

MINERAL FINANCE 2020: CANADA HOLDING GROUND



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ABOUT PDAC

As the leading voice of Canada's mineral exploration and development sector, the Prospectors & Developers Association of Canada (PDAC) provides relevant information, tools and publications to support our members. *Mineral Finance 2020: Canada Holding Ground* presents a retrospective review of mineral industry dynamics to the end of 2019.

This report analyzes key factors that impact the business environment of the mineral industry, including: metal prices; financing and exploration activity trends; an update on Canada's fiscal and regulatory landscape; and the relevant advocacy work being conducted by PDAC.

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MINERAL FINANCE 2020: CANADA HOLDING GROUND

Last year, our report suggested that the mineral industry was reaching a crossroads as new investment and on-the-ground spending were headed in opposite directions. Exploration spending climbed for a second straight year in 2018, both in Canada and abroad, despite a sharp year-over-year drop in investment. Lo and behold, this drop-off in investment had an impact as exploration spending in 2019 was down, both globally and in Canada, by an estimated 4% and 9% respectively.

Global funding for the mineral sector continued to contract in 2019 with new investment reaching a decade low. The roughly US\$18 billion in equity raised within the sector last year represents a +40% drop from 2017. The decline is more extreme if we consider that one-third of the equity raised in 2019 was in a single debt-for-equity transaction between Glencore and Katanga Mining.

There are signs that Canada is holding its ground in the face of weakening investment. Mineral industry financing on foreign exchanges declined at twice the rate recorded in Canada, and notably nearly half of the exploration dollars raised in 2019 were through Canadian exchanges—the largest proportion in over a decade. On top of this, four regions in Canada projected year-over-year growth in exploration activity in 2019. In particular, Alberta reported a doubling in expenditures and Saskatchewan reached a seven-year high in 2019, according to Natural Resources Canada (NRCan).

There are some negative data points, however, as Canada's most active regions (Ontario, Québec and British Columbia) recorded a 19% drop in exploration spending, on average, in 2019 versus the year prior. Most striking perhaps is that Canada may have lost its position at the top in terms of exploration activity. According to S&P Global Market Intelligence (S&P), 2019 exploration spending in Australia surpassed Canada for the first time in over two decades. That said, NRCan estimates that with a much higher level of spending Canada may have retained its top jurisdiction status.

Base and precious metals prices went in opposite directions through much of 2019, but the strength of nickel and a late-year rally in the price of copper helped to close the gap between the two groups. Gold and palladium prices reached new five-year, all-time highs respectively, while lithium and cobalt prices continued on a steep decline from 2018 levels as supply appears to be outpacing near-term demand. The strong gold price brought some rewards to investors in 2019 as the total value of mineral sector on Canadian exchanges grew by over 30% compared to the year prior.

Trade tensions and a weakening global growth outlook continued to weigh on base metals in 2019, while U.S. interest rate cuts and a weakening U.S. dollar helped to propel gold and silver higher in the back half of the year. In Canadian dollar terms, gold achieved an all-time high in September, fueled by a significant amount of financing activity in the third and fourth quarters of 2019.

With the global growth outlook projecting further contraction in 2020, and notable early-year disruptions to Chinese demand sparked by the COVID-19 virus, it could be another challenging year for base metals. After three successive interest rate cuts in 2019, the U.S. Federal reserve indicated rates would remain unchanged in 2020 but the rapidly developing COVID-19 situation has caused an about face. Declining rates and future economic uncertainty could act as a tailwind for gold and precious metal prices this year.

As 2020 unfolds, Canada's mineral industry is poised to benefit from a renewed focus on policy by the Federal Government, driven by the launch of the Canadian Minerals and Metals Plan (CMMP) and new critical mineral agreements with the U.S. and other cooperative trade partners. Potential for strong domestic metal prices could add extra vigor to Canada's competitiveness, and may play a crucial role in attracting more investment dollars towards early-stage exploration in the near term.

CANADA

Canada's mineral exploration and development sector is a mainstay of the national economy that supports jobs and economic activity in every region.



TOP 10 MINERAL PRODUCTS:

- Gold
- Coal
- Copper
- Potash
- Iron Ore
- Nickel
- Diamonds
- Sand and Gravel
- Stone
- Zinc



The minerals sector directly employs **409,000 INDIVIDUALS**

And indirectly employs an additional **217,000 INDIVIDUALS**

Together, direct and indirect employment exceeds **626,000 JOBS**

That's **1 IN EVERY 29 JOBS** in Canada



Canadian exploration and mining companies have mining assets in over 100 countries, worth

\$169 billion

Canada produces some **60** minerals and metals at **200** mines and **6,500** sand, gravel and stone quarries a year worth

\$47 billion

Domestic exports of mineral and metal products

\$105 billion

\$2.5 billion spent on exploration-related activities

Indigenous people make up

12% of the labour force, and mining ranks as the private sector industry with the highest Indigenous representation after fishing, hunting and trapping



The industry boasts the highest wages and salaries of all industrial sectors in Canada



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MACROECONOMICS AND METALS

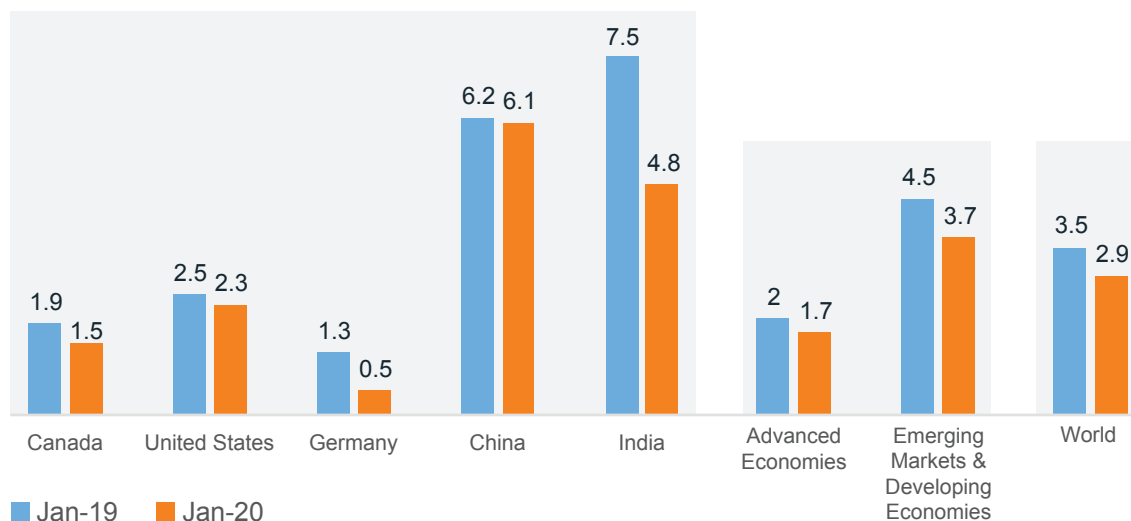
A multi-year rebound for the mineral industry appears to have stalled in 2019 as a number of economic factors weighed on metal prices and investor activity—chief among them are mounting trade tensions between the U.S. and its key trade partners. Uncertainty around global trade has increased recessionary concerns, reduced growth expectations, and was a driving force behind the U.S. Federal Reserve (“Fed”) changing course on interest rates in mid-2019.

Trade tensions continue to mount

Trade conflicts between the United States and China continued to escalate in early 2019 and both sides put import tariffs in place at mid-year. Potential for reduced trade between the two major economies had a cooling effect on both regional and global growth expectations, as measured by the International Monetary Fund (IMF).

Figure 1.1 highlights the impact of trade issues on 2019 Gross Domestic Product (GDP) projections. As 2019 played out, the IMF significantly reduced GDP estimates for a number of major regions and G7 countries, as well as its global estimate from 3.5% to only 2.9%.

Figure 1.1: GDP Growth - Early-Year Projection vs. Year-End Estimate (2019)



Source: IMF

There have been some tangible efforts to ease tensions between China and the U.S. as negotiations on a ‘Phase 1’ trade agreement began in December 2019 and the agreement was eventually signed by the two countries in January 2020.

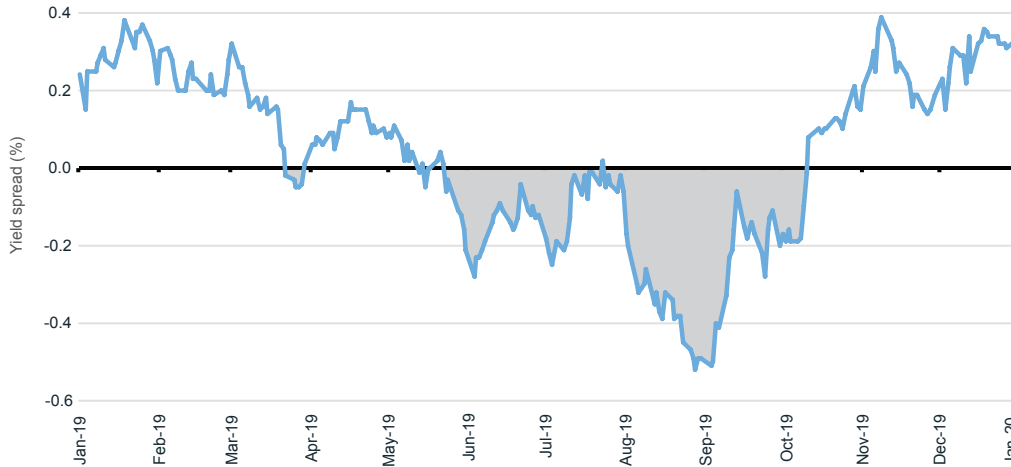
Notably, changing conditions in Europe and emerging markets had the greatest negative impact on GDP estimates. For instance, slowdowns in the German auto industry and in overall activity in India were notable headwinds.

Recession fears weigh on rates and bonds

Weakening growth expectations around the globe have had widespread impacts, including on U.S. monetary policy. The U.S. federal interest rate was progressively increased from 0.25% in late 2015 to 2.5% at the end of 2018. However, with inflation continuing to fall below target, the U.S. Fed reversed course on rates in mid-2019 with three consecutive cuts to end the year at 1.75%. This reversal has weighed on both U.S. bonds and the dollar (USD).

Between May and October 2019, the U.S. yield curve entered negative territory as reflected in Figure 1.2 below, which shows the spread between 3-month treasury bills and 10-year treasury notes.

Figure 1.2: Spread between 3-Month T-Bills & 10-Year Notes



Source: Federal Reserve Bank of St. Louis

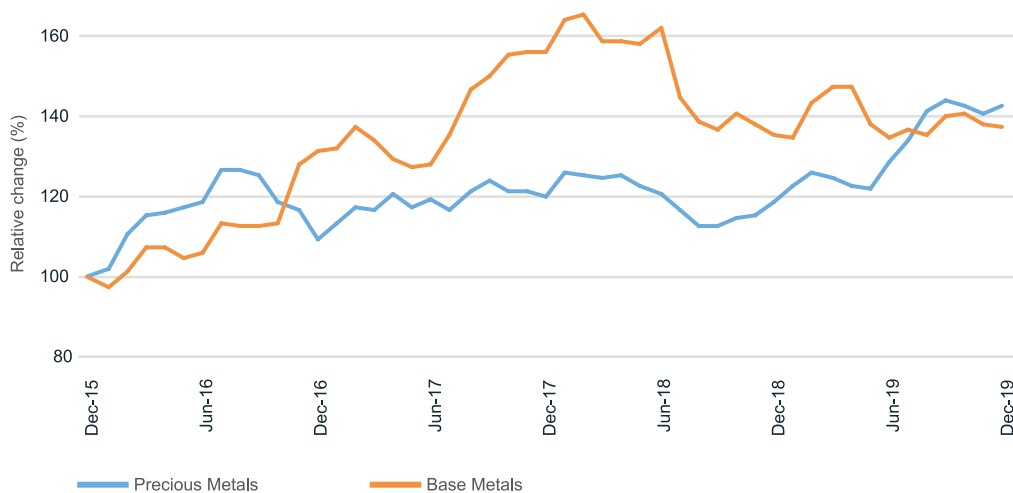
Market activity in 2019 seems to suggest that near-term recessionary fears are on the rise. This weakening future outlook and potential for an extended negative ‘real rate’ environment weighed on the U.S. dollar and base metals but acted as a catalyst for gold and silver prices to move higher.

