06**	**15.78**	**7.87**	**15.93**	**54.65**	**17.92**	**8.77**	**19.10**
Geometric mean	**(10.64)**	**(31.83)**	**114.31**	**23.84**	**32.78**	**12.33**	**11.07**	**14.95**	**43.70**	**12.89**	**11.00**	**17.54**

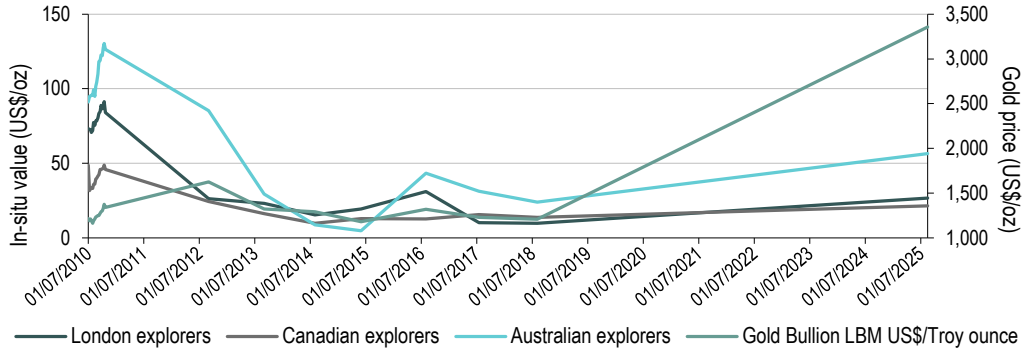
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

With more companies in the sector than London and Australia combined, Canada once again accounted for the majority (92.4% vs 84.8% in July 2018 and 81.5% in November 2017) of ounces analysed. While this means that Canadian valuations are therefore relatively over-represented in the calculation of the global geometric mean (see Exhibit 26 above), this was compensated for by it being able to provide credible sample sizes for companies with inferred resources only, which the London and Australian markets could not.

Readers should note the London market presented considerable difficulties for our analysis, as there was only a very small sample size of pure gold explorers and none with inferred ounces only. Consequently, the value that we used for inferred ounces was the global average of US$114.31/oz (effectively from the Canadian and Australian markets only). Nevertheless, it is notable that, even at this value of inferred ounces, the value of indicated ounces remains positive. Two alternative interpretations of the data are that all ounces in the London market are valued at US$26.71/oz or that inferred ounces are valued at US$13.36/oz and indicated ounces are valued at US$30.44/oz. These would be more traditional interpretations of the data. However, they contradict an otherwise obvious trend in the Australian and Canadian markets for premium valuations for earlier-stage inferred ounces. As such, the values for the London market are asserted, rather than calculated. Nevertheless, they are, to some extent, supported by the recent reverse takeover of Quartzstone (a private company with primarily inferred resources and strong London connections) by XAU Resources, listed in Canada, at a price equivalent to US$109/oz.

Graphically, the valuation performances of resource ounces listed in each jurisdiction relative to the gold price is shown in Exhibit 27 below (note the dropped scale on the secondary y-axis). One obvious feature of the graph is that, while the gold price is at record highs, the valuations of in-situ resources remain below 2010 levels, not only in percentage terms, but also in absolute terms.

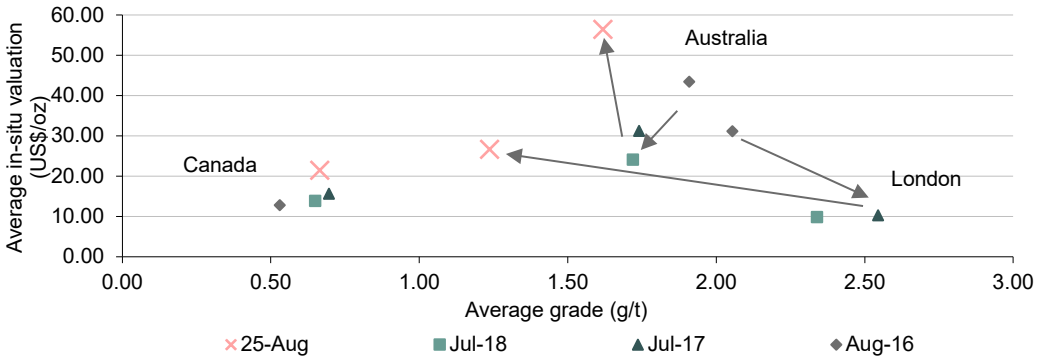
Exhibit 27: Gold resource valuations versus the gold price (US$/oz), by market, 2010–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In percentage terms, the increase in the value of resources listed in London was the greatest (+170.4%), followed by Australia (+134.5%) and Canada (+55.2%). While this, at first glance, may appear irrational, it does, to a large extent, regularise valuations across the three markets with respect to grade:

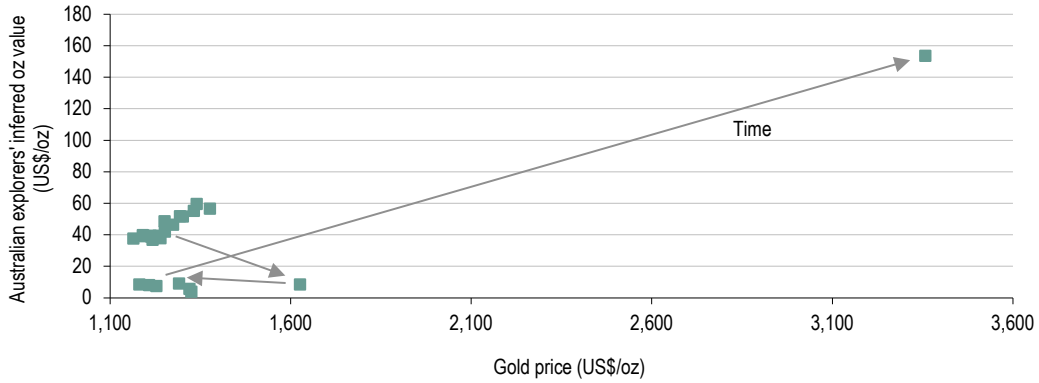
Exhibit 28: Average in-situ gold valuation (US$/oz) versus average grade (g/t), by market



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Within the differentiated analysis, only the values of inferred ounces listed in Australia and London exceed the levels they were at in the period 2010–12, as depicted in the graph below (with the trace of the value of inferred ounces in London being almost identical, but at about two-thirds the value throughout):

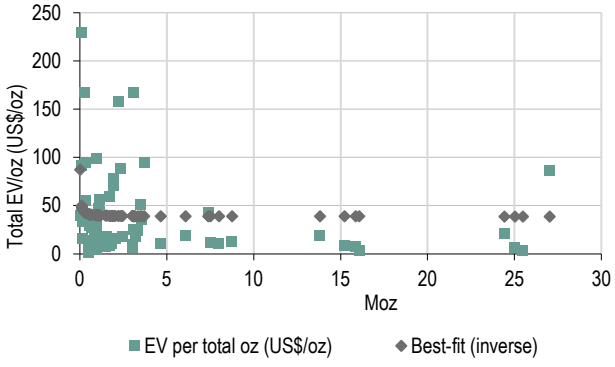
Exhibit 29: Australian-listed inferred ounces valuation compared to the gold price, 2010–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

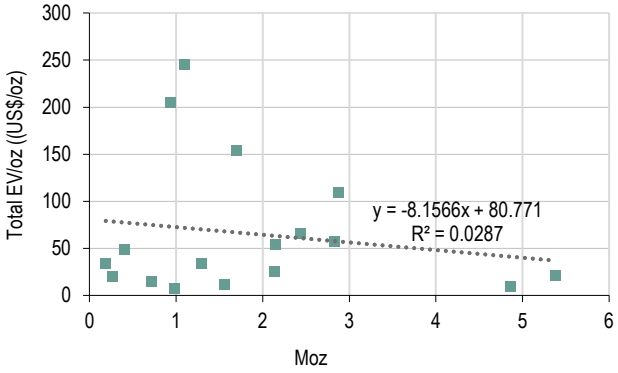
Finally, in the case of both the Canadian and the Australian markets, there is some evidence of a negatively correlated relationship between size and resource multiple (ie a larger size correlates with a lower multiple). While quite visually appealing, (see Exhibits 30 and 31) neither the linear relationship nor the inverse relationship is statistically significant at the 5% level to support such hypotheses. This is in contrast to 2018, when there was statistically significant evidence for an inverse relationship in both markets, and suggests that the relationship between size and resource multiple has become more complex. One reason for this could be that each dataset is composed of two populations: one in which small resources are presumed to have growth potential (and therefore demonstrating the inverse relationship with a high valuation) and a second in which small resources are presumed to remain small (and therefore attracting a roughly similar resource multiple to large resources also deemed to have little blue-sky exploration potential). In the graph for the Australian market (Exhibit 31), for example, companies with 1Moz in resources with blue-sky exploration potential could command valuations of around US$250/oz, such that at 2Moz they would command a valuation of US$125/oz and at 4Moz they would command a valuation of US$62.50/oz (crudely, the points above the line), whereas the points below the line could represent companies with resources with little, or limited, expansion potential, which are valued at c US$0–75/oz. In the case of the Australian market, the blue-sky expansion potential premium appears to end at approximately 3Moz, whereas in Canada it appears to end at approximately 4Moz.

Exhibit 30: Graph of resource size (Moz) vs resource multiple (US$/oz) for Canadian-listed explorers, 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 31: Graph of resource size (Moz) vs resource multiple (US$/oz) for Australian-listed explorers, 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

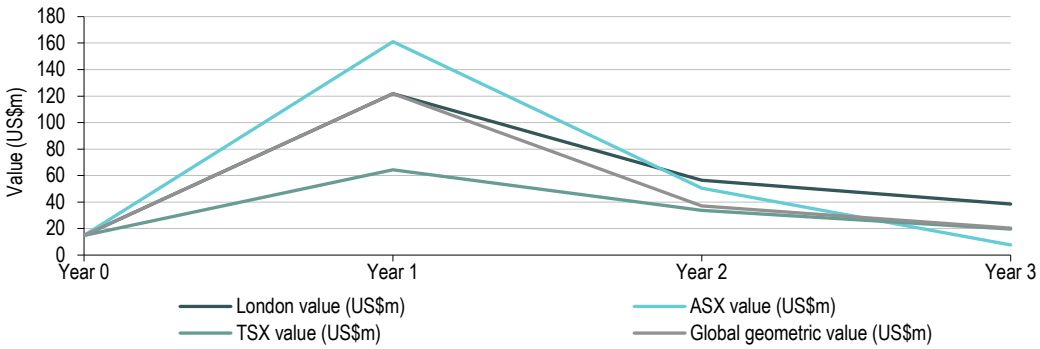
Either way however, this analysis suggests that a premium valuation for a large deposit is hard to achieve. This is in contrast to conditions in the Australian market in 2017, for example, when there was evidence that larger resources commanded a pro rata valuation premium relative to smaller ones.

Financial returns on the gold exploration dollar

In the publication Gold: Valuation benchmarks are obsolete, we, in collaboration with BDO, calculated global average costs of discovery of US$7.16 per inferred ounce, US$10.50 per indicated ounce, US$36.82 per measured ounce and US$8.81 per average ounce.

Companies with indicated and inferred ounces only have them in the proportion 43:57, inferred:indicated, respectively, while companies with measured, indicated and inferred resources have them in the proportion 33:47:20, respectively. Based on the unit cost estimates derived above, the cost to drill up a typical, average deposit of 1Moz, in the ratio 33:47:20 would therefore be US$14.69m in aggregate. At the unit values shown in Exhibit 26, these resources would have a value of US$38.57m in London (vs US$18.67m in July 2018), US$7.67m in Australia (vs US$26.08m) and US$19.62m in Canada (vs US$14.62m), representing returns of 162.5% in London (vs 29.4% previously), -47.8% in Australia (vs +80.7% previously) and +33.5% in Canada (vs +1.3% previously), with an evolution over time as follows:

Exhibit 32: Average gold exploration junior value evolution over time (US$m)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The global average return is 38.6% (vs 10.0% previously).

This analysis is somewhat generous to London in that it ascribes zero value to measured ounces, whereas both the Australian and Canadian markets would suggest that this value should arguably be negative. More striking however are the returns that can be achieved in year 1, when only inferred resources have been defined, of 995.7% in Australia, 729.2% in London and 337.5% in Canada.

Note that, in year 0, the company has cash of US$14.69m; in year 1, it has a resource of 1Moz in the inferred category and cash of US$7.53m; in year 2, it has a resource of 0.43Moz in the inferred category and 0.57Moz in the indicated one and cash of US$5.64m; and in year 3, it has a resource of 33Moz in the inferred category, 0.47Moz in the indicated category and 0.20Moz in the measured category and no cash. At the end of the campaign, the percentage value attributable to each category of resources in each market is as follows:

Exhibit 33: Average gold resource values, by category, selected markets (%)

Resource category	London	Canada	Australia
Measured	0	(10)	(324)
Indicated	3	15	(232)
Inferred	97	95	656
Total	**100**	**100**	**100**

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Numbers may not add up owing to rounding.

Gold multiple regression analysis

As with 2018's data, in this report, we have performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis, compared with those from July 2018, are provided in the table below:

Exhibit 34: In-situ gold valuation multiple regression analysis results, by market (US$/oz*)

	August 2025				July 2018			
	Intercept (US$m)	Measured	Indicated	Inferred	Intercept (US$m)	Measured	Indicated	Inferred
London market	N/A	N/A	N/A	N/A	1.9	17.77	2.66	14.02
Canadian market	23.0	5.82	46.72	(17.39)	2.2	0.28	71.58	(45.66)
Australian market	76.8	12.08	2.50	23.91	(13.5)	(48.95)	91.75	(7.08)

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

Note that the London market had too small a sample size to provide any meaningful results. Aside from that, the t-stat (5.7) and P-value (0.0) related to the value of indicated ounces listed in Canada (US$46.72/oz) suggest a 95% degree of confidence that this value exists within the range US$30.44/oz and US$63.00/oz, while the t-stat (1.7) and P-value (0.12) related to the intercept in Australia (US$76.8m) suggest only a moderate degree of confidence in this value. Note that, in July 2018, there was a similarly high level of confidence that the value applied to indicated ounces listed in Canada lay between US$61.56/oz and US$81.60/oz, supporting (for the second time in succession) that broad contention that it is by adding to, and upgrading, the indicated category of resources that the most value is to be added to stock market valuations in the Canadian market. Otherwise, the most obvious features of the analysis are:

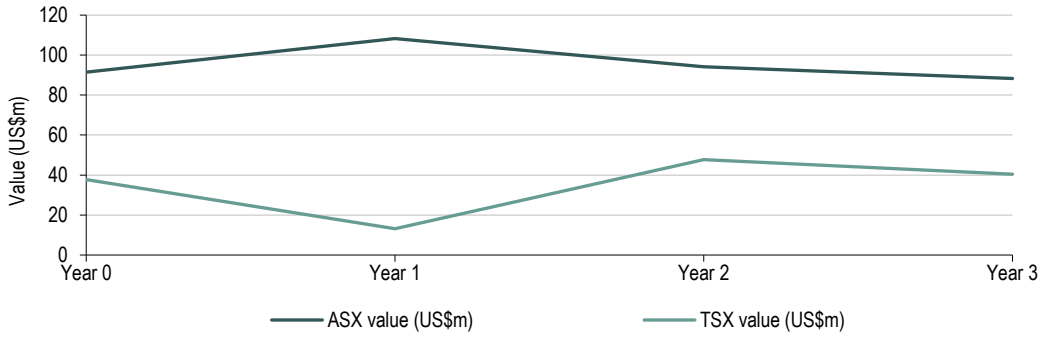
- The increase in the size of the intercepts relative to July 2018. This implies that, theoretically, a gold exploration company looking to list in Canada could do so with an initial valuation of US$23.0m with no resources (cf US$2.2m in 2018), while a company looking to list in Australia could do so with an initial valuation of US$76.8m.

- Within the context of the above point regarding the intercept, the multiple regression analysis for the Australian market corroborates the findings of our differentiated analysis (see Exhibit 26) that the most valuable ounces in the resource are inferred ounces.
- The multiple regression analysis for the Canadian market contradicts the conclusion regarding inferred ounces, but instead suggests that indicated ounces are the most valuable within the resource.

Note that both analyses agree that the most valuable ounces are earlier-stage indicated and inferred ones, rather than later-stage measured ounces.

Nevertheless, the changed coefficients for the different categories of resource ounces in combination with the initial starting condition result in a somewhat different evolution of value over time (directly comparable to Exhibit 32, above).

Exhibit 35: Average gold exploration junior value evolution over time, by market (US$m)



Source: Edison Investment Research multiple regression analysis (underlying data: LSEG Data & Analytics and company sources)

In this case, these resources would have a value of US$88.2m in Australia (vs US$7.67m in the differentiated analysis, above) and US$40.5m in Canada (vs US$19.62m), representing returns of -3.6% in Australia (vs -47.8% above) and +7.4% in Canada (vs +33.5%) relative to the initial valuation in year 0.

In the case of Australia, the best return is 18.3% between year 0 (no resource) and year 1 (inferred ounces only).

In the case of Canada, the best return is 262.6% between year 1 (inferred ounces only) and year 2 (indicated and inferred ounces only).

Relative to the initial cash financing of the company of US$14.69m to undertake the exploration however, the returns are 500.5% in Australia and 175.4% in Canada.

Nevertheless, there are points of reasonable convergence between the differentiated analysis and the multiple regression analysis, in particular in Australia in year 1, with inferred resources only, when the differentiated analysis gives a valuation of US$161.0m and the multiple regression analysis gives a valuation of US$108.2m, and in Canada in year 2, with indicated and inferred resources only, when the differentiated analysis gives a valuation of US$33.7m and the multiple regression analysis gives a valuation of US$47.7m.

Uranium in-situ resource valuations

As in 2018, uranium remained one of the best performing metals and minerals, rising 176.4% and causing a 224.8% recovery in the average value of (total) resources, from US$0.46/lb to US$1.49/lb. At the same time, valuations between the different categories of resources reverted to

a more conventional sequence, with measured resources valued most highly, ahead of indicated resources, which themselves were ahead of inferred resources:

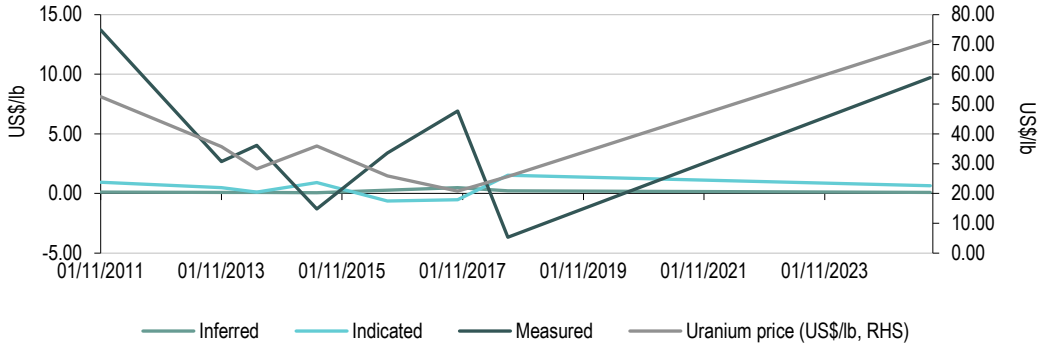
Exhibit 36: Global average value of in-situ explorers' uranium resources (US$/lb)

	August 2025				July 2018				July 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ U_3O_8 value	9.73	0.64	0.08	1.49	(3.67)	1.52	0.22	0.46	6.93	(0.53)	0.50	0.32
Cost of discovery*	**1.37**	**0.92**	**0.09**	**1.02**	**1.37**	**0.92**	**0.09**	**1.02**	**1.37**	**0.92**	**0.09**	**1.02**

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *See Gold: The value of gold and other metals, published in February 2015.

The evolution of value is shown graphically in the exhibit below, with the closest correlation to the uranium price being observed with the measured category of resources (0.60 – not quite statistically significant at the 5% level) and the lowest correlation being observed with the inferred category (-0.56).

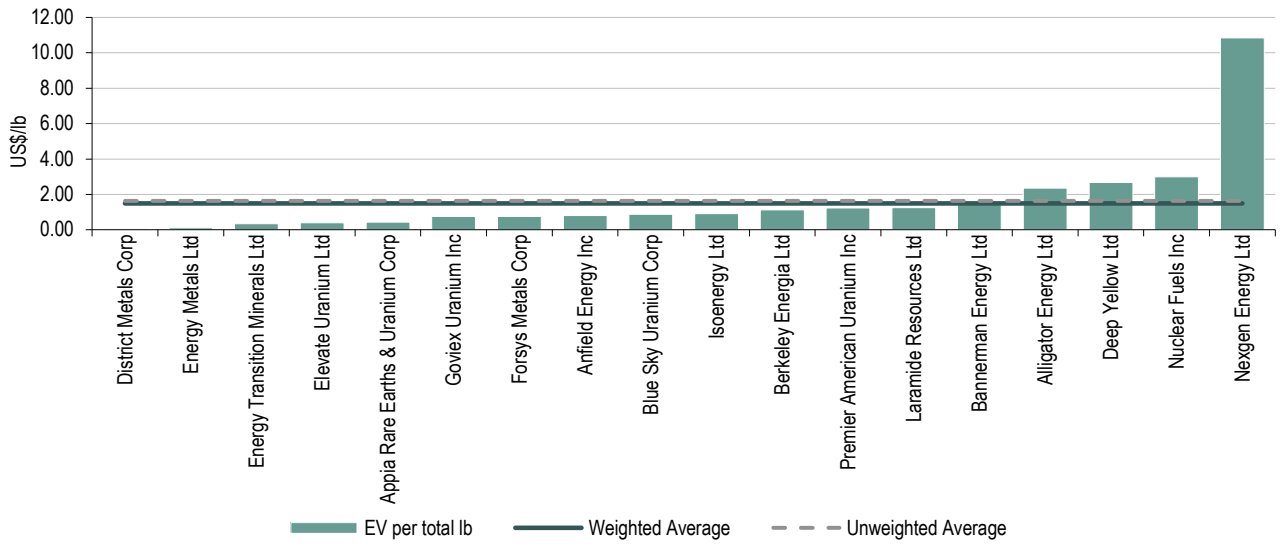
Exhibit 37: Value of explorers' in-situ uranium resources, by category, compared to the uranium price, 2011–25 (US$/lb)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

One possible interpretation is that the market values uranium explorers on the basis of total pounds in the ground, rather than pounds differentiated by geological resource category and this is supported by the fact that the highest correlation with the uranium price itself is observed for the valuation of total pounds (0.91) and the fact that the weighted and unweighted average values for total pounds across the sector are within 10% of one another.

Exhibit 38: Implied value of total uranium pounds in-situ

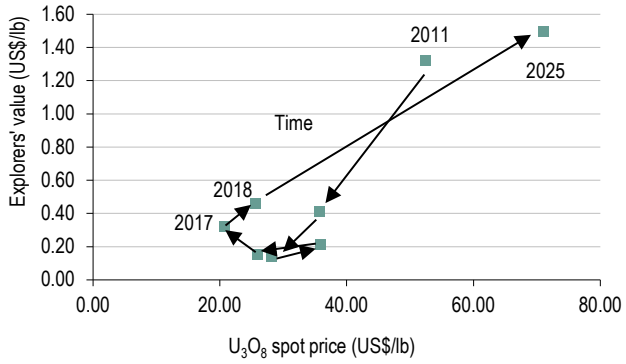


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that only one company, Nexgen Energy, has a valuation that is more than one standard deviation from the weighted average. This may be considered a special case on account of its location on the western edge of the Athabasca Basin (widely viewed as a premium location) and has been a persistent feature of our analyses for many years – originally in company with Fission before it was acquired by Paladin in December 2024.

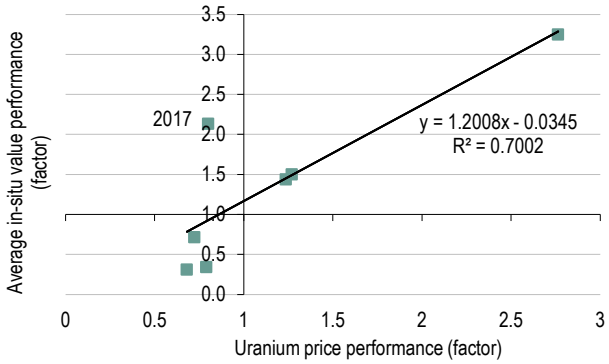
Nevertheless, considered within the historical context, the average in-situ value of uranium pounds has demonstrated a continued recovery in both absolute and relative terms that was first observed in 2018 and first hinted at in 2017, when the equity market appeared to pre-empt uranium's recovery in the metal markets (Exhibit 39). Equally obvious is the close (and slightly geared) relationship between the uranium price and the performance of the valuation of total in-situ resources (Exhibit 40).

Exhibit 39: In-situ value of total uranium resources versus spot price of uranium, 2011–25 (US$/lb)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

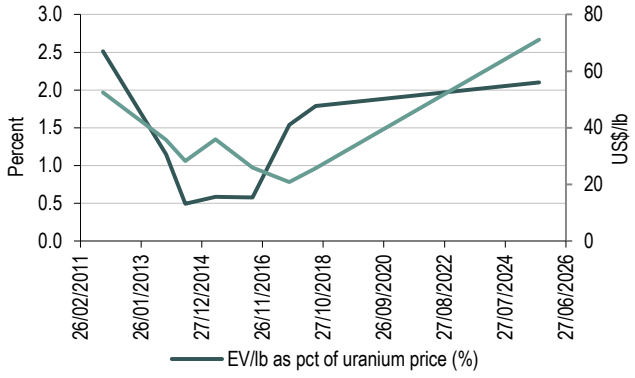
Exhibit 40: In-situ total uranium resources valuation performance cf uranium price performance, 2011–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

As a percentage of the (spot) uranium price, the value of (total) resource pounds tends to pre-empt and exaggerate moves in the uranium price. In buoyant market conditions, the value of uranium resources approaches – and can exceed – 2% of the price of uranium. In bear market conditions, they tend to settle around 0.5% of the price of uranium. The average over the period that we have analysed (2011–25) is 1.34%, although it is notable that there are relatively few sustained periods of time in which uranium resources are actually valued at this level.

Exhibit 41: In-situ value of total uranium resources as a percentage of the uranium spot price, compared to spot price, 2011–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 42: Uranium price (US$/lb), 2002–26

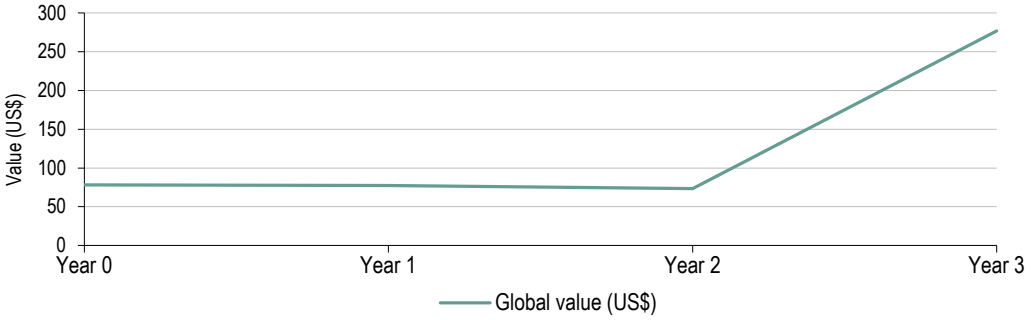


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Financial returns on the uranium exploration dollar

Companies with indicated and inferred resources only have them in the proportion 85:15, inferred:indicated, respectively, while companies with measured, indicated and inferred resources have them in the proportion 25:44:30, respectively. Based on the unit cost estimates detailed in Exhibit 5 on page 6, the cost to drill up a typical, average deposit of 100lb uranium in this ratio would therefore be US$78.28 in aggregate. By contrast, the value of such a deposit (using our figures calculated in Exhibit 36) would be US$276.69, representing a return of 253.4% on the cost of drilling. This compares with negative returns of -42.8% and -57.5% when we conducted the equivalent analysis in 2018 and 2017, respectively. A graph of the evolution of that value nevertheless confirms that all of the return arises from delineating measured resources, rather than indicated and inferred resources:

Exhibit 43: Value evolution of junior uranium explorer developing 100lb resource, 2025 (US$)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that, in year 0, the company has US$78.28 in cash; in year 1, it has a resource of 100lb in the inferred category and cash of US$69.28; in year 2, it has a resource of 85lb in the inferred category and 15lb in the indicated one and cash of US$56.98; and in year 3, it has a resource of 30Moz in the inferred category, 45lb in the indicated category and 25lb in the measured one and no cash. At the end of the campaign, the percentage value attributable to each category of resources is as follows:

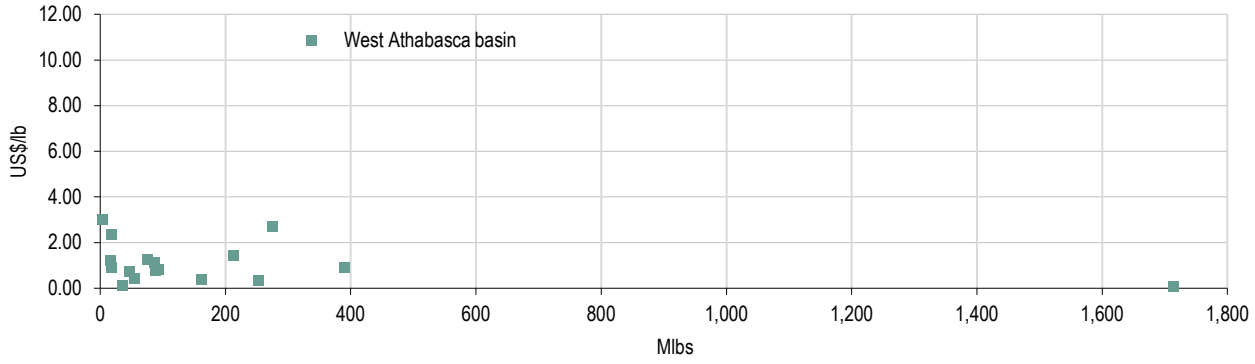
Exhibit 44: Uranium resource categories' contributions to overall values (%)

Resource category	Value contribution (%)
Measured	89
Indicated	10
Inferred	1
Total	**100**

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Numbers may not add up owing to rounding.

Similar to 2018, but contrary to previous years (see Gold: The value of gold and other metals, published in February 2015 and Mining overview: Normalisation augers well for exploration, published in October 2016 and Mining overview: Unlocking the price to NPV discount, published in November 2017), there is no longer statistically significant evidence of the market continuing to discount future exploration success among uranium explorers.

Exhibit 45: Graph of resource size (Mlb) versus resource multiple (US$/lb) for U_3O_8 explorers, August 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Uranium multiple regression analysis

As in 2018, in this year's report, we have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis are shown in Exhibit 46, below.

Exhibit 46: In-situ uranium valuation multiple regression analysis results (US$/lb*)

	August 2025				July 2018			
	Intercept (US$m)	Measured	Indicated	Inferred	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	(38.6)	13.39	(0.34)	0.16	(31.5)	(3.11)	2.34	0.07
Differentiated analysis	N/A	9.73	0.64	0.08	N/A	1.37	0.92	0.09

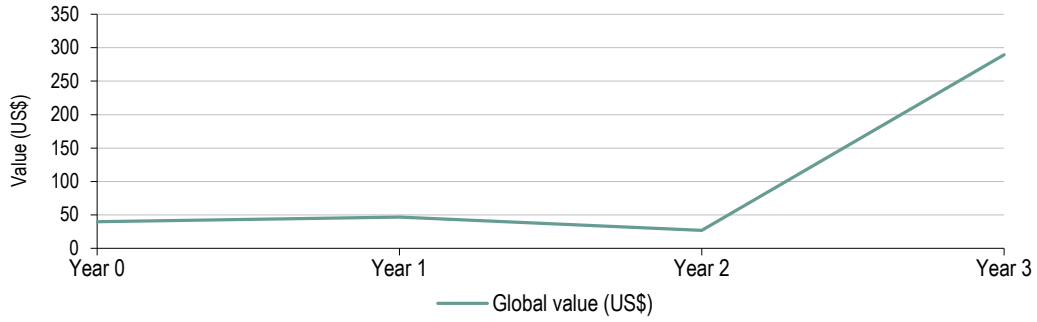
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

One very notable feature of the analysis is the premium valuation afforded to measured resources and the near zero valuation afforded to indicated and inferred ones. This agrees with our differentiated in-situ analysis, above (Exhibit 36). We also note the persistence of a negative intercept. This implies that a uranium junior attempting to list with no resources would come to the market with a negative valuation of US$38.6m and suggests that uranium juniors will still be some of the most difficult companies to list in the industry, notwithstanding the relatively buoyant conditions in the uranium market. Stated alternatively, if the 'intercept' implied by the multiple regression analysis is correct then, at the average value of in-situ uranium resources of US$1.49/lb (Exhibit 36), a junior would need to have a resource of at least 25.9Mlb (cf 68.5Mlb in 2018) on average and all other things being equal in order to be ascribed any value (cash excepted) on the world's stock exchanges. Note that this observation/conclusion is probably also consistent with the earlier conclusion of the in-situ analysis that there is no longer statistically significant evidence of the market continuing to discount future exploration success among uranium explorers (ie the erstwhile pattern of small resources having relatively high values to reflect blue-sky exploration upside). This contrasts with the market for gold explorers, for example (see Exhibits 30 and 31).

