



## Company report

# First Quantum (TSE: FM)

**Rating: SELL**  
**(PT: CAD 12.38, 30.6% downside)**

- FM is a small player with cost of production right at the industry average
- Speculative credit rating, high debt balance is a major valuation overhang
- Valuation is weighed down by the Company's highly capital intensive nature
- Current market price implies long-term real copper price of over \$6,100 per ton, which is at the high end of what we consider as reasonable
- Valuation at best fairly priced with no upside
- Stock is extremely volatile with a high opportunity cost of capital that it failed to compensate investors in the past five years
- Valuation is highly sensitive to price decrease in the next five years, which we believe is highly likely
- We see downside risk of 50% if China's demand collapse where price may react in a similar fashion to 2008 financial crisis

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## Company Overview

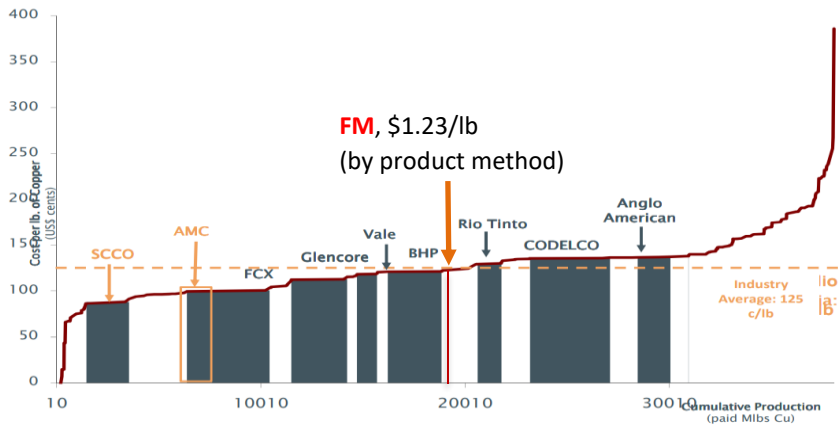
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According to Bloomberg: ‘First Quantum Minerals Ltd. explores for, mines, and produces copper cathode, copper in concentrate, and gold... Most of First Quantum's revenue comes from its 80%-owned Kansanshi copper-gold mine in Zambia and the Guelb Moghrein copper-gold mine in Mauritania. The Kansanshi mine is the largest copper mine in Africa.’

FM is a relatively small player in the industry, producing 0.6 million tons in 2017. It's production cost is at \$1.23/lb which is right around the industry average of \$1.25/lb on a by-product basis (production cost minus revenue from selling by-product base metals from the same mine).

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**Exhibit 1: Copper industry supply curve (by product method)**



Source: SCCO, Bloomberg

FM is listed in the Toronto Stock Exchange. The stock price is denominated in CAD but the company reports its financial statements in USD. We use the USD financial statements as the basis for our analysis then converted to CAD using the current USDCAD rate to arrive at the share price.

**Exhibit 2: FM Price History**



Share Price Performance in CAD			
Price	17.85	1M Return	7.11%
52 Week High	22.00	6M Return	25.65%
52 Week Low	9.69	52 Wk Return	37.29%
52 Wk Beta	2.56	YTD Return	1.39%

Credit Ratings					
S&P	B	Date	2/14/2018	Outlook	STABLE
Moody's	B3	Date	-	Outlook	NEG
Fitch	B	Date	7/14/2016	Outlook	STABLE

Valuation Ratios							
	-3FY	-2FY	-1FY	-0FY	1FY	2FY	3FY
	12/14	12/15	12/16	12/17	12/18E	12/19E	12/20E
P/E	24.07	-	29.73	-	16.18	10.51	7.19
EV/EBIT	18.24	-	43.98	89.80	12.84	9.62	6.72
EV/EBITDA	10.85	18.65	12.75	15.26	8.19	6.06	4.70
P/S	2.39	0.96	2.55	2.91	2.31	1.82	1.48
P/B	0.96	0.27	0.74	1.08	0.98	0.90	0.79
Div Yield	0.91	2.19	0.15	0.07	0.12	0.14	0.37

Source: Bloomberg

## Revenue projection

**Methodology.** We project revenue based on production volume of copper and other metals driven by the company's expansion plan and realized prices of those commodities. Our projection is focused on copper since it made up the majority of revenue (85%).