Metal Price Dynamics

A positive outlook on global growth coupled with expectations for increased infrastructure spending in the U.S. helped to boost metals across the board in 2016 and 2017— both base and precious metal prices were up materially over the two-year period. However, as the positive outlook began to unravel in 2018, so did base metal demand and prices remained largely flat in 2019.

Figure 1.3 displays the relative change in precious and base metal prices from December 2015 to 2019 and highlights the divergence of the two main metal groups during the second half of 2019.

Figure 1.3: Relative Metal Price Change

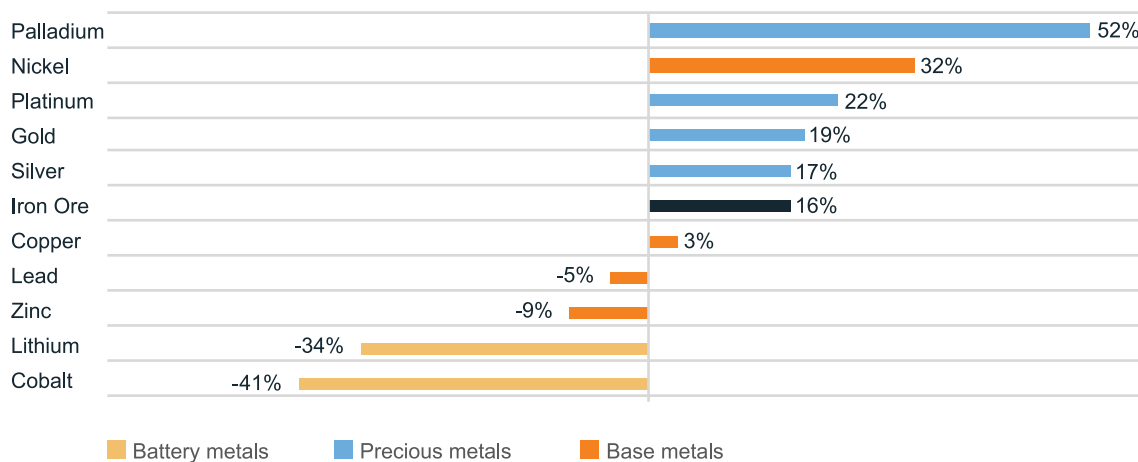


Source: S&P Global Market Intelligence and PDAC analysis

MACROECONOMICS AND METALS

Figure 1.4 below presents the year-over-year change in metal prices in 2019, and shows the wide range of returns. Prices of all precious metals increased significantly, with palladium exceeding all other metals by far. In contrast, prices of base metals were largely stagnant, while battery metal prices posted significant declines in 2019.

Figure 1.4: Metal Price Change (2019)

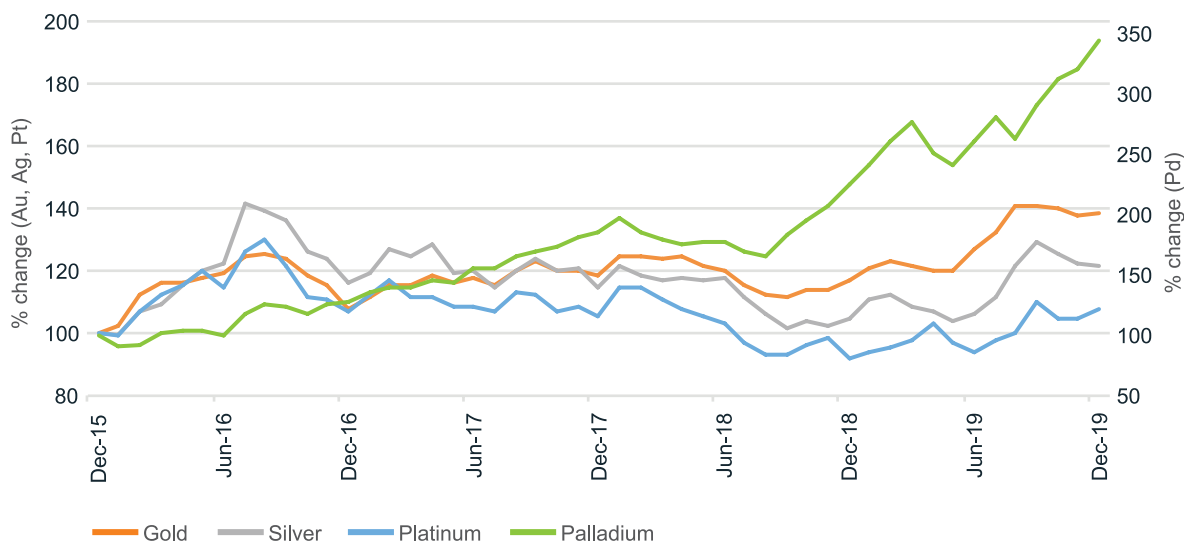


Source: S&P Global Market Intelligence and PDAC analysis

Precious metals

All precious metals posted significant gains in 2019 after the prior year's weak performance. Gold and platinum posted the largest price increases since 2010, and it was the second best year in a decade for silver and palladium. The relative change in the price of the four key precious metals is shown in Figure 1.5, with the outperformance of palladium since mid-2018 being quite apparent.

Figure 1.5: Precious Metal Price Change

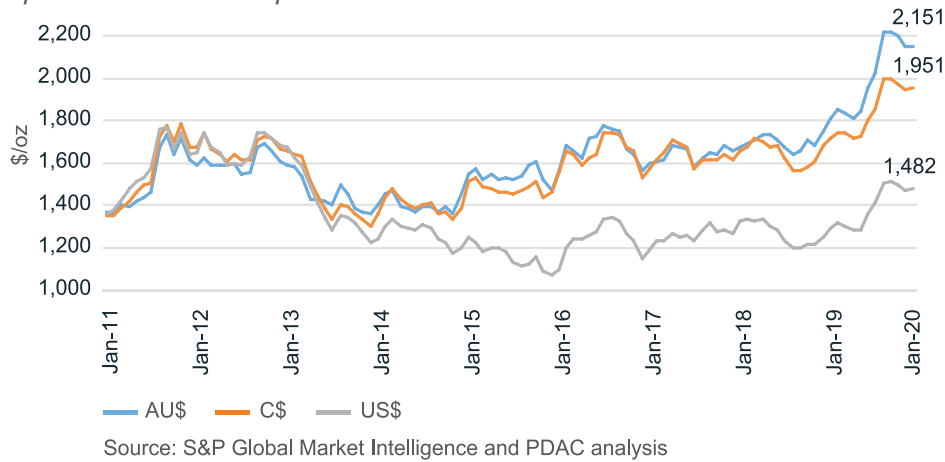


Source: S&P Global Market Intelligence and PDAC analysis

The gold price started to climb in late May and into June as market speculation regarding the U.S. Fed’s change of course on interest rates grew, and accelerated upward as rate cuts were successively realized.

It is important to note that US\$ appreciation over the last five-plus years has pushed the gold price to all-time highs in many currencies worldwide, including the Euro, British Pound and Japanese Yen, as well as currencies related to key mining countries—Canadian Dollar, Australian Dollar and the South African Rand. Figure 1.6 highlights the change in the gold price in US\$ and the implied price in Canadian and Australian dollars based on changes in relative foreign exchange rates.

Figure 1.6: Implied Gold Price Comparison

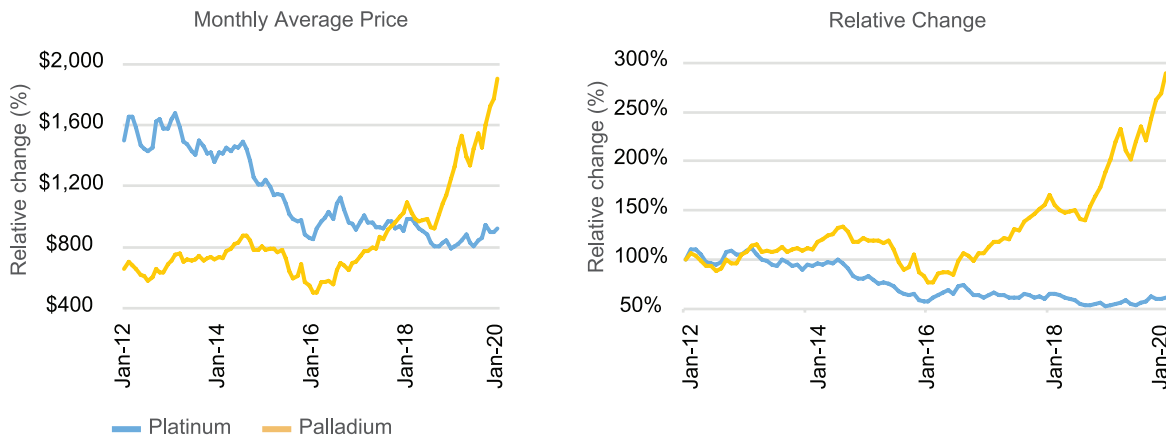


Companies that operate and report in Canada could realize benefits from increased profitability on the back of a higher relative price of gold. The potential benefit of wider profit margins could also extend to exploration companies as it could spark increased market interest and strategic re-investment from mining companies looking to extend the lifespan of domestic operations.

Platinum versus palladium

Figure 1.7 provides a comparison between platinum and palladium prices in both nominal and relative terms. The price of palladium surpassed platinum in late 2017 for the first time in well over a decade, and over the past year the gap between the two continued to widen. While prices for both metals were in positive territory in 2019, the palladium price continued to surge ahead and at year-end was up 52% while platinum was up 22% versus a year prior.

Figure 1.7: Platinum vs. Palladium - Price and Relative Change



MACROECONOMICS AND METALS

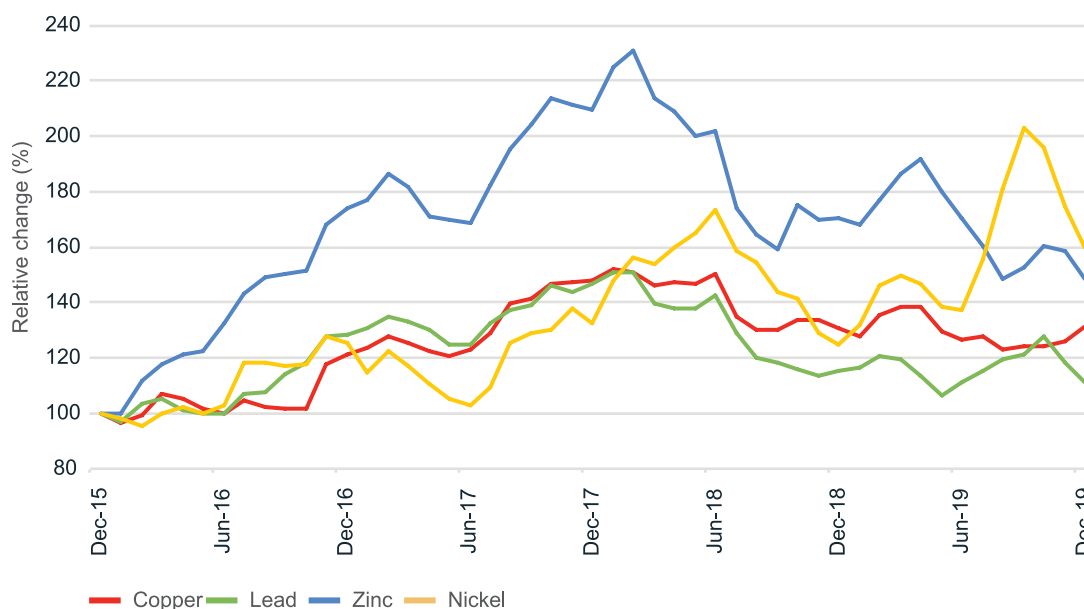
The dynamics observed in figure 1.7 are routed mostly in the end-use of each metal. Both metals are used as components in catalytic converters, with platinum primarily designated for diesel engines and palladium for gasoline engines. A shift in global demand away from diesel engines and increasingly towards gasoline and hybrid engines in recent years has been the main catalyst behind increased appetite for palladium, relative to platinum.

Base metals

As global macroeconomic conditions improved throughout 2016 and 2017, so to did key base metal prices. However, the base metal rally lost steam in early 2018 with prices heading downward for the balance of the year and giving up most of the gains realized over the previous two years.