A consequence of this negative intercept is that the junior explorer valuations calculated from the coefficients derived from the multiple regression analysis are universally below those calculated from the differentiated analysis (Exhibits 36 and 43) until year 3, when they are in close agreement (varying from one another by less than 5%). Nevertheless, the changed coefficients for the different categories of resource ounces in combination with the initial starting condition result in a somewhat different evolution of value over time (directly comparable to Exhibit 43, above). As with the

differentiated analysis, almost all the value creation is derived from the delineation of measured resources in year 3. However, in this case, there is also a small (17.6%) uplift in value upon the delineation of inferred resources as well.

Exhibit 47: Average uranium exploration value evolution over time (US$m)



Source: Edison Investment Research multiple regression analysis (underlying data: LSEG Data & Analytics and company sources)

A summary of the statistical outputs of the multiple regression analysis is provided in the exhibit below. Readers' attention is drawn to the fact that, while there is a good deal of uncertainty about the absolute value of the intercept, there is a good deal of certainty that the value of measured resource pounds lies between US$8.84/lb and US$17.95/lb, largely corroborating our findings in the differentiated analysis above.

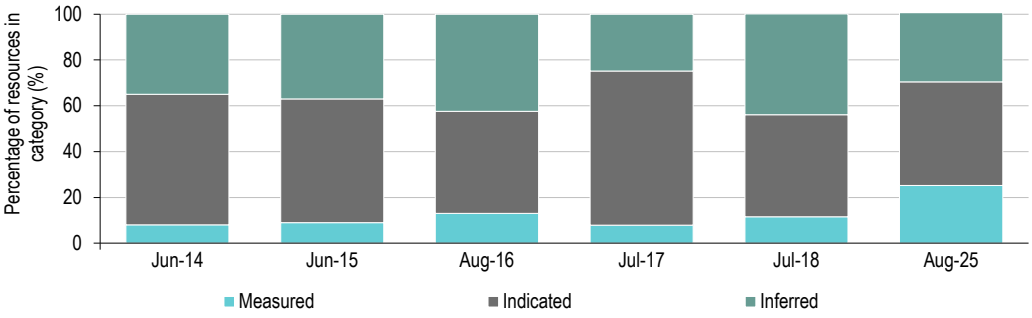
Exhibit 48: Uranium explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	-38.5958	147.7554	-0.26121	0.79748	-353.529	276.3373
Inferred	0.160013	0.33171	0.482387	0.636495	-0.54701	0.867035
Indicated	-0.34238	0.815997	-0.41958	0.680741	-2.08163	1.396882
Measured	13.39492	2.138639	6.263292	1.52E-05	8.836521	17.95333

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Albeit with less certainty, it is also notable that the results of the differentiated analysis for indicated and inferred resources also fall within the ranges (lower 95% and upper 95%) implied by the multiple regression analysis. As such, the multiple regression analysis appears to both complement and corroborate our earlier, in-situ analysis – and particularly in the conclusion that by far the best way for uranium juniors to add value to their stock market valuations is by upgrading inferred and indicated resources into the measured category as expeditiously as possible. Uranium explorers' implicit understanding of this fact may explain the expansion of measured resources across the sector to their highest percentage of total resources (for companies with measured, indicated and inferred resources only) since we started tracking this ratio in June 2014 – mostly at the expense of indicated resources:

Exhibit 49: Percentages of measured, indicated and inferred resource among uranium explorers



Source: Edison Investment Research, company sources

Silver in-situ resource valuations

The last seven years for the silver juniors have generally been characterised by a strong rise in in-situ valuations, led by a strong performance in the silver price, from US$15.84/oz in July 2018, to US$36.16/oz when this analysis was performed in July 2025 – an increase of 128.3%. Compared with this, in-situ valuations increased by 161.9%, with the value of measured ounces, in particular, recovering very strongly and apparently at the expense of the value of indicated ounces.

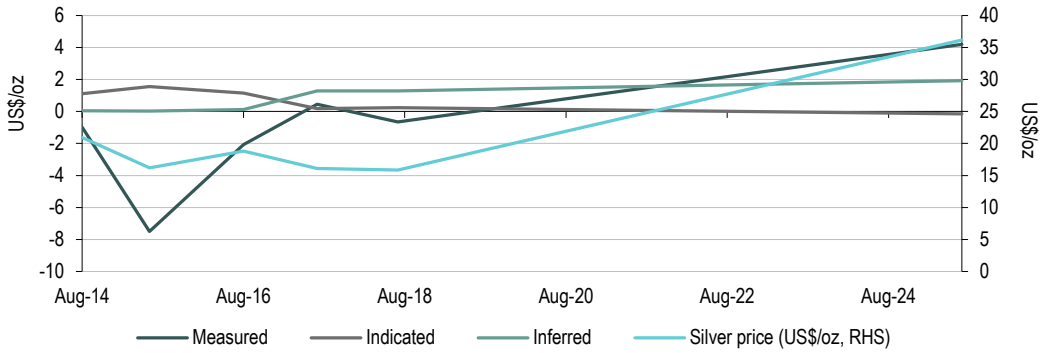
Exhibit 50: Global average in-situ value of explorers' silver resources (US$/oz)

	July 2025				June 2018				July 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ silver value	4.20	(0.15)	1.93	1.16	(0.65)	0.25	1.29	0.44	0.45	0.18	1.28	0.56

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The evolution of value is shown graphically in the exhibit below, with the closest correlation to the silver price being observed with total resources, ahead of measured resources and then inferred resources. The value of measured ounces is higher than the value of inferred ounces, which are themselves higher than the value of indicated ounces. While this is counterintuitive, this high-low-high pattern is not without precedent in the silver market since July 2017.

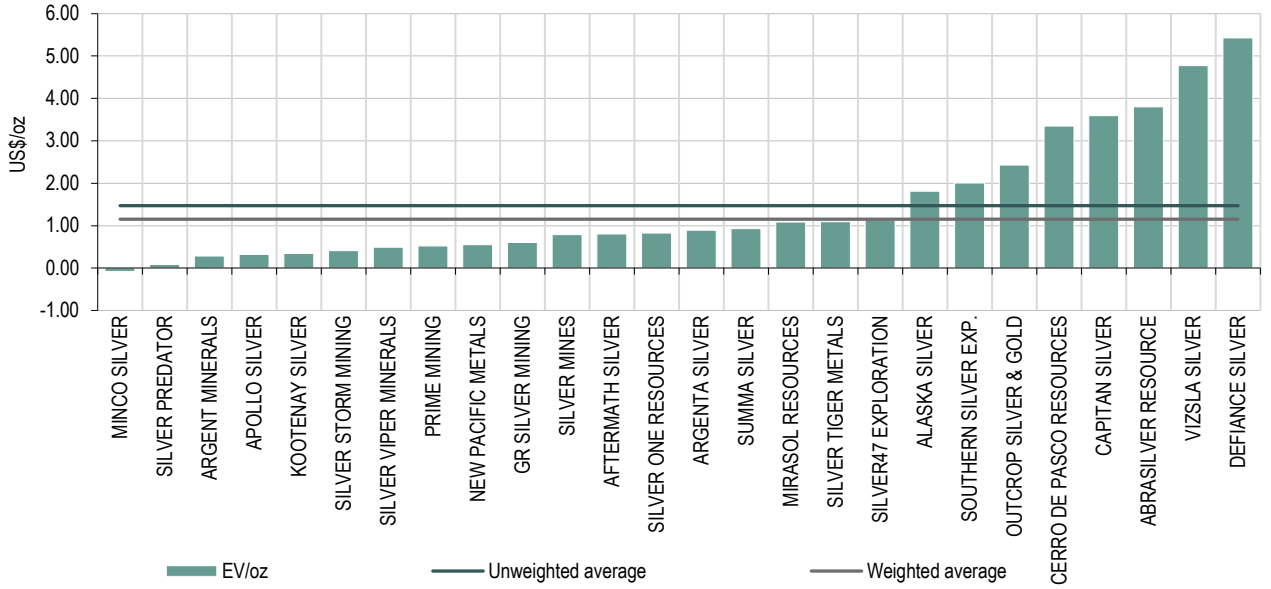
Exhibit 51: Value of explorers' in-situ silver resources, by category, compared to the silver price, 2011–25 (US$/oz)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Alternatively, as with uranium, this pattern might suggest that the market is not differentiating between the different resource categories in terms of value, but instead looking upon all ounces equally.

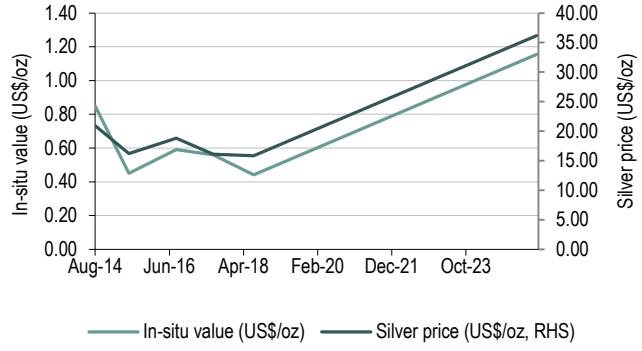
Exhibit 52: Implied value of total silver in-situ resources (US$/oz)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

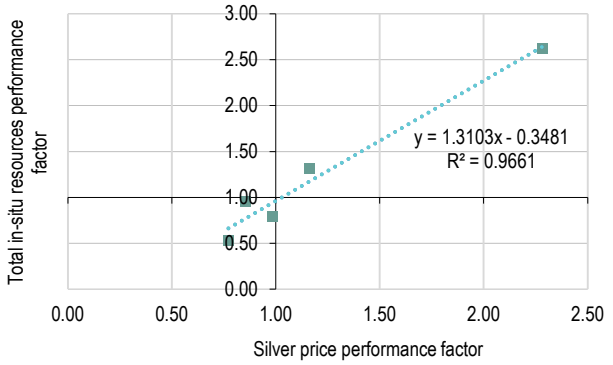
Supporting this thesis, the average value of total silver ounces is approximately where it would be expected to be, given recent past experience (see Exhibits 55 and 56) and the level and performance of the silver price since our last analysis. Within this context, readers' attention is drawn to the relatively high level of gearing among silver explorers between the performance of the average value of (total) in-situ ounces and the price performance of silver (Exhibit 54).

Exhibit 53: In-situ value of total silver resources versus spot price of silver, 2014–25 (US$/oz)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

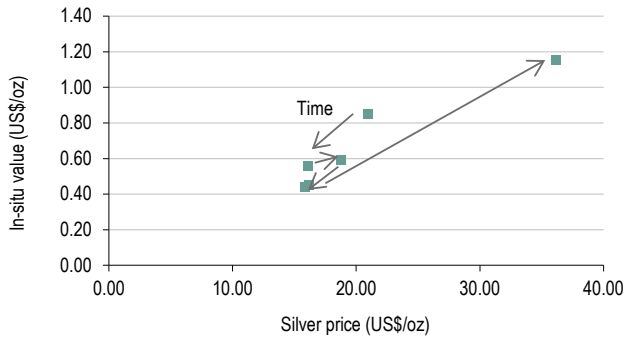
Exhibit 54: In-situ total silver resources valuation performance compared to the silver price, 2011–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

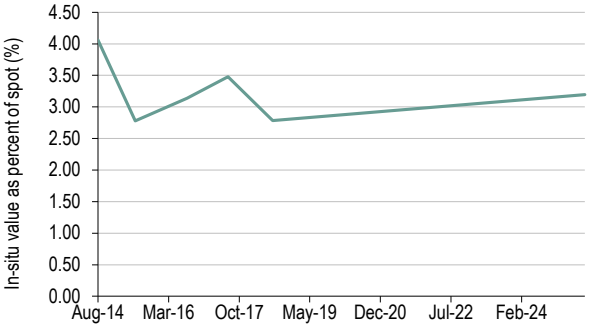
Moreover, as a percentage of the spot price of silver, the in-situ value of (total) resources has been remarkably consistent at 3.3% ±0.8% (Exhibit 56).

Exhibit 55: In-situ value of total silver resources versus spot price of silver, 2014–25 (US$/oz)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

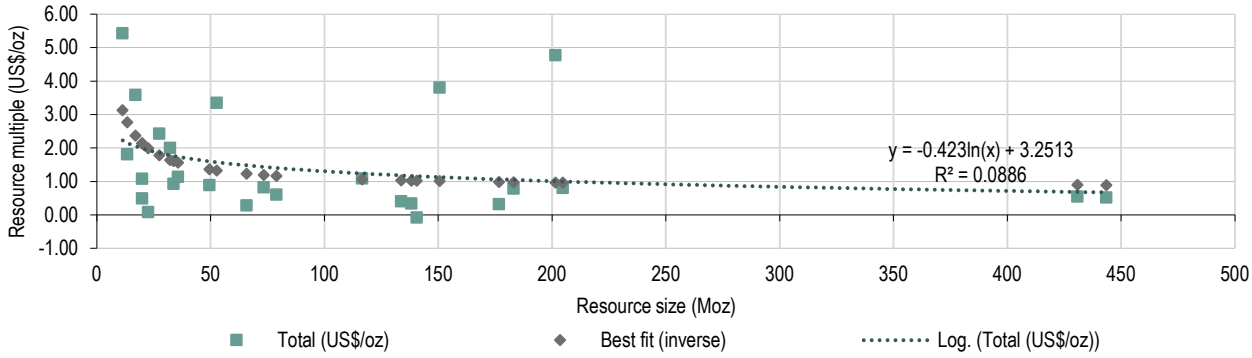
Exhibit 56: In-situ value of total silver resources as percentage of silver spot price, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

For the second year in succession, there is also statistically significant evidence that investors in silver explorers are prepared to afford value to companies for resources that have yet to be formally delineated:

Exhibit 57: Graph of resource size (Moz) versus resource multiple (US$/oz) for silver explorers, July 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Silver multiple regression analysis

For the second time, we have performed a simultaneous multiple regression analysis between the EVs of the silver companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (effectively in four dimensions) and then calculates the best-fit line between the points. The results of this process are provided in the table below. Of note is the relatively high level of the intercept and also that the high-low-high pattern between the values of the different resource categories observed in our differentiated analysis above is also apparent in the results of the multiple regression analysis.

Exhibit 58: In-situ silver valuation multiple regression analysis results (US$/oz*)

	August 2025				July 2018			
	Intercept (US$m)	Measured	Indicated	Inferred	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	39.6	1.52	0.59	0.79	46.7	(0.84)	0.62	(0.76)
Differentiated analysis	N/A	4.20	(0.15)	1.93	N/A	(0.65)	0.25	1.29

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

With the notable proviso that the above analysis includes a constant (the first argument in the equation), in an ideal world, the factors applied to each of the resource categories would/should be comparable to those calculated in our in-situ analysis, above. Anecdotally, this may be seen to be approximately true. However, as shown in the table below, there must be a reasonable level of doubt surrounding the absolute levels of all of the coefficients calculated:

Exhibit 59: Silver explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	39.6441	64.25805	0.616952	0.543599	-93.6189	172.9071
Inferred	0.794281	1.688094	0.47052	0.642615	-2.70661	4.295174
Indicated	0.592982	0.5090186	1.164953	0.256515	-0.46266	1.648622
Measured	1.519004	1.3266987	1.14495	0.264533	-1.2324	4.270409

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Nevertheless, the values calculated in our in-situ analysis, above (see Exhibit 50) fall within the ranges (lower 95% and upper 95%) implied by the multiple regression analysis for all three categories of resources. In general, therefore, the multiple regression analysis appears to complement our in-situ analysis. Considered together, we can probably state reasonably confidently that the best way for silver explorers to add value to their stock market valuations is by adding to their measured resources. It may be possible to achieve the same result by adding to inferred resources as well, but under almost any circumstances it appears that adding to the indicated category of resources is likely to be of little (or even negative) value.

Within the context of the silver subsector, it is also worth noting the relatively large 'intercept', which carries with it the implication that a silver explorer listing with no resources could nevertheless be afforded an EV of c US$39.6m. To some extent, this is consistent with our earlier observation that there is statistically significant evidence of the market discounting future exploration success among silver explorers (ie the pattern of small resources having relatively high values to reflect blue-sky exploration upside).

Iron ore in-situ resource valuations

The price of iron ore increased by relatively close to the (simple) average of the metals analysed in this report, rising by 47.1% in the seven-year period since our last analysis. In contrast however, (total) in-situ values increased by a relatively modest 7.4%.

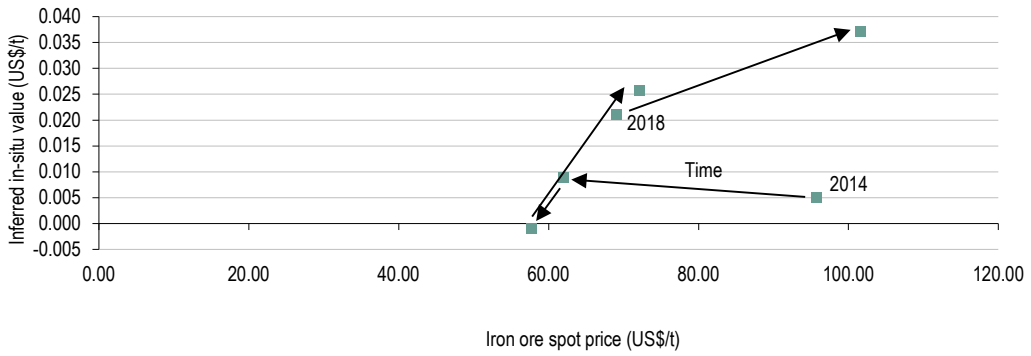
Exhibit 60: Global average in-situ value of explorers' iron ore resources (US$/t Fe)

	August 2025				August 2018				August 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ iron ore value	(0.208)	0.144	0.037	0.046	0.044	0.060	0.021	0.043	0.125	0.084	0.026	0.057

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Although it appears counterintuitive that measured tonnes are valued at less than both indicated and inferred tonnes, it has long been a pattern among iron ore explorers that inferred tonnes are valued at less than the total (average) value, that indicated tonnes are valued at more than the total (average) value and that changes in overall valuation are concentrated in measured tonnes. Consequently, the value of inferred tonnes has the highest correlation with the price of iron ore, with a PPMC of 0.51 (NB not statistically significant at the 5% level, given the number of data points in the analysis).

Exhibit 61: In-situ value of inferred iron ore resources versus iron ore spot price, 2014–25

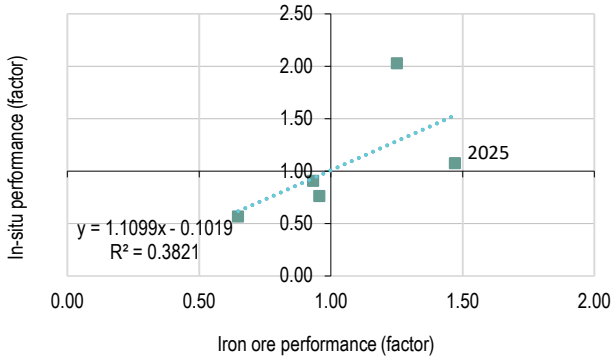


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

By contrast, the value of measured tonnes has an inverted relationship with the price of iron ore, with a PPMC of -0.53 (NB also not statistically significant at the 5% level, given the number of data points in the analysis).

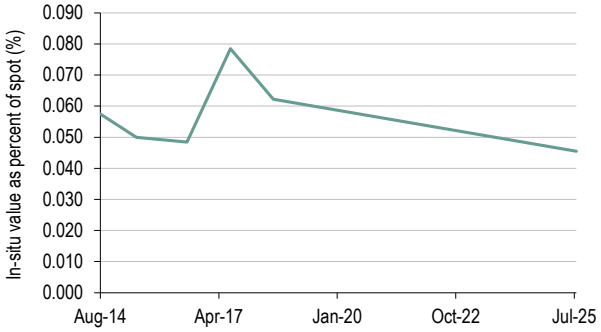
Overall, in 2025 relative to 2018, the increase in the in-situ value of total (average) iron ore resources has been less than expected, given the increase in the spot price of iron ore. Consequently, as a percentage of the spot price of iron ore, the value of in-situ resources is at the bottom of its historical range, at 0.045%. Over the past 11 years, this percentage has remained quite constrained, ranging between 0.045% and 0.078%, with a (simple) average of 0.057% (Exhibit 63). Nevertheless, it remains an order of magnitude below that prevailing during the bull market of 2011/12 when, anecdotally, we estimate that in-situ values approximated 1.0% of spot values (see Exhibit 126).

Exhibit 62: In-situ total iron ore resources valuation performance cf iron ore price performance, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

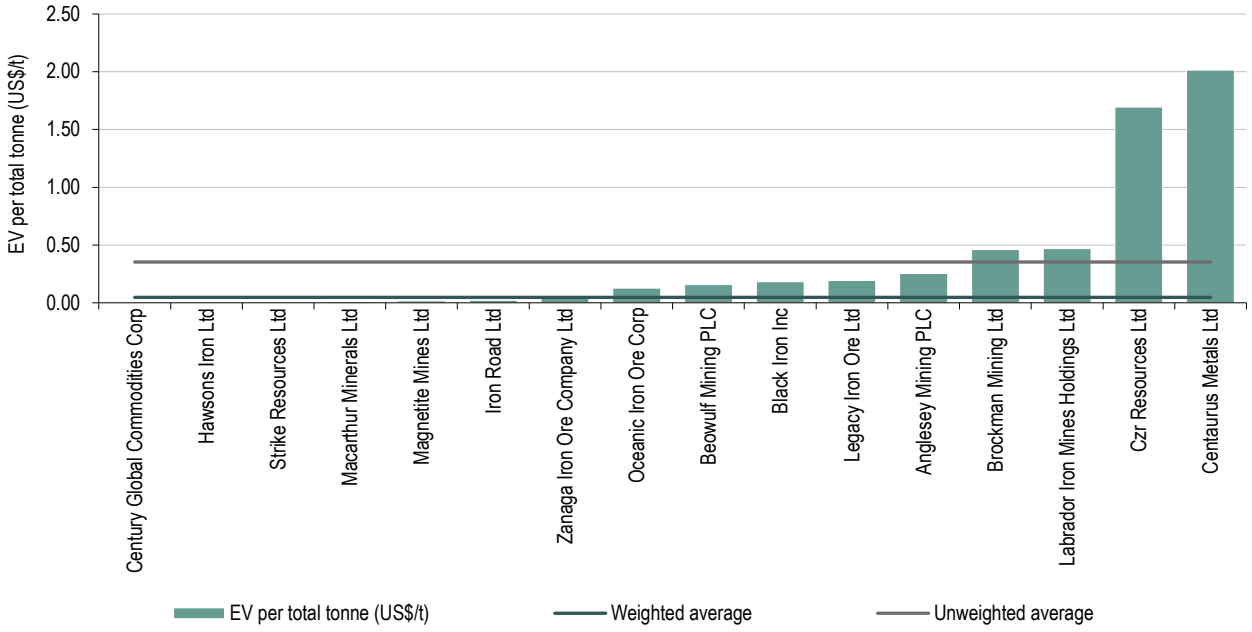
Exhibit 63: In-situ value of total iron ore resources as percent of iron ore spot price, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

While it is tempting to interpret the valuation of iron ore resources by equity markets as being in relation to total resources, rather than resources differentiated by category, there is perhaps some evidence that there are two distinct populations within the sample, representing those companies with a premium valuation and those companies with an ordinary valuation:

Exhibit 64: Implied value of total in-situ iron ore resources (US$ per tonne Fe)

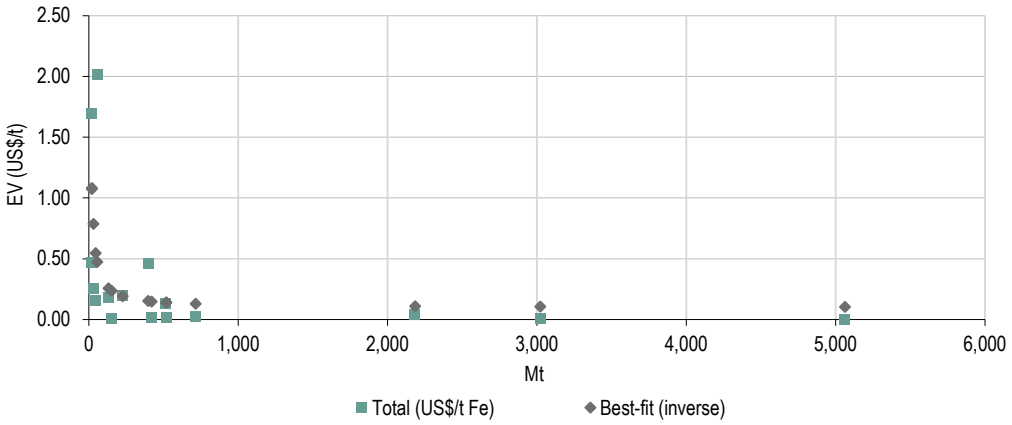


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Within this context, readers should note that the implied valuations of the resources of the top two companies in the graph above (ie CZR Resources and Centaurus Metals) lie more than two standard deviations above the weighted mean of the population. All the remaining companies lie within one standard deviation of the mean.

Once again, however, there is strong statistically significant evidence of the discounting of future discoveries in the sector:

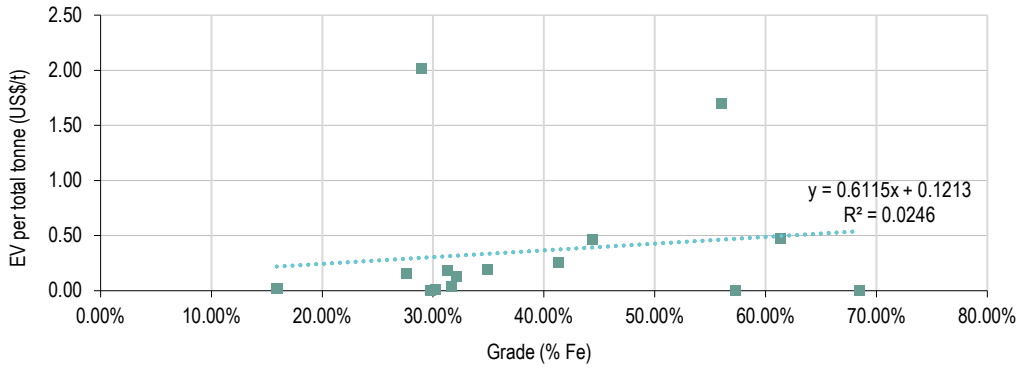
Exhibit 65: Graph of resource size (Mt Fe) versus resource multiple (US$/t Fe) for iron ore explorers, August 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Unlike in 2018 however, when there was statistically significant evidence of a relationship between the grade of a deposit and its total (average) in-situ resource multiple, this relationship appears to have waned over the past seven years:

Exhibit 66: Graph of resource grade (% Fe) versus resource multiple (US$/t Fe) for iron ore explorers, August 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Iron ore multiple regression analysis

For the first time, in this report, we have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis are shown in Exhibit 67, below.

Exhibit 67: In-situ iron ore valuation multiple regression analysis results (US$/t*)

	August 2025			
	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	39.5	(0.009)	0.222	(0.205)
Differentiated analysis	N/A	(0.208)	0.144	0.037

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

Two features of this analysis bear comment:

- The first is a materially positive intercept, suggesting that an iron ore company with no resources could nevertheless command an EV of US$39.5m on global stock markets.
- The second is corroboration of the finding in our differentiated analysis that value in iron ore deposits resides in the indicated category of resources more than any other.

A summary of the statistical outputs of the multiple regression analysis is provided in the exhibit below.

Exhibit 68: Iron ore explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	39.46791253	14.46035326	2.729387852	0.018287208	7.961509316	70.97431574
Inferred	-0.20476056	0.100695163	-2.033469673	0.064731607	-0.424156473	0.014635353
Indicated	0.221628811	0.118591046	1.86884945	0.086239126	-0.036758881	0.480016503
Measured	-0.009306938	0.067730849	-0.137410615	0.892984903	-0.156879779	0.138265904

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Readers' attention is drawn to the high level of confidence in the values of the intercept, inferred tonnes and also indicated tonnes (again, largely corroborating our findings in the differentiated analysis above).

Nickel in-situ resource valuations

In common with previous years, our nickel analysis has been divided into separate analyses for sulphide and laterite deposits to reflect the different natures and processing requirements of those ore bodies.

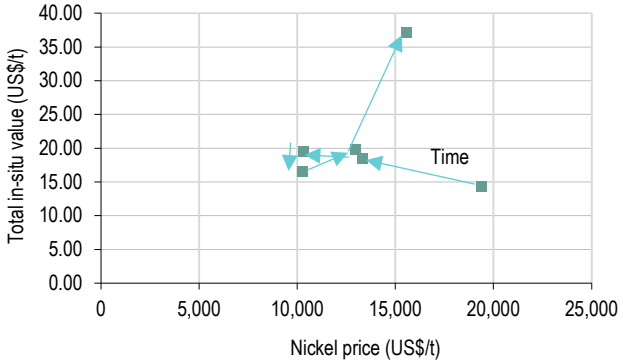
Exhibit 69: Global average in-situ value of explorers' nickel resources (US$/t)

	August 2025				August 2018				September 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ nickel value (US$/t)	(24.37)	66.40	23.90	37.10	144.18	16.68	4.51	19.75	95.37	16.51	4.46	16.44
Ditto (sulphide deposits)	(21.56)	66.40	23.90	37.56	131.23	22.53	5.41	21.52	95.50	24.29	5.83	20.51
Ditto (laterite deposits)	14.19	14.19	4.90	9.80	145.54	10.80	3.31	16.21	45.55	8.63	2.65	8.15

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

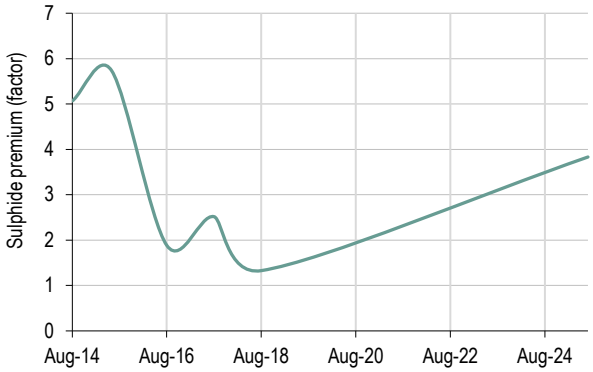
In general, in the period under review, the value of in-situ nickel resources appreciated strongly, outperforming the price of nickel (Exhibit 70). Of immediate note is the continued premium valuation of sulphide resources compared to laterite ones (as expected). Whereas in our 2018 analysis it was notable that the valuation of sulphide resources was below that expected, while the valuation of laterite resources was above that expected, the period subsequently has been characterised by a recovery in the value of sulphide in-situ resources both absolutely (following the broad pattern for overall nickel resources in Exhibit 69) and in relative terms (Exhibit 71).

Exhibit 70: In-situ value of total nickel resources versus spot price of nickel, 2014–2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

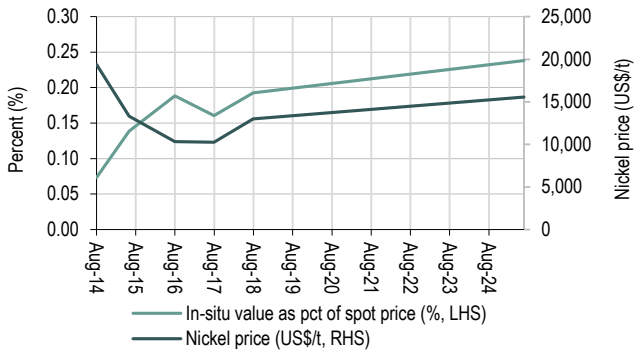
Exhibit 71: Nickel sulphide in-situ total nickel resources valuation cf laterite valuation, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

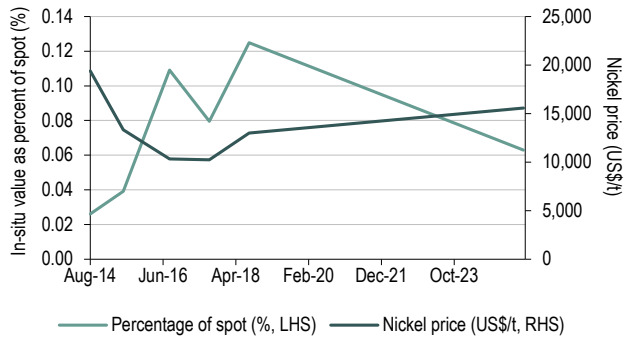
Hence, while the value of overall resources in general and the value of sulphide resources in particular both rose as a percentage of the spot price of nickel (to 0.24%), the value of laterite resources declined to 0.06% of the spot price of nickel:

Exhibit 72: In-situ value of nickel resources as a percentage of the spot price of nickel, 2014–25 (%)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Sulphide and laterite resources combined.