### Exhibit 3: Estimated copper revenue as a percentage of total revenue

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
% Copper to total revenue	73%	71%	68%	77%	81%	87%	88%	89%	90%	85%	83%	86%	86%	86%

Source: Bloomberg, Analysts' estimate

**Copper price.** Our copper price assumes a mild China slow down. Long-term average price is \$6,122 in today's dollars which is higher than 25-year average inflation-adjusted price of \$4,979. About 45% of copper is used in infrastructure and construction while China accounts for half of global demand. Thus, any slowdown in China will have a material impact on the price level. Our projection started with real copper price, which is adjusted for inflation.

### Exhibit 4: Copper price projection

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Real Copper Price (\$/t)	NA	NA	NA	NA	NA	NA	7,500	6,800	6,500	5,500	5,000	6,000	6,000	6,000
Nominal Copper Price (\$/t)	7,959	7,332	6,863	5,511	4,868	6,173	7,500	6,936	6,763	5,837	5,412	6,624	6,757	6,892

Source: Bloomberg, Analysts' estimate

**Production forecast.** For the year 2018-2020, we use adjusted management guidance. For existing mines, management projected stable production volume for all metals which we believe it is reasonable. The growth will come from the Cobre Panama location. For copper, we applied a factor of 1.04 to the guidance as management underestimate production by that factor on average between 2012-2017.

**Existing Mines.** We use the company projection for stable production adjusted by a factor of 1.04 at five existing mines: **Kansanshi (Zambia)**, **Las Cruces (Spain)**, **Guelb Moghrein (Mauritania)**, **Cayeli (Turkey)**, **Pyhasalmi (Finland)**. **Sentinel (Zambia)** was completed in 2016 and is in process of ramping up production together with some expansion plan. For Sentinel, we use our adjusted management projection for 2018-2020 then assume a steady state growth of 5% based on historical figures.

**Cobre Panama, Panama.** The Cobre site will drive growth in production volume in the short-term. As of Q1/2018, management reported that the site is more than 70% completion and is on track to start production in 2019. Similar to Sentinel, we assume a steady state production growth of 5% after 2020. The project is also expected to produce gold as a by-product. We assume that

Cobre will produce 47 oz of gold per every ton of copper production which is the historical average at other mines.

Project CapEx is forecasted at \$1.18B and \$382MM in 2018 and 2019 respectively with no further investment (excluding sustaining CapEx is envisioned after 2019). Actual CapEx has been very close to projection (+0.48%).

**Exploration.** FM is currently conducting explorations in a number of locations including Haquira (Peru) and Taca Taca (Argentina). These projects are in early stage and is expected to add to productions in the long-term.

**Market share.** FM's production will receive a big boost from the Cobre Panama project. We project the market share to increase to 3.7% when Cobre is running at full capacity - up from 3.1% in 2017.

**Revenue projection.** We multiplied future production with realized commodity price based on our forecasts to arrive at total revenue. We back-tested our method on the previous five years, and they track historical data closely, with no clear directional bias. We applied a factor of 0.84 to global market price of copper based on LME copper cash price since historically FM's realized price has been at 84% of the benchmark level. We applied factors of 0.87 to gold and nickel price for the same reason.

Our revenue projection shows an increase of revenue of \$3.4bn in 2017 to about \$7.3bn in 2025, a CAGR of 10%, which is reasonable given that Cobre will add up to 50% of 2017 copper production at its peak. The company has taken on debt to finance the project and result in increase in D/E ratio from 0.01 in 2012 to 0.55 in 2017. Given the high debt load and the current rising interest rate environment, we expect production and revenue to grow at a stable level after the completion of Cobre.