Base metal prices remained within a tight range of $\pm 10\%$ from the baseline established at the beginning of 2019. While copper ended the year with a modest 3.4% increase, lead and zinc lost 4.7% and 9.5%, respectively, as can be seen in Figure 1.8.

Figure 1.8: Base Metal Price Change



Source: S&P Global Market Intelligence and PDAC analysis

Zinc moved higher to start 2019, but it seems supply continued to outpace demand as the zinc price was in negative territory by mid-2019 and ended the year down roughly 25% from the intra-year peak.

Speculation around a possible nickel ore export ban by Indonesia had a significant impact on the metal's price in 2019 as it was up by as much as 70% in Q3. Market concerns abated in Q4 as potential near-term impacts of a ban on supply and demand became clearer. This had a cooling effect on the nickel price but the metal still ended the year up +30% versus 2018.

The copper price was largely sideways during the first half of 2019 but began to drop at mid-year as a strike at the Escondida mine in Chile, the world's largest supplier of the metal, ended and supply/demand estimates were adjusted. Increasing trade tensions, primarily between the U.S. and China, weighed on the price of the industrial metal for most of the second half of 2019. With this in mind, the copper price rebounded into positive territory in December, as a trade resolution between China and the U.S. began to materialize in the 'Phase 1' agreement.

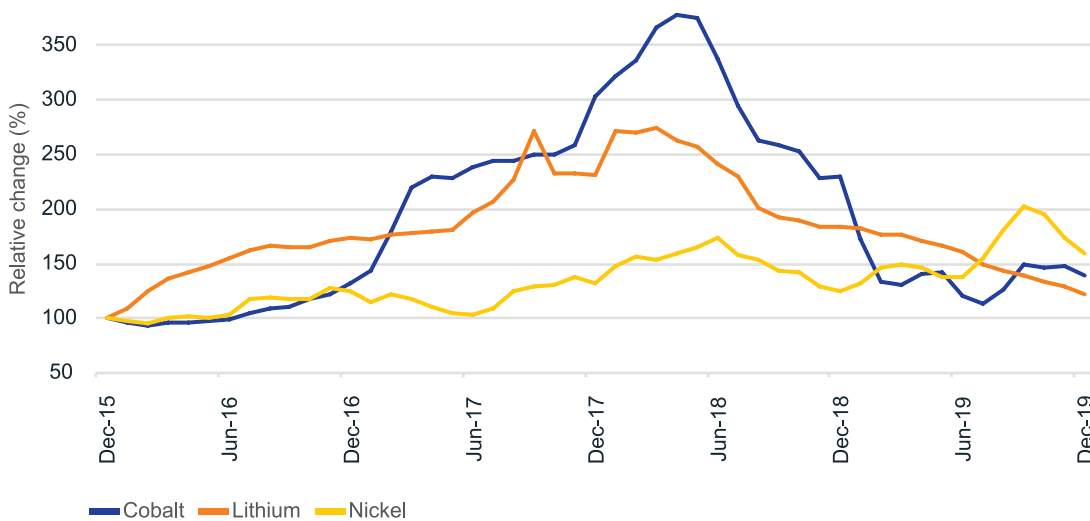
Battery metals

The significant climb in battery-related metal prices from mid-2015 through to mid-2018 followed growing debate on climate change (i.e. Paris Accord in 2015) and is mostly tied to an expected spike in demand for renewable energy and electric vehicles (EV).

Strong metal prices resulted in new supply coming online and the near-term demand outlook seems to have fallen short of market expectations. As a result, cobalt and lithium prices fell precipitously from mid-2018 levels and were down 41% and 34% in 2019, respectively.

Figure 1.9 below shows the relative change in nickel, cobalt and lithium prices between 2015 and 2019. The contrast in price activity is quite apparent between cobalt and lithium, which are both almost explicitly linked to batteries and nickel, which is predominantly used in stainless steel manufacturing.

Figure 1.9: Battery Metal Price Change



Source: S&P Global Market Intelligence and PDAC analysis



Cobalt prices showed modest improvement in the second half of 2019 and is likely attributable to the announcement by Glencore that the Mutanda mine in the Democratic Republic of the Congo (DRC) would cease production and be put on care and maintenance at the end of 2019. Mutanda accounts for approximately one-fifth of the total annual global supply of cobalt.

FINANCING THE MINERAL INDUSTRY

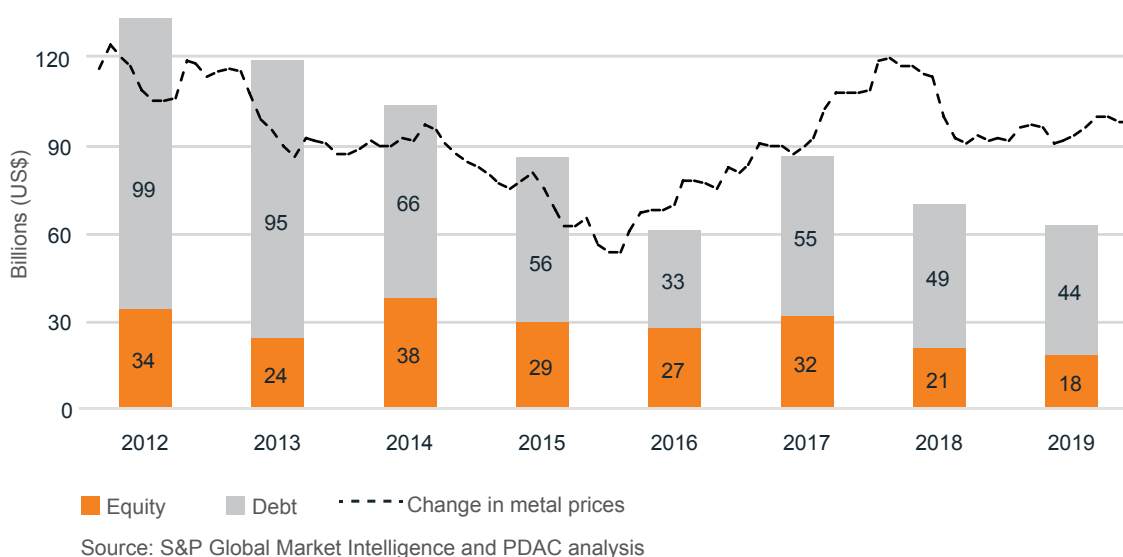
The following section will take a top-down approach to mineral industry financing activity starting from a global perspective and ending with a focus on Canada and junior explorers. We also include a number of ‘investor anecdotes’ gathered through PDAC outreach and research over the last year.

Investment down for second straight year

After a 42% year-over-year bump in financing was posted in 2017, mineral industry funding has declined steadily. Notably, total funds raised last year were down nearly 30% compared to 2017 and only narrowly above the 2016 low-point.

Figure 2.1 breaks down mineral industry financing by debt and equity and highlights the decline of both components over the last two years. In particular, the amount of equity financing dropped by over 11% year-over-year and represents the lowest level in more than a decade.

Figure 2.1: Financing for the Global Mineral Industry

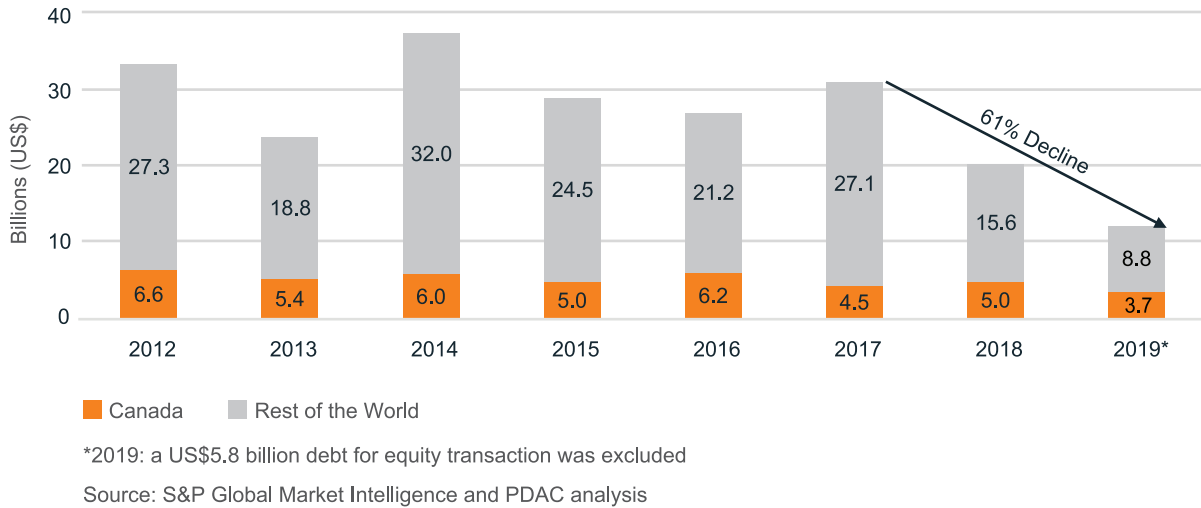


The figure also highlights the strong relationship between financing levels for the sector and relative changes in metal prices, which is shown as a collective weighted average in the dashed line above.

Importantly, debt financing is not a viable fundraising option for most non-revenue generating mineral exploration companies. As such, the balance of this report will focus primarily on equity financing.

Figure 2.2 further outlines how equity financing declined to reach a decade low in 2019, both at the global level and within Canada. On the bright side, Canadian equity markets showed greater resilience to declining investment levels—the value of equity raised outside Canada declined by nearly 45% year-over-year versus a 27% decline on Canadian exchanges.

Figure 2.2: Equity Financing for the Global Mineral Industry

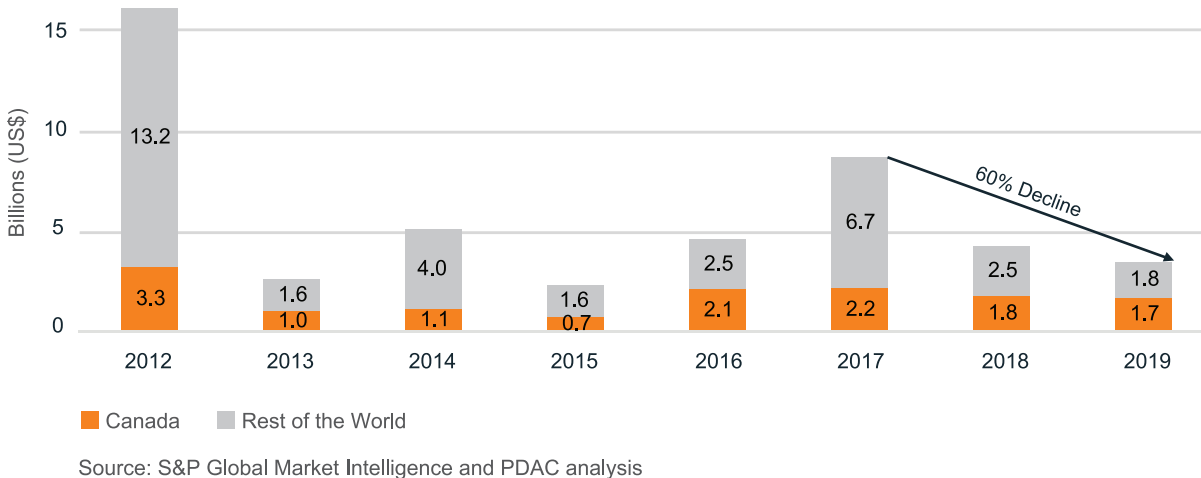


On average, approximately 20% of the equity raised for the mineral industry since 2012 has been via Canadian exchanges. In this context, the silver lining out of the declining levels in Figure 2.2 is that Canada generated a notably larger proportion global equity funding, at 30% in 2019, and is holding ground relative to other regions in terms of equity financing.

Exploration financing follows suit

Mirroring the trend in overall equity financing, exploration financing also fell in 2019 for a second straight year. Figure 2.3 outlines equity financing specifically for exploration, where again Canada is weathering the storm better than other regions as the amount of exploration funding on foreign exchanges declined at over three times the rate recorded on Canadian exchanges in 2019.

Figure 2.3: Global Equity Financing for Exploration



Canadian exchanges generated approximately 30% of the funds raised via equity for mineral exploration between 2012 and 2018, and Canada’s share spiked to nearly 50% of the global pool in 2019, the largest proportion in the last decade.