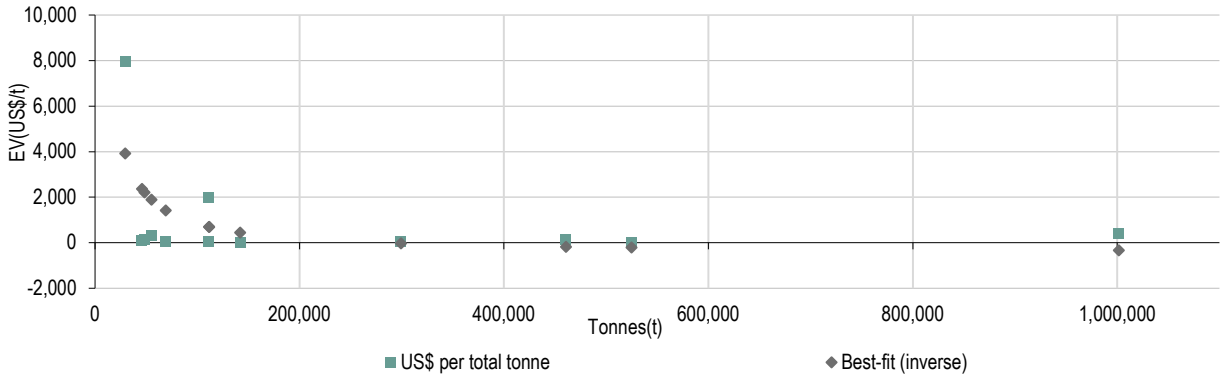
Exhibit 73: In-situ value of nickel laterite resources as a percentage of the spot price of nickel, 2014–25 (%)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Over the nickel sub-sector as a whole however, it is notable that there is a relatively strong (and statistically significant at the 5% level) inverse relationship between companies' resource multiples and the sizes of their resources, suggesting that the market is prepared to discount future blue-sky exploration success in valuing nickel explorers. This is in contrast to our analysis in 2018, which found that while the equivalent graph was visually quite compelling, for the number of data points in the sample, the correlation between the resource multiple and the inverse of the resource size was not statistically significant.

Exhibit 74: Resource size (t Ni) versus resource multiple (US$/t Ni) for nickel explorers

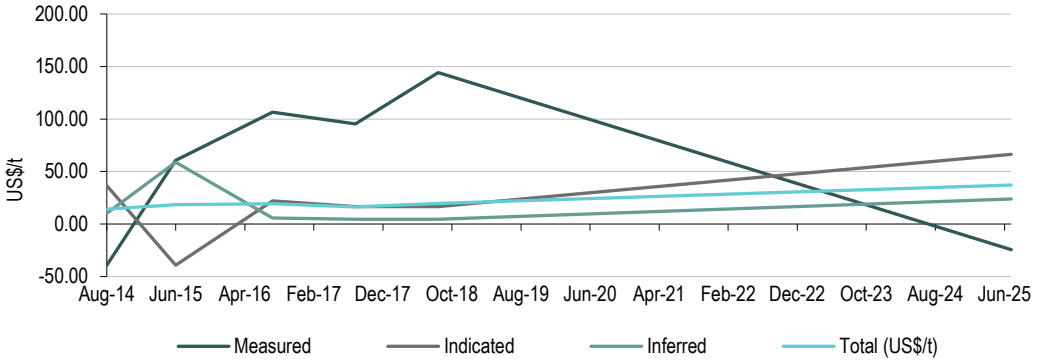


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

As in previous years, the overall size of the nickel sample of companies was small. In addition, there were no companies with inferred resources only; as a result, for our differentiated analysis of in-situ values, we have assumed that the value of inferred resources was halfway between zero and the blended average value of resources for companies with indicated and inferred resources only.

With this caveat, in the differentiated analysis it appears nickel explorers with indicated and inferred resources only have increased in value, to some extent, at the expense of those companies with measured resources as well.

Exhibit 75: In-situ value of nickel resources, by category, 2014–25 (US$/t Ni)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Total nickel sector with sulphide and laterite resources combined.

While this result appears counterintuitive, it is not without precedent, effectively taking the market for junior nickel explorers back to conditions in 2014. However, our nickel multiple regression analysis (below) comes to an alternative conclusion.

Nickel multiple regression analysis

For the second time, we have performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, this analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots EVs of the companies in each subsector against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The result of this analysis is shown in Exhibit 76, below, and contrasted both with the results of the differentiated analysis (above) and the equivalent multiple regression analysis performed in 2018.

Exhibit 76: In-situ nickel valuation multiple regression analysis results (US$/oz*)

	August 2025				July 2018			
	Intercept (US$m)	Measured	Indicated	Inferred	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	75.7	67.99	0.18	(24.33)	41.1	40.23	(3.91)	(17.38)
Differentiated analysis	N/A	(24.37)	66.40	23.90	37.10	144.18	16.68	4.51

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

In this case, the value of measured resources is greater than that of indicated resources, which is itself greater than the value of inferred resources. That appears logical, albeit the value of inferred resources is negative. However, that was also the case in 2018. In addition, the multiple regression analysis calculates a very large intercept. This is nothing new in that there was also an appreciable intercept in 2018. However, across all the metals and minerals analysed in this report, the intercept relating to nickel explorers is the second largest one calculated (after that for copper and on a par with that for ASX gold) and suggests that, theoretically, a nickel junior could come to the market with no resources at all and still attract a value of US$75.7m, which, in Edison's opinion, is ambitious. However, a high t-stat and a low P-value associated with the intercept suggest a reasonable degree of confidence in this coefficient (Exhibit 77).

Exhibit 77: Nickel explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	75734069.35	37361427.44	2.027065735	0.065465798	-5669488.081	157137626.8
Inferred	-24.32787629	40.08624295	-0.606888411	0.555233893	-111.6682967	63.01254414
Indicated	0.176449674	38.55248895	0.004576869	0.996423408	-83.82220786	84.17510721
Measured	67.98667143	70.83194286	0.959830674	0.356081524	-86.34287443	222.3162173

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Although the range between the lower 95% and upper 95% is quite large, it is notable that the values calculated for measured, indicated and inferred resources in our differentiated in-situ analysis above (see Exhibit 69) nevertheless fall within these bounds.

Copper in-situ resource valuations

With the exception of two periods (July 2018 to April 2020 and June to October 2022) copper has been in a relatively consistent upswing since the time of our last analysis in August 2018. While the metal price did not perform as strongly as for gold, uranium and silver, the overall in-situ value of copper resources outperformed all three, registering the highest gain for any commodity in our analysis, albeit with the proviso that that performance was seemingly concentrated among companies with measured and indicated resources, rather than inferred ones.

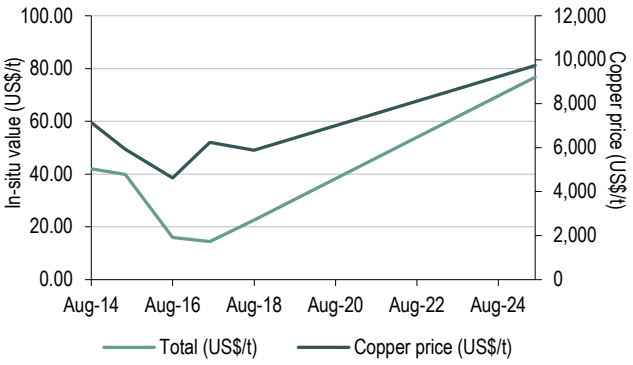
Exhibit 78: Global average in-situ value of explorers' copper resources (US$/t)

	July 2025				August 2018				July 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ copper value (US$/t)	(8.88)	188.75	4.69	76.75	(269.56)	99.10	11.87	22.50	(59.00)	28.23	17.58	14.35

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

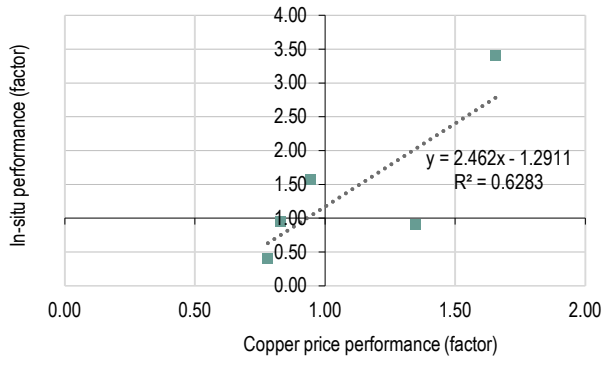
This performance resulted in in-situ copper resources demonstrating the second highest gearing to the price action of their associated metal (copper) of any commodity except spodumene lithium (Exhibit 4).

Exhibit 79: In-situ value of copper resources and spot price of copper, 2014–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 80: In-situ total copper resources valuation performance cf copper price performance, 2014–25

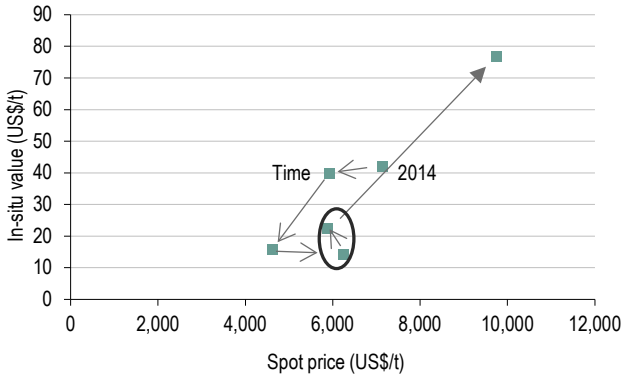


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

As a result, the average value of in-situ copper resources has increased to its highest level as a percentage of the copper price in the past 11 years (Exhibit 82).

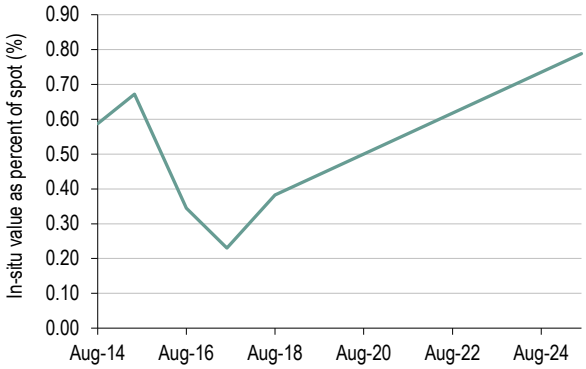
The strong performance of copper in-situ resources in the period 2018–25 also highlights the value of the signal observed in our 2018 analysis (indicated by the oval in Exhibit 81), when the price of copper fell, but the value of in-situ resources rose, as a predictor of future copper price moves.

Exhibit 81: In-situ value of explorers' copper resources cf spot price of copper, 2014–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

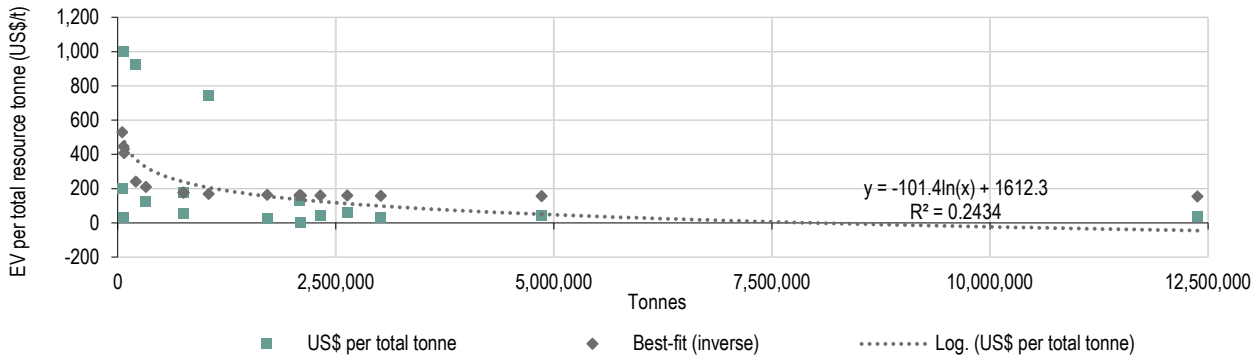
Exhibit 82: In-situ value of explorers' copper resources as percentage of spot price of copper, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

At the same time, the evidence for the market discounting future exploration success is mixed. In 2018, the correlation between the inverse resource size and the resource multiple among copper explorers was statistically significant for a directional hypothesis, but not a non-directional one, at the 5% level. In 2025, it is not statistically significant at this level for either a directional or a non-directional hypothesis (0.36 vs 0.43 and 0.50, respectively), which is akin to conditions in the industry in 2017. Nevertheless, the graph of size versus multiple (eg Exhibit 83 for 2025) for all years does seem to hint that some relationship may exist and causes us to speculate that, as with gold, our universe of copper explorers may be composed of two distinct populations (one with blue-sky exploration potential and one without). Alternatively, the graph below shows an additional best-fit line, based on a logarithmic relationship between the two, which does appear to be statistically significant:

Exhibit 83: Graph of resource size (tonnes Cu) versus resource multiple (US$/t) for copper explorers



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The other major feature of our analysis is that, for the third time in successive analyses, the value of measured in-situ copper resource tonnes appears to be at a discount to that of indicated tonnes. Moreover, while there is a strong correlation between the price of copper and the value of total in-situ resource tonnes, there is also a strong correlation between the price of copper and the implied value of copper resource tonnes in the indicated category, which is in marked contrast to its correlation with the value of measured resource tonnes (almost non-existent, ie random) and its correlation with the value of inferred resource tonnes (negative, but not statistically significant).

Copper multiple regression analysis

As in 2018, in this year's report, we have performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis are shown in Exhibit 84, below.

Exhibit 84: In-situ copper valuation multiple regression analysis results (US$/t*)

	August 2025				July 2018			
	Intercept (US$m)	Measured	Indicated	Inferred	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	143.4	46.23	28.76	(43.69)	9.8	95.23	(46.41)	94.79
Differentiated analysis	N/A	(8.88)	188.75	4.69	N/A	(269.56)	99.10	11.87

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

We note two features of the results:

- The first is the high level of the intercept (the highest of any metal in our analysis this year) at US$143.4m, theoretically suggesting that a copper explorer could come to the market with no resources and attract a valuation of US$143.4m. We think that this is ambitious.
- The second is the more conventional pattern whereby the value of measured in-situ copper resource tonnes is seen to be higher than that for indicated in-situ copper resource tonnes, which is itself higher than that for inferred in-situ copper resource tonnes. This largely contradicts the findings of our differentiated analysis. However, there is probably enough commonality between the results to conclude that value among copper explorers definitely exists in the delineation of indicated resource tonnes and may do so in the delineation of measured resource tonnes, but probably does not to any meaningful extent in the delineation of inferred resource tonnes.

A summary of the statistical outputs of the multiple regression analysis relating to the degree of confidence attached to each of the factors in Exhibit 84, above, is as follows:

Exhibit 85: Copper explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	143440434.6	74191480.45	1.933381484	0.077126876	-18208914.88	305089784
Inferred	-43.68669534	82.81610279	-0.527514503	0.607452133	-224.1274826	136.7540919
Indicated	28.75667314	73.94167711	0.38891021	0.704155277	-132.3484016	189.8617479
Measured	46.23743608	47.63875562	0.970584464	0.350912635	-57.55849586	150.033368

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Notwithstanding the comments above regarding the size of the intercept, it is interesting to note that this is the factor with the highest level of confidence attached to its estimate (as attested to by the relatively high t-stat, approaching ±2 and its relatively low P-value approaching 0.05). Even with this level of confidence though, the range of possible values for the intercept is large, with 95% confidence that it exists between minus US$18.2m and plus US$305.1m.

Lithium in-situ resource valuations

As with our nickel analysis, our lithium analysis has been divided, with Western Australian (WA) companies with spodumene resources being distinguished from the remainder of the sector.

Otherwise, the period under review was characterised by a 39.7% decline in the price of lithium carbonate, which drove down the value of overall, average in-situ tonnes of lithium carbonate by 55.5%, from US$53.84/t to US$23.94/t.

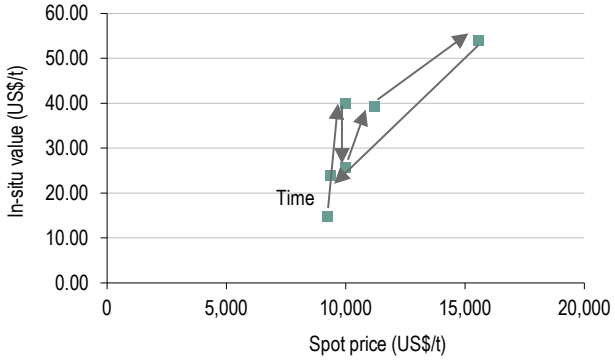
Exhibit 86: Global average in-situ value of explorers' lithium resources (US$/t)

US$/t	September 2025				May 2018				August 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ lithium value	(29.27)	85.94	4.83	23.94	130.16	34.55	34.55	53.84	(198.89)	92.33	33.43	39.16
WA spodumene co's	(39.73)	75.41	59.67	63.26	308.80	216.45	216.45	222.61	(206.47)	140.86	49.14	75.95

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note that all lithium resources have been converted into lithium carbonate equivalent tonnes for the purposes of this analysis.

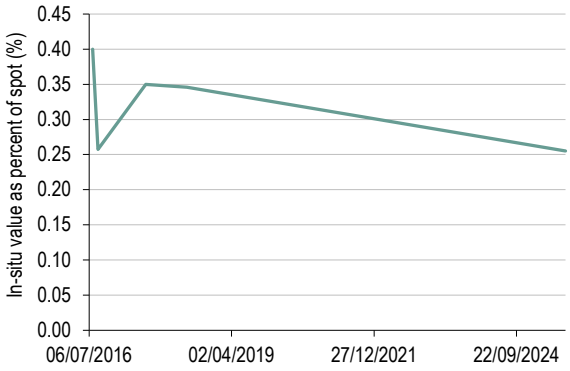
To a large extent however, the value of overall lithium resource has reverted to the value that would be expected, given the price of lithium carbonate (Exhibit 87). Moreover, the value as a percentage of the price of lithium carbonate has remained within the range 0.25–0.35% (Exhibit 88).

Exhibit 87: Lithium explorers' average in-situ value versus lithium carbonate spot price, 2016–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

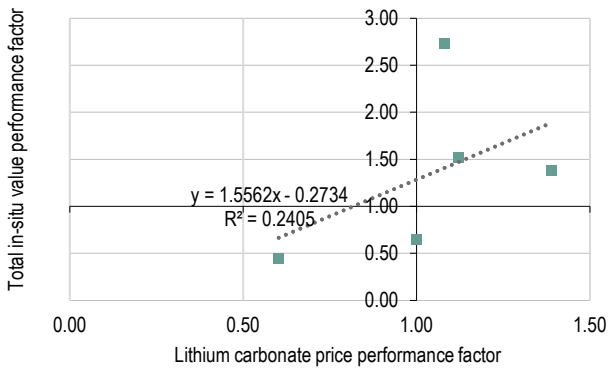
Exhibit 88: Lithium explorers' average in-situ value as percent of the lithium carbonate price, 2016–25 (%)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

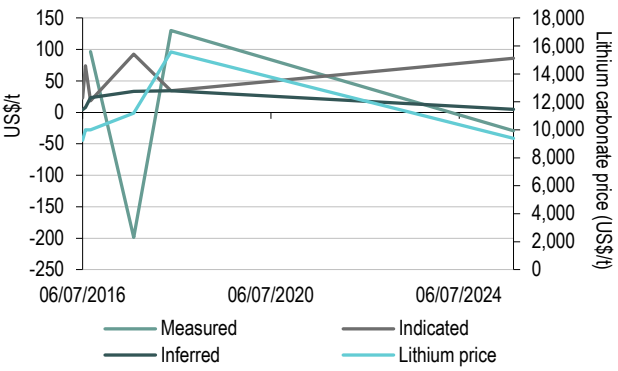
Either confirming this sequence, or because of it, the value of (non-spodumene) lithium resources has the highest alpha of the eight metals and minerals under review in this year's report and one of the highest betas (after spodumene, copper and bauxite). Moreover, while the value of total lithium resources overall has a close and statistically significant (at the 5% limit) relationship with the price of lithium carbonate (with a PPMC of 0.85), it is the value of inferred resources, as a discrete category, that has the highest correlation (0.76 – statistically significant at the same 5% level for a directional hypothesis).

Exhibit 89: In-situ total lithium resources valuation performance cf lithium carbonate price performance, 2016–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 90: Value of explorers' in-situ lithium resources, by category, cf lithium carbonate price, 2016–25 (US$/oz)

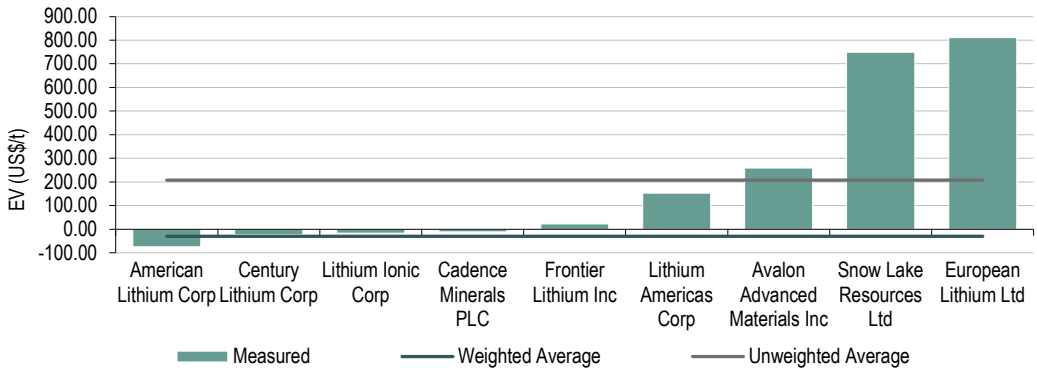


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Of note, within this context, is the reversion of the value of in-situ resources in the measured category to a negative level. This is not without precedent for lithium juniors (see the results from the equivalent analysis in August 2017). Moreover, it may reflect the tendency of large resources to

attract low valuations, and vice versa. If the unweighted average value of in-situ resources is accepted as being the 'correct' value, the value of resources in the measured category is instead found to be US$207.80/t, as shown in the graph below, as opposed to minus US$29.27/t:

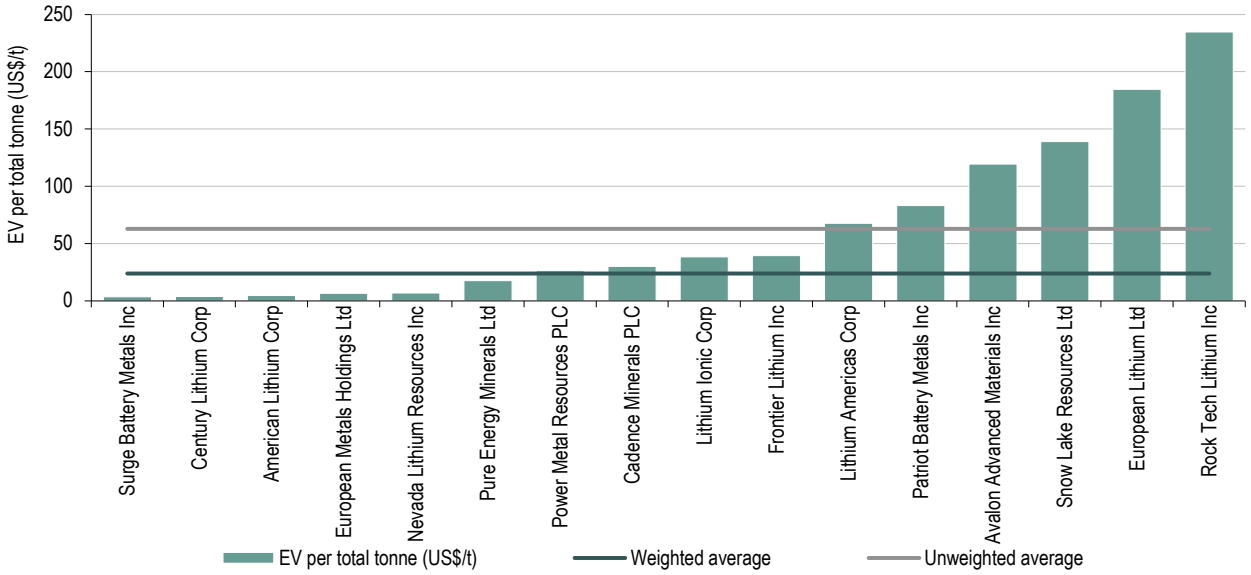
Exhibit 91: Implied value of measured lithium carbonate tonnes in-situ (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

This pattern is also apparent in the value of overall total resources, which may otherwise be expected to attract a value of US$62.79/t (the unweighted average), rather than US$23.94/t (the weighted average).

Exhibit 92: Implied in-situ value of total lithium carbonate resources (US$ per total tonne)

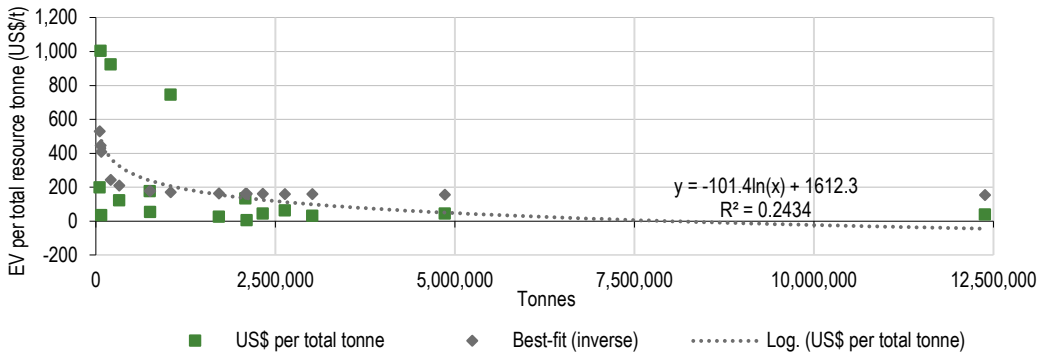


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Simultaneously, considered on an undifferentiated basis (below), there is continued evidence of a discounted valuation being accorded to clay and clay-like deposits (eg Cadence and European Metals Holdings) and also brines (eg Pure Energy).

Reflecting this pattern, the market appears to discount a statistically significant degree of future exploration success for smaller deposits in particular:

Exhibit 93: Graph of resource size (tonnes lithium carbonate) versus resource multiple (US$/t) for lithium explorers



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that, in this case, there may also be better logarithmic best-fit relationship between size and resource multiple (see Exhibit 93) than the inverted relationship modelled.

Lithium multiple regression analysis

We have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis are shown in Exhibit 94, below.

Exhibit 94: In-situ lithium valuation multiple regression analysis results (US$/t*)

	August 2025			
	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	43.6	(59.76)	89.83	(8.76)
Differentiated analysis	N/A	(29.27)	85.94	4.83

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

One notable feature of the analysis is the strong confirmation of the finding in our differentiated analysis that it is within the indicated category of resources that value is held among non-spodumene, lithium explorers. Note that this conclusion is strongly supported by the high t-stat and low P-value results attending the indicated coefficient in the results of the analysis (below):

Exhibit 95: Lithium explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	43648719.36	25318684.15	1.723972664	0.110353431	-11515954.5	98813393.22
Inferred	-8.76108168	8.954179725	-0.978434871	0.347173324	-28.27056334	10.74839998
Indicated	89.82724756	15.35607583	5.849622555	7.84256E-05	56.36923251	123.2852626
Measured	-59.76391116	14.38710474	-4.153991524	0.001337038	-91.11071956	-28.41710276

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Albeit with less certainty, it is also notable that the results of the differentiated analysis for indicated and inferred resources fall within the ranges (lower 95% and upper 95%) implied by the multiple regression analysis. As such, the multiple regression analysis appears to both complement and corroborate our earlier, in-situ analysis, particularly in the conclusion that by far the best way for lithium explorers to add value to their stock market valuations is by increasing their resources in the indicated resources (arguably at the expense of the inferred and measured categories).

Lithium (spodumene)

In similar fashion, while the value of non-spodumene resources declined by 55.5% in the period under review, the value of spodumene resources declined by 71.6%, to US$63.26/t.

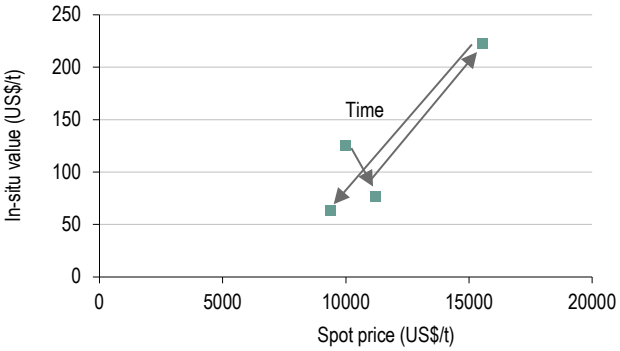
Exhibit 96: Global average in-situ value of explorers' lithium resources (US$/t)

US$/t	September 2025				May 2018				August 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ lithium value	(29.27)	85.94	4.83	23.94	130.16	34.55	34.55	53.84	(198.89)	92.33	33.43	39.16
WA spodumene co's	(39.73)	75.41	59.67	63.26	308.80	216.45	216.45	222.61	(206.47)	140.86	49.14	75.95

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note that all lithium resources have been converted into lithium carbonate equivalent tonnes for the purposes of this analysis.

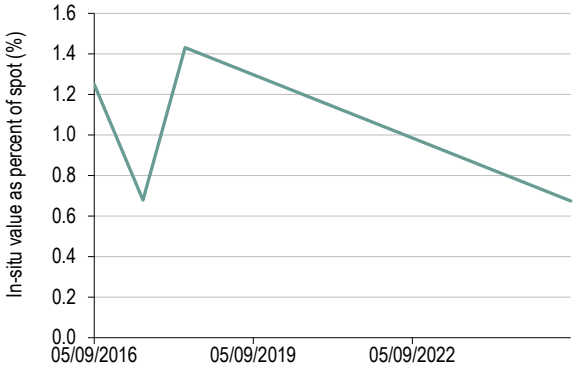
Again, to a large extent, the value of overall spodumene resources returned to a level consistent with the price of lithium carbonate (Exhibit 97) albeit, as a percentage of the lithium carbonate price, this was at the bottom of the range observed for the period 2016–25.

Exhibit 97: Spodumene explorers' average in-situ value versus lithium carbonate spot price, 2016–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

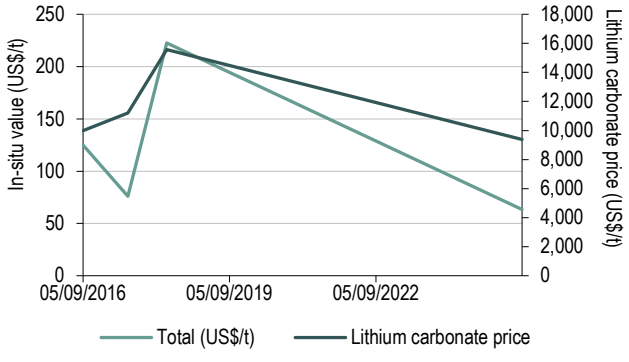
Exhibit 98: Spodumene explorers' average in-situ value as percent of the lithium carbonate price, 2016–25 (%)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

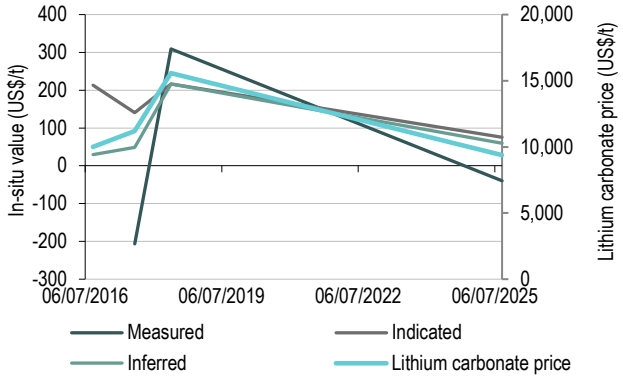
While the PPMC between the in-situ value of spodumene resources and the price of lithium carbonate was strong (+0.90), it was not statistically significant at the 5% level, given the dearth of data. This was generally true of the three different categories of resources, with inferred resources demonstrating the highest PPMC with the lithium carbonate price (+0.95) and the measured category similarly strong (+0.81). However, the indicated category of resources showed a noticeably lower correlation with the lithium carbonate price, of +0.59.