Copper's share of total revenue will consistently remain at 87% on average, which is what we expect for a pure-play copper producer.

**Exhibit 5: Prices, Production forecast, Revenue projection**

In \$ MM	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Copper</b>														
Nominal Copper Price (\$/t)	7,959	7,332	6,863	5,511	4,868	6,173	7,500	6,936	6,763	5,837	5,412	6,624	6,757	6,892
<b>Copper production</b>														
Kansanshi Copper (kt)	261	271	262	227	253	251	250	244	244	246	245	245	245	245
Sentinel Copper (kt)				33	140	191	229	244	265	278	292	307	322	338
Las Cruces Copper (kt)	68	69	71	70	74	74	73	73	73	73	73	73	73	73
Guelb Moghrein Copper (kt)	38	38	33	45	33	29	31	31	31	31	31	31	31	31
Cayeli Copper (kt)	31	32	29	24	25	17	21	21	21	21	21	21	21	21
Pyhasalmi Copper (kt)	13	15	14	12	15	14	10	5						
Kevitsa Copper (kt)	8	15	18	17										
Cobre Panama Copper (kt)								150	285	300	315	331	347	365
Total Copper Production (MMt)	419	439	428	428	539	574	614	769	919	949	977	1,008	1,040	1,073
<b>Implied Copper Revenue (\$ MM)</b>	<b>2,800</b>	<b>2,704</b>	<b>2,466</b>	<b>1,982</b>	<b>2,206</b>	<b>2,976</b>	<b>3,866</b>	<b>4,479</b>	<b>5,223</b>	<b>4,655</b>	<b>4,442</b>	<b>5,608</b>	<b>5,902</b>	<b>6,213</b>
<b>Other Revenue</b>														
Gold Price (\$/oz)	1,675	1,357	1,266	1,160	1,256	1,280	1,338	1,362	1,379	1,406	1,434	1,463	1,492	1,522
Gold Production (koz)	202	248	230	211	214	200	200	200	195	336	343	350	358	366
Implied Gold Revenue	338	337	291	245	269	256	268	272	269	473	492	513	535	558
Nickel Price (\$/t)	17,530	15,013	16,892	11,835	9,606	10,414	12,940	12,871	13,625	15,220	15,524	15,835	16,152	16,475
Nickel production (kt)	41	52	51	29	26	20	21	22	23	24	25	26	28	29
Implied Nickle Revenue	710	779	855	348	250	205	268	280	311	364	390	418	448	480
<b>Implied Other Revenue</b>	<b>1,048</b>	<b>1,116</b>	<b>1,146</b>	<b>593</b>	<b>519</b>	<b>461</b>	<b>535</b>	<b>552</b>	<b>580</b>	<b>837</b>	<b>882</b>	<b>931</b>	<b>982</b>	<b>1,037</b>
<b>Implied Total Revenue</b>	<b>3,848</b>	<b>3,820</b>	<b>3,611</b>	<b>2,575</b>	<b>2,724</b>	<b>3,437</b>	<b>4,401</b>	<b>5,031</b>	<b>5,802</b>	<b>5,492</b>	<b>5,325</b>	<b>6,538</b>	<b>6,884</b>	<b>7,250</b>
Percentage of Actual	126%	103%	98%	99%	99%	102%								

Source: Bloomberg, Analysts' projections

**Cost of Goods Sold**

**Methodology.** We project COGS based on cost of production per pounds. Historically, COGS does not vary with copper prices and revenue. From 2012 to 2017, COGS/Revenue have been highly volatile, ranging from 63% to 90%. On the other hand, production costs were roughly stable around the same period.