FINANCING THE MINERAL INDUSTRY

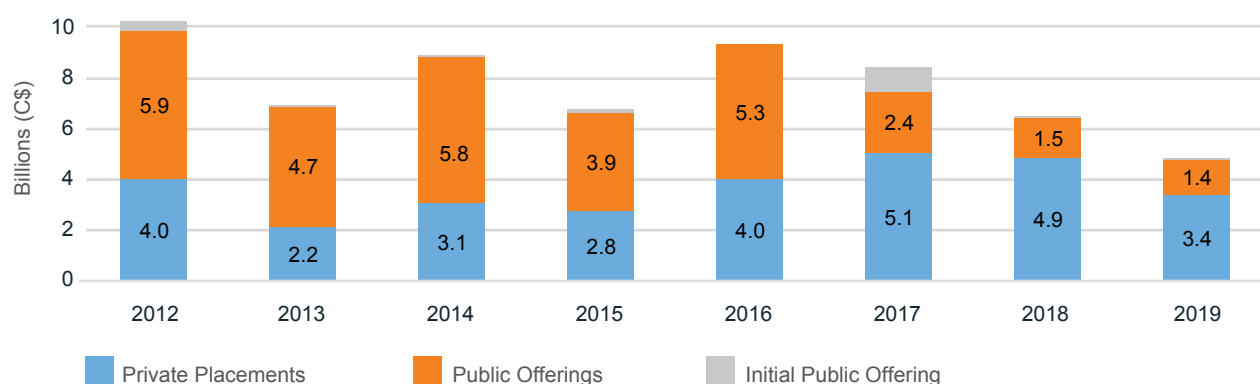
So far, this report has reviewed financing data for the last few years and pointed out that since 2017 we mostly see the deterioration of financing conditions and its results. Next, we provide several measurements to see the impact of financing results on Canadian mineral issuers.

Investor base continues to narrow

The distribution of financing deals in 2019 followed a trend that we have seen for several years with public offerings continuing to decline on a proportional basis.

Looking back at 2012, over 60% of mineral industry financings in Canada were via a public offering, where current and new investors of all types are able to participate. In 2018 and 2019, public offerings only represented around one-quarter of mineral industry financings with the balance of funding coming via private placement, which is highlighted in Figure 2.4.

Figure 2.4: Equity Raises on Canadian Stock Exchanges

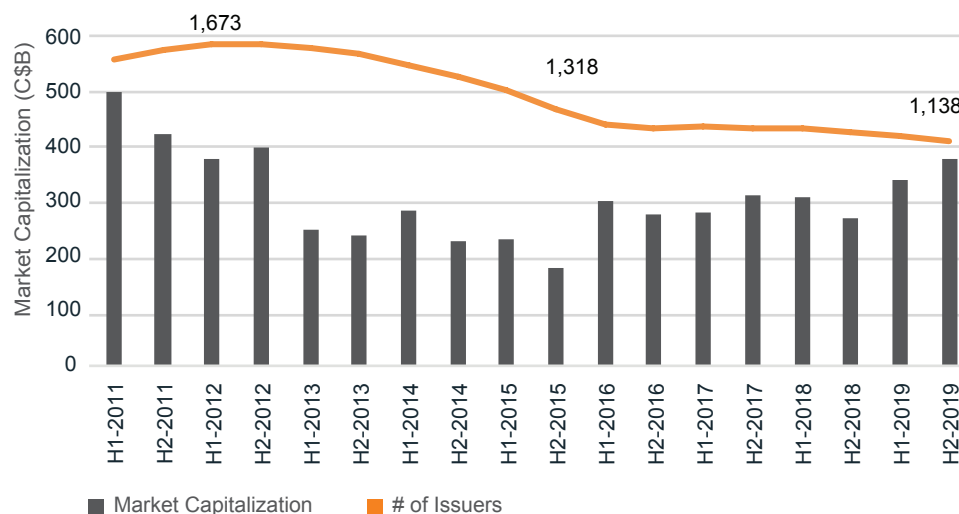


Source: TMX Group and PDAC Analysis

Industry market value boosted by metals

The number of publically-listed mineral industry companies in Canada continued to contract over the last 12 months. The 1,138 mining, royalty and mineral exploration companies listed on the TSX and TSXV exchanges at the end of 2019 reflects a 32% drop compared to the 1,673 companies listed in 2012. The aggregate market capitalization and the number of mineral issuers in TSX and TSXV is presented in figure 2.5 below.

Figure 2.5: TSX and TSXV Listed Mineral Industry Issuers and Market Value



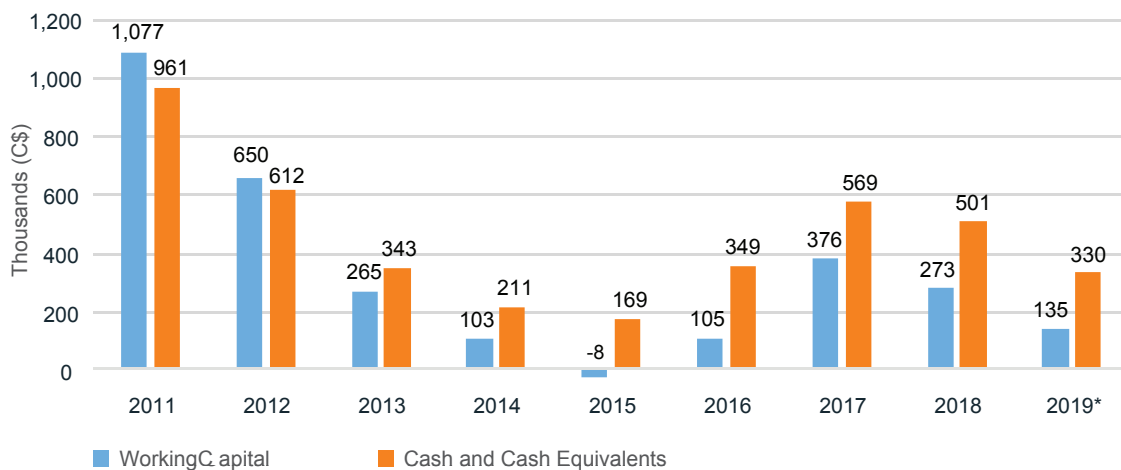
Source: TMX Group and PDAC Analysis

There have been positive signals as the lift in gold and precious metal prices in the second half of 2019 fueled an ‘across-the-board’ lift as the mineral industry’s market value (on TSX and TSXV combined) at the end of 2019 was up 40% year-over-year, with TSX listing driving most of the increase. The total market capitalization of the mineral industry on the TSX/TSXV at the end of 2019 was \$381 billion, which is more than doubling the 2015 low-point and approaching 2012 levels. That said, balance sheet and trading liquidity remain major challenges for public mineral industry companies in 2020.

Short term liquidity crunch

The stagnant financing environment over the last two years has had an impact on company balance sheets, and reported liquidity levels appear to be retracing to lows reported in 2014 and 2015. The liquidity crunch is apparent when we look at the median working capital and cash positions for over 1,000 mineral industry issuers listed on the TSX and TSXV as displayed in Figure 2.6.

Figure 2.6: Short Term Liquidity of Mineral Issuers



Source: S&P Global Market Intelligence and PDAC analysis

* 2019 data is presented based on the last reported financial period as of Dec. 31, 2019

The median working capital reported by issuers was cut in half in 2019, and the median cash position declined approximately 34% versus a year prior. As companies become increasingly cash-constrained, it typically results in less dollars being directed to exploration and development activities. This dynamic also creates an additional barrier for companies operating in remote locations to keep pace with peers given the inherently higher cost structure of operating in areas without support of public infrastructure.

Focus on Junior Financing in Canada

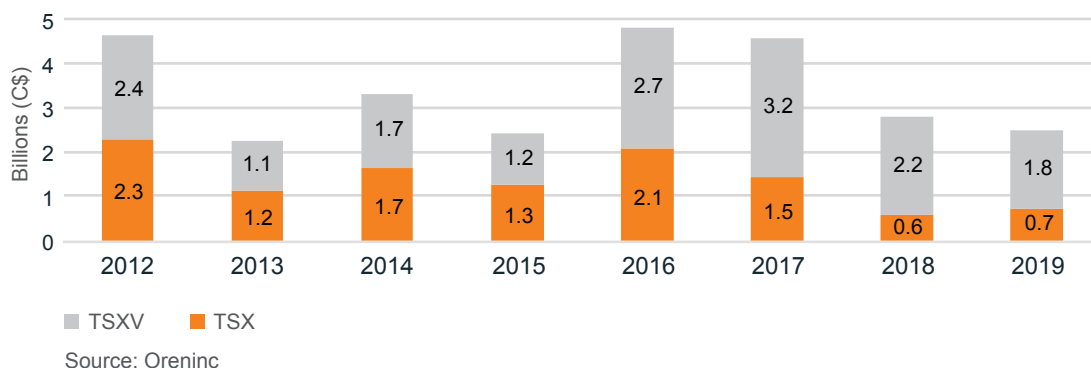
As noted above, junior companies are relying more heavily on private placements to source new capital. With this in mind, understanding private placement financing trends provides insight into the health of the junior market segment.

The following set of figures outlines junior private placement financings as defined by Oreninc (i.e. transactions of less than \$100 million and companies with a market capitalization below \$1.5 billion).

FINANCING THE MINERAL INDUSTRY

Figure 2.7 shows a slight improvement in ‘small deal’ financings on the TSX in 2019, up 25% from a year prior. However, funds raised by juniors in TSXV declined approximately 20% over the same period and nearly 45% since 2017.

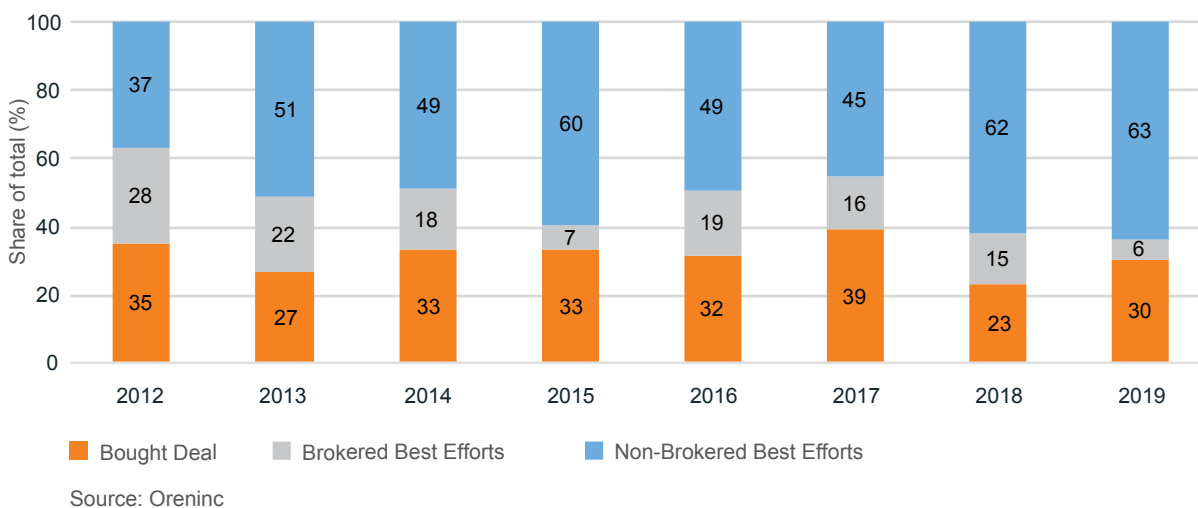
Figure 2.7: Junior Financing by Exchange



Private placements dominate the landscape

Figure 2.8 compares the relative distribution of bought deals, brokered and non-brokered best-efforts transactions within the junior mineral industry. While the proportion of bought deals was up in 2019, it remained well below the long-term average and the majority of funding for juniors is coming from non-brokered private placements. The numbers suggest that major Canadian financial institutions remain largely on the sidelines in funding junior explorers.