Exhibit 99: In-situ total spodumene resources valuation performance cf lithium carbonate price performance, 2016–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

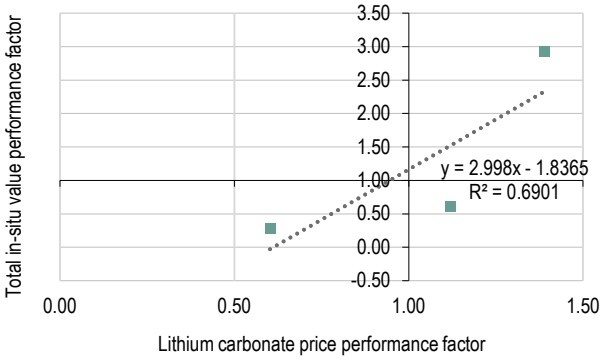
Exhibit 100: Value of explorers' in-situ spodumene resources, by category, cf lithium carbonate price, 2016–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

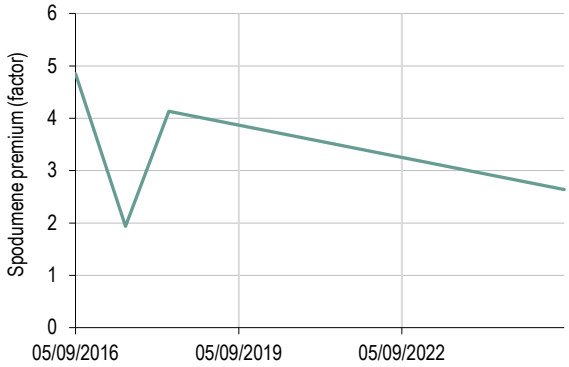
Interestingly, of the 10 metals and minerals reviewed in this report, spodumene lithium had the highest beta (slope – see Exhibit 4), ahead of copper and bauxite. Possibly as a result, its premium relative to alternative forms of lithium mineralisation (excluding brines) has fallen towards the low levels of August 2017 and a long way from the highs of September 2016 and May 2018:

Exhibit 101: In-situ total spodumene resources valuation performance cf lithium carbonate price performance, 2016–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

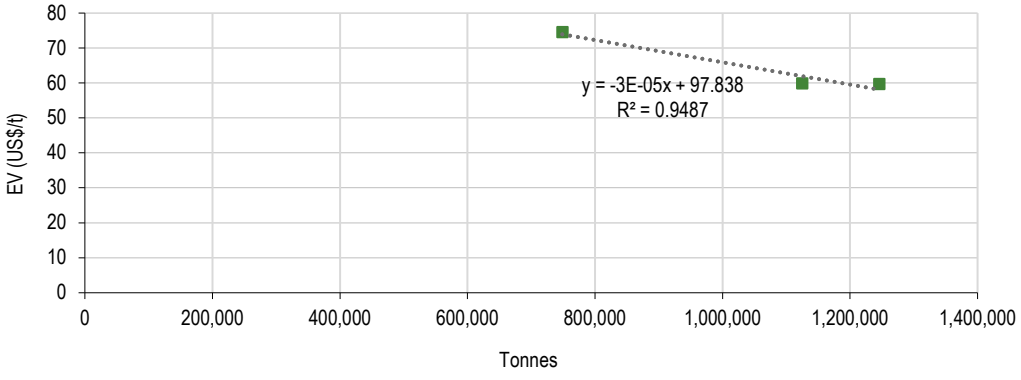
Exhibit 102: Spodumene in-situ total resources valuation cf 'other' lithium in-situ resources valuation, 2016–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In the case of spodumene explorers, there is some anecdotal evidence that the market appears to discount a degree of future exploration success. However, the relationship appears to be linear, rather than an inverse one. Moreover, at this stage, the sample size is too small for the data to be meaningful.

Exhibit 103: Graph of resource size (tonnes lithium carbonate equivalent) versus resource multiple (US$/t) for spodumene explorers



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Spodumene multiple regression analysis

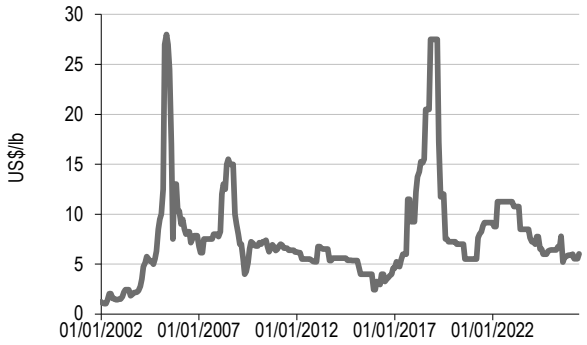
Owing to the small sample size, no multiple regression analysis was performed for spodumene explorers in 2025.

Vanadium in-situ resource valuations

Of the nine metals and minerals analysed in this report, by far the worst performing in terms of price over the past seven years has been vanadium (in the form of vanadium pentoxide, V_2O_5), dropping by 73.9%, from US$45,203/t (US$20.50/lb) in 2018 to US$11,797/t (US$5.35/lb) currently. This has not always been the case; the price doubled between 2016 and 2017 and then doubled again between 2017 and 2018, when it was by far the best-performing metal profiled that year. As such, it

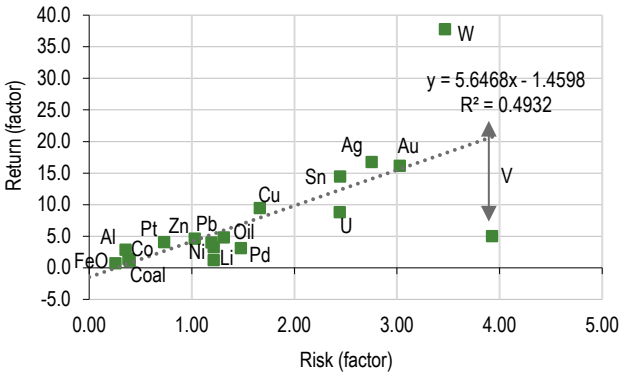
has the highest volatility of any metal, with a wide range of potential returns (as depicted by the arrow in Exhibit 105), as befitting a metal where a high percentage of production is as a by-product of other processes and where supply is inelastic to demand.

Exhibit 104: V_2O_5 price, 2002–26 (US$/lb)



Source: Edison Investment Research, LSEG Data & Analytics

Exhibit 105: V_2O_5 price volatility (risk) versus return compared with other commodities, 2002–26



Source: Edison Investment Research (underlying data: LSEG Data & Analytics)

As well as being the worst performing metal, vanadium was also the worst performing in terms of the in-situ value of its overall resources, falling from US$52.31/t in 2018 to US$13.76/t in 2025 – a decline of 73.7%.

Exhibit 106: Global average in-situ value of explorers' vanadium resources (US$/t)

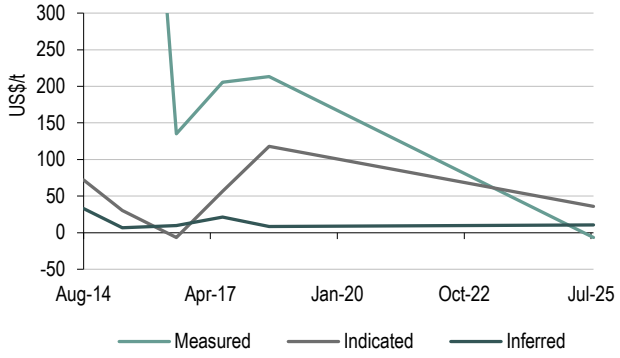
	August 2025				August 2018				August 2017			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ vanadium value (US$/t)	(6.50)	35.90	10.73	13.76	213.26	117.99	8.48	52.31	205.49	56.40	21.37	54.40

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

As a result, the performance of vanadium in-situ resources has the worst alpha of any metal profiled, of -39.4% and (for the moment, at least) a relatively small beta, of 5.4% (see Exhibit 4).

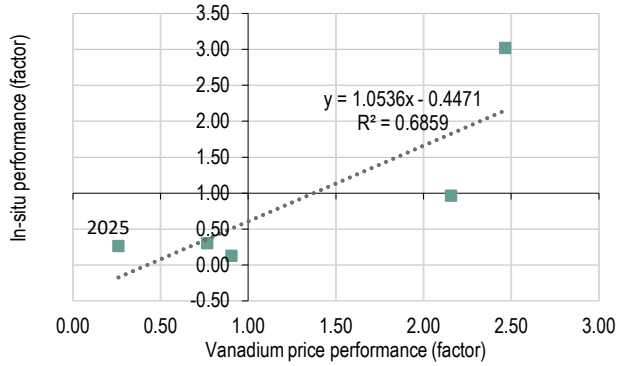
We note that the largest declines in value were recorded by companies with measured resources, while the value of companies with inferred resources only remained relatively constant (Exhibit 107).

Exhibit 107: In-situ value of vanadium resources, by category, 2014–25 (US$/t Ni)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 108: In-situ total vanadium resources valuation performance cf vanadium price performance, 2014–25

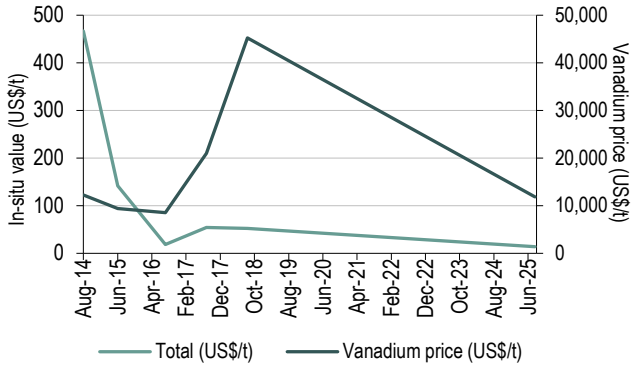


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

On account of both the metal price and the value of overall in-situ resources falling by almost exactly the same amount, in percentage terms, the value of in-situ resources as a percentage of the price of vanadium pentoxide has remained almost exactly constant, at 0.12% (Exhibit 110), and

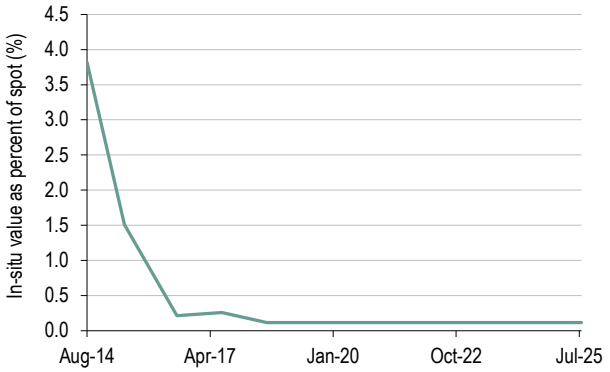
remains the cheapest in the mining universe on this basis, with the exception of some bulk commodities and despite its value approximating that of copper.

Exhibit 109: In-situ value of vanadium resources and vanadium spot price, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

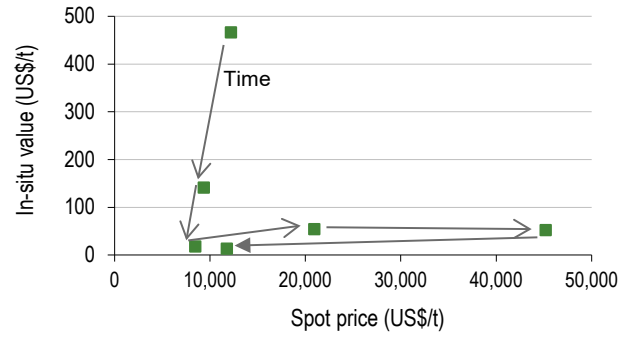
Exhibit 110: In-situ value of vanadium resources as a percentage of spot price of vanadium, 2014–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

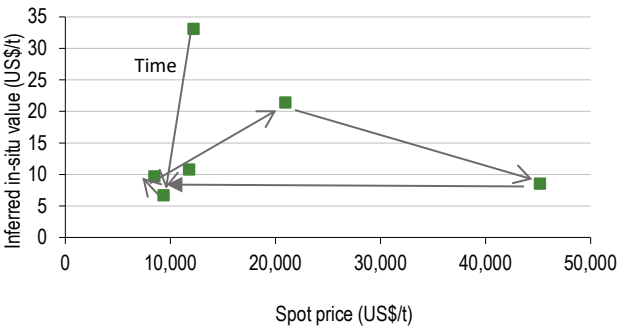
Notwithstanding the overall decline in the in-situ vanadium resource multiple, the discrete values of measured, indicated and inferred tonnes appear to be approximately as expected, given historical experience, with the possible exception of the value of measured resource tonnes being slightly lower than expected (Exhibit 114). In this respect, it is notable that the value of indicated resource tonnes has by far the closest correlation with the price of V_2O_5. Also notable is the sector's overall failure to react (in terms of the average value of in-situ resources) to the V_2O_5 price rising to US$45,203/t in 2018 (and ultimately to US$60,627/t), suggesting that the equity markets were, in general, discounting the price action as transient

Exhibit 111: In-situ value of vanadium resources versus vanadium spot price, 2014–25 (US$/t)



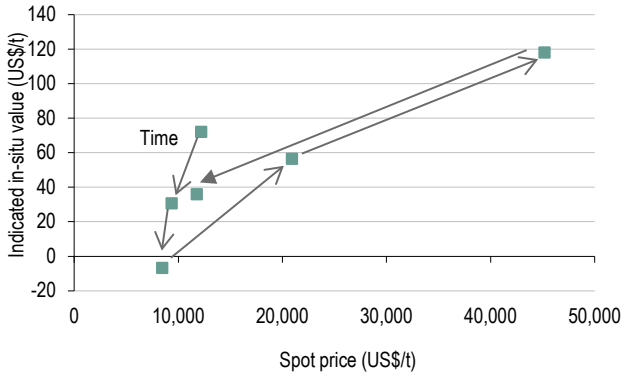
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 112: In-situ value of inferred vanadium resources vs vanadium spot price, 2014–25 (US$/t)



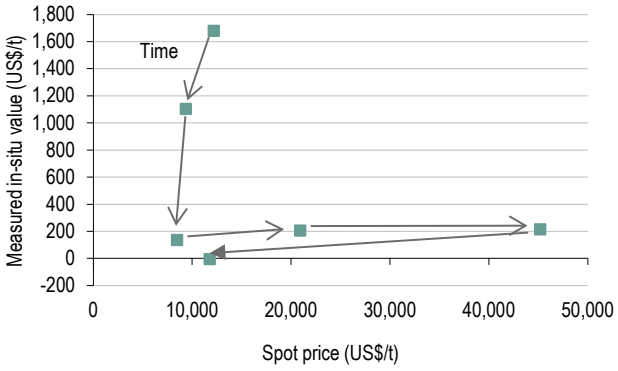
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 113: In-situ value of indicated vanadium resources vs vanadium spot price, 2014–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

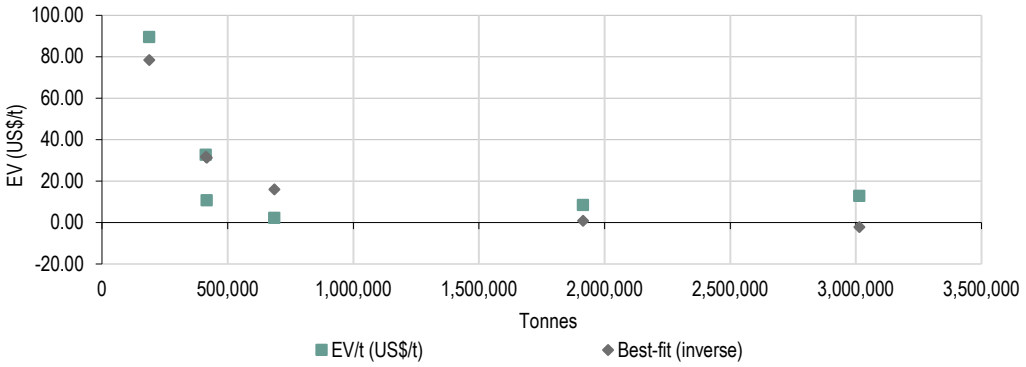
Exhibit 114: In-situ value of measured vanadium resources vs vanadium spot price, 2014–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In contrast to previous years however, there is evidence that is statistically significant at the 5% level that the market is discounting blue-sky exploration upside in the value of smaller deposits (see Exhibit 115, below):

Exhibit 115: Graph of resource size (t contained V_2O_5) versus resource multiple (US$/t) for vanadium explorers



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Vanadium multiple regression analysis

We have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the report and their resources, broken down by category. In simple terms, the analysis asserts that a company's EV should be a function of its measured, indicated and inferred resources. The multiple regression analysis therefore plots the sample companies' EVs against their measured, indicated and inferred resources (conceptually in four dimensions) and then calculates the best-fit line between the points. The results of this analysis are shown in Exhibit 116, below.

Exhibit 116: In-situ vanadium explorers' valuation multiple regression analysis results (US$/t*)

	August 2025			
	Intercept (US$m)	Measured	Indicated	Inferred
Multiple regression analysis	8.0	(0.39)	50.82	(19.54)
Differentiated analysis	N/A	(6.50)	35.90	10.73

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Unless otherwise indicated.

In this case, a notable feature of the results is that both the multiple regression analysis and the differentiated analysis agree that the value of in-situ resources in the sector is carried by the indicated category. There is a relatively high degree of confidence attached to the value of these

resources – as well as the intercept associated with the sector – as attested to by the relatively high t-stat result and the relatively low P-value associated with their estimation.

Exhibit 117: Vanadium explorers' multiple regression analysis, t-stat results

	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	8035958.065	4225507.41	1.901773512	0.197552668	-10144932.93	26216849.06
Inferred	-19.53569614	15.02983688	-1.299794289	0.323305081	-84.20386482	45.13247254
Indicated	50.81971177	19.29378451	2.633993955	0.118958346	-32.19474282	133.8341664
Measured	-0.387406543	6.222435901	-0.062259628	0.956018395	-27.16038736	26.38557427

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Bauxite in-situ resource valuations

A relative newcomer to equity markets, the price of bauxite has nevertheless been relatively buoyant over the past seven years, rising by 61.0%, first as a result of disruptions to global trade flows as a result of the COVID-19 pandemic and then, more recently, as a result of shipping disruptions in and around the Persian Gulf on account of the US-Iran conflict, partially mitigated by surging exports from Guinea, but with the expectation that these could be curbed in the very near future by export quotas and restrictions.

Within this environment, the in-situ value of overall bauxite tonnes (expressed according to their alumina, or Al_2O_3, content) has increased from near zero to over US$1.00 per tonne of contained Al_2O_3 – the best performance of any metal or mineral in this year's report.

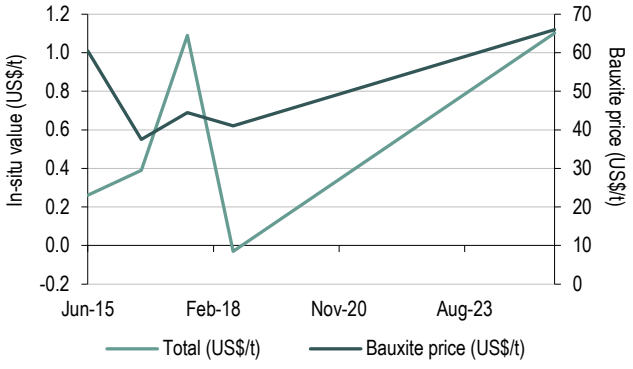
Exhibit 118: Global average in-situ value of explorers' bauxite resources (US$/t Al_2O_3)

	August 2025				August 2018			
	Measured	Indicated	Inferred	Total	Measured	Indicated	Inferred	Total
In-situ bauxite value (US$/t)	1.64	1.09	0.06	1.10	6.47	1.80	(0.26)	(0.03)

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

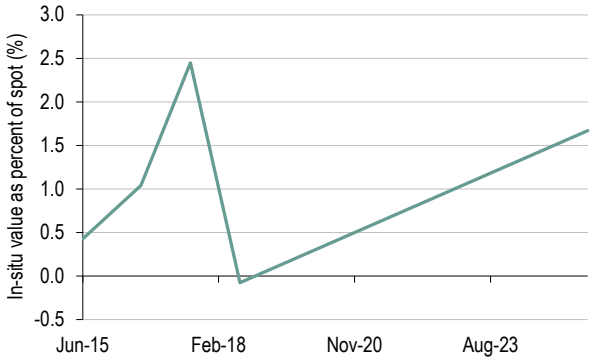
From a near-zero valuation in 2018, this recovery takes the value of in-situ bauxite resources back to roughly where they were in 2017 in absolute terms, albeit rather less when expressed as a percentage of the bauxite price (1.7% cf 2.4%). Nevertheless, these gyrations are material and readers are invited to contrast this performance with the relative stability exhibited in the iron ore market over the same period of time (see pages 31–34).

Exhibit 119: In-situ value of bauxite resources (US$/t Al_2O_3) and spot price of bauxite (US$/t), 2015–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

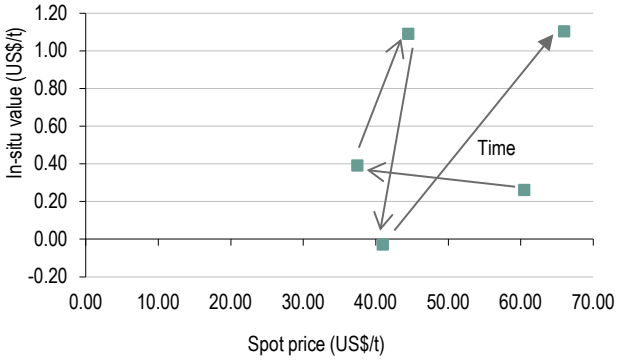
Exhibit 120: In-situ value of bauxite resources as percentage of spot price of bauxite (%), 2015–25



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

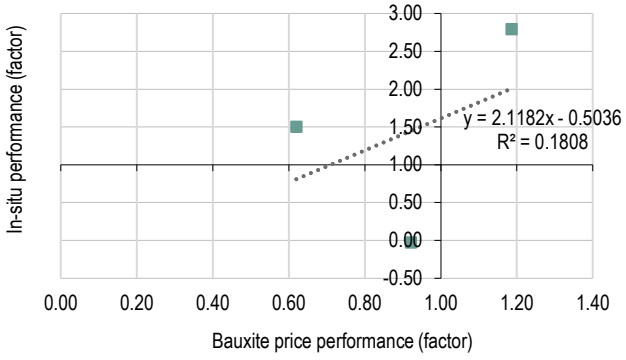
The recovery in the value of in-situ bauxite resources from minus 3c/t to over US$1.00/t is too large to be processed effectively mathematically. Nevertheless, even excluding this most recent period, an investment in bauxite in-situ resources yields the highest alpha and the third highest beta (ie gearing to the metal price) of any metal or mineral in this report (Exhibit 4).

Exhibit 121: In-situ value of bauxite resources (US$/t Al_2O_3) versus spot price of bauxite (US$/t), 2015–25 (US$/t)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 122: In-situ total bauxite resources valuation performance cf bauxite price performance, 2015–18

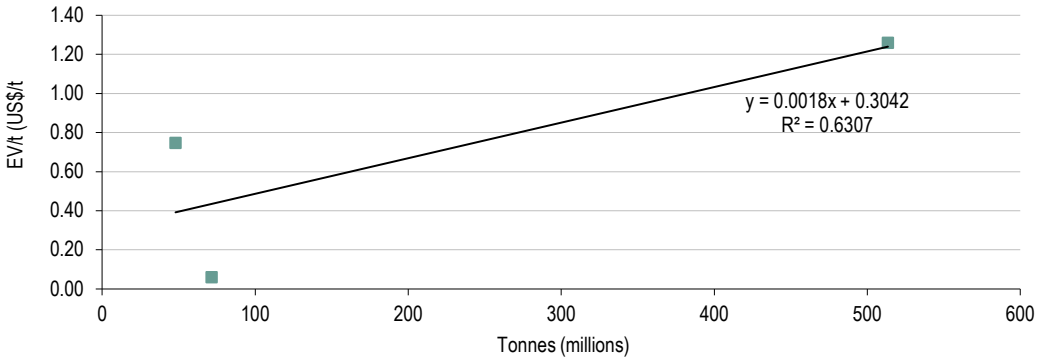


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In addition, the progression of values, whereby the value of measured in-situ bauxite tonnes exceeds that of indicated tonnes, which exceeds that of inferred tonnes appears conventional, although it is worth noting in this respect that the best individual correlation with the bauxite price is exhibited by the value of inferred tonnes (which is even greater than the correlation between total tonnes and the bauxite price).

While Exhibit 123 might appear to suggest that bauxite explorers attract a higher resource multiple the larger the size of the deposit, this is in direct contradiction to the finding of our 2018 analysis. Moreover, as in 2018, while anecdotally quite compelling, the number of data points in the bauxite population is too small, in mathematical terms, for the correlation between resource size and resource multiple to be regarded as statistically significant.

Exhibit 123: Graph of resource size (t Al_2O_3) versus resource multiple (US$/t Al_2O_3) for bauxite explorers



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

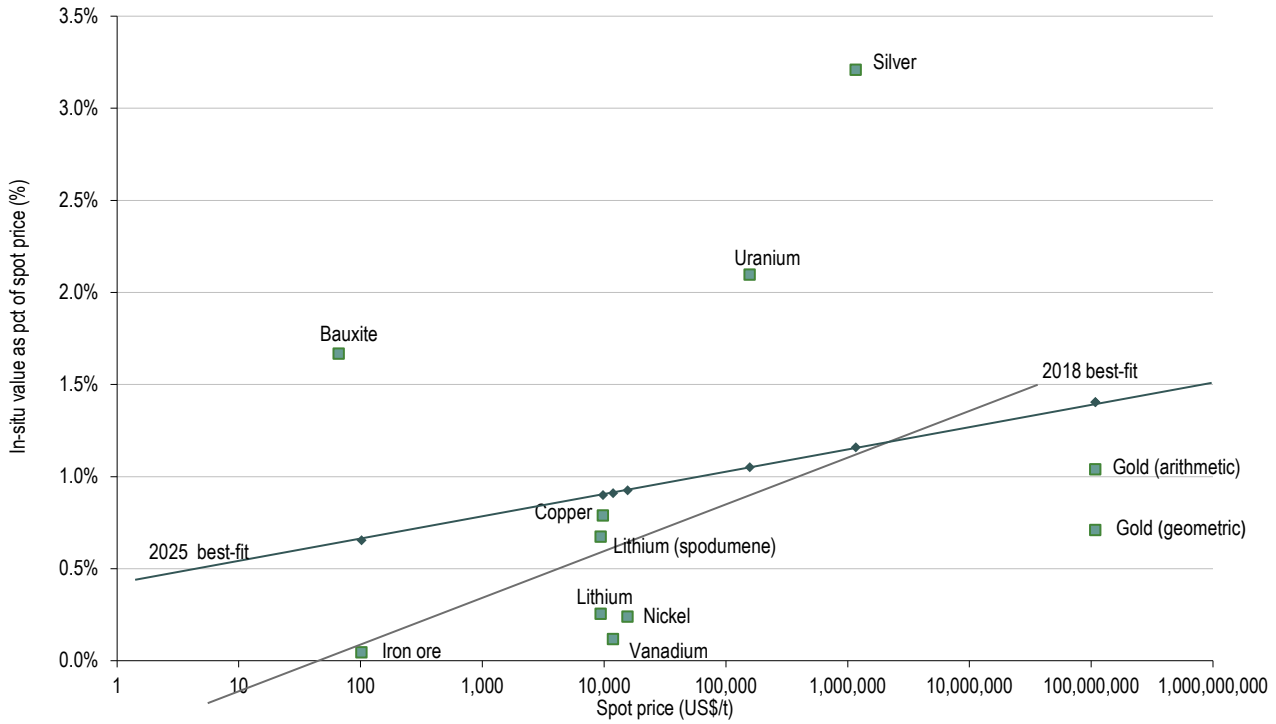
Bauxite multiple regression analysis

Although we performed a multiple regression analysis for bauxite explorers in 2025, as in 2018, the population size of the subsector was too small to render the results meaningful.

Undifferentiated analysis

In addition to our differentiated analysis, we have performed undifferentiated analyses on nine metals and minerals. The analysis has been performed with respect to the spot price of the relevant metal or mineral at the time of the analysis. For example, the geometric average price of an in-situ gold ounce at the time of the differentiated analysis was US$23.84/oz (vs US$14.95/oz in 2018, US$17.54/oz in 2017 and US$16.84/oz in 2016), which equated to 0.71% of the price of gold at the time that the analysis was performed (cf 1.24% in 2018). That is to say, the value of an in-situ ounce was 0.71% of the value of a refined ounce. The chart below shows this analysis performed for the other nine metals and minerals covered in this report. Note that all metal prices have been converted into US dollars per tonne so that they may be shown on the same scale (for example, gold at the time was US$3,358/oz, or US$107,963,058/t). As such, the x-axis scale – being the spot price of the metal or mineral in question – may be considered a proxy for economic scarcity.

Exhibit 124: In-situ resource values versus spot prices, selected metals and minerals



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

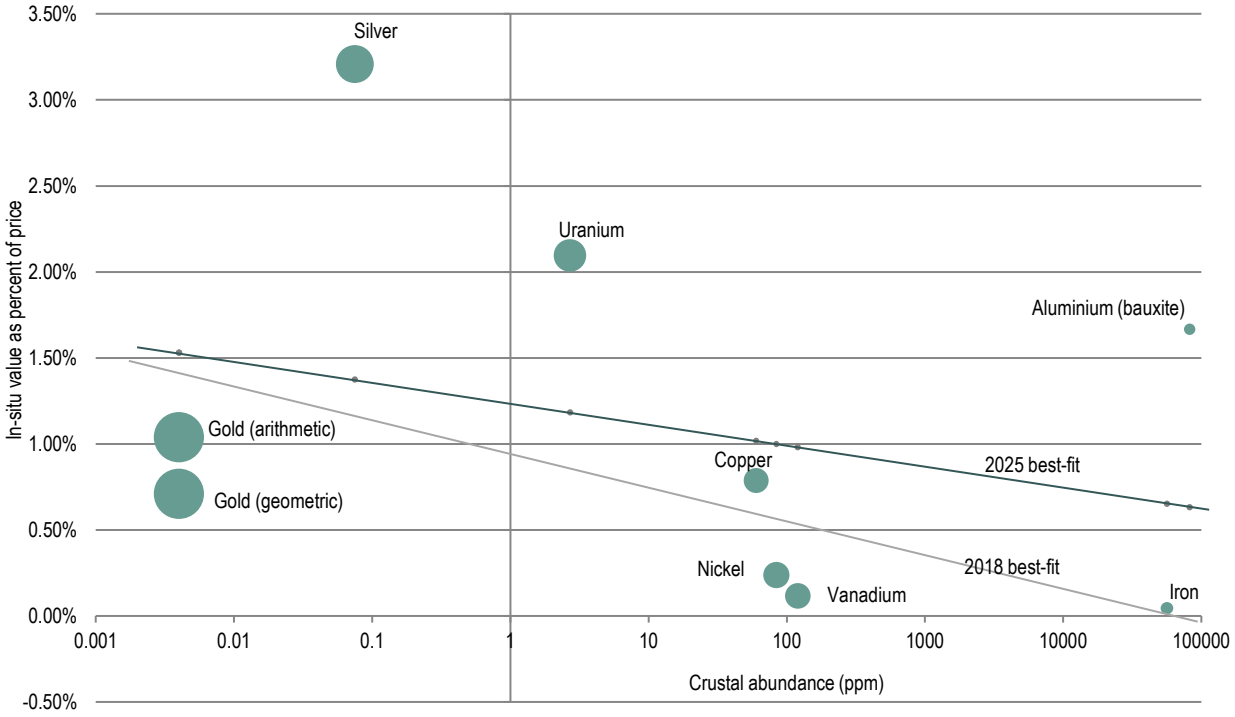
A number of features of the analysis are immediately apparent:

- In contrast to previous years, the relationship between the logarithm of the price of a metal and its in-situ value can no longer be said to be statistically significant at the 5% level, with a PPMC of 0.26. This improves to 0.44 if the point relating to bauxite is removed, although this is still not statistically significant. With bauxite removed however, the best-fit line reverts to almost exactly where it was in 2018.
- Of the three metals and minerals that may be considered to have 'above trend' in-situ valuations, bauxite valuations have been extremely volatile over the past seven years. Otherwise, uranium has been consistently above trend in terms of its valuation ever since it has been included in these analyses. Silver's position may be rationalised (at least partially) in terms of its co-products – typically at least lead and zinc. Anecdotally, silver explorers' silver in-situ resources typically amount to about half of their silver equivalent resources. If this is adjusted for, then the silver equivalent point may be located at a level of 1.6% of the spot value of silver (on the y-axis) and thus within the error of estimation of the analysis.

- In-situ values for the majority of metals and minerals are 'below trend', given their spot prices.
- The value of lithium (spodumene) as a percentage of the spot price of lithium carbonate has reverted from being 'above trend' in 2018 to 'below trend' in 2025.
- The (geometric) best fit line of the points in 2025 is much shallower than the equivalent line in 2018. As noted previously, this may be a function of the inclusion of bauxite in the analysis. However, if the bauxite point shows itself to be sustainable at this level in the future, it would suggest that low-value resources that have hitherto been unable to attract in-situ valuations (eg limestone) may now be able to do so.

The same data may be represented, explicitly relating in-situ values to crustal abundance, as follows:

Exhibit 125: In-situ resource values (% of spot) versus crustal abundance (ppm), selected metals and minerals

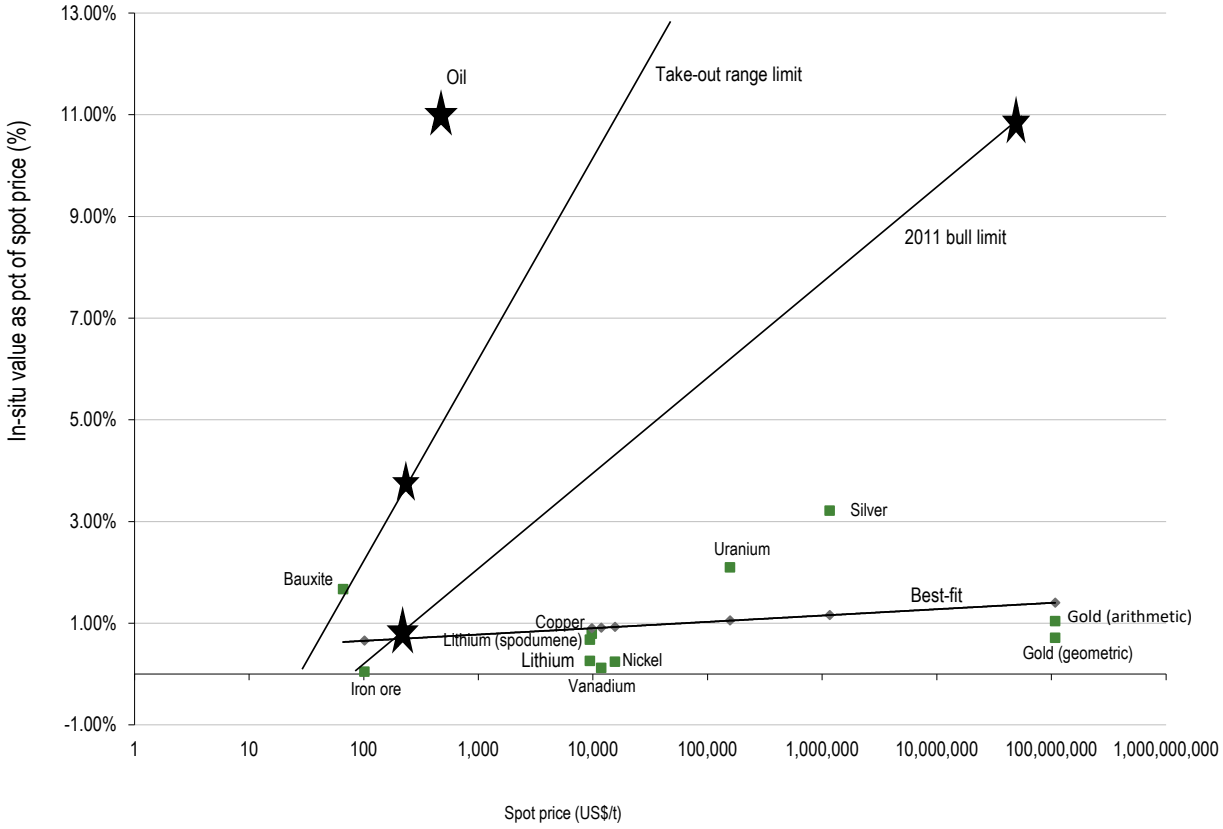


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Bubble size represents Log (price US$/t).

Note that the best-fit line in 2025 is markedly shallower than the equivalent in 2018. As discussed previously, this is largely a function of the inclusion of bauxite in the analysis. If it is excluded, the 2025 best-fit line reverts to something much closer the 2018 one, albeit about 0.125–0.250 percentage points higher.

Nevertheless, in-situ values remain a long way from those that were typical during the bull market in 2011–12 and also those at which premium acquisitions occurred, when transactions as high as 35% of the spot price of gold and 3.9% of the spot price of iron ore were recorded (see Gold: The value of gold and other metals, published in February 2015):

Exhibit 126: In-situ resource values (as percentage of the spot price) versus spot prices (US$/t), within historical context, selected metals and minerals



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Aside from the lower-limit line of best fit (which is identical to that shown in Exhibit 124), two additional lines are shown. They represent: 1) the estimated position of the line of best fit at the top of the bull market in 2011, and 2) the upper limit of the range of in-situ values achieved in corporate transactions in the 2012 cycle, represented by the acquisition of African Iron by Exxaro in January 2012 at a price equivalent to a resource multiple of US$5.70/t Fe (3.9% of the spot price of iron ore) and Newmont's acquisition of Fronteer at an in-situ resource multiple of US$475/oz Au, or 32–35% of the spot price of gold (excluding the Pilot Gold spin-out), in February 2011.

For reference, a point has been added to the graph to show the approximate position of the oil industry. Comparing the oil industry and the mining industry, we note that oil companies trade at exceptional in-situ valuations with respect to mining companies, albeit some of this may be attributable to their relatively higher unit costs of discovery and their relatively lower unit costs of development.

Of the nine discrete metals and minerals profiled, the prices of seven (uranium, gold, silver, copper, iron ore, aluminium and nickel) have increased since our last note on the subject (Gold stars and black holes: Analysing the discount from resource to sanction, published in January 2019). In the same time frame, the prices of two (lithium and vanadium) have declined.

Similarly, the in-situ values of the same seven rose (albeit with the exception of nickel laterite resources, although nickel resources overall were higher), while the in-situ value of lithium and vanadium also declined.

A summary of the various characteristics of each metal and mineral profiled by Edison is as follows:

Exhibit 127: In-situ resource valuation characteristics, by metal/mineral

	Gold			U	Ag	Iron ore	Ni	Cu	Li	Li (spodumene)	V	Bauxite
	AIM	TSX	ASX									
Market conditions	Bull	Bull	Bull	Bull	Bull	Bull	Bull	Bull	Bear	Bear	Bear	Bull
Amenable to differentiated resource valuation	Hist.	Hist.	Hist.	✓			✓					✓
Amenable to valuation with respect to total resource	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Measured resource discount	?	✓	✓			✓	✓	✓	✓	✓	✓	
Indicated resource discount					✓							
Evidence of discounting for blue-sky	?	NSS	NSS	NSS	✓ SS	✓ SS	✓ SS	NSS	✓ SS	Strong*	✓ SS	No
No evidence of blue-sky discounting	?											✓
Size premium	?											NSS
Corroborated by MRA	?	No	Partial	Yes	Yes	Yes	Contradicts	Contradicts	Yes	N/A	Yes	N/A
Small sample size										✓		✓

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Hist, historically and, in our opinion, still; SS, statistically significant at the 5% level; NSS, not statistically significant at the 5% level; MRA, multiple regression analysis. *Insufficient sample size to be regarded as statistically significant.

In summary:

- All metals and minerals appear amenable to analysis with respect to total resources; three (gold, uranium and bauxite) also appear amenable to analysis with respect to the categorisation of their resources.
- Up to seven metals and minerals have implied valuations for measured resources that are at a discount to those of indicated and/or inferred resources; in most of these cases, this result is supported by the results of our respective multiple regression analyses, suggesting that investment with the intention of promoting indicated resources to the measured category is likely to be value destroying.
- Silver exhibits a discounted valuation for indicated resources; ordinarily (and historically) we might have interpreted this as an error, except for the fact that silver has demonstrated this pattern of differentiated valuations previously and also that this conclusion is supported by the results of our multiple regression analysis.
- Although it is to some extent a matter of opinion, as in previous years, we believe that the majority of metals and minerals demonstrate some form of discounting of future discoveries, with the exception of bauxite.
- Only bauxite exhibits a positive correlation between resource size and in-situ valuation; however, this conclusion is compromised by the small sample size.

NonSuch Gold

The physical limitations created by financial boundaries

In the report Gold: New benchmarks for old, published in November 2012, we created a notional mining company, which we called NonSuch Gold Ltd. We designed the company's characteristics to approximate those to which many junior gold mining companies aspire and then used the in-situ resource valuations calculated in the report in conjunction with our benchmark discount rates for companies at different stages of development (eg see Gold: US$2070 by 2020, published on 20 November 2013) to value NonSuch Gold at every year of its existence, from initial funding to the end of the life of its operations, and to then interrogate that valuation with respect to both outside influences and internal development strategies.

Creating, valuing and manipulating NonSuch Gold

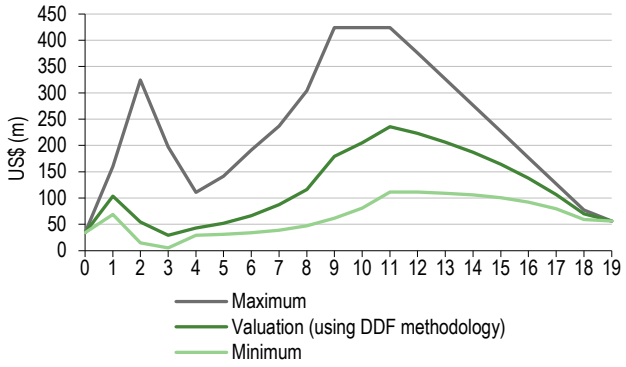
NonSuch Gold is designed to approximate the characteristics many junior gold mining companies aspire to, namely:

- The delineation of a 1.5Moz resource, 67.2% of which (being the measured and indicated portion of the resources) is then converted into reserves and mined at a rate of 100koz per year for 10 years. The company is deemed to be listed in Canada and it will be financed in three rounds of equity funding in year 0 (initial capital for exploration), year 4 (to complete scoping, PFS and BFS) and year 7 (for development).
- After raising its initial finance, NonSuch Gold delineates an inferred resource in year 1, an indicated and inferred resource in year 2 (in a 56.8:43.2 ratio) and a measured, indicated and inferred resource in year 3 (in a 20.1:47.1:32.8 measured:indicated:inferred ratio). It then raises additional equity funds in year 4 to commission a scoping study, a PFS and a BFS in years 4, 5 and 6, respectively. In year 7 it completes a final round of equity, in addition to debt, funding, such that its leverage (debt/(debt+equity)) peaks at 50%, and embarks on the first of three years of capital expenditure. Production ramp-up begins in year 8 and full production is achieved in year 9. Full production is then maintained from years 9 to 18 inclusive (ie 10 years). Working capital is released in year 19 when the company reverts to being an exploration entity (its only assets being cash and a residual inferred resource).
- In years 0 to 3, the company is valued according to the in-situ value of its resources (differentiated by category, assuming a Canadian listing) plus cash. Note that the TSX listing assumption affects only years 1 to 3; London- and Australian-listed explorers would have the profiles shown in Exhibit 32 on page 20. In years 4 to 18, NonSuch Gold is valued according to the discounted dividend flow method at the mean discount rates (as interpreted by Edison) defined and set out in the report Gold: US$2070 by 2020, plus the (undiscounted) value of the residual inferred resource. Working capital is released in year 19, such that the company reverts to being an exploration entity with cash and an inferred resource only.
- Unit costs of discovery are those calculated by BDO and Edison and set out in our report Gold: Valuation benchmarks are obsolete, published in January 2010, namely US$7.16 per inferred ounce, US$10.50 per indicated ounce and US$36.82 per measured ounce.
- Of the company's 1.5Moz resource, 1.0Moz are in the measured and indicated categories, which are assumed to have a 100% conversion ratio into reserves.
- Study costs are estimated at 1.5% of capex (ie US$1.5m in total) and are deemed to be cumulative; that is, scoping study costs contribute towards PFS costs, and PFS costs towards BFS costs, etc.
- Central, general and administrative costs amount to US$4m per year until the company enters production, when they increase to US$7.5m per year.

- Equity fundings are conducted at the implied value of the equity, given the state of advancement of the project (ie no discount to the prevailing share price is assumed).
- Capex amounts to US$100 per annual ounce of production (ie US$100m, or US$100 per reserve ounce).
- Debt peaks at the end of year 8 (ie the year before full production is achieved), when gearing (ie debt/equity) reaches 100% and leverage (debt/(debt+equity)) reaches 50%.
- The cost of debt is set at 11% and the return on cash deposits at 0.5%.
- We assume a gross cash profit margin of US$725/oz during the mine's producing phase, which may be rationalised in terms of a gold price of US$2,725/oz and total cash costs of US$2,000/oz (NB see below for sensitivities relating to this assumption).
- Profits are taxed at 28% (after depreciation); there is no write-off for past exploration expenses.

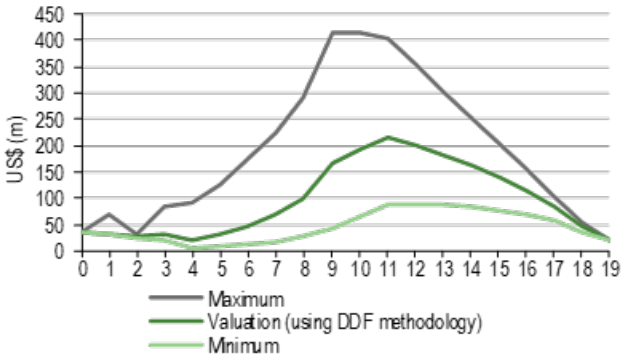
On the basis of the assumptions set out above, the undiscounted value of the dividends paid out to shareholders is US$396.3m, comprising cash flow from operations (US$458.5m), minus total life-of-mine capex (US$123.4m), plus total equity funding (US$89.8m) minus terminal cash balances (US$28.7m). Graphs of the resultant value of NonSuch Gold and its share price, as calculated by Edison, are provided below. Note that original (full) financials for the company are provided on page 42 of Gold: US$2070 by 2020, published in November 2013.

Exhibit 128: NonSuch Gold value by year (2026)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

Exhibit 129: NonSuch Gold value by year (2019)

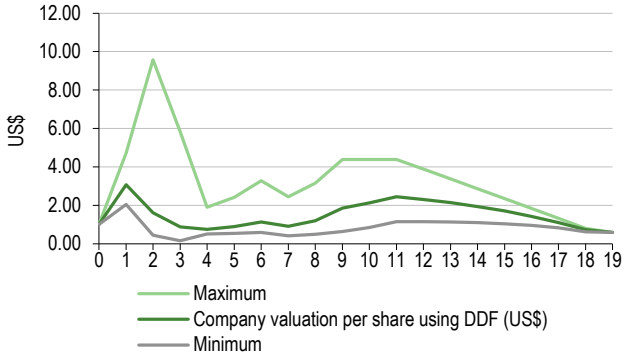


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

In general, after year 4 (in which a PEA on the project is published), valuations in our 2026 analysis are approximately 28% higher than in the equivalent analysis in 2019 on average (note that the margin for both is the same in US$/oz terms). However, the much more obvious difference is the spike in valuations in year 1 and year 2 in the 2026 analysis, where values may be as much as 10 times higher than in 2019 – when inferred and then indicated resources are first delineated – although this is balanced, to some extent, in year 3, when measured resources are delineated, when the valuation may be up to 70% lower. This reflects the findings of our differentiated analysis of the values of measured, indicated and inferred resources on page 18 of this report.

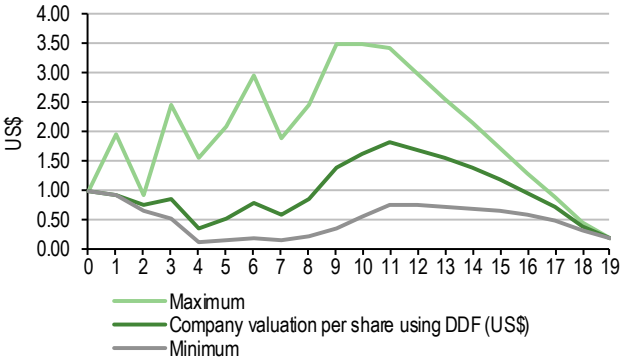
The same pattern is discernible in NonSuch's share price although, owing to the higher earlier valuations, its subsequent fund-raising in year 7 is less dilutive, with the result that, on average, its share price is 49% higher than that calculated in our 2019 analysis from year 4:

Exhibit 130: NonSuch Gold share price by year (2026)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

Exhibit 131: NonSuch Gold share price by year (2019)

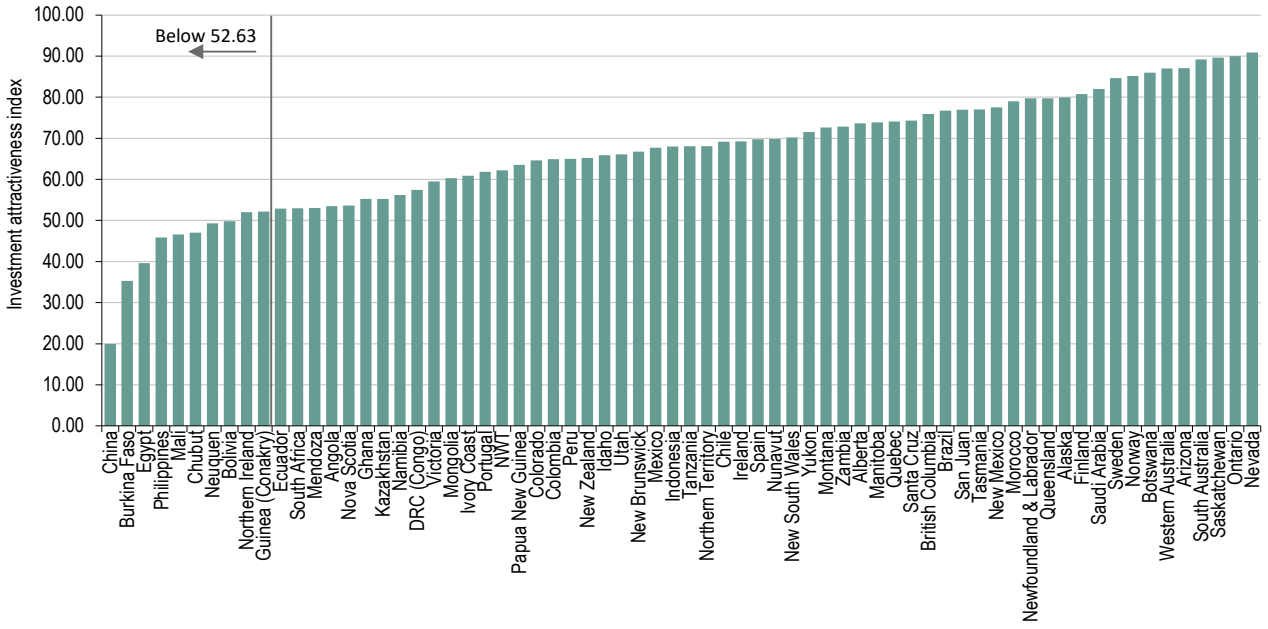


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

Nevertheless (as discussed in the report entitled Mining overview: Normalisation augers well for exploration, published in October 2016), the company must negotiate a critical funding point in year 7. If the project is not deemed sufficiently viable to generate a positive (real) return on invested funds, it will not be financed. This occurs if a 37.6% discount rate (cf 44.9% previously) is applied to future dividends (in this case, excluding the value of any residual resource), within a range from 8.0% to 62.0% (see Gold: US$2070 by 2020, published in November 2013).

If we use the Fraser Institute's Investment Attractiveness Index to measure political risk, and we assume the lowest-risk mining investment destination (Nevada in 2025, with a score of 90.87) corresponds to a minimum discount rate of 8.0%, the highest-risk mining investment destination (China, with a score of 20.00) corresponds to a maximum discount rate of 62.0% and the mean mining investment destination (New Brunswick, with a score of 66.77) corresponds to a mean discount rate of 27.0%, then a discount rate of 37.6%, as applied to potential future dividends, occurs at a Fraser index score of 52.63 – between Guinea (Conakry) and Ecuador:

Exhibit 132: Fraser Institute Investment Attractiveness Index, 2026 survey



Source: Fraser Institute, Edison Investment Research

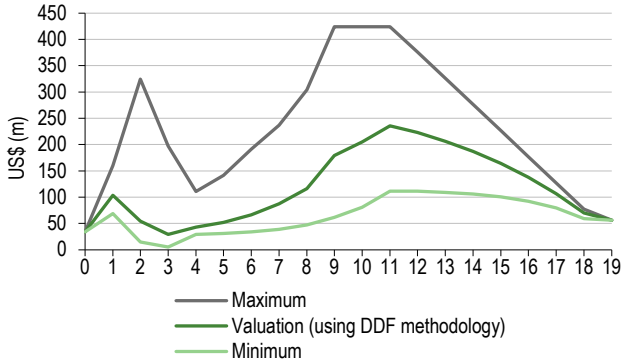
On this basis, the bottom 10 jurisdictions in the Fraser Index survey regarding mining investment attractiveness appear below the implied investible cut-off line for 'average' projects (cf 12 previously).

Sensitivities

As noted above, a key assumption of the valuation of NonSuch Gold is a gross cash profit margin of US$725/oz (rationalised as a gold price of US$2,725/oz and total cash costs of US$2,000/oz). While this may have been appropriate for any gold mining company prior to 2025, it seems overtaken by events in 2026, with the gold price in excess of US$4,000/oz.

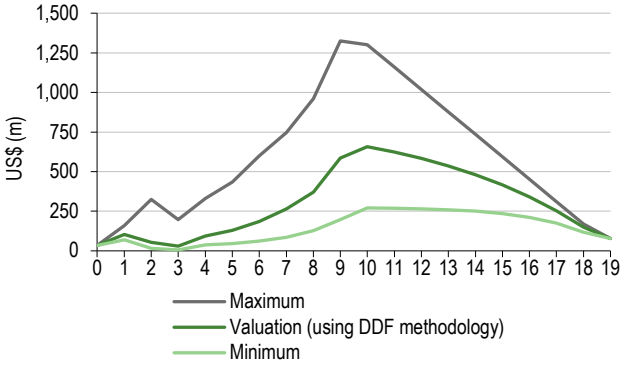
The graphs below compare the valuation of NonSuch Gold in a US$4,000/oz sustainable, real gold price environment with those above in a US$2,725/oz scenario. All other assumptions have been left unchanged.

Exhibit 133: NonSuch Gold value by year (2026) at US$725/oz Au gross margin



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

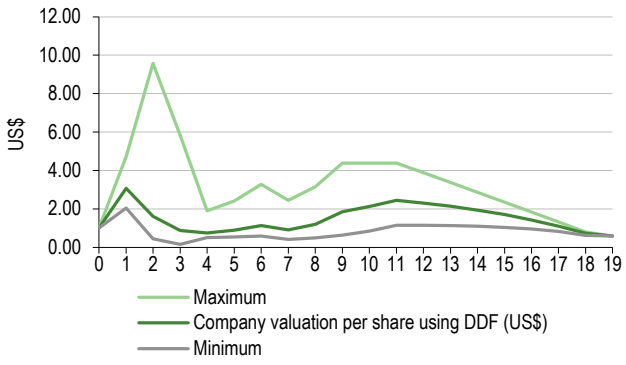
Exhibit 134: NonSuch Gold value by year (2026) at US$4,000/oz Au



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

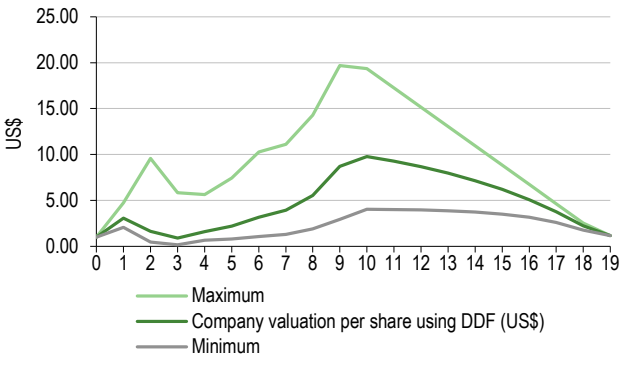
Of note is an approximate tripling of the value of the company (market capitalisation) relative to our 'base case' scenario in year 4 and after. Moreover, this increase is geared up into an almost quintupling of the share price in the higher gold price environment, especially during the production years (years 9 to 18):

Exhibit 135: NonSuch Gold share price by year (2026) at US$725/oz Au gross margin



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

Exhibit 136: NonSuch Gold share price by year (2026) at US$4,000/oz Au



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: DDF, discounted dividend flow.

These may be compared with NonSuch's project NPV and NPV/share at different discount rates, as follows:

Exhibit 137: NonSuch Gold project valuations at varying discount rates and gold prices and relationship to project financing price

Gold price (US$/oz)		Discount rate:		
		5%	8%	10%
4,000	NPV (US$m)	846.4	677.9	587.6
	IRR (%)	87.6	87.6	87.6
	NPV/share* (US$/share)	14.46	11.58	10.04
	Financing price (US$/share)	3.94	3.94	3.94
	Discount of financing price to NPV/share* (%)	72.7	66.0	60.7
	Implied required EV/NPV (%)	27.3	34.0	39.3
2,725	NPV (US$m)	218.4	163.6	134.6
	IRR (%)	32.8	32.8	32.8
	NPV/share* (US$/share)	3.73	2.80	2.30
	Financing price (US$/share)	0.91	0.91	0.91
	Discount of financing price to NPV/share* (%)	75.7	67.6	60.6
	Implied required EV/NPV (%)	24.3	32.4	39.4

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources).
Note: *Pre-year 7 financing.

The results of this table lay bare the challenge before company managements in successfully securing project funding, where a 'fair' project financing price for NonSuch Gold may be taken to be c 26% of project NPV/share (the average of 27.3% and 24.3%) in the case of a technical study in which a 5% discount rate has been applied to future cash flows, but where the majority of companies trade in the range 0–10% of project NPV (see Exhibit 159), with an average of just 18.3% (Exhibit 200).

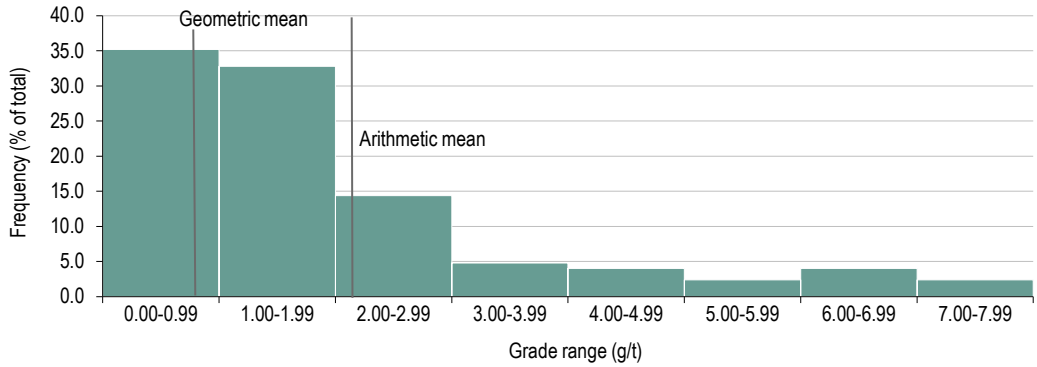
For technical studies in which an 8% discount rate has been applied to future cash flows, a 'fair' financing price may be taken to be c 33% of project NPV/share (Exhibit 137). Yet, the majority of companies (again) trade in the range 0–10% of project NPV per share (Exhibit 159), with an average of just 22.9% (Exhibit 200).

Observations on the nature of gold deposits

In analysing the gold sub-sector of the mining industry, Edison looked at 126 discrete projects in total, accommodated within 90 companies, which we believe is a sufficient sample from which to draw some general conclusions regarding the nature of gold deposits globally.

In aggregate, the 126 projects contained 516.5Moz Au contained within 22.5bn tonnes of ore at an average (geometric) grade of 0.72g/t. The highest grade encountered was 19.0g/t; the lowest was 0.06g/t. In contrast to the geometric average grade however, the arithmetic average grade is 2.08g/t. While investors may have the impression from meeting companies therefore that the average grade of prospects being developed is 2.08g/t, in fact what might be described as the geological average is significantly (65.4%) lower, owing to the skew of the distribution:

Exhibit 138: Gold prospect grade distribution in pre-production prospects



Source: Edison Investment Research (underlying data from company sources). Note: One prospect (representing 0.8% of the total) exists to the right of the distribution shown within the 19.00–19.99g/t interval.

Thus, it may be said that 35.2% of pre-production prospects host gold deposits within the grade range 0.00–0.99g/t. A further 32.8% of prospects host deposits within the range 1.00–1.99g/t etc.

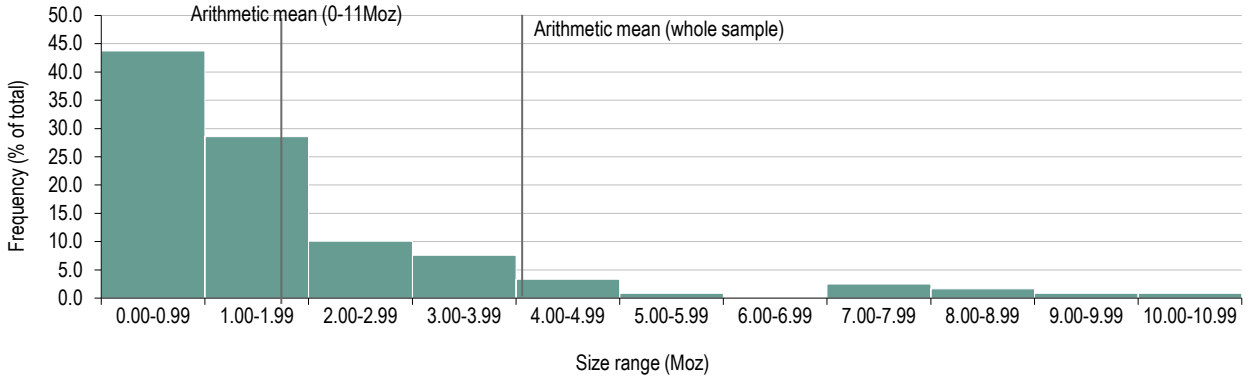
The largest deposit was Seabridge Gold's Kerr-Sulphurets-Mitchell (KSM) project, which hosted, at the time, 154Moz Au (NB this has since been increased). The smallest was a mere 30,000oz, albeit this prospect also boasted the highest grade, of 19.00g/t. Although it was the largest deposit, KSM did not have the lowest grade.

Two other features of Exhibit 138 are worth noting:

- The relatively small frequency of the 0.00–0.99g/t interval relative to the 1.00–1.99g/t interval, which is significantly less than would be expected if the graph followed the expected log-normal distribution. We interpret this 'anomaly' in terms of human agency; that is, we presume that there are a large number of prospects in the 0.00–0.99g/t interval range that prospectors have not brought to the market and are not trying to develop.
- The greater frequency of prospects within the 6.00–7.99g/t range than might similarly be expected, which we again attribute to human agency; that is, we suspect that prospectors are either actively looking for prospects with grades within this range or are constraining the deposits that they have such that the average grade rises to above 6.00g/t.

The average size of a prospect is 4.1Moz Au. However, this figure is materially distorted by a small number of very large deposits (of which KSM is the most obvious example). If the distribution is top-cut at 11.0Moz to exclude the very largest (seven in total) deposits, then the average size of the remainder is a still very material 1.8Moz:

Exhibit 139: Gold prospect size distribution in pre-production prospects



Source: Edison Investment Research (underlying data from company sources)

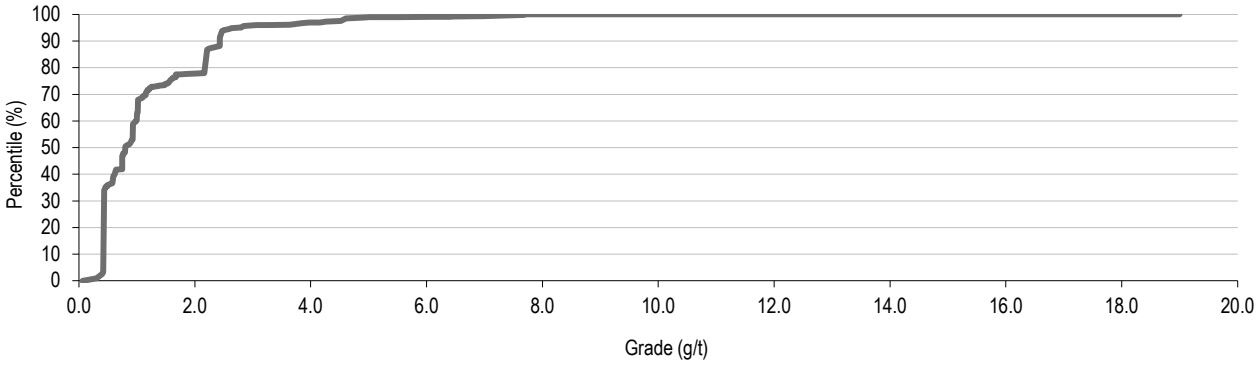
Thus, it may be said that 43.7% of prospects have a gold endowment within the range 0.00-0.99Moz and a further 28.6% have an endowment within the range 1.00–1.99Moz etc. In this case however, we would attribute the apparent 'anomaly' whereby projects in the size range 7.00–8.99Moz (and arguably up to 10.99Moz) not to human agency so much as the small absolute numbers of deposits that exist within these intervals (ie effectively, we think that there is probably 'missing data' in the 5.00–6.99Moz range, in particular).

In terms of the grades at which ounces exist in-situ, using Edison's sample of prospects, it may be said that:

- 25% of ounces exist at a grade below 0.43g/t;
- 50% of ounces exist at a grade below 0.80g/t;
- 75% of ounces exist at a grade below 1.57g/t; and
- 100% of ounces exist at a grade below 19.00g/t.