Figure 2.8: Brokered vs. Non-brokered Transactions

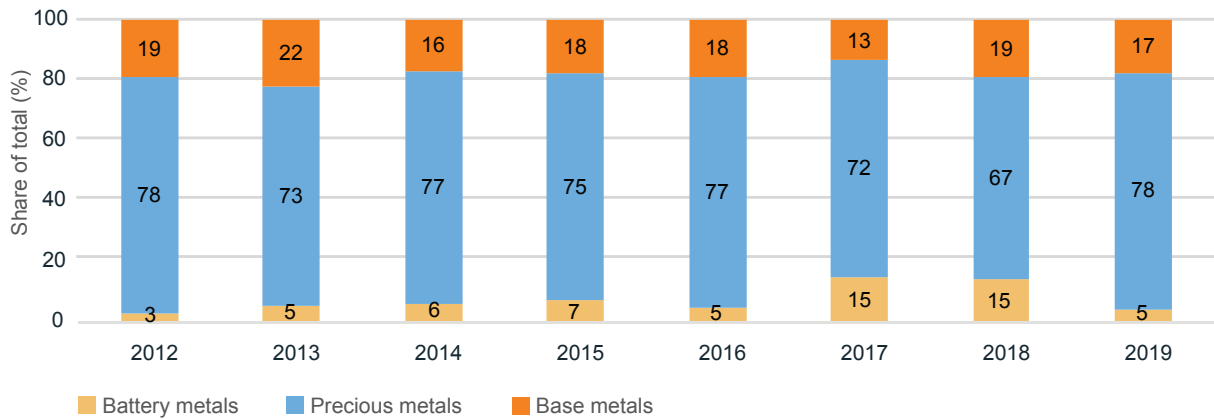


A “bought-deal” is an offering in which an underwriter commits to buy the entire offering from the client company. On the other hand, in a “best-efforts” transaction the underwriter promises to make its best effort to sell as much of a securities offering as possible, but is not obliged to purchase the entire amount being offered. Best-efforts transactions can be either brokered or non-brokered.

Gold explorers lead the pack

While the pool of junior funding continues to dry up, companies focused on gold and precious metals attracted a larger proportion of investment dollars in 2019. Funding for battery metal projects fell materially for the first time since 2016 as shown in Figure 2.9, which displays junior financings disaggregated by commodity group.

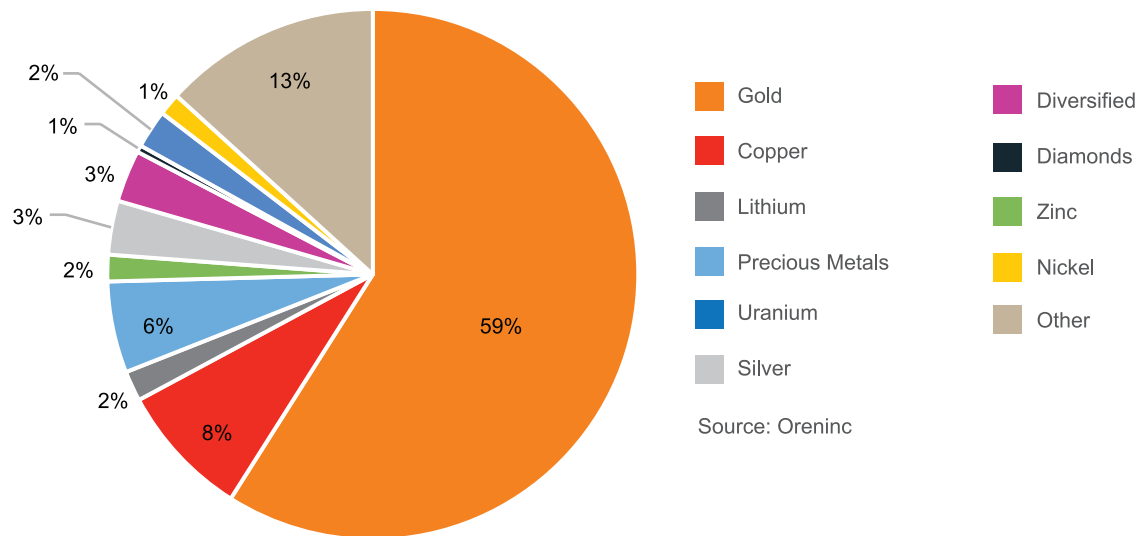
Figure 2.9: Junior Financing by Commodity Group



Source: Oreninc

Figure 2.10 presents the distribution of financings completed on Canadian exchanges in 2019 based on targeted commodity. It shows that nearly 60% of funds raised by juniors in 2019 targeted gold, up from 43% last year.

Figure 2.10: Junior Financing by Commodity



Source: Oreninc

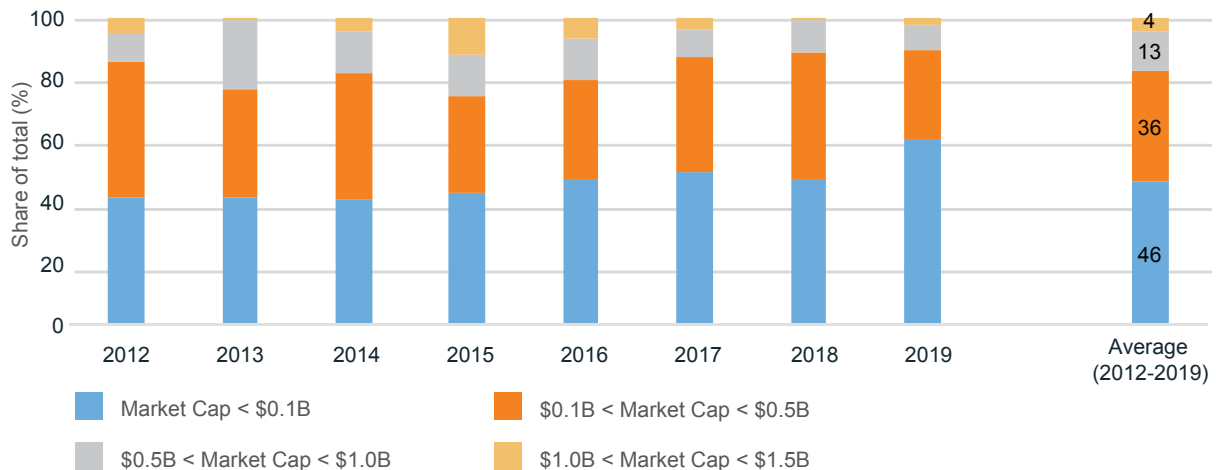
Also noteworthy is the steep decline in financing for lithium, which attracted 1.8% of industry funding in 2019 versus over 7% in 2018. The shift in financing largely reflects the relative change in underlying commodity prices over the year.

FINANCING THE MINERAL INDUSTRY

Junior funding by market capitalization

Noticeable from Figure 2.11 below, which disaggregates junior funding based on market capitalization, is that the proportion of funds raised by small issuers (<\$100 million market cap) has been on a fairly steady increase over the last five years. This measure is a positive indicator that there may be a growing appetite for investing in juniors. It may also reflect a decline in the overall number of juniors that inhabit the \$100 million to \$500 million market cap bracket.

Figure 2.11: Junior Fundraising Disaggregated by Market Capitalization



Source: Oreninc

Investment Dynamics

PDAC engaged with a number of finance professionals in 2019 to source direct feedback and to gauge shifts in investor dynamics within the industry. This engagement provided some key insights that contextualize the material decline of equity and debt funds flowing from institutional investors to the mineral sector in recent years.

The institutional investment decline is part of a global trend:

- Away from individual companies, particularly those with low liquidity/small market caps
- Away from sectors with poor past performance
- Towards indexed investments, exchanged-traded funds (“ETFs”) and algorithm trading



Institutions that have maintained or increased exposure to the mineral industry over the last decade are almost exclusively specialist funds that focus on resource industries. The specialist funds have struggled to attract new capital as they have been perceived to have poorer returns and higher fees than indexed funds (i.e. ETFs). The greater liquidity of indexed funds relative to specific equities has been a major driver behind the secular shift.

Below we present a number of direct quotes from professional investors regarding their current view of the dynamic within the mineral industry, both positive and negative.



“Our senior management is shifting to AI based investment decision making.”

– General Equity Fund

“The lack of liquidity in smaller cap companies is limiting our focus on these, or ending it entirely.”

– General Equity Fund

“Institutional investors are not traders, but long-term investors, and over the long term, over a cycle, they get disappointed.”

– General Equity Fund

“Smaller companies need significant long-term structural investors (i.e. major producers or well-respected sector investors). Companies with ‘club investing’ groups investing are of greater interest.”

– Gold Fund

“The bigger driver for us stepping up as a funding source has been the withdrawal of retail investors, more than the disappearance of the larger bank owned fund management companies.”

– Mining Fund

Overall, the rotation of investments from actively managed funds to passive funds continues to be a major factor in reduced mineral industry investment, and is contributing to the lack of trading liquidity that is cited as an investment barrier by many investors. Based on feedback, a sustained upward trend in commodities, more consistent returns by extractors, and greater industry consolidation are the critical elements necessary to reinvigorate generalist investor participation in the mineral industry.

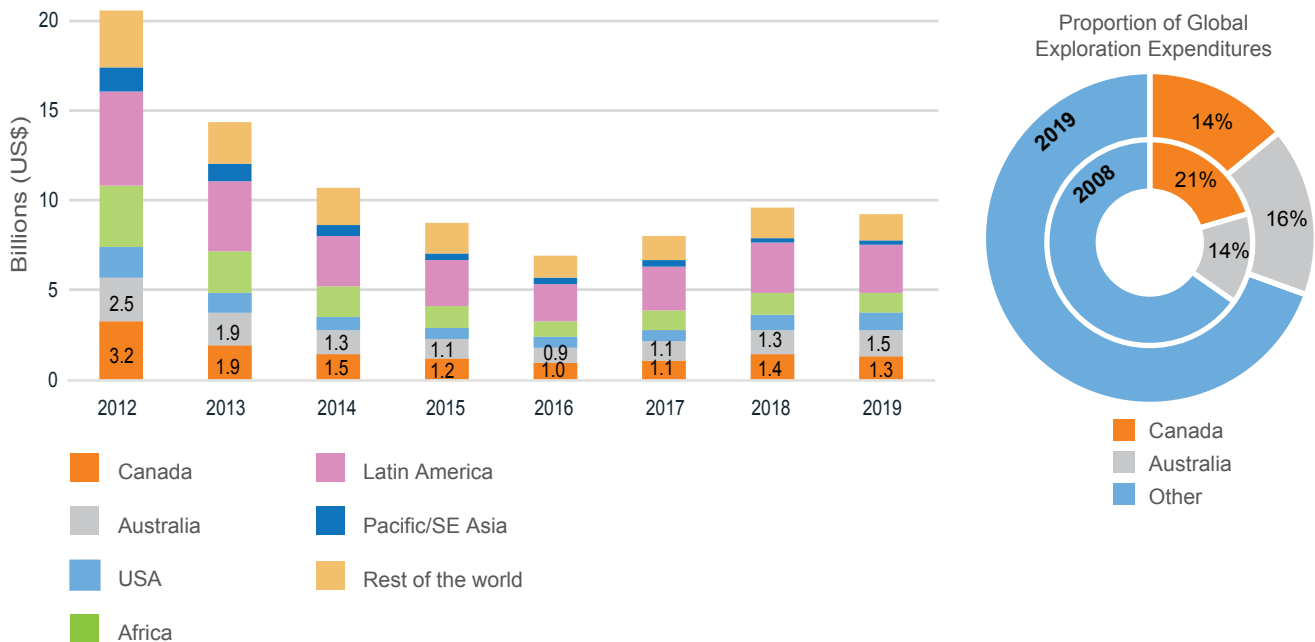
GLOBAL EXPLORATION ACTIVITY TRENDS

The decline in exploration financing in 2018 was a clear caution sign for the road ahead and has translated into reduced exploration spending in 2019. With new investment continuing to fall in 2019, it is simple to assume that exploration activity could continue to drop until investment levels stabilize.

Global exploration by region

Initial estimates suggest that exploration activity was up in a several countries, including the U.S. and Australia. However, as Figure 3.1 illustrates, total non-ferrous exploration expenditures declined by approximately 3.5% in 2019.

Figure 3.1: Global Exploration Expenditures by Region



Source: S&P Global Market Intelligence and PDAC analysis

The long-term decline in Canada’s share of global exploration spending continued in 2019, dropping from 15% of total expenditures in 2018 to 14% in 2019.