This is depicted in the graph below:

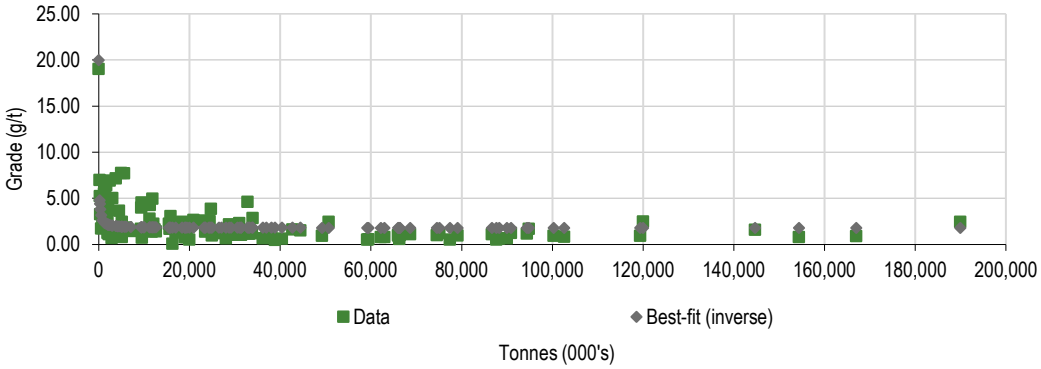
Exhibit 140: Percentile of gold ounces distribution, by grade (g/t)



Source: Edison Investment Research (underlying data from company sources)

Unsurprisingly, there is a strong inverse relationship between ore tonnage and grade:

Exhibit 141: Gold prospects ore tonnage (kt) versus grade (g/t)



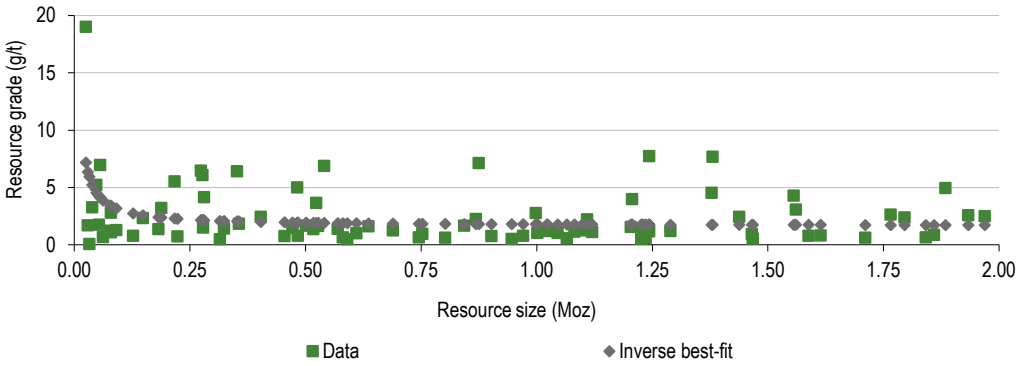
Source: Edison Investment Research, company sources

Four features of this graph are noteworthy:

- As tonnage increases, the expected grade (derived from the best-fit (inverse) line) tends to, but does not reach, 1.78g/t.
- The error of estimation around the best-fit (inverse) line is 1.61g/t.
- Almost a third (39/126) of prospects have grades higher than would be expected based on the prediction of the best-fit (inverse) line.
- 14.3% of prospects (18/126) have grades more than one 'error of estimation' above that predicted, based on the best-fit (inverse) line. These are in the range 3.64–7.72g/t.

The relationship between grade and resource size (in Moz) is weaker than that for ore tonnage, but is nevertheless still statistically significant at the 5% level. This is shown in the graph below up to grades of 2.00g/t. As noted previously, the resource size range extends up to 154Moz. However, the full range is not shown in order to provide definition in the 0.00–2.00Moz range, which nevertheless encompasses more than 75% of ounces in the sample:

Exhibit 142: Gold prospects resource size (Moz) versus grade (g/t)



Source: Edison Investment Research, company sources

Derived from the 'best-fit (inverse)' line, we may say that:

- As resource size (in Moz) increases, the expected grade tends to, but does not reach, a limit of 1.65g/t.
- The error estimation around the best-fit (inverse) line is 2.13g/t.
- Almost a third (38/126) of prospects have grades higher than would be expected, given the size of the deposit (in Moz) based on the prediction of the best-fit (inverse) line. These exist at grades of 2.165g/t and above.

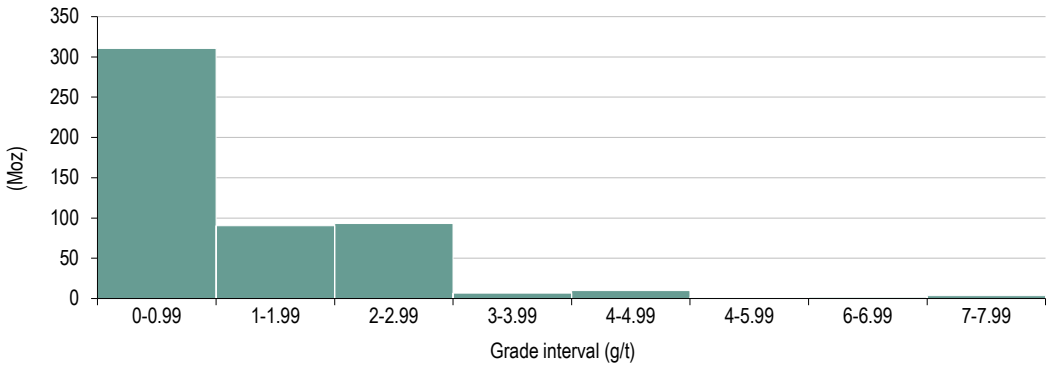
- 13.5% of prospects (17/126) have grades more than one 'error of estimation' above that predicted, given the size of the deposit (in Moz), based on the best-fit (inverse) line. These exist at grades of 3.85g/t and above.

Hence:

- A deposit size of 0.25Moz Au may be expected to have a grade of 2.21g/t (±2.13g/t).
- A deposit size of 0.50Moz Au may be expected to have a grade of1.93g/t (±2.13g/t).
- A deposit size of 0.75Moz Au may be expected to have a grade of 1.84g/t (±2.13g/t).
- A deposit size of 1.00Moz Au may be expected to have a grade of 1.79g/t (±2.13g/t).
- A deposit size of 1.50Moz Au may be expected to have a grade of 1.74g/t (±2.13g/t).
- A deposit size of 2.00Moz Au may be expected to have a grade of 1.72g/t (±2.13g/t).

Finally, we may observe that 310Moz Au (ie 60.1% of the total) exist within deposits that are up to 0.99g/t, while 91Moz (17.5% of the total) exist within deposits that are from 1.00–1.99g/t and 93Moz (18.1%) exist within deposits that are from 2.00–2.99g/t Au:

Exhibit 143: Gold ounce distribution in pre-production prospects, by grade interval (g/t)



Source: Edison Investment Research, company sources. Note: One prospect (representing 0.005% of total ounces) exists to the right of the distribution shown within the 19.00–19.99g/t interval.

The gold price used in technical studies

The price of gold when we wrote our previous report (Gold stars and black holes: Analysing the discount from resource to sanction published in January 2019) was US$1,208/oz. Since then, it has risen strongly, first under the influence of COVID-induced quantitative easing in the period 2020–22 and, second, under the influence of US twin deficits and geopolitical tensions in President Trump's second term in office.

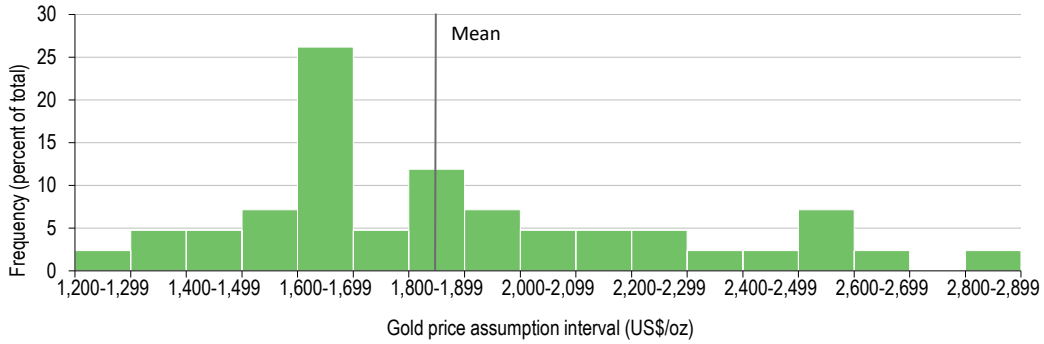
Exhibit 144: Gold price (US$/oz), 2015–26



Source: LSEG Data & Analytics, Edison Investment Research

Most of the technical studies relating to the deposits profiled above and analysed below were completed during this time. Consequently, the lowest price used was US$1,250/oz, which may be reasonably assumed to have been conducted in the period after 2019. By contrast, the highest price used was US$2,850/oz, which may reasonably be assumed to have occurred after January 2025. The average price used was US$1,855/oz. However, a histogram of the frequency of use of gold price assumptions over that period is provided in the chart below:

Exhibit 145: Gold price used in technical studies (US$/oz), 2015–25



Source: Edison Investment Research, company sources

However, gold being in a rising price environment in the period 2019–25 is hardly unique (see Exhibit 25). Moreover, while it is over-represented among companies with an EV/NPV multiple of over 50% (54.5% of the total), this is not much greater than the ambient proportion of gold companies generally as a percentage of the total (38.7% – see Exhibit 146).

EV/NPV from PEA to BFS

For the third time in this series of reports, we have performed a price to project NPV analysis for those companies for which data exists. The analysis covers three types of study, namely PEA, PFS and BFS.

The intention of the analysis is to determine how project economics affect company valuations. In doing so, we formed a view as to what an 'average' (or mean) project looks like but, significantly, were able to conclude that, owing to the skewed distribution of valuations relative to project economics, statistical modes are of as much value as means in predicting company valuations in the real world. Moreover, we observed that companies with high IRRs do not always also have high valuations. In interrogating this aspect of company valuations, we were able to quantify, rank and track over time the effect of a number of variables in determining a company's valuation, including grade, IRR, jurisdiction and project size. By a process of elimination, we drew some conclusions about the importance of management in adding to a company's value. Finally, we compared the results of this method of company valuation with those based on differentiated, market-derived discount rates for companies at different stages of development (first introduced in our report, Gold: New benchmarks for old, published in November 2012, and subsequently updated).

Broken down by principal commodity, the sample of companies studied in our EV/NPV analysis was as follows:

Exhibit 146: EV to NPV analysis sample size, by commodity

	2025		2018		2017	
Commodity	No. companies	Percent of total (%)	No. companies	Percent of total (%)	No. companies	Percent of total (%)
Gold	37	39	34	33	33	52
Uranium	11	12	14	14	14	22
Copper	8	9	10	10	8	13
Silver	7	7	11	11	7	11
Zinc			4	4	1	2
MOP			3	3		
Graphite			11	11		
PGM			2	2		
Nickel	5	5	4	4		
Iron ore	6	6	4	4		
Met coal			2	2		
SOP (brine)			2	2		
SOP			1	1		
Vanadium	3	3				
Lithium	15	16				
Bauxite	2	2				
Total	**94**	**100**	**102**	**100**	**63**	**100**

Source: Edison Investment Research. Note: Totals may not add up owing to rounding.

Sample notes

Of the 94 companies for which project data was collated, a small number had more than one project in development. In this case, attributable project NPVs were aggregated and IRRs were derived by a weighted average of the individual projects' IRRs, according to NPV attributable to the parent. Within this context, the range of project NPVs and IRRs within the sample was as follows:

Exhibit 147: Project NPV and IRR sample, range and averages

	2025		2018		2017	
	IRR (%)	NPV (US$m)	IRR (%)	NPV (US$m)	IRR (%)	NPV (US$m)
Maximum	208.0	8,423.0	200.0	7,000.0	404.0	4,800.0
Mean	**39.7**	**1,165.0**	**40.1**	**648.8**	**43.2**	**433.1**
Minimum	7.9	9.2	1.0	-552.0	1.0	-552.0

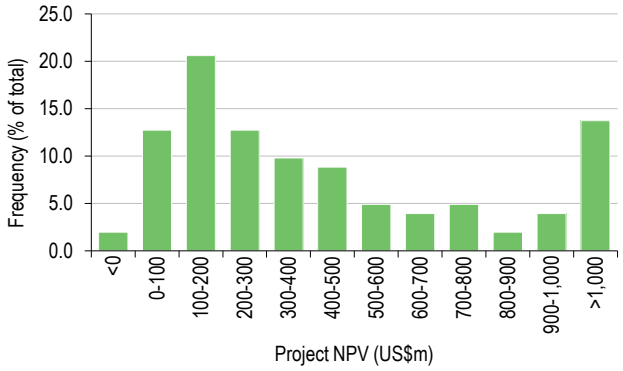
Source: Edison Investment Research, company sources

The average project in 2025 therefore has an NPV of US$1,165.0m (cf US$648.8m in 2018 and US$433.1m in 2017) and an IRR of 39.7% (vs 40.1% and 43.2%). We attribute the near doubling in average NPV (+79.6%) to higher commodity prices, although we note, with interest, the almost unchanged average IRR, suggesting that higher prices have also been accompanied by higher costs. Either way, the increase has not arisen as a result of the inclusion of more bulk mineral projects – as has sometimes been the case in the past – which accounted for 8% of projects analysed in 2025 compared to 12% in 2018 (eg potash, metallurgical coal, iron ore and bauxite). As before, the position of the mean with respect to both the maximum and minimum indicates that the sample follows a non-normal distribution.

Sample NPVs

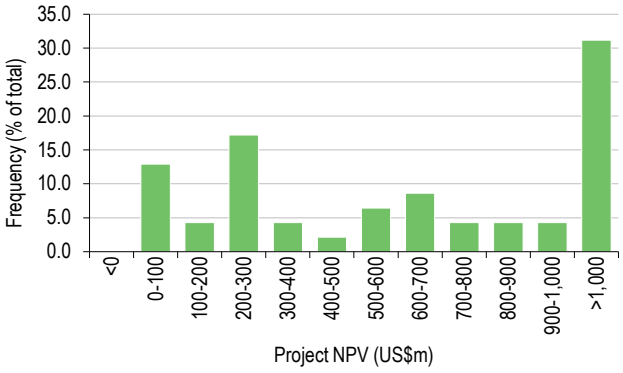
A histogram of the frequency of project NPVs, broken down into US$100m increments, by percentage of the total, is as follows:

Exhibit 148: Histogram of companies' aggregate project NPVs (US$m), percentage of the total, 2018



Source: Edison Investment Research, company sources. Note: Bar denoting >1,000 ranges up to US$7,000m.

Exhibit 149: Histogram of companies' aggregate project NPVs (US$m), percentage of the total, 2025



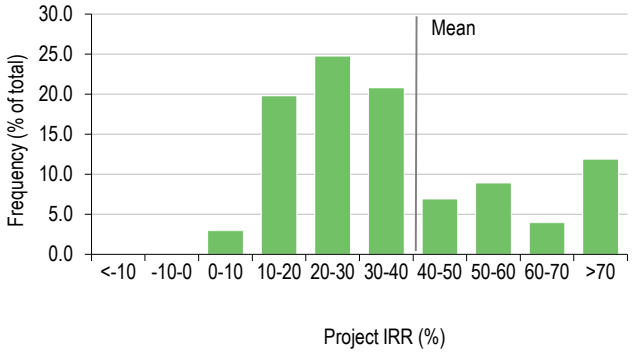
Source: Edison Investment Research, company sources. Note: Bar denoting >1,000 ranges up to US$8,423m.

While the distribution of NPVs tended towards something approaching a log normal one in 2018, there has been a dramatic departure from this pattern in 2025, with an increase in the frequency of projects in the US$200–300m interval and more generally above US$600m, but decreases elsewhere, possibly suggesting the existence of two populations within the data, one relating to 'small' projects and the other relating to 'large' projects, rather than a smooth continuum of project sizes within the population. This latter interpretation is consistent with the one that we made in 2018, with the modal interval for 'small' projects increasing from US$100–200m then to US$200-300m now, while the distribution of the sample relating to 'large' projects has generally shifted to the right.

Sample IRRs

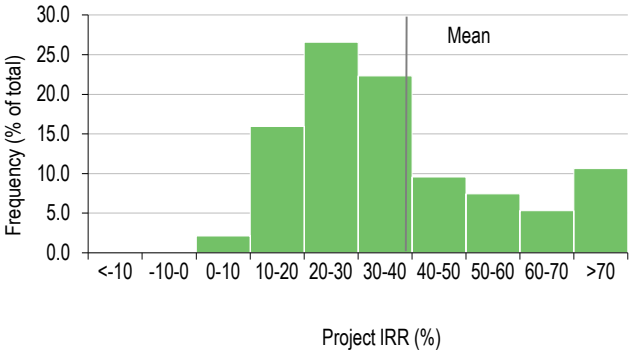
While the distribution of NPVs appears to favour a bimodal distribution of projects, the distribution of IRRs appears to have standardised to something approaching a log-normal one, albeit with approximately the same mean (denoted by the vertical lines):

Exhibit 150: Histogram of companies' weighted average project IRRs (%), percentage of the total, 2018



Source: Edison Investment Research, company sources. Note: Bar denoting >70 ranges up to 200%.

Exhibit 151: Histogram of companies' weighted average project IRRs (%), percentage of the total, 2025



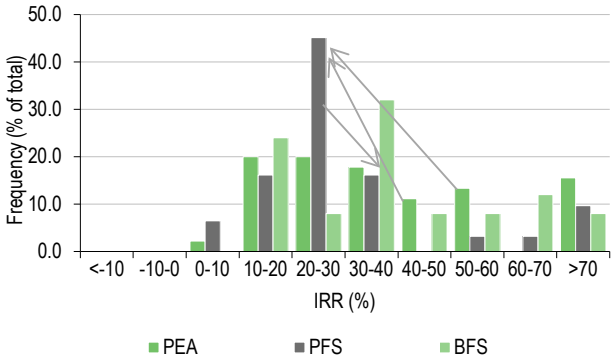
Source: Edison Investment Research, company sources. Note: Bar denoting >70 ranges up to 208%.

When considered with reference to the stage of development (see Exhibits 152 and 153, below), a number of differences compared with our analysis in 2018 are apparent:

- The modal interval for projects at PEA stage has increased by c 10 percentage points, from 20–30% to 30–40%.
- The modal interval for projects at PFS stage has increased by c 10 percentage points, from 10–20% to 20–30%.
- The modal interval for projects at BFS stage has decreased by c 10 percentage points, from 30–40% to 20–30%.

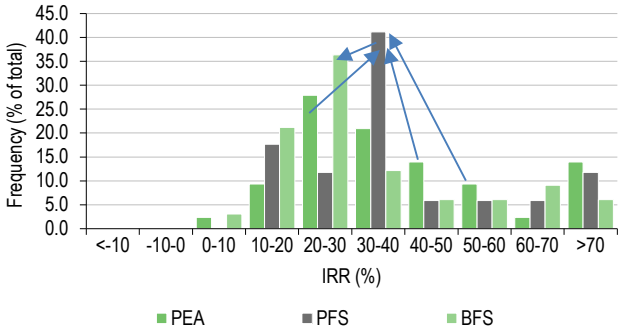
Within this context, it is interesting to note that the mean IRR for companies at PEA stage is 43.2% (ie almost unchanged from 41.0% in 2018), while it is 41.9% for companies at PFS stage (cf 38.9%) and 34.0% for companies at BFS stage (cf 39.9%); that is, on average, there is very little difference between the means of the IRRs for PEA and PFS stage projects, but a noticeable reduction for BFS stage projects.

Exhibit 152: Histogram of companies' average project IRRs, by study type (percentage of the total), 2018



Source: Edison Investment Research, company sources. Note: Arrows reflect Edison interpretation of likely project IRR evolution with project development (see text below).

Exhibit 153: Histogram of companies' average project IRRs, by study type (percentage of the total), 2025



Source: Edison Investment Research, company sources. Note: Arrows reflect Edison interpretation of likely project IRR evolution with project development (see text below).

In comparing the different distributions, we can probably refine our hypothesis from 2018 (and 2017) that PEA stage projects with IRRs in the range 40–60% evolve into PFSs with IRRs in the range 20–30%, which themselves evolve into BFSs with IRRs in the range 30–40% (as shown by the arrows in Exhibit 153) to PEA stage projects with IRRs in the range 40–60% and 20–30% evolving into PFSs with IRRs in the range 30–40% (ie 10 percentage points higher than in 2018), which themselves evolve into BFSs with IRRs in the range 20–30% (ie 10 percentage points lower than in 2018), as shown by the arrows in the diagrams.

Previously, we had interpreted this pattern in terms of the lower level of confidence in costs inherent in many PEAs leading to higher IRRs, which were then pegged back at the PFS stage (often when an external consultant becomes involved) but then relaxed slightly at BFS stage as cost savings and economies of scale are applied. In 2025 however, this pattern appears to have evolved to one in which external consultants at PFS stage can both be harsher on projects with high IRRs and upgrade projects with lower ones. Either way however, more stringent exigencies now appear to be applied to projects at BFS stage, with the result that their IRRs typically fall relative to those at PFS stage.

As in 2018, projects with exceptional IRRs (>70%) at PEA stage appear to see a proportion of these brought back to 60–70% IRRs at both the PFS and BFS stages.

Relating company valuations to project economics

In assessing valuations relative to project economics, the key measurement used by the market is a company's EV in US dollars expressed as a percentage of its project's attributable NPV (similarly in US dollars). A summary is provided in the table below, comparing 2025 results with 2018 and 2017 results:

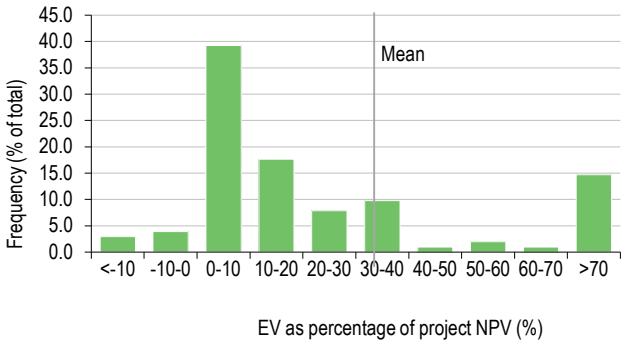
Exhibit 154: Company EV/NPV (%), range and averages, 2025 versus 2018 and 2017

	2025	2018	2017
Maximum	217.4	524.4	-13.4
Mean	19.2	33.1	52.4
Minimum	-0.1	-24.3	428.3

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

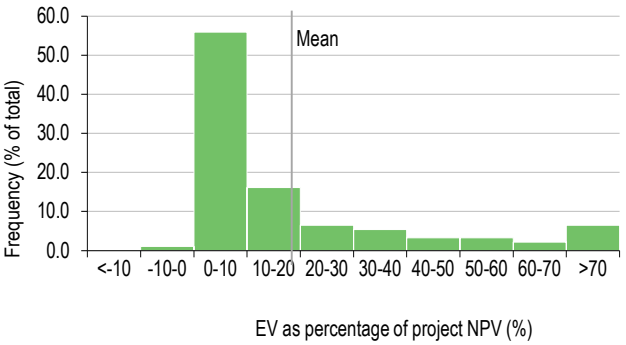
The distributions of these valuations for both 2025 and 2018 are shown below:

Exhibit 155: Company EV expressed as a percentage of attributable project NPV (%), 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Bar denoting >70 ranges up to 524%.

Exhibit 156: Company EV expressed as a percentage of attributable project NPV (%), 2025



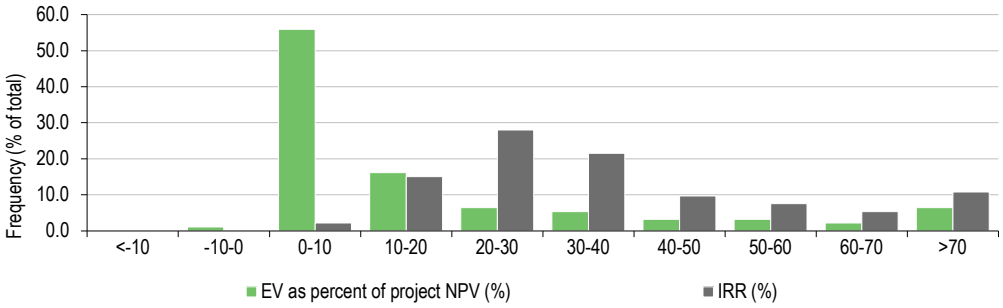
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Bar denoting >70 ranges up to 217%.

We highlight a number of features:

- While the size of projects has increased between 2025, 2018 and 2017 and the size of IRRs has been largely maintained (see Exhibit 147), the valuation of companies relative to the size of their projects has decreased.
- A significantly lower mean EV/NPV was recorded in 2025 (19.2%) compared with 2018 and 2017 (33.1% and 52.4%, respectively), possibly suggesting that the increase in company EVs has not kept pace with the increase in project NPVs for the industry as a whole.
- The distribution has standardised to something approaching a conventional log-normal one; simultaneously, this has involved an increase in the frequency of companies with EV/NPV ratios in the 0–10% interval (possibly from the <0% intervals) and the evolution of companies with EV/NPV ratios in the 30–40% interval to higher-value intervals.
- Notwithstanding the point above, there is a reduction in companies with EVs in excess of 70% of attributable project NPVs (also consistent with project NPVs increasing, but company EVs lagging that increase).
- There is a smaller discrepancy between the mean and the mode of the distribution in 2025 compared to 2018 and 2017.

One consequence of these trends has been to virtually disconnect the valuation of a company from the IRR of its project, with the PPMC between the two now being -0.11 across all stages of development (ie very nearly random):

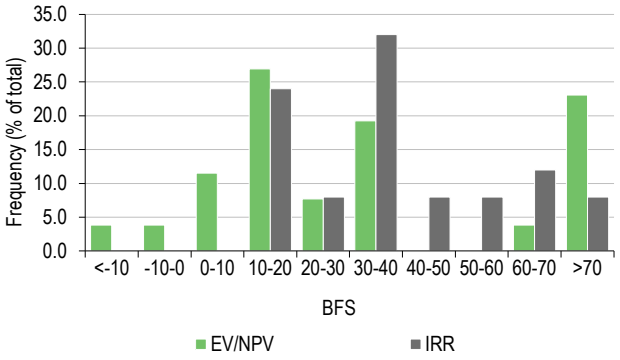
Exhibit 157: Company EV as percentage of attributable NPV (%) and project IRR (%)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Bar denoting >70% ranges up to 217% for EV/NPV and up to 208% for IRR.

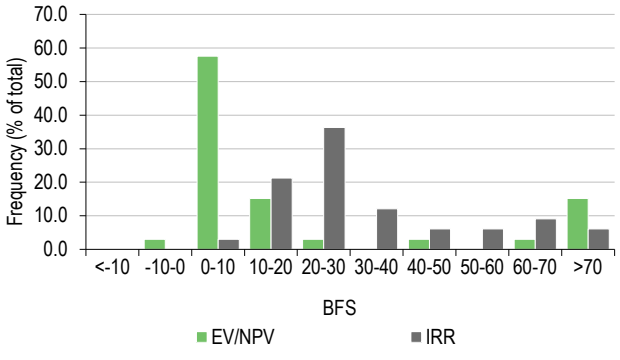
Moreover, while this pattern of being valued in the range 0–10% of NPV was observed historically for companies at PEA and PFS stage of development, almost regardless of IRR, this has now seemingly also become true of companies at BFS stage of development as well:

Exhibit 158: Company EV as percentage of attributable NPV (%) and project IRR (%), BFS stage (2018)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

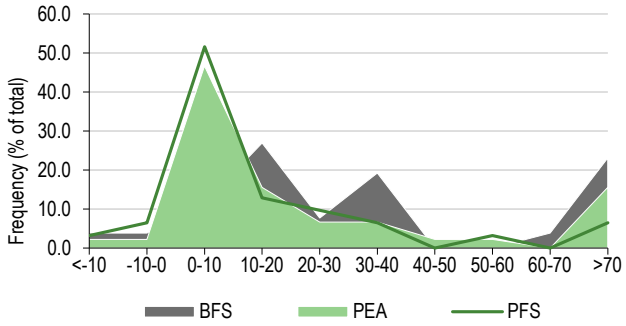
Exhibit 159: Company EV as percentage of attributable NPV (%) and project IRR (%), BFS stage (2025)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

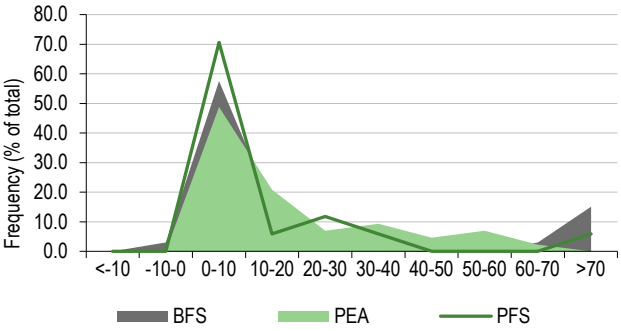
At present therefore, it is not possible to say that different ranges of valuation are associated with different stages of development, despite the production of BFS reports being to a much higher standard of accuracy (and a lower tolerance of cost variables) than PEA reports, for example. Whereas our 2018 analysis was characterised by a shift to the left in the distributions relating to PEAs and PFSs (such that they were more right-skewed), these have now been joined by the distribution relating to BFSs (note the changed scale of the y-axis between the two charts below):

Exhibit 160: Company EV as percent of attributable project NPV (%), by study type, probability density distribution, 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 161: Company EV as percent of attributable project NPV (%), by study type, probability density distribution, 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Whereas there was some question in our 2019 analysis as to whether these distributions could be interpreted as being unimodal or bimodal (suggesting a market distinction between small/averagely rated companies and highly rated ones), it is clear from our 2025 analysis that they are very likely to be unimodal. A summary of the data, in tabular form, is as follows:

Exhibit 162: Company EV as percent of attributable project NPV (%), by study type, summary

	2025					2018				
Study type	Minimum	Mode interval	Mean	Maximum	Range	Minimum	Mode interval	Mean	Maximum	Range
PEA	0.0%	0–10%	16.7%	63.2%	63.2%	-24.3%	0–10%	24.1%	154.2%	178.5%
PFS	0.0%	0–10%	11.5%	74.0%	74.0%	-15.4%	0–10%	18.2%	202.9%	218.3%
BFS	-0.1%	0–10%	26.4%	217.4%	217.5%	-10.1%	10–20%	66.5%	524.4%	534.5%
All studies	**-0.1%**	**0–10%**	**19.2%**	**217.4%**	**217.5%**	**-24.3%**	**0–10%**	**33.1%**	**524.4%**	**548.7%**

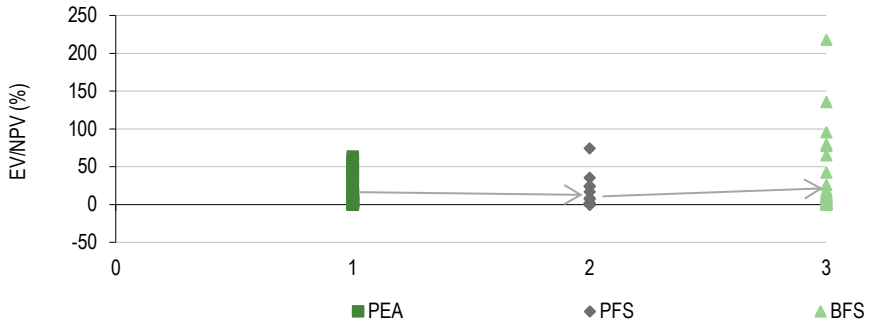
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Since 2018, a number of observations can be made:

- Minimum valuations across all three types of study have increased to the point that there are almost no negatively valued companies (on an EV/NPV basis).
- Mean valuations across all three types of study have reduced.
- Maximum valuations have reduced very materially.
- The mean valuation for companies with projects at BFS stage has reduced by the most of any of the three study types.
- Only the histogram describing companies with BFS level studies has a mean more than one interval away from its mode.
- The mean valuation of companies with projects at PFS stage of development remains below that of companies with projects at PEA stage (which is counterintuitive, but has been a persistent feature of the market over several years).

The same data may also be depicted as follows:

Exhibit 163: Company EV as percent of attributable project NPV (%), by study type



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that this pattern is almost exactly the one observed in 2018, albeit with the y-axis depressed by about half.

In the past, where there has been a wide discrepancy between the mean and mode of a sample (caused by the skew of the distributions), we have addressed this by excluding outliers from the samples. Historically, we have chosen to define an outlier as any company with an EV/NPV valuation that is more than one standard deviation away from the mean. Given the general tightening of the valuation ranges however, this year, we have defined an outlier as any company with an EV/NPV valuation that is more than two standard deviations away from the mean (note that this equates to approximately 5% of a normal distribution and is therefore roughly comparable to statistical significance at the 5% level). In this case, the equivalent results for the three distributions in 2025 (directly comparable to Exhibit 162, but excluding statistical outliers) would be as follows:

Exhibit 164: Company EV as percent of attributable project NPV (%), by study type, ordinarily valued companies, excluding statistical outliers

	2025					2018				
Study type	Minimum valuation	Distribution mode	Mean valuation	Maximum valuation	Range	Minimum valuation	Distribution mode	Mean valuation	Maximum valuation	Range
PEA	0.0%	0–10%	13.4%	52.4%	52.4%	-4.8%	0–10%	11.7%	50.7%	55.5%
PFS	0.0%	0–10%	7.6%	35.2%	35.2%	-15.4%	0–10%	9.9%	51.3%	66.7%
BFS	-0.1%	0–10%	16.7%	95.2%	95.3%	-10.1%	10–20%	30.9%	133.5%	143.6%

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that the apparent ‘anomaly’, whereby the mean is lower for PFS compared with PEA level projects remains, which encourages us to believe that this may be a persistent feature of mining company valuations in general.