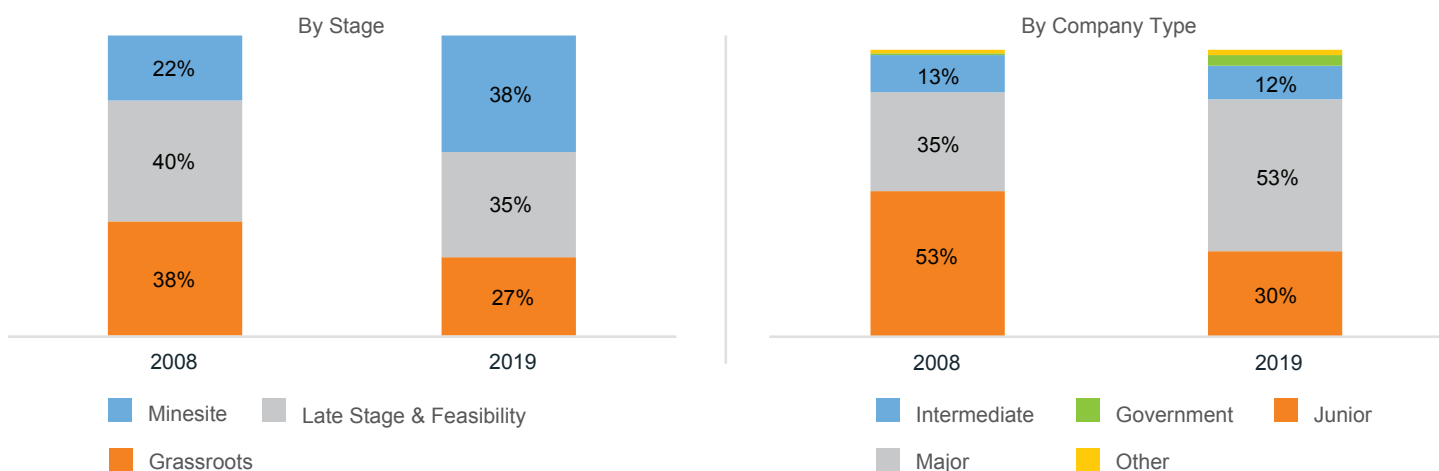
Furthermore, according to S&P Market Intelligence, 2019 was the first year in nearly two decades in which Australia’s share of the global pie of exploration expenditures exceeded Canada’s portion. The wheel in the right hand side of Figure 3.1 above compares exploration spending proportions of the two countries in 2008 versus 2019 and clearly illustrates the significance of Australia and Canada trading places.

We note that NRCan estimates for exploration spending in Canada are above S&P estimates and it is possible that Canada remained #1 in non-ferrous exploration activity.

Global exploration by stage and company type

Total dollars directed towards grassroots exploration dropped in 2019. Early-stage activity is down materially from 2008 and well below the 10-year average. Figure 3.2 below shows the relative change in the proportion of global grassroots spending in 2019 versus 2008. In terms of company type, spending by junior exploration companies follows the grassroots trend, down roughly 10% year-over-year, and down significantly on a proportional basis over the last decade, as shown in the figure.

Figure 3.2: Global Exploration Expenditures



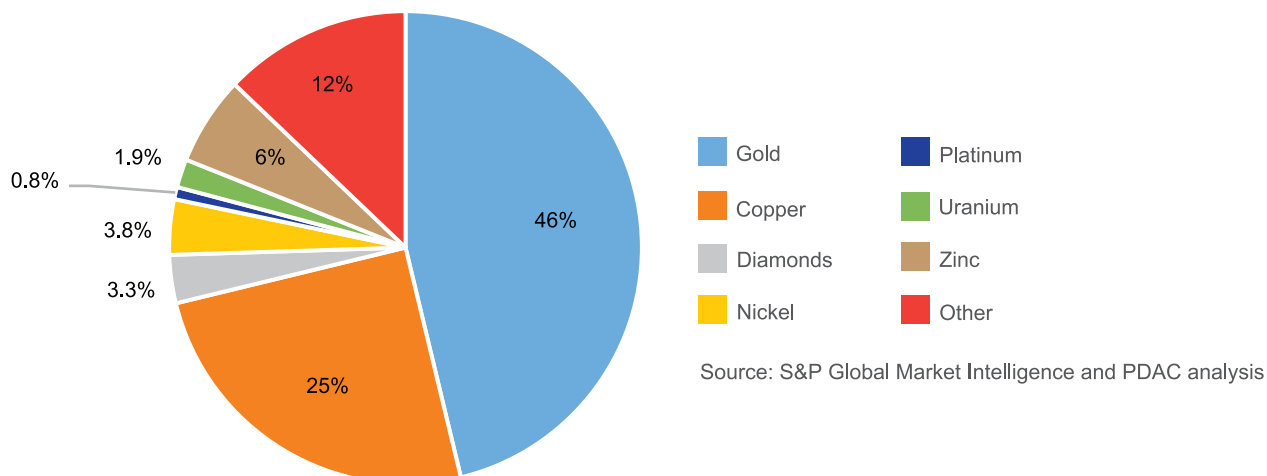
Source: S&P Global Market Intelligence and PDAC Analysis

The decline in junior company and grassroots expenditures leads to only one outcome—a decline in new discoveries. A lack of new discoveries within Canada has been a headwind for competitiveness, the ability of the mineral industry to respond to shifts in commodity cycles, and will impede development of new supply chains for critical minerals.

Global exploration by commodity

Gold exploration continued to dominate relative to all other commodities in 2019 as Figure 3.3 shows. There was a slight shift in spending away from the yellow metal to copper of approximately 4%, but there were no other significant year-over-year changes in the proportion of spending directed to all other commodities.

Figure 3.3: Global Exploration Expenditures by Commodity (2019)



Source: S&P Global Market Intelligence and PDAC analysis

GLOBAL EXPLORATION ACTIVITY TRENDS

Canadian Exploration Follows Global Trend

Canadian exploration expenditures bottomed in 2016, and over the following two years domestic exploration activity climb some 40% to reach \$1.9 billion in 2018. However, the weakening financing environment over the last two years has had a negative impact on Canadian exploration activity similar to what is observed at the global level.

Canadian exploration by stage and company type

Figure 3.4 and 3.5 below presents Canadian exploration expenditures since 2008 and illustrates the proportion of spending directed towards grassroots projects in 2008 versus 2019. What is evident is the near 7% decline in estimated total spending in 2019 compared to the prior year and the material declines in the amount of funding for grassroots when compared with 2008 levels.

Figure 3.4: Exploration Expenditures in Canada by Stage

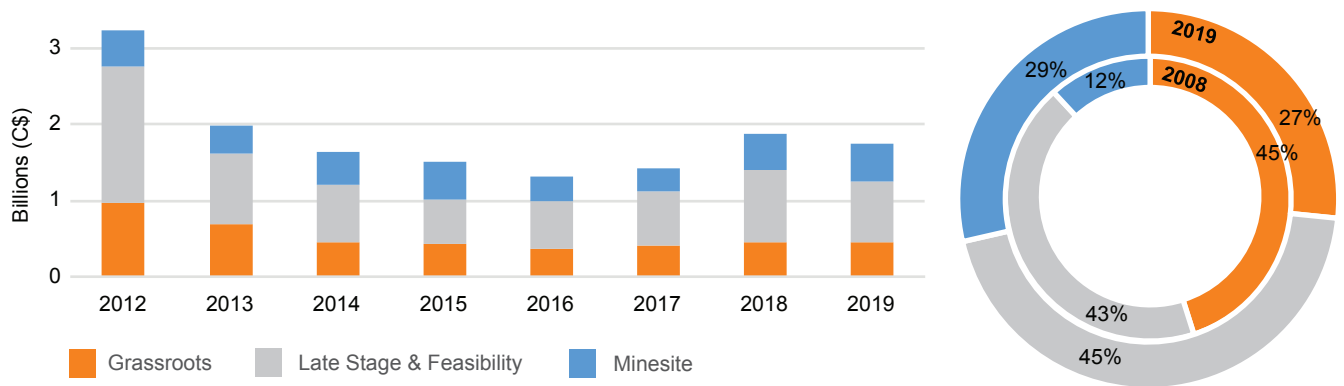
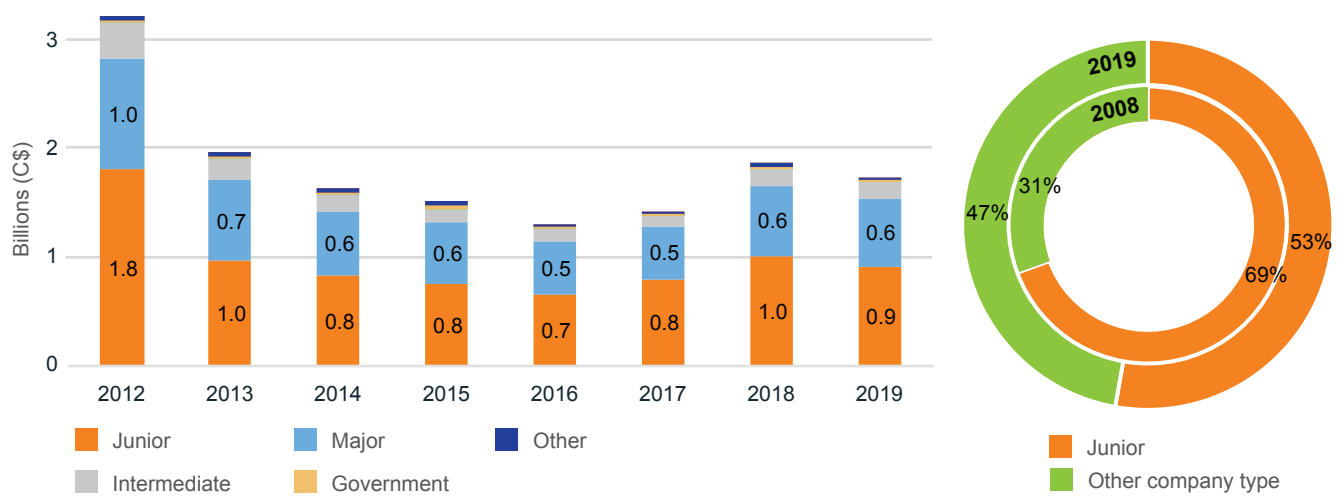


Figure 3.5: Exploration Expenditures in Canada by Company Type



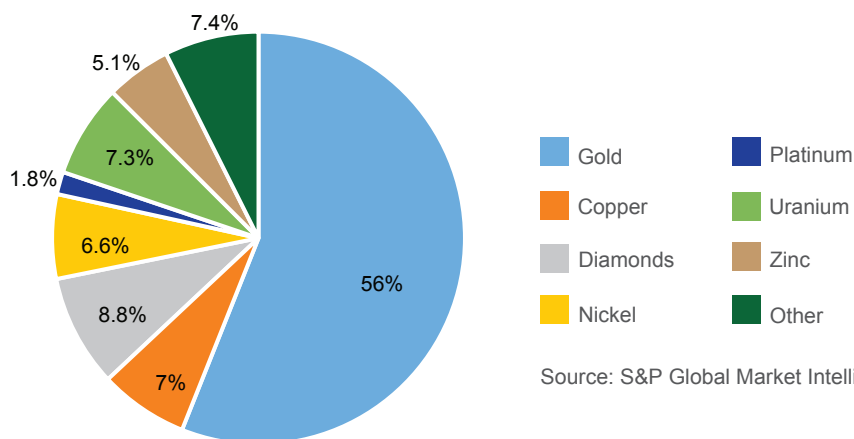
Source: S&P Global Market Intelligence and PDAC analysis

It is important to note that according to NRCAN, the estimated year-over-year decline in 2019 is much higher, estimated at 16%.

Canadian exploration by commodity

Figure 3.6 presents the distribution of Canadian exploration spending by commodity type. Gold was the most sought-after commodity, garnering 56% of domestic expenditures in 2019 but down from 65% recorded in 2018. There was a jump in diamond exploration spending in 2019 to roughly 9% of total activity from 3% in 2018, but no other notable shifts were observed.