A graphical summary of all of the EV/NPV data for all of the companies in the sample, distinguished by stage of development, is provided in Exhibit 166 and the equivalent data from 2018 in Exhibit 167, with the vertical lines indicating the statistical outliers in the sample (being defined as being more than two standard deviations away from the mean of each sample in 2025 and one standard deviation in 2018).

These graphs reveal two significant considerations:

- Dispersion about the mean (as measured by standard deviation) has reduced by approximately half for all study types. Note that this makes two standard deviations from the mean in 2025 approximately equal to one standard deviation in 2018 in absolute terms.
- Since valuations of companies have declined as a percentage of NPV, only the topmost company in for each study type would be excluded if the 2018 criteria were being applied to the 2025 samples.

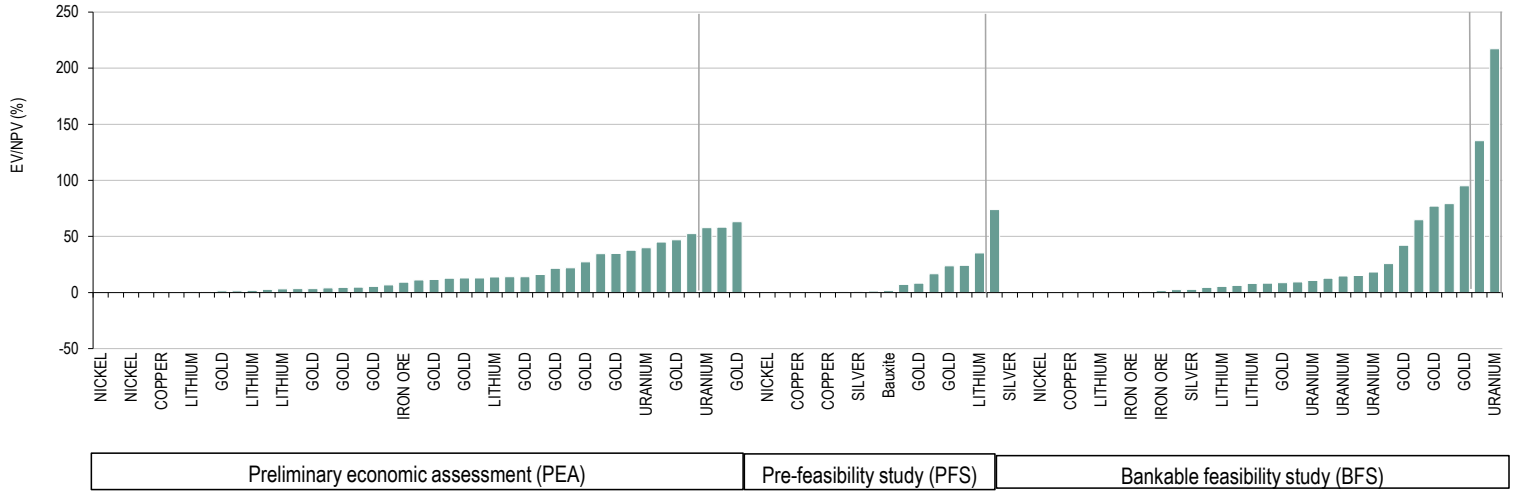
Consequently, at this stage, we have accepted the results of the analysis of the complete samples (Exhibit 162), rather than the adjusted analysis with outliers excluded. The results of all three operations are nevertheless provided below in comparison to the conclusion in our 2018 report:

Exhibit 165: Company EV/NPV results (%), by study type, conclusion

	Complete sample	Statistical outliers excluded	Statistical outliers excluded*	2018 result (with statistical outliers excluded)
PEA	16.7%	13.4%	15.5%	11.7%
PFS	11.5%	7.6%	7.6%	9.9%
BFS	26.4%	16.7%	20.4%	30.9%

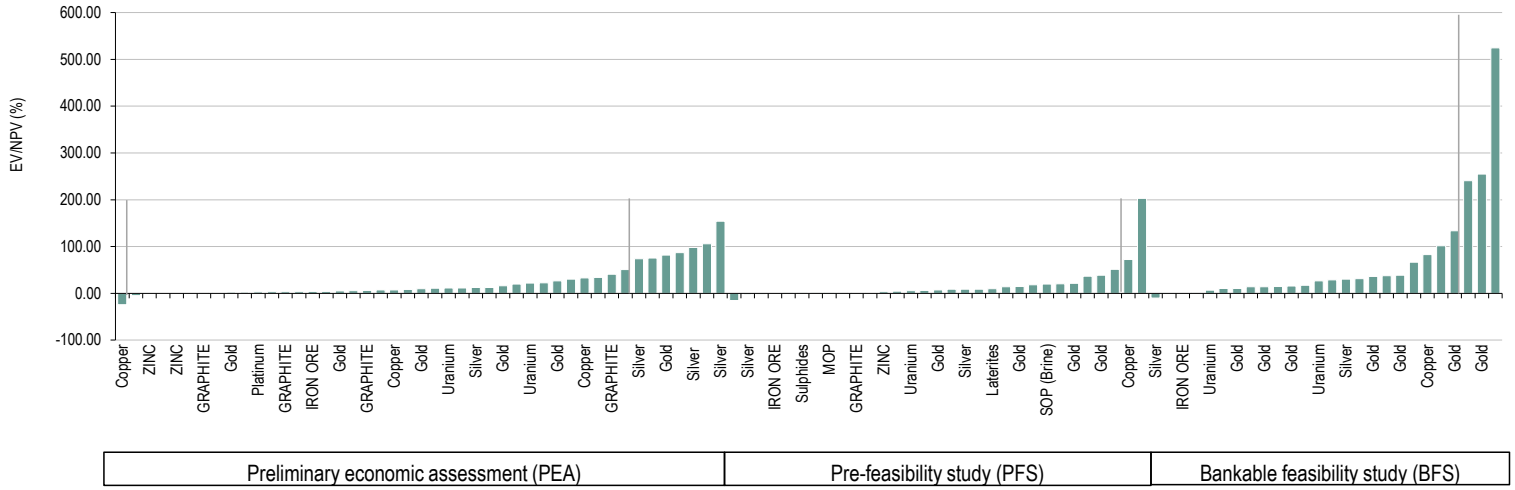
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: *Using 2018 analysis thresholds (ie topmost company from each sample removed).

Exhibit 166: Graph of EV/NPV (%), whole sample, by company and stage of development (2025, only metals shown)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: For each study type, the vertical lines indicate the statistical outliers (ie more than two standard deviations away from the mean of each sample).

Exhibit 167: Graph of EV/NPV (%), whole sample, by company and stage of development (2018, only metals shown)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: For each study type, the vertical lines indicate the statistical outliers (ie more than one standard deviation away from the mean of each sample).

EV/NPV versus discount rates: Reconciling two Edison analyses

We introduced differentiated market derived discount rates for companies at different stages of development in our report Gold: New benchmarks for old, published in November 2012, and updated them in subsequent reports. Our most recently updated discount rates (to be applied to dividends rather than cash flows) are as follows:

Exhibit 168: Market derived discount rates for companies at various stages of development

	Scoping study/PEA	PFS	BFS	Development	Ramp-up	Production
Max discount rate (%)	69.0	66.0	64.0	62.0	60.0	55.0
Mean discount rate (%)*	35.0	33.0	30.0	27.0	24.0	17.0
Minimum discount rate (%)	15.0	13.0	10.0	8.0	5.0	0.0

Source: Edison Investment Research. Note: To be applied to in conjunction with long-term metal prices. *As interpreted by Edison Investment Research.

These discount rates form the basis of the valuation of NonSuch Gold on pages 55–59. When expressed in terms of the ratio of the company's EV as a percentage of its NPV (at a 10% discount rate, applied to cash flows in the conventional manner), these discount rates yield the following percentages:

Exhibit 169: NonSuch Gold EV as a percentage of project NPV, by stage of development

	2025			2018		
%	Scoping study/PEA	PFS	BFS	Scoping study/PEA	PFS	BFS
Maximum	69.4	95.3	136.0	51.9	77.0	116.2
Mid	19.1	28.7	43.1	2.7	12.2	26.4
Minimum	8.8	13.3	19.0	-7.7	-3.3	2.3

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These may be directly compared with those percentages derived from our EV/NPV analysis in Exhibit 162, presented below transposed for easier comparison:

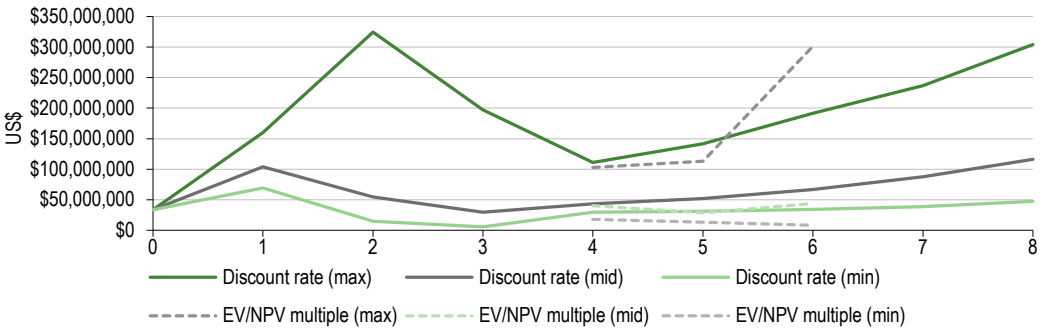
Exhibit 170: Company EV as percent of attributable project NPV (%), by study type,

%	Scoping study/PEA	PFS	BFS
Maximum	63.2	74.0	217.4
Mean	16.7	11.5	26.4
Minimum	0.0	0.0	-0.1

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

By contrast, if NonSuch Gold were to be valued according to the percentages derived from our EV/NPV analysis (Exhibit 162, above), then its valuation, depicted graphically, would compare to those derived using discount rates, as follows:

Exhibit 171: NonSuch Gold valued with respect to 1) discount rates and 2) EV/NPV multiples



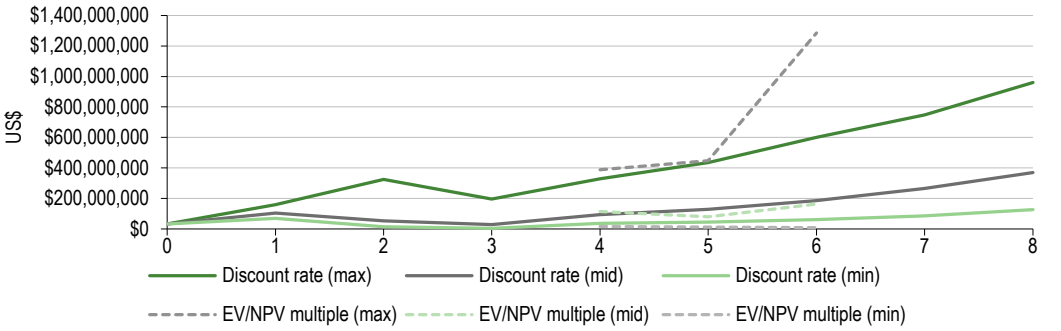
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Year 4 – Scoping study/PEA; Year 5 –PFS; Year 6 – BFS; Year 7 – Development; Year 8 – Production ramp-up.

Note that, in the above graph, year 4 corresponds to the year in which a scoping study (or PEA) is completed, year 5 corresponds to the year in which a PFS is completed and year 6 corresponds to the year in which a BFS is completed. Of note are the following:

- There is a close correlation of valuation results for companies at PEA stage at both the mid-point of the valuation range and the top end of the valuation range by the two different methods of calculation.
- EV/NPV ratios tend to yield a more conservative valuation than that generated by discount rates (with the notable exception of top of the range valuations at BFS stage of development).

If NonSuch is analysed at a gold price of US$4,000/oz however, the discrepancies between the two methods reduce markedly:

Exhibit 172: NonSuch Gold valued with respect to 1) discount rates and 2) EV/NPV multiples (US$4,000/oz Au)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: Year 4 – Scoping study/PEA; Year 5 – PFS; Year 6 – BFS; Year 7 – Development; Year 8 – Production ramp-up.

To reconcile the results from the two methods, we have:

- Adjusted the EV/NPV multiples for valuations at the top of the range (generally downwards); this has an effect equivalent to excluding some of the outliers discussed in the previous section from the samples' results.
- At the valuation mid-point, adjusted the discount rates applied; these were never any more than interpreted averages anyway and this treatment allows us to accurately reflect the decline in valuations at PFS stage compared to PEA stage and then their recovery at BFS stage.
- Adjusted the EV/NPV multiples for valuations at the bottom of the range (generally upwards); this may be rationalised as excluding businesses valued solely for their cash component; while this makes a big difference to valuations in percentage terms, the refined EV/NPV multiples at

the bottom of the range are nevertheless all still below 10% and within 10% of their originally estimated numbers.

The final results for our EV/NPV multiples for companies at different stages of development after these refinements is shown below:

Exhibit 173: Refined EV/NPV multiples, by stage of development

	2025 (refined)			2025 (raw)		
%	Scoping study/PEA	PFS	BFS	Scoping study/PEA	PFS	BFS
Maximum	53.10	71.68	100.71	63.2	74.0	217.4
Mid	16.70	11.50	26.40	16.7	11.5	26.4
Minimum	3.36	5.63	8.95	0.0	0.0	-0.1

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Note that, we do not extend our EV/NPV analysis beyond BFS stage, since the valuation of a company's equity after that point will depend critically on the types and costs of finance raised. Using NonSuch Gold as a benchmark however (where debt/equity peaks at 100%), the mid-EV/NPV ratio may be expected to rise from 26.4% at BFS stage (above) to 44.2% after funding and then to 71.3% during development and 99.7% in the first year of production. The maximum EV/NPV ratio may be expected to rise from 100.7% at BFS stage (above) to 126.3% after funding and then to 171.8% during development and 225.5% in the first year of production.

The final results for our discount rate analysis are then shown below:

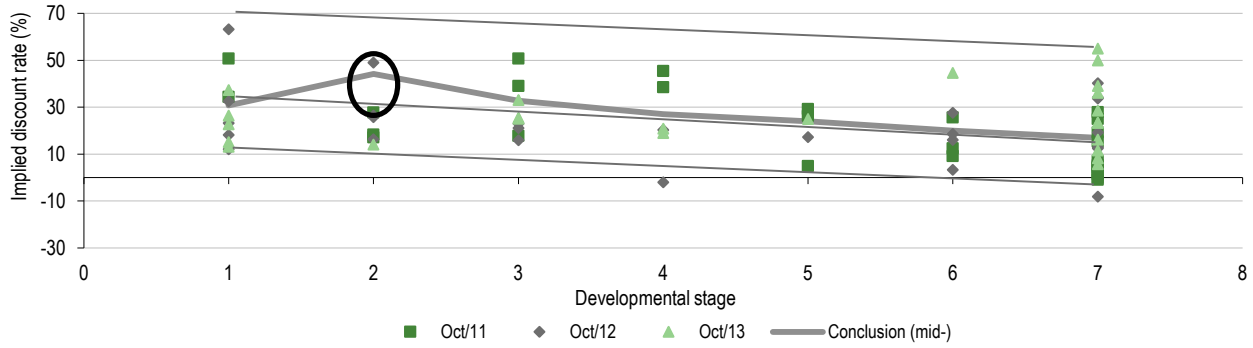
Exhibit 174: Market derived discount rates for companies at various stages of development

	Scoping study/PEA	PFS	BFS	Development	Ramp-up	Production
Previous						
Max discount rate (%)	69.0	66.0	64.0	62.0	60.0	55.0
Mean discount rate (%)*	35.0	33.0	30.0	27.0	24.0	17.0
Minimum discount rate (%)	15.0	13.0	10.0	8.0	5.0	0.0
Updated						
Max discount rate (%)	69.0	66.0	64.0	62.0	60.0	55.0
Mean discount rate (%)	**30.8**	**44.2**	**32.7**	27.0	24.0	17.0
Minimum discount rate (%)	15.0	13.0	10.0	8.0	5.0	0.0

Source: Edison Investment Research. Note: To be applied to in conjunction with long-term metal prices. *As interpreted by Edison Investment Research.

Graphically, the same discount ranges are shown in Exhibit 175, albeit with the new mid-point valuation range now shown, with the valuation depression at PFS stage of development highlighted:

Exhibit 175: Implied discount rates to be applied to dividends for companies at varying stages of development



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: 1 – Scoping study/PEA; 2 –PFS; 3 – BFS; 4 – Development; 5 – Production ramp-up; 6 – Production from subsidiary asset (ie not the main asset); 7 – Full production from main asset.

The equivalent discount rates to be applied to cash flows (as opposed to dividends) are shown in Exhibit 176, below. Note that they are generally slightly lower than the discount rates applied to

dividends prior to financing – reflecting, among other things, the lower cost of debt and the large, early negative cash flows associated with capex – but then come into closer alignment as the project enters production and debt is repaid.

Exhibit 176: Equivalent discount rates to be applied to cash flows for companies at different stages of development

	Scoping study/PEA	PFS	BFS	Development	Ramp-up	Production
Max discount rate (%)	61.1	69.5	56.8	69.4	56.8	52.8
Mean discount rate (%)*	28.2	42.4	30.2	27.3	23.6	16.7
Minimum discount rate (%)	13.9	12.3	9.3	8.0	5.0	0.0

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The equivalent discount rates to be applied to standard, study-type cash flows are generally higher earlier (to reflect earlier-stage projects' extended timelines to production) and lower later, which is as would be expected.

Exhibit 177: Equivalent discount rates to be applied to standard study-type project cash flows for companies at different stages of development

	Scoping study/PEA	PFS	BFS	Development	Ramp-up	Production
Max discount rate (%)	56.3	52.7	47.8	41.7	34.7	27.0
Mean discount rate (%)*	36.4	42.8	30.3	22.2	16.8	10.0
Minimum discount rate (%)	18.7	14.4	9.7	6.7	3.3	(0.7)

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Conferring exceptionality (or not) – five parameters

In this section, we analyse company valuations with respect to five variables to attempt to estimate the importance of each in junior mining companies' valuations. The five variables are:

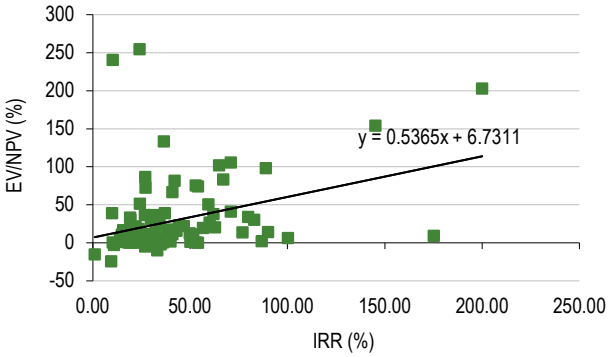
- Project internal rates of return (IRR).
- The Fraser Institute Investment Attractiveness Index for the country or jurisdiction in which a company's project (or projects) is located.
- Project size.
- Project grade.
- Product/product price.

Internal rates of return

Key characteristics of almost any mining project include commodity and grade (on which depends overall ore payability), throughput (which governs revenue, costs and, to a large extent, capital intensity) and jurisdiction (on which depends a project's tax, royalty and rehabilitation regime). At the very least, all of these (and more) should be included in any analysis of a mining project's potential financial returns to investors in the form of the net present value (NPV) of future cash flows and also its IRR. Whereas NPV depends on the (sometimes rather arbitrary) choice of discount rate, an IRR does not and is therefore a better measure of a project's overall capital efficiency and commerciality, compared to NPV, which is often a better measure of size and scale. As such, it is possible to posit a relationship between a company's valuation with respect to its project NPV and its project IRR.

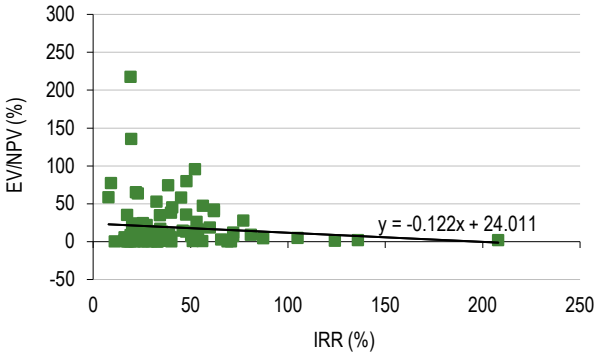
An analysis of EV/NPV versus IRR demonstrates that, whereas the relationship between the two was statistically significant in 2018, this has now broken down and is no longer the case, with a PPMC between the two of -0.11 (cf 0.35 in 2018).

Exhibit 178: Company EV as percent of attributable project NPV versus project IRR, 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

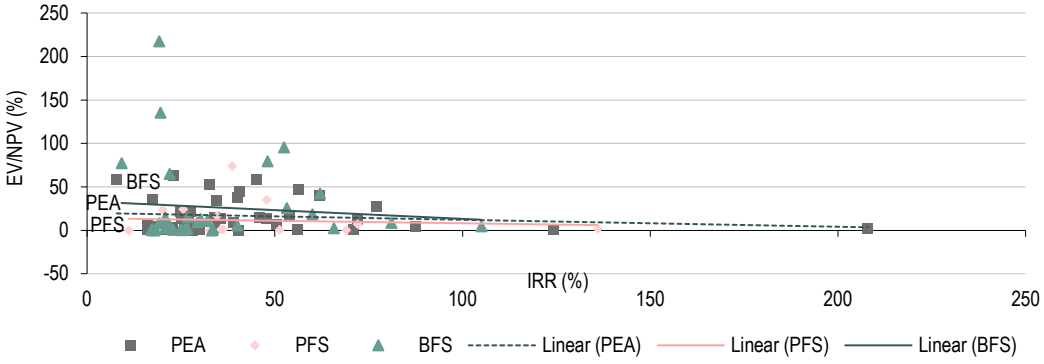
Exhibit 179: Company EV as percent of attributable project NPV versus project IRR, 2025



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Moreover, the relationship does not improve if the analysis is differentiated by study type, with all three best-fit lines exhibiting a negative gradient (which is counterintuitive):

Exhibit 180: Company EV as percent of attributable project NPV versus project IRR, by study type



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

The lines' correlation coefficients are not close to being statistically significant and actually appear quite close to random. This compares with 2018, when we observed that a company's valuation relative to its project NPV depended critically on that project's IRR at PEA stage of development, but then waned to the point of irrelevance by the time that a BFS was completed. Now however, a company's project's IRR appears almost irrelevant to its valuation throughout the entire process, from PEA to BFS.

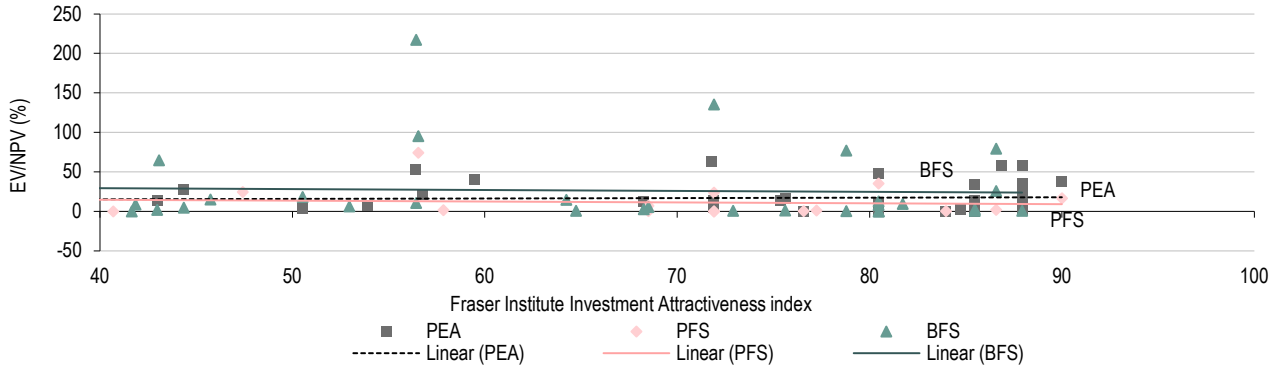
The Fraser Institute Investment Attractiveness Index

There are so many facets of any one country's economy, legal framework and infrastructural characteristics (to name but a few) that it is difficult to find a single measure by which to rank them generally, let alone for mining specifically. Every year however, the Fraser Institute produces an Annual Survey of Mining Companies that numerically rates jurisdictions around the world based on a combination of their geological attractiveness for minerals and metals and their policy attractiveness. Headquartered in Vancouver, the Fraser Institute has regional offices in Calgary, Toronto, Montreal and Halifax and is widely regarded as one of Canada's most influential think-tanks.

Overall, the survey is an attempt to assess how mineral endowments and public policy factors such as taxation and regulatory uncertainty affect exploration investment. In addition to the Policy Perception Index and the Best Practices Mineral Potential Index, the institute also creates a composite index that combines these two, known as the Investment Attractiveness Index, which recognises investment decisions are often based not only on perceptions of government policy, but also on the pure mineral potential of a jurisdiction. In its most recent mining survey, for 2025, 68 jurisdictions were surveyed, returning Investment Attractiveness Index ratings from 20.00 (for China) to 90.87 (for Nevada).

As such, it should be possible to posit a relationship between a company's valuation in the form of its EV/NPV ratio and its host country's (or state's) Fraser Institute Mining Investment Attractiveness score. As in 2018 however, the overall correlation between a company's valuation (in the form of its EV/NPV ratio) and its project's host country's Fraser Institute Mining Investment Attractiveness Index score is low to the point of being almost random, with a PPMC of -0.04 (cf 0.10 in 2018 and 0.05 in 2017), with an error of estimation of ±32.43%.

Exhibit 181: Company EV as percent of attributable project NPV (%) versus Fraser Institute Mining Investment Attractiveness Index score, by study type



Source: Fraser Institute, Edison Investment Research (underlying data: LSEG Data & Analytics, company sources)

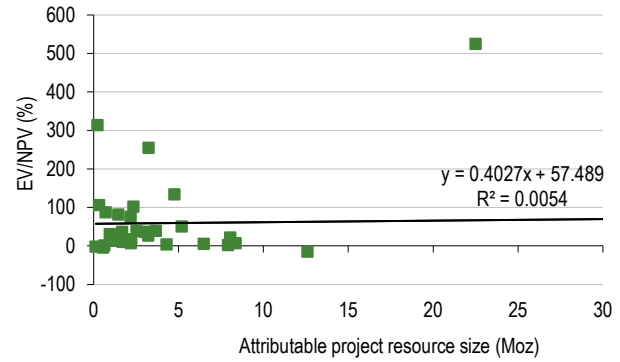
Moreover, as with IRRs, the relationship barely changes as a project moves through its study pipeline. This contrasts with the result in 2018, when the PPMC was markedly higher for companies with projects at BFS level (+0.34) compared to companies at PEA or PFS level.

Project size

For the two more technical variables (project size and grade), given the difficulty in converting from one mineral to another, we reduced the size of the sample of companies analysed to the 37 gold companies within the broader sample.

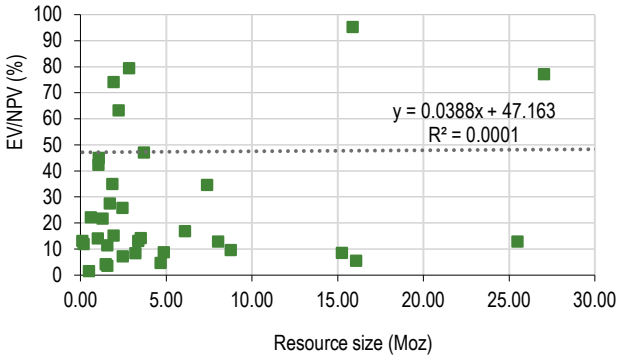
For size, the correlation is once again poor over the whole sample, with a PPMC of 0.01.

Exhibit 182: Company EV as percent of attributable project NPV versus project resource size, excluding outlier, 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 183: Company EV as percent of attributable project NPV versus project resource size, excluding outlier, 2025



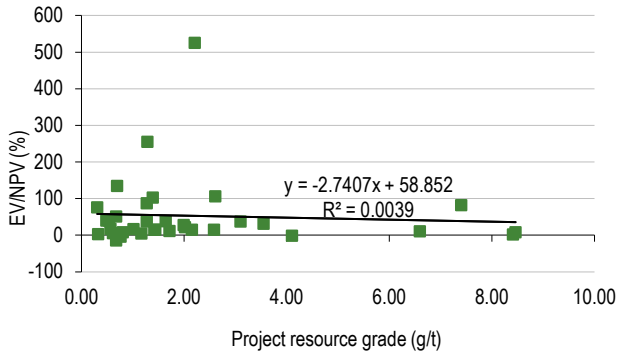
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Considered in terms of the stage of development, the correlation coefficient for companies at PEA stage of development is -0.13, while it is -0.16 for companies at PFS stage and 0.03 for companies at BFS stage. This contrasts with the result of the 2018 analysis, which demonstrated a statistically significant, positive relationship between EV/NPV and project size for companies at BFS stage of development.

Project grade

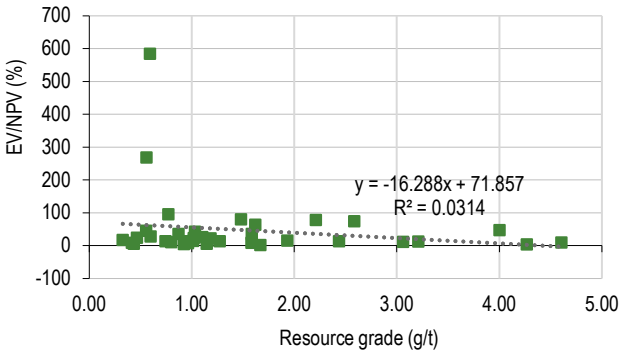
Similarly, the overall relationship between grade and valuation has remained weak:

Exhibit 184: Company EV as percent of attributable project NPV (%) versus project resource grade (g/t Au), excluding outlier, 2018



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Exhibit 185: Company EV as percent of attributable project NPV (%) versus project resource grade (g/t Au), 2025

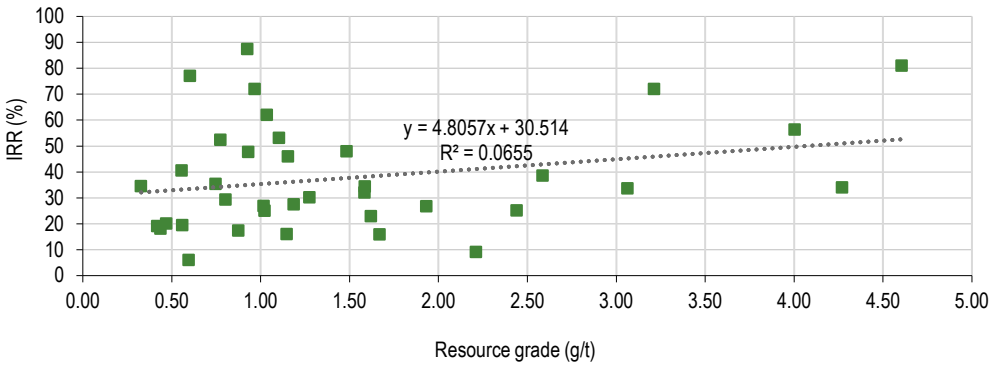


Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

However, the relationship is stronger when the stage of development of a project is taken into consideration, registering a PPMC of -0.02 for companies at PEA stage of development, one of -0.20 for companies at PFS stage and -0.29 for companies at BFS stage of development. This last PPMC of -0.29 is statistically significant at the 5% level for a directional hypothesis in a sample of 37 data points. However, it is in a counterintuitive direction, in that the correlation is negative and hence the market appears to be ascribing less value to companies and projects as grade increases (Exhibit 185).

Nevertheless, this was a similar result to 2018 and could be regarded as evidence that gold investors, in particular, are moving away from the erstwhile mantra of 'grade, grade, grade', which they appeared to have held very firmly as recently as 2017 – especially for earlier-stage companies at PEA and PFS stage of development. However, this contradicts a further analysis that demonstrates that the relationship between a project's grade and its IRR appears to be strengthening, registering a PPMC of 0.26 in 2025 (cf one of 0.12 in 2018):

Exhibit 186: Project IRR (%) versus resource grade (g/t), pre-production gold companies (2025)



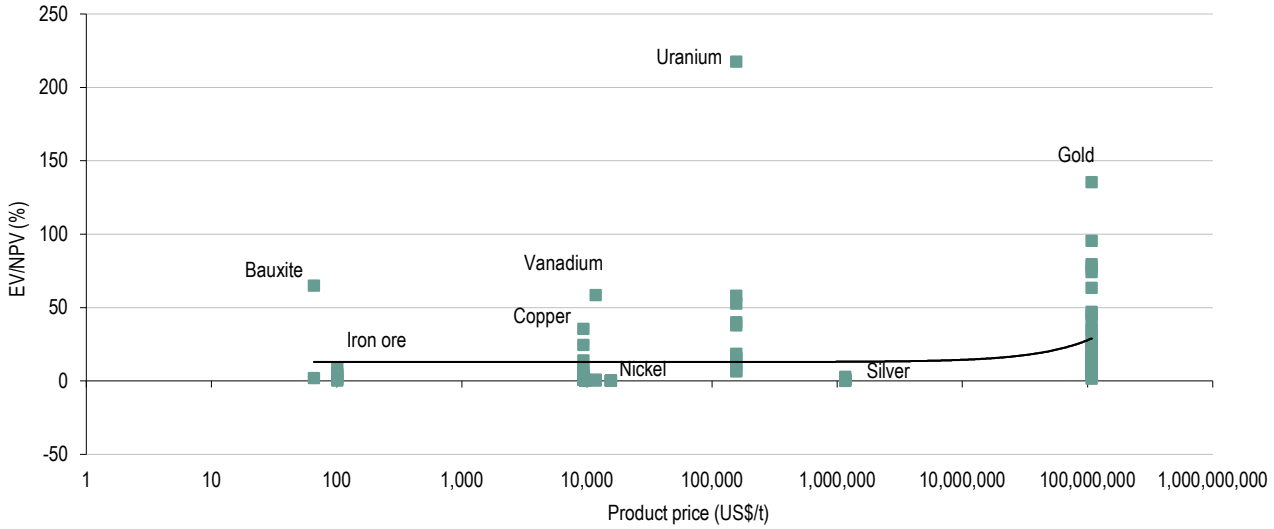
Source: Edison Investment Research, company sources

Logically, this might suggest that the market is irrationally discounting the value of high-grade gold companies with relatively high IRRs (subject to other factors).

Product and product price

As in 2018, we have performed an analysis relating company valuations to their products (as distinguished by their prices). In this case, the resulting scattergram is as follows. Note that each 'column' effectively represents a different metal or mineral.

Exhibit 187: Graph of product price (US$/t) versus EV/NPV (%), whole sample



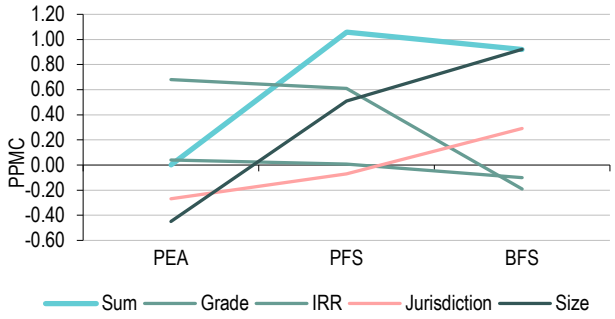
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: From left to right, columns represent bauxite, iron ore, copper, vanadium, nickel, uranium, silver and gold.

At 0.23 (cf 0.24 in 2018), the overall correlation between product price and valuation was weak and not statistically significant. The best-fit line (despite appearing as a curve in the exhibit above owing to the log scale on the x-axis) nevertheless shows a positive gradient, indicating that higher metal prices generally conform to higher valuations. More striking however are the columns relating to uranium and gold, for which not only the size of the average valuation, but also the range of potential valuations appears much larger than for other metals and minerals. This compares to 2018, when columns representing copper, silver and gold (but not uranium) fitted this criterion. As before, this suggests that some of the biggest opportunities for investors may lie in metals and minerals with which investors are less familiar and also potentially for silver, which has long had a dedicated following among investors, but appeared to lose some of its premium reputation in 2025.

Conclusions

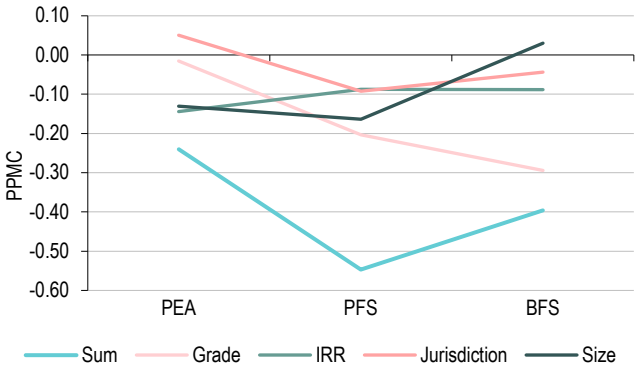
A graph comparing the contributions of each of the four factors considered above (as determined by their correlation coefficients – ie excluding product/product price) to the valuations of companies at various stages of development for both 2025 and 2018 is provided below:

Exhibit 188: Graph of PPMC versus stage of development for four factors influencing valuation, 2018



Source: Edison Investment Research (underlying data: Fraser Institute, LSEG Data & Analytics and company sources). Note: PPMC, Pearson product moment coefficient.

Exhibit 189: Graph of PPMC versus stage of development for four factors influencing valuation, 2025



Source: Edison Investment Research (underlying data: Fraser Institute, LSEG Data & Analytics and company sources). Note: PPMC, Pearson product moment coefficient.

In comparing 2025's results with those of 2018, a number of features are evident:

- For the number of data points in the population, none of the resulting PPMCs are statistically significant at the 5% level.
- Despite reasonably hypothesising that grade, IRR, jurisdiction and/or size might all be positively correlated with valuation at any stage of development, at the current time none of these appear to be true.

In general, Edison posits that there are six principal risks facing early-stage mining companies seeking to develop their projects, namely geography, geology, engineering, metallurgy, finance and management. Of these, the above analyses cover three, namely geography, geology and financing (in the form of IRRs, which should be an indication of the financial attractiveness of a project) and find that none confer exceptional valuations on their listed company wrappers. In fact, there appears to be no 'silver bullet' in achieving a premium valuation. If such a parameter exists therefore, it may be among the remaining risks that we have identified, that is engineering, metallurgy or, in particular, management. In our subjective opinion, we believe that it is likely to be the last of these (ie management) that is responsible for a disproportionate valuation relative to the tangible and financial characteristics of a project. That being the case, considering the graphs above (Exhibits 188 and 189), the management factor could be said to largely occupy the difference between the sum of the four factors so far considered and the number one (but not minus one). That is to say, if the sum of the four factors is 0.75, then those four factors could be said to explain 75% of a company's valuation and we hypothesise that management might explain the remaining 25%. If our hypothesis is correct, the perception of management quality in 2025 must explain at least 100% of a company's valuation. This is in contrast to 2018, when the EV of a company at PFS and/or BFS stage could be explained almost exclusively in terms of its IRR and size and it was only at an earlier stage (ie PEA) that the contribution of management could be said to be material or significant in contributing to its valuation. It is also in contrast to 2017, when the valuation of a company could be explained almost exclusively in terms of its IRR and its grade at PEA and PFS stage and it was only later, at BFS stage, that other factors (eg management, in particular) could be considered material in determining a company's valuation.

Multiple regression analysis

As in 2018, we have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the EV/NPV analysis and five factors that are presumed to influence their valuations, namely sovereign risk (as measured by the Fraser Institute), project IRR, project NPV, the type of study performed and the discount rate used. In simple terms, the analysis asserts that a company's EV should be a function of these five factors. The multiple regression analysis therefore plots EVs of the companies against these five factors and then calculates the best-fit line between the points. In this case, the formula for the best-fit line (in US$m) derived via such an analysis is as follows:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

This compares with the equivalent formula in 2018, shown below:

EV = 264.9 + (0.09 × Fraser) + (0.5 × IRR) + (0.04 × NPV in millions) − (2.4 × study type) − (30.8 × discount rate)

The results should be viewed with circumspection. Self-evidently, NPV and discount rate are not independent of one another, which raises issues of multicollinearity. Nevertheless, there is a reasonably good level of confidence surrounding the factors shown relating to the 'intercept', with a t-stat of 1.95 and a P-value of 0.054. However, there is a much lower level of confidence relating to the other coefficients.

A number of features of the equation are apparent:

- The decline in the value of the intercept from 264.9 in 2018 to a more reasonable seeming 74.2.
- The near irrelevance of jurisdiction and project NPV in contributing to valuation.
- The negative contribution of IRR to the valuation (which is counterintuitive).

As such, the biggest two factors in determining a company's EV in practical terms appear to be study type and the discount rate chosen. Statistically speaking, on average, each percentage increase in the discount rate reduces a company's EV by US$7.2m (cf US$30.8m in 2018). For these purposes, recall that study types are arbitrarily defined as PEA (1), PFS (2) and BFS (3). Empirically, this implies that a PFS is considered to be twice as good as a PEA (the relationship of 2 to 1) and a BFS is considered to be 50% better than a PFS (the relationship of the number 3 to the number 2). These could possibly be better defined in terms of their cost accuracy (eg PFS 75%, BFS 90% etc). In this case, improving a study from PEA to PFS would improve a company's EV by US$7.3m (albeit this contradicts the results of our earlier EV/NPV analysis (pages 65–77, above), which finds a decrease in valuation at PFS stage of development.

If a wholly 'average' company is considered therefore, with 100% ownership of a project with an NPV of US$1,165.0m, an IRR of 39.7%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80 (roughly New Brunswick in Exhibit 132), at PFS stage and using an 8% discount rate, then the implied EV of the company, as derived using the above equation, would be just US$23.9m (cf US$65.6m in 2018), or 2.1% of project NPV. Note that it would be US$45.4m at a 5% discount rate, or 3.9% of project NPV. These compare with our earlier observation, that companies at PFS stage trade, on average, at 11.5% of the attributable NPV of their project. However, both are within the correct modal range of 0–10%. Readers are invited to come to their own conclusions regarding the veracity and accuracy of the equation within the context of this result.

Discount rate analysis

As indicated previously, the NPVs within the EV/NPV analysis conducted between pages 65 and 77 were performed at a variety of discount rates, which are summarised in the table below:

Exhibit 190: Discount rates used in technical studies

	2025		2018	
Discount rate	Number of companies	Percentage of total (%)	Number of companies	Percentage of total (%)
5%	40	43.0	26	25.5
6%	2	2.2	0	0.0
6.5%	0	0.0	1	1.0
7%	5	5.4	3	2.9
7.5%	1	1.1	4	3.9
8%	41	44.1	55	53.9
9%	0	0.0	0	0.0
10%	4	4.3	12	11.8
11%	0	0.0	0	0.0
12%	0	0.0	1	1.0
Total	**93**	**100.0**	**102**	**100.0**

Source: Edison Investment Research, company sources. Note: Totals may not add up owing to rounding.

Whereas in 2018, approximately half of all studies were conducted at a discount rate of 8%, with a quarter at 5% and an eighth at 10%, now approximately half of all studies are conducted at a discount rate of 8% with another half being conducted at one of 5%.

In this section we repeat the same analysis as in the 'EV/NPV from PEA to BFS' section on pages 65–77, at two distinct discount rates (in this case looking at both 8% and 5%).

Within this context, the range of project NPVs and IRRs within the sample is as follows:

Exhibit 191: Project NPV and IRR sample, range and averages, by discount rate

	5% sample		8% sample		Whole sample	
	IRRs (%)	NPVs (US$m)	IRRs (%)	NPVs (US$m)	IRRs (%)	NPVs (US$m)
Maximum	124.1	3,040	136.0	8,423.0	208.0	8,423.0
Mean	**39.3**	**588.4**	**38.2**	**1,756.8**	**39.7**	**1,165.0**
Minimum	9.2	30.6	17.1	9.2	7.9	9.2

Source: Edison Investment Research, company sources

On first impression, therefore, the samples of companies for which projects have been evaluated using discount rates of 5% and 8% are broadly comparable to the whole population, conducted at a range of discount rates, albeit with the slight qualification that the 8% sample appears to contain larger projects.

Relating company valuations to project economics

As with the broader sample, the key valuation measurement we have used is a company's EV in US dollars expressed as a percentage of its project's attributable NPV (similarly in US dollars), albeit conducted at unique discount rates. Comparing the three:

Exhibit 192: Company EV/NPV (%), range and averages, 2025, 5% and 8% discount rate samples versus whole sample

	2025 5% discount rate sample only	2025 8% discount rate sample only	2025 whole sample
Maximum	135.3	217.4	217.4
Mean	**23.3**	**15.3**	**19.2**
Minimum	0.1	-0.1	-0.1

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Broken down by stage of development, a summary of the data, in tabular form, is as follows:

Exhibit 193: Company EV as percent of attributable project NPV (%), by study type and discount rate, summary

	5% only sample				8% only sample				Whole sample			
Study type	**Minimum**	**Mean**	**Maximum**	**Range**	**Minimum**	**Mean**	**Maximum**	**Range**	**Minimum**	**Mean**	**Maximum**	**Range**
PEA	0.1	16.4	63.2	63.3	0.0	13.1	57.9	57.9	0.0	16.7	63.2	63.2
PFS	0.2	13.5	74.0	73.8	0.0	12.4	35.3	35.3	0.0	11.5	74.0	74.0
BFS	2.7	46.1	135.3	132.6	-0.1	18.5	217.4	217.5	-0.1	26.4	217.4	217.5
All studies	**0.1**	**23.3**	**135.3**	**135.2**	**-0.1**	**15.3**	**217.4**	**217.4**	**-0.1**	**19.2**	**217.4**	**217.5**

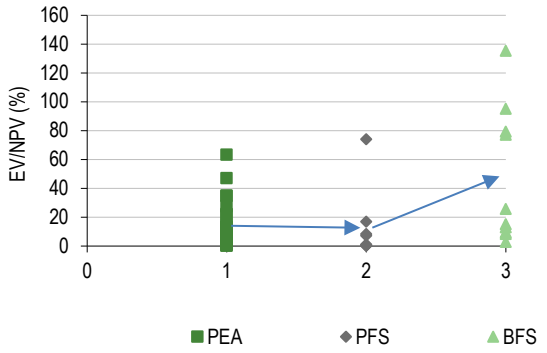
Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

We note a number of features:

- The similarity of valuations across all three samples at the PEA stage of development.
- The depressed level of the maximum valuation for PFS stage projects in the 8% sample (probably caused by an absence of statistical outliers – see Exhibit 192, below).
- The relatively high level of the mean valuation for BFS stage projects in the 5% sample compared to the 8% sample (probably also caused by an absence of statistical outliers in the latter (see Exhibits 192 and 193, below).

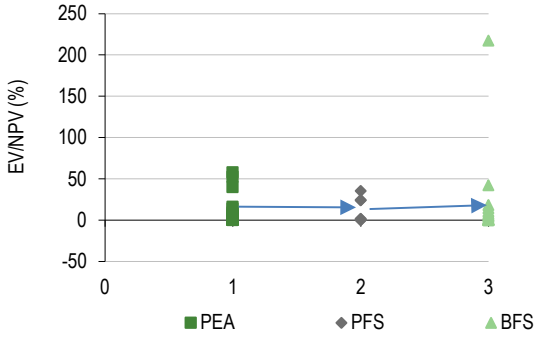
A graphical representation of the same data is provided below, showing the same paucity of highly valued companies at BFS stage of development in the 8% sample relative to the 5% sample (although not a complete absence). Note that the arrows show the approximate positions of the means of each sample.

Exhibit 194: Company EV as percent of attributable project NPV (%), by study type, 5% sample



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

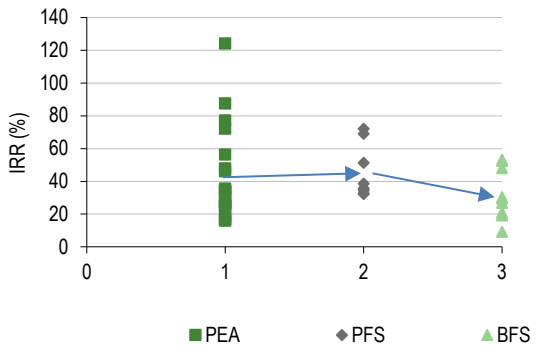
Exhibit 195: Company EV as percent of attributable project NPV (%), by study type, 8% sample



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

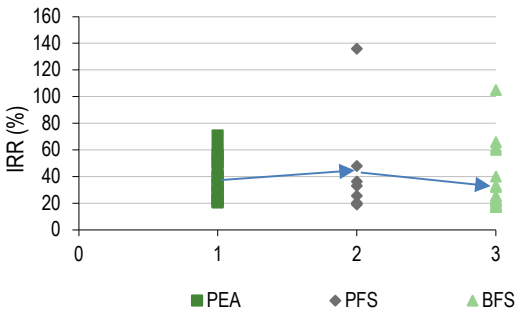
A similar representation shows the dispersions of the IRRs about the means for each of the samples. However, note that both also demonstrate a double-digit decline in mean IRRs proceeding from PFS stage of development to BFS stage of development.

Exhibit 196: Project IRRs, by study type, 2025, 5% sample



Source: Edison Investment Research, company sources

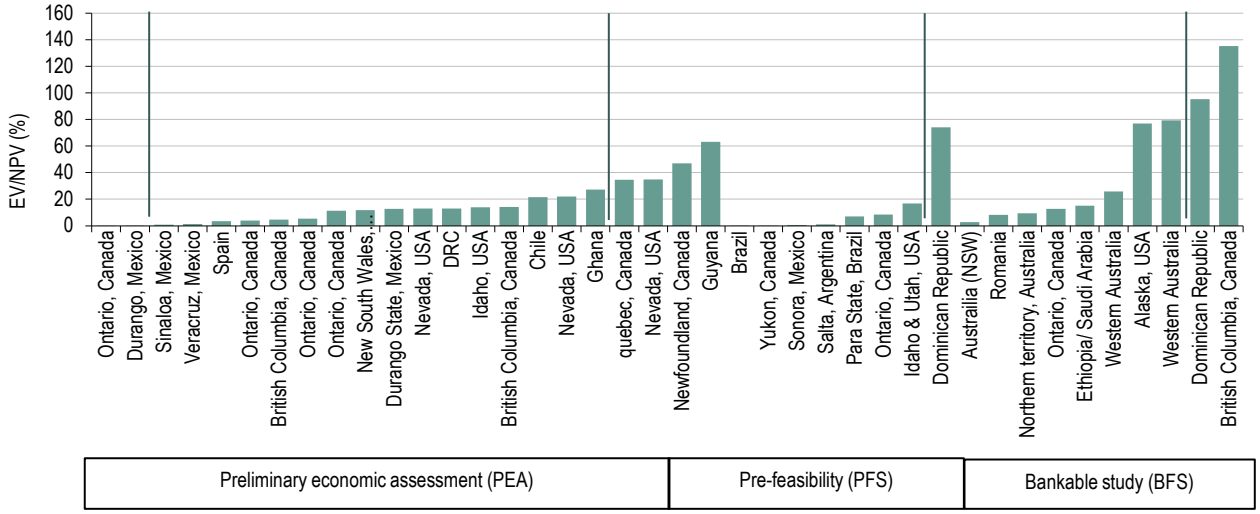
Exhibit 197: Project IRRs, by study type, 2025, 8% sample



Source: Edison Investment Research, company sources

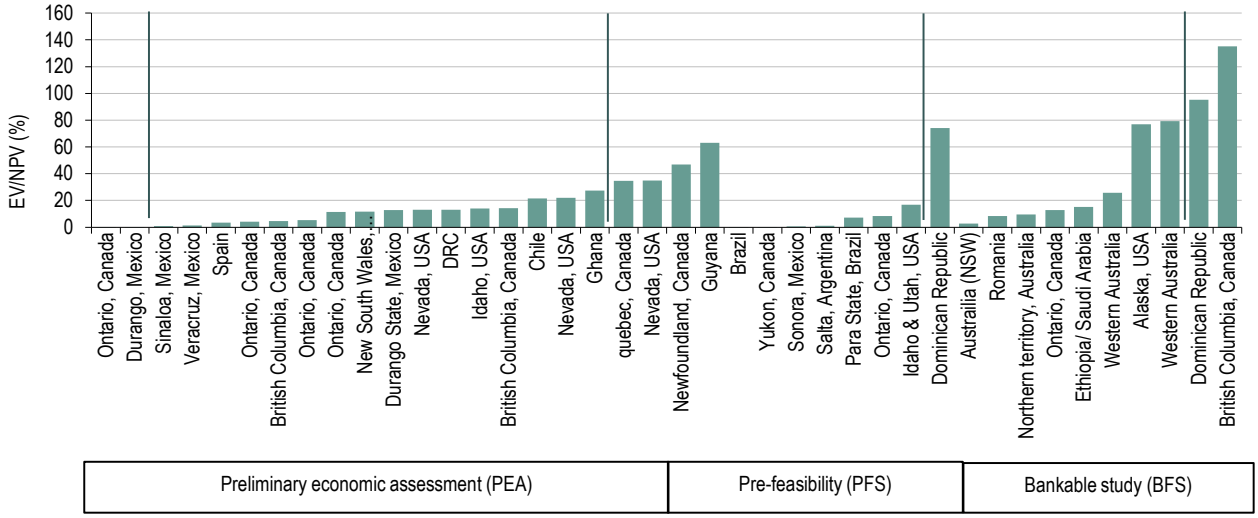
An alternative representation of the EV/NPV data for all the companies in both the 5% sample and the 8% sample, distinguished by stage of development, is provided in the exhibit overleaf. Note that, for each type of study, the vertical lines indicate the statistical outliers in the sample (defined as being more than one standard deviation away from the mean of each sample):

Exhibit 198: Graph of EV/NPV, 5% sample, by company and stage of development (country of operations shown only)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: For each type of study, the vertical lines indicate the statistical outliers (defined as more than one standard deviation away from the mean).

Exhibit 199: Graph of EV/NPV, 8% sample, by company and stage of development (country of operations shown only)



Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources). Note: For each type of study, the vertical lines indicate the statistical outliers (defined as more than one standard deviation away from the mean).

EV/NPV versus discount rates: Reconciling Edison's analyses

Reconciling these EV/NPV multiples with those derived previously yields the following results:

Exhibit 200: Raw and refined EV/NPV multiples (%), by stage of development

	5% sample			8% sample			Whole sample		
%	Scoping study/PEA	PFS	BFS	Scoping study/PEA	PFS	BFS	Scoping study/PEA	PFS	BFS
Raw									
Maximum	63.2	74.0	135.3	57.9	35.3	217.4			
Mid	16.4	13.5	46.1	13.1	12.4	18.5			
Minimum	0.1	0.2	2.7	0.0	0.0	-0.1			
Refined									
Maximum	36.86	49.77	69.92	46.03	62.14	87.30	53.10	71.68	100.71
Mid	11.59	7.98	18.33	14.48	9.97	22.89	16.70	11.50	26.40
Minimum	2.33	3.91	6.22	2.91	4.88	7.76	3.36	5.63	8.95

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

In general, readers will observe that the top end of the valuation range has been brought down (which effectively represents the exclusion of statistical outliers), while the bottom end has come up (effectively excluding cash-shells or near cash-shell). Within this context, we note that the largest declines at the top end of the valuation range have occurred within the 5% sample and we would rationalise this in terms of the 5% sample being almost entirely (95%) populated by precious metals companies, where the metal price movement has been large in recent months, thereby quickly rending a technical study more than 34 months old out of date relative to a company's likely subsequent share price performance. It may also represent a natural conservatism among consultants. Of the 42 specifically gold technical reports that we encountered in our research, the highest gold price assumption was US$2,850/oz (a 35% discount to the price at the time of writing). By contrast, the percentage of precious metals companies included in the 8% sample was only 7.3%.

The other most significant decrease was at the top end of the valuation range for companies at BFS stage of development within the 8% sample, which effectively reflects the exclusion of a single statistical outlier (see Exhibits 195 and 199). The largest increase was at the top end of the valuation range for companies at PFS stage of development within the 8% sample, which we interpret as reflecting missing data that otherwise existed within the whole sample.

We note that the anomaly whereby the mean is lower for PFS compared to PEA level projects is maintained in both the raw and refined data in both the 5% and 8% samples.

Finally, a general pattern may be observed, whereby EV/NPV multiples are lower for the lower discount rates and higher for the higher ones, which is as expected, given the higher valuations that would be expected from the lower discount rates (thereby requiring a lower EV/NPV multiple to reconcile them).

The 5% sample's multiple regression analysis

In keeping with our 2019 report, we have also performed a simultaneous multiple regression analysis between the EVs of the companies included in the EV/NPV analysis and the four factors that are presumed to influence their valuations, namely sovereign risk (as measured by the Fraser Institute), project IRR, project NPV and the type of study performed for both the 5% and the 8% samples. Note that for a sample group in which all of the discount rates are the same, it makes no sense to include this 'variable' in the analysis and hence there are four factors, where before there were five. In this case, the formula for the best-fit line (in US$m) derived via such an analysis is as follows:

EV = 16.6 + (0.60 × Fraser) - (0.85 × IRR) - (0.03 × NPV in millions) + (17.88 × study type)

This compares with our result for the whole sample of:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

As before, we believe that circumspection is required in interpreting the results of this analysis. In our view, the notable features are:

- The decline in the value of the intercept, suggesting a lower base for valuations.
- The sharp increase in the coefficient relating to the Fraser Institute, which appears reasonable.
- The continued problem of negative coefficients attached to the IRR and NPV variables.
- The greater weighting attached to the study type variable.

Moreover, it should be noted that in no instance is confidence in any of the coefficients generated by the analysis especially high:

Exhibit 201: Junior mining company valuation multiple regression analysis, t-stat results (5% sample only)

Variable	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	16.60672341	72.43944695	0.229249727	0.819972301	-130.3072844	163.5207312
Fraser Institute score	0.603753616	0.830783245	0.726728205	0.472091829	-1.081152899	2.288660131
IRR	-0.84988219	0.632287995	-1.344137793	0.187313672	-2.13222168	0.432457299
Project NPV	-0.032040677	0.025613487	-1.250929918	0.21902906	-0.083987237	0.019905882
Type of Study	17.88105718	17.58149448	1.017038523	0.315921845	-17.77586629	53.53798066

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Thus, if a wholly 'average' company is considered, with 100% ownership of a project with an NPV of US$588.4m (at a 5% discount rate, see Exhibit 191), an IRR of 39.3%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80 (roughly the equivalent of New Brunswick in the latest survey), then the implied EV of the company at its various stages of development, as derived using the above equation, would be as follows:

Exhibit 202: Average valuation of company moving through the development pipeline as predicted by the results of a multiple regression analysis with four variables (5% sample)

	PEA	PFS	BFS
Valuation (US$m)	22.6	40.5	58.3
Percentage of NPV (%)	3.8	6.9	9.9

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These numbers may be compared directly with the results of our EV/NPV analysis (Exhibit 200). In this case, it can be seen that the results fall between the minimum and mean valuations predicted

by the results of the EV/NPV analysis and may be regarded as 'of the right order of magnitude' but conservative and failing to recognise the expected decline in value as a company advances its project from PEA stage to PFS stage (although this may be too much to expect from a linear equation).

The 8% sample's multiple regression analysis

In contrast to the above, the formula for the best-fit line (in US$m) derived for the 8% sample is as follows:

EV = 63.3 - (0.56 × Fraser) - (0.13 × IRR) - (0.0004 × NPV in millions) − (1.14 × study type)

This compares with our previous result in 2018 of:

EV = -60.1 + (1.0 × Fraser) + (0.6 × IRR) + (0.04 × NPV in millions) − (1.1 × study type)

And our previous result for the whole sample of:

EV = 74.2 + (0.03 × Fraser) - (0.33 × IRR) - (0.003 × NPV in millions) + (7.26 × study type) − (7.15 × discount rate)

Two features of the result are noteworthy:

- The reversion of the intercept to being a positive number, indicating a higher base for valuations.
- Negative coefficients pertaining to all four other variables, which appear illogical.

As above, confidence in the coefficients relating to the variables is generally low (with the possible exception of that relating to the intercept):

Exhibit 203: Junior mining company valuation multiple regression analysis, t-stat results (8% sample only)

Variable	Coefficient	Standard error	t-stat	P-value	Lower 95%	Upper 95%
Intercept	63.26960492	38.89311503	1.626755915	0.112511806	-15.60928835	142.1484982
Fraser Institute score	-0.562425136	0.412484884	-1.363504842	0.181189938	-1.398983254	0.274132982
IRR	-0.12980852	0.237805025	-0.545861129	0.588528275	-0.612099465	0.352482426
Project NPV	-0.000434417	0.002868263	-0.151456561	0.880461142	-0.006251525	0.00538269
Type of Study	-1.138968385	6.774588437	-0.168123628	0.867427005	-14.87847055	12.60053378

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

Hence, for a wholly 'average' company with 100% ownership of a project with an NPV of US$1,756.8m (at an 8% discount rate, see Exhibit 191), an IRR of 38.2%, operating in a jurisdiction with an average Fraser Institute Investment Attractiveness rating of 66.80, the evolution of value would be as follows:

Exhibit 204: Average valuation of company moving through the development pipeline as predicted by the results of a multiple regression analysis with four variables (8% sample)

	PEA	PFS	BFS
Valuation (US$m)	18.8	17.7	16.6
Percentage of NPV (%)	1.1	1.0	0.9

Source: Edison Investment Research (underlying data: LSEG Data & Analytics and company sources)

These results may be compared directly with the results of our EV/NPV analysis (Exhibit 200). In this case, the results do recognise the decline in value between companies with projects at PEA stage of PFS stage of valuation. However, they also fall below the minimum valuations predicted by the results of our EV/NPV, which appears overly conservative to be a useful tool at this stage.

Appendix: Companies featured in this report

Abrasilver Resource
Adelong Gold
Aftermath Silver
Alaska Energy Metals Corp
Alaska Silver
Allegiant Gold
Alligator Energy
Altamira Gold Corp
American Lithium Corp
Anfield Energy
Anglesey Mining
Apollo Silver
Appia Rare Earths & Uranium Corp
Argent Minerals
Argenta Silver
Augusta Gold Corp
Ausgold
Australian Silica Quartz Group
Australian Vanadium
Avalon Advanced Materials

Bannerman Energy
Banyan Gold Corp
Barton Gold Holdings
Beowulf Mining
Berkeley Energia
Bezant Resources
Big Ridge Gold Corp
Black Dragon Gold Corp
Black Iron
Blue Sky Uranium Corp
Blue Star Gold Corp
BonTerra Resources
Brightstar Resources
Brockman Mining

Cadence Minerals
Canada Nickel Company
Canadian Gold Corp
Canadian North Resources
Canyon Resources
Capitan Silver
Centaurus Metals
Century Global Commodities Corp
Century Lithium Corp
Cerro de Pasco Resources
Chesapeake Gold Corp
Class 1 Nickel and Technologies
Copper Fox Metals
Copper Giant Resources Corp
Cora Gold
Core Nickel Corp
CuFe
CZR Resources

Dateline Resources
Deep Yellow
Defiance Silver
Desert Gold Ventures
DFR Gold
District Metals Corp
Dynasty Gold Corp

Elevate Uranium
Energy Metals
Energy Transition Minerals
Engineer Gold Mines
Engold Mines
Euro Sun Mining
European Lithium
European Metals Holdings
Excellon Resources

Faraday Copper Corp
First Mining Gold Corp
Forsys Metals Corp
FPX Nickel Corp
Freegold Ventures
Freeman Gold Corp
Frontier Lithium

Fury Gold Mines

G2 Goldfields
Galantas Gold Corp
Galleon Gold Corp
Giga Metals Corp
Gold Springs Resource Corp
Gold Terra Resource Corp
GoldMining
Goldquest Mining Corp
Gorilla Gold Mines
Goviex Uranium
GR Silver Mining
Granada Gold Mine
GT Resources

Hawsons Iron
Highland Copper Company
Homeland Nickel
Horizon Gold

Independence Gold Corp
International Tower Hill Mines
Iron Road
Isoenergy

KEFI Gold and Copper
Klondike Gold Corp
Kodiak Copper Corp
Kootenay Silver

Labrador Iron Mines Holdings
Lahontan Gold Corp
Landore Resources
Laramide Resources
Lavras Gold Corp
Legacy Iron Ore
Liberty Gold Corp
Lifezone Metals
Lincoln Gold Mining
Lithium Americas Corp
Lithium Ionic Corp
Lode Gold Resources
Loncor Gold

Macarthur Minerals
Magnetite Mines
Maple Gold Mines
Marimaca Copper Corp
Marvel Gold
Mayfair Gold Corp
Meridian Mining UK Societas
Mexican Gold Mining Corp
Minco Silver
Mirasol Resources

Nevada King Gold Corp
Nevada Lithium Resources
New Found Gold Corp
New Pacific Metals
Newcore Gold
Nexgen Energy
NeXGold Mining Corp
NorthX Nickel Corp
NovaGold Resources
Nuclear Fuels

Oceanic Iron Ore Corp
Odyssey Gold
Omai Gold Mines Corp
Outcrop Silver & Gold

Panoro Minerals
Patriot Battery Metals
Phenom Resources Corp
Power Metal Resources
Power Metallic Mines
Premier American Uranium
Prime Mining
Probe Gold
Prodigy Gold
Pure Energy Minerals

Quartzstone

Radius Gold
Rock Tech Lithium
Sama Resources

Seabridge Gold
Silver Mines
Silver One Resources
Silver Predator
Silver Storm Mining
Silver Tiger Metals
Silver Viper Minerals
Silver47 Exploration
Siren Gold
Sitka Gold Corp
Snow Lake Resources
SolGold
Southern Silver Exploration
Spanish Mountain Gold
SPC Nickel Corp
STLLR Gold
Strategic Resources
Strike Resources
Summa Silver
Sunstone Metals
Surge Battery Metals

Talon Metals Corp
Tartisan Nickel Corp
Temas Resources Corp
Tesoro Gold
THEMAC Resources Group
Thesis Gold
Trilogy Metals
TriStar Gold
Triumph Gold Corp
True North Copper
Tudor Gold Corp
Turaco Gold

Unigold

VBX

Velox Energy Materials
Venus Metals Corporation
Vista Gold Corp
Viva Gold Corp
Vizsla Silver

Warriedar Resources
West Wits Mining
Western Copper and Gold Corp
WIA Gold

Xtra Gold Resources Corp
XAU Resources

Zanaga Iron Ore Company

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