Figure 3.6: Exploration Expenditures in Canada by Commodity



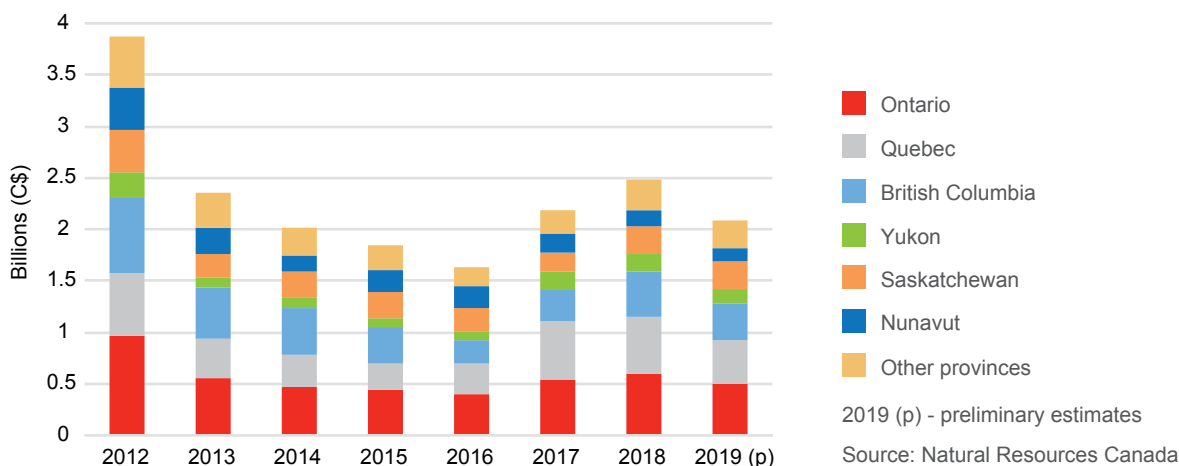
Source: S&P Global Market Intelligence and PDAC analysis

Regional exploration headed in opposite directions

Figure 3.7 outlines the distribution of exploration expenditures across Canada’s provinces and territories. The distribution of spending in Canada showed a mix of year-over-year changes, with four regions recording increases and eight reporting declines.

On average, Ontario, British Columbia and Québec account for nearly two-thirds of total domestic spending and these regions reported year-over-year declines in activity ranging from 17% to 24%, which lead total spending in Canada down by 16% in 2019. Headed in the opposite direction, Newfoundland and Labrador, Manitoba, Alberta and Saskatchewan reported increases. Activity in Saskatchewan was up approximately 4% and reflects the highest level of spending since 2012.

Figure 3.7: Exploration Expenditures in Canada by Jurisdiction



CANADIAN POLICY AND REGULATORY LANDSCAPE

A stable, well-understood regulatory landscape is key for Canada to retain its title as a top destination for financing and attracting mineral exploration. In the *2018 Fraser Institute Annual Survey of Mining Companies*, four Canadian provinces were ranked in the top 10 most attractive investment jurisdictions and nine were in the top 20. It would seem recent developments in the Canadian resource landscape may have shaken investor confidence, however, as only four provinces were in the top 20 and no region in Canada ranked in the top 10 in the 2019 survey, for the first time in 10 years.¹

Among various factors influencing a jurisdiction's competitiveness, access to capital is a key component. The ability to access capital is impacted by various fiscal policies and the regulatory framework that governs capital markets. This section will highlight key policy and regulatory issues and PDAC's advocacy efforts to address these issues.

Public offerings in steep decline

Figure 4.1 highlights the significant shift in equity funding for the mineral industry from public offerings to private placements on the TSX and TSXV exchanges, as reported by TMX Group. The figure reveals that the proportion of funds sourced via public offerings has dropped from over 65% in 2013 to under 30% in 2019. Private placements have had to fill the void over the last several years, and given the majority of these largely limit participation to accredited investors and current shareholders it has resulted in an overall decline in investment and a narrowing of the industry investor base.

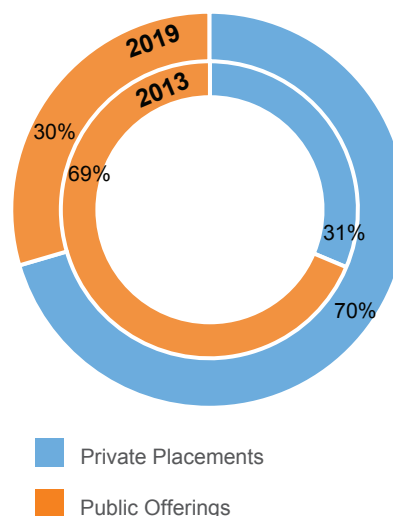
The lack of general investor interest and public offerings has pushed junior exploration companies to stretch resources and find ways to reduce the costs associated with generating new capital investment. PDAC conducted analysis on a random sample of nearly 200 financing transactions within the mineral industry from 2011 to 2019. It was observed that financing cash costs associated with public offerings increased from less than 6% of the total deal size in 2014 to approximately 10% in 2018.

Falling investor interest combined with increased transaction costs has pushed companies toward private placements. Analysis suggests that the implied cash costs of private placements has been falling, from approximately 7% in 2014 to 3% in 2018, which may reflect less reliance by companies on external resources. That said, the non-cash costs of private placements can be significant as the vast majority of deals include additional sweeteners such as warrants and options.

Streamlining Securities Regulations in Canada

In an effort to improve the financing landscape in Canada, PDAC has been very active in advocating for the streamlining of compliance and disclosure requirements for public offerings, with a focus on the challenges relevant to small issuers, and for expansion and improvement of various prospectus exemptions to enable wider investors participation in private placements.

Figure 4.1: Equity Raises on Canadian Stock Exchanges



Source: TMX Group and PDAC analysis

OSC burden reduction project

In 2019, the Ontario Securities Commission (OSC) conducted broad public consultation to obtain feedback on ways to reduce unnecessary burdens in securities regulation.² PDAC responded to identify relevant issues that pertain to the mineral industry with a focus on junior issuers and further relayed recommendations to OSC through direct and public engagement.³

The most important decision that came from the project that is relevant to the mineral sector was the adoption of a pre-filing mechanism for NI 43-101 technical reports. This mechanism aims to speed up the prospectus filing process and the time-to-market for companies looking to conduct a public offering. However, OSC rejected PDAC's recommendation to modify a number of triggers for updating technical reports. As OSC stated in its project report:

"We also think that our pre-filing review program for technical disclosure will address the suggestion to modify the triggers for a NI 43-101 technical report."

Another recommendation provided by PDAC was the need to improve clarity and consistency in OSC rules, policies and guidance, and improve access to current regulations via the OSC website. The recommendation was well received and OSC stated that it will conduct further targeted consultations to address the issues.

Another important decision was to amend the Securities Act to enable exemptive relief orders applicable to multiple market participants ("blanket orders"), so costs associated with filing multiple separate exemptive relief applications could be avoided.

The request to improve/streamline filing-infrastructure was addressed as well, and OSC pointed out that SEDAR, SEDI, the NRD and other obsolete systems will be replaced with a new infrastructure called SEDAR+.⁴ However, the timeline for completing this modernization is not set.

Lastly, PDAC's request to improve/streamline the continuous disclosure regime was partly addressed, with OSC decision to amend the disclosure required in the Annual Information Form (AIF) and Management Discussion and Analysis (MD&A) to avoid duplicative or unnecessary disclosure. However, PDAC's request from OSC to consider producing a subset of regulations tailored to mineral industry companies was rejected, with OSC noting that: *"We also are not planning at this time to introduce specific disclosure requirements for non-revenue generating mining companies as the MD&A requirements are already able to support tailored disclosure of this type."*

From the decisions provided in the report, it seems that 2020 will be a busy year of follow-up consultations and PDAC will continue advocating on behalf of our members. The fulsome OSC project report can be found on the OSC website.⁵



Capital Markets Regulatory Authority (CMRA)

A review of the OSC burden reduction project makes it clear that one of the biggest issues, especially for small cap issuers, is the lack of harmonization between the 13 different regulators across Canada's provinces and territories. Although slowly, the initiative to create a cooperative regulator in Canada is moving forward with seven regions supporting the initiative, including: Yukon, British Columbia, Saskatchewan, Ontario, New Brunswick, Nova Scotia and Prince Edward Island.

In April 2019, the Supreme Court of Canada ruled that the CMRA is constitutional, opening the way to move the initiative through the legislative process.

Implementation of the CMRA would benefit small issuers by harmonizing processes, reducing redundant disclosure requirements, and generally making Canadian capital markets easier to navigate, all of which should reduce operating costs. For these reasons, PDAC has been supportive of the CMRA, and will continue to advocate for implementation.

A practical At-The-Market (ATM) regime for Canada

At-the-market (ATM) offering is an alternative way to raise capital, whereby a company issues shares directly into the market at prevailing market prices on an incremental basis. Using this mechanism could allow issuers to maximize market liquidity and minimize shareholder dilution during fundraising. However, the ATM regime in Canada currently requires companies to obtain exemptive relief from prospectus-related requirements.

After extensive advocacy, PDAC was pleased to see the Canadian Securities Administrators (CSA) propose amendments to National Instrument 44-102 *Shelf Distributions* (NI 44-102) and to Companion Policy 44-102CP *Shelf Distributions* (44-102CP), so that active requests for exemptive relief will no longer be required. In the consultation paper, respondents were asked (among other questions) whether to cap ATM transactions at 25% of the daily trading volume.

PDAC submitted a response to the public consultation,⁶ in which it supported the option of no limitation on daily trading, along with explanation for the rationale of this recommendation. In addition, PDAC recommended that CSA consider creating a prospectus exemption for small ATM financings so that the mechanism can be effectively employed by companies with small market capitalizations and those that could benefit from small financings to maintain liquidity.

In addition to advocating for policy changes aimed at reducing costs associated with accessing capital, the PDAC policy team also works to ensure Canada's fiscal regime supports mineral exploration.

Fiscal and Taxation Matters

Canada has established fiscal policies at the federal, provincial and territorial levels that help with efforts to enhance mineral investment and exploration activity across Canada.

The flow-through share regime

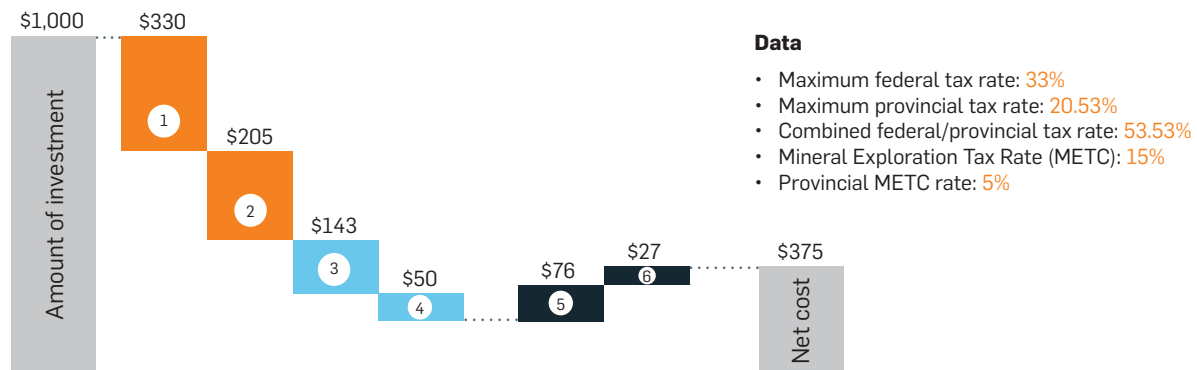
The most impactful policy supporting access to capital of the mineral exploration sector is the flow-through share regime, which assists companies in raising funds for exploration and development, while at the same time ensuring that the funds raised are spent only in Canada.

This mechanism enables public companies to issue a unique type of equity that allows individual and corporate investors to deduct the purchase cost from their personal/corporate income for tax purposes, provided the company issuing the shares spends the funds on prescribed exploration and development expenses for Canadian projects.

Another important policy component is the Mineral Exploration Tax Credit (METC), a 15% tax credit that can be claimed by individual investors with respect to a more limited category of early stage or grassroots exploration expenditures. These federal incentives are augmented by a number of provincial METCs that provide added incentive to investors.

Figure 4.2 outlines a sample calculation by an individual investor residing in Ontario, demonstrating how an investment of \$1,000 in flow-through shares of a company exploring in Ontario results in a net cost to the investor of only \$375.

Figure 4.2: Flow-Through Net Cost Calculation



Note: Simplified Ontario-based calculation for illustration purposes. For further details please visit www.pdac.ca

Decrease of taxable income

1. Federal Tax Deduction = Investment * Federal Tax Rate
2. Provincial Tax Deduction = Investment * Provincial Tax Rate
3. Federal Tax Credit = Investment * (1-Provincial METC rate) * Federal METC Rate
4. Provincial Tax Credit = Investment * Provincial METC Rate

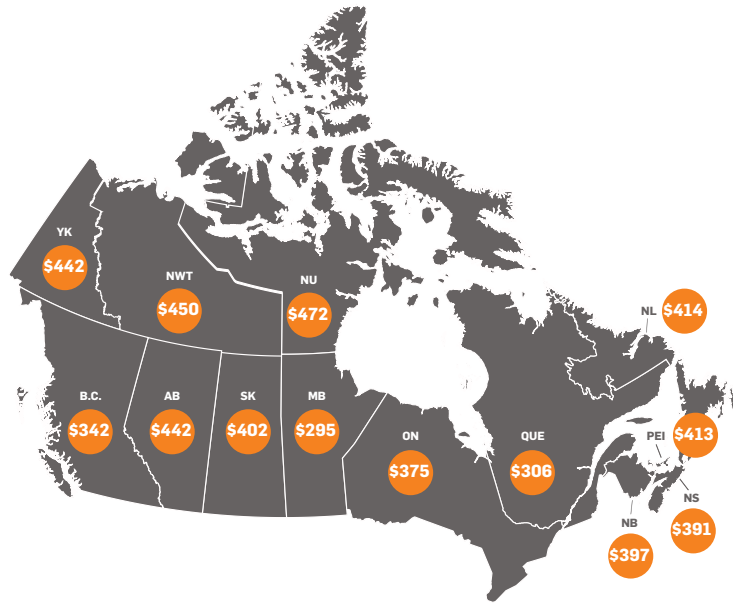
Increase of taxable income

5. Income Tax on Federal Tax Credit = Federal Tax Credit * Federal/Provincial Combined Income Tax
6. Income Tax on Provincial Tax Credit = Provincial Tax Credit * Federal/Provincial Combined Income Tax

CANADIAN POLICY AND REGULATORY LANDSCAPE

Similarly, net costs in all Canadian provinces/territories could be calculated using the above equations. It should be noted that for investors to benefit from any provincial METC, they need to reside, or otherwise be taxed in, the same province in which the exploration activity takes place. Figure 4.3 presents net costs to the investor for purchasing \$1,000 in flow-through shares in all provinces and territories.

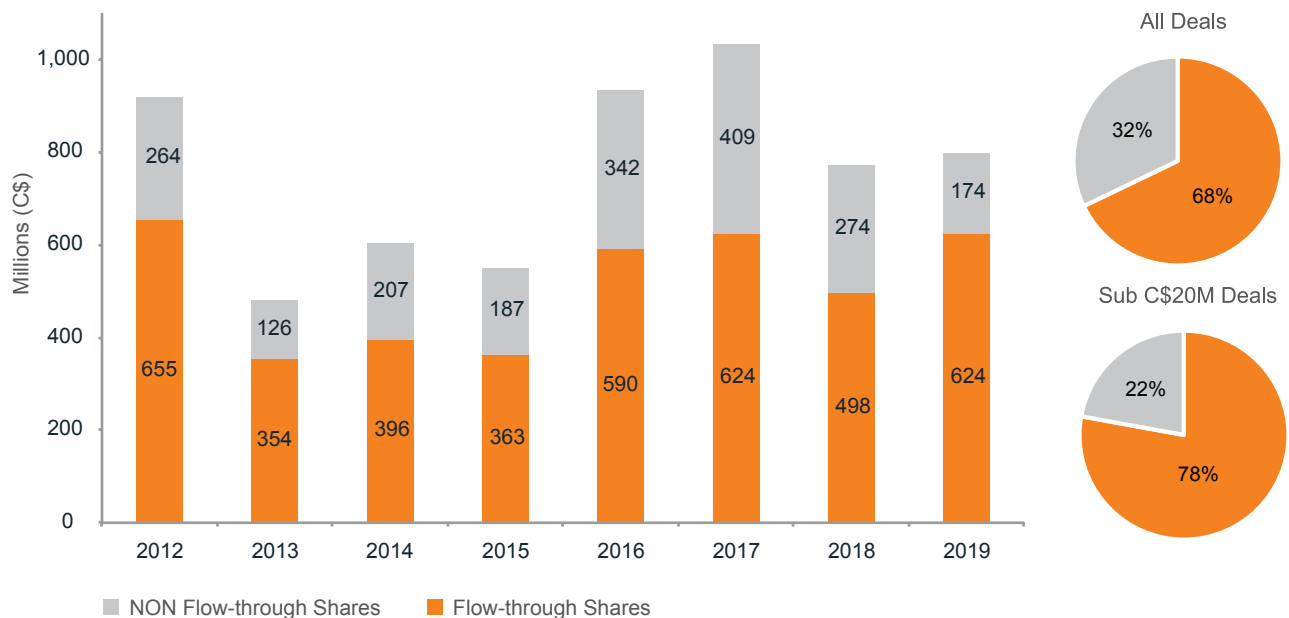
Figure 4.3: Flow-Through Shares – Net Costs Across Canada



Source: PDAC calculations based on governmental data

Figure 4.4 shows the aggregate value of equity raised on both the TSX and TSXV for exploration in Canada from 2012 until 2019, and outlines the dollars generated by flow-through share offerings. A sharp increase in the proportion of flow-through financing was recorded from 64% in 2018 to 78% in 2019.

Figure 4.4: Equity Financing on TSX & TSXV for Exploration in Canada



Source: TMX Group, S&P Global Market Intelligence and PDAC analysis

On average, approximately 68% of the funds were raised using flow-through shares over the last decade. The importance of this mechanism is even more pronounced when reviewing small financing (i.e. <\$20 million). In this case, the long-term average share of flow-through financing increases to 78%.

Canadian Exploration Expenses (CEE) eligibility expands

In order to comply with the flow-through share framework, funds raised for exploration must be eligible as Canadian Exploration Expenditures or Canadian Development Expenditures (CEE or CDE). Investors often focus on flow-through share offerings where the funds expended are on qualifying CEE, rather than on CDE. On the heels of extensive PDAC advocacy, CEE eligibility was expanded in 2017 and the Canadian Revenue Agency (CRA) provided an additional guidance table on eligibility in early 2019.⁷ While this new document clarifies some of the uncertainty related to CEE eligibility, PDAC is aware of ongoing member concerns regarding the regime and continues to engage with CRA with the aim of improving reporting and administration of these instrumental regulations.

Stock options tax treatment at risk

Given the typical financial constraints for small mineral industry companies, it is often a necessary practice for senior executives to have all or a significant portion of their annual compensation come in the form of stock options. This practice provides essential budgetary flexibility, and allows companies to dedicate the majority of their funds towards exploration activities and the creation of shareholder value. Therefore, many mineral industry companies employ stock options as a necessary tool to maintain competitiveness in attracting and retaining skilled talent in a capital constrained environment.

Given the crucial role that stock options play in the mineral sector, the proposal released by the Department of Finance Canada (“Finance”) in mid-2019 to put a \$200,000 annual limit on employee stock option grants that can receive tax-preferred treatment is worrying for the sector.⁸ In the consultation, Finance noted that Canadian-Controlled Private Corporations (CCPCs) will not be subject to the new limitation, and, recognizing that many non-CCPCs have characteristics reflective of “*start-ups, emerging or scale-up companies*”, they asked what characteristics will exclude these non-CCPCs from the new limit.

PDAC submitted a response to the consultation,⁹ explaining the rationale for exclusion of mineral exploration companies from the proposed limitation and recommending to exclude from the new limitations all non-CCPCs with revenue below \$100 million in any of the previous two fiscal years from the new limitation.

Input Tax Credits (ITC)

In July 2018, Finance released for public consultation a document with proposed amendments to the Excise Tax Act (“ETA”) that determines how holding companies can claim input tax credits (“ITCs”). At the same time an additional/associated consultation paper was released, proposing to increase the threshold for the “Related Test” from 50% to 90%. The “related test” determines if company A is considered a subsidiary of another company B, based on holding of shares or debt of company A by company B.

Given that many mining and exploration companies operate across multiple jurisdictions, the flexibility of holding structures is essential. As such, PDAC responded to the 2018 consultation to express concerns with both the prescriptive language of the proposed amendments¹⁰, as well as with respect to the proposed change in the ‘Related Test’.¹¹

On May 2019, Finance proposed revised amendments, following consideration of the comments from the 2018 consultation. The new proposal slightly expands the provisions under which holding corporations can claim ITCs, and it also keeps the threshold in the “Related Test” at 50%. However, while Finance did make some positive modifications, concerns still remain around a number of interpretive issues. Therefore, a follow-up letter was submitted to Finance in June 2019 with additional recommendations.¹²

APPENDIX

SOURCES OF INFORMATION AND METHODOLOGY NOTES

This report analyses data on financing undertaken by mineral industry participants and on exploration expenditures from a number of recognized industry sources.

The data collected in the report is primarily sourced from the following: *S&P Global Market Intelligence (formerly SNL Metals & Mining); Oreninc Inc.; TMX Group; Natural Resources Canada (NRCan); CPM Group; IMF's World Economic Outlook and the OSC's report on the 2019 burden reduction project.*

PDAC conducts extensive analysis of the listed data sources in an effort to reconcile differences and to ensure that overall mineral industry financing and expenditure dynamics are properly captured. However, differences in definitions and data capture methodologies create some discrepancies between sourced data, which can result in slight differences in figures contained within this report.

1. Currency presented

This publication focuses on the Canadian landscape with all monetary figures stated and analyzed in Canadian Dollars (CAD). Exceptions include global figures and commodity prices, which are presented in United States Dollars (USD) to enable global comparisons. Such figures are clearly marked by a "US\$" sign.

All figures were sourced from data providers in the presented currencies. No currency conversion was done by the authors of this report.

2. Metal Price Change

- In all figures except figure 1.3, metal prices show monthly averages, rather than the spot prices
- Calculation of metal group composition was done based on 5-year average of production distribution (2014-2018), using data obtained from S&P Global Market Intelligence:

Precious Metal Calculations				Base Metal Calculations				Battery Metals	
Gold	Silver	Platinum	Palladium	Copper	Lead	Zinc	Nickel	Cobalt	Lithium
84%	9%	4%	3%	63%	6%	17%	14%	55%	45%

- To calculate average metal price change, we considered 45% precious metals, 50% base metals and 5% battery metals

3. Definitions of "Junior": Mineral "junior" companies have two definitions in this report

a) *Financing by juniors (Section 2)*: The following set of figures outline junior private placement financings as defined by Oreninc (i.e. transactions of less than \$100 million and companies with a market capitalization below \$1.5 billion).

b) *Exploration Expenditures (Section 3)*: In the context of exploration expenditures, the S&P Global Market Intelligence was used, according to which, a company will be classified as junior, intermediate or major based on its adjusted annual nonferrous mining-related revenue:

Company Type	Junior	Intermediate	Major
Annual Revenue	US\$50M > Revenue	US\$50M < Revenue < US\$500M	Revenue > US\$500M

The data used in the report is considered to be accurate as of Dec. 31st 2019. Assumptions and estimates used to produce the data are taken from the sources. For further information about data in this report, please contact Ran Maoz (rmaoz@pdac.ca), Jeff Killeen (jkilleen@pdac.ca) or for specific information on Oreninc's data, contact Kai Hoffmann, the CEO of Oreninc (hoffmann@oreninc.com)

1. Fraser Institute, Annual Survey of Mining Companies 2019
2. OSC staff Notice 11-784 regarding the burden reduction project
3. PDAC response to OSC consultation in the burden reduction project
4. A description of SEDAR+
5. Final report of the OSC burden reduction project
6. PDAC response to CSA consultation regarding at-the-market (ATM) financing
7. Mining Expenditure Review Table (CRA Guidance)
8. Public consultation by finance Canada regarding stock option limitations
9. PDAC response to consultation regarding stock options
10. PDAC response to the 2018 proposed amendments for the ETA
11. PDAC response to the 2018 consultation paper regarding the “Related Test”
12. PDAC response to the 2019 proposed amendments for the ETA