In 2018, management forecasts production cost after byproducts (the revenues generated by the copper byproducts subtracted) to be \$1.30/lbs on average. This includes the costs incurred in mining and processing, and historically actual average cost has been roughly on track with the company's guidance. We believe that as the Company ramps up its production with its new projects, real average costs will eventually return to the steady state of the long-run average. Management also concurs with this estimation; it projected net cash cost to be around \$1.50/lbs in two to three years according to the recent earnings call. We believe that such scenario will arrive in two years, and that cost will rise at the rate of inflation thereafter. Overall, costs will be higher in future periods. This is a reasonable assumption; as cumulative production increase at a given location, production cost should increase concurrently.

**Exhibit 6: COGS**

In \$ MM	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
COGS	1,849	2,419	2,544	2,224	2,334	2,975	3,191	3,690	4,229	4,455	4,677	4,919	5,178	5,450
%COGS/Revenue	63%	68%	72%	89%	87%	90%	73%	73%	73%	81%	88%	75%	75%	75%

Source: Bloomberg, Analysts' projections

**Other Income & Expenses**

**Selling, General & Administrative Costs** is projected based on historical figures. It has been falling from over 3% of revenue to about 2.2%. During 1Q18, SG&A was also roughly around the same share of total revenue. We believe that these shares will remain roughly at the same level in future periods.

**Other operating expenses** has been around 3.5% of total revenue historically, except 2012 and 2015. In 2012, First Quantum recognized a settlement of RDC claims from asset sales. In 2015, it recognized a one-time asset impairment. We believe that on average, other operating expense should be around roughly the same share of total revenue in the future. However, asset impairments are almost unavoidable, and we believe that FM will write-off its assets at least once in our forecast period, likely around 2022, which, in our commodity forecast, is the nadir of copper prices.

**Depreciation and Amortization** has been fluctuating around 18% of revenue in the past few years. We project that D&A will have a similar share of revenue and in our forecasted period.

**Other Non-Operating Loss (Gain)** has been historically around -12% of total revenue, which we believe will remain at similar levels in the next few years. These items include finance income, gains recognized on senior notes, and FX gains/loss.

**Extraordinary Loss (Gain).** In 2016, FM recognized a loss of \$267mm from discontinued operations. We project no extraordinary gain in the forecasted period.

**Exhibit 7: Various Income Statement Items**

In \$ MM	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SG&A	76	123	116	83	70	74	97	111	128	121	117	144	151	159
%Revenue	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Other Operating Income	-	-	-	-	40	-	-	-	-	-	-	-	-	-
%Revenue	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other Operating Expense (Income)	(1,164)	116	41	280	(11)	78	70	80	93	88	485	105	110	116
%Revenue	-39%	3%	1%	11%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Depreciation and Amortization	172	457	572	523	686	894	792	906	1,044	988	958	1,177	1,239	1,305
%Revenue	6%	13%	16%	21%	26%	27%	18%	18%	18%	18%	18%	18%	18%	18%
Other Non-Operating Loss (Gain)	(19)	(238)	(382)	(384)	(419)	(394)	(528)	(604)	(696)	(659)	(639)	(785)	(826)	(870)
%Revenue	-1%	-7%	-11%	-15%	-16%	-12%	-12%	-12%	-12%	-12%	-12%	-12%	-12%	-12%
Extraordinary Loss (Gain)	-	-	-	(5)	267	-	-	-	-	-	-	-	-	-
%Revenue	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-Controlling Interest	96.5	71.1	158.5	-114	26	77	12,528	19,277	26,843	20,622	3,3496	29,652	31,911	34,165
%Revenue	5%													
Interest Expense*	10	233	370	392	432	517	472	496	511	526	542	558	514	470
Total Debt (ST, LT)	397	4,073	5,982	5,874	5,844	6,871	7,833	8,240	8,489	8,742	9,001	9,265	8,534	7,809
Average Interest	3%	6%	6%	7%	7%	8%	6%	6%	6%	6%	6%	6%	6%	6%
Extraordinary Loss (Gain)	-	-	-	(5)	267	-	-	-	-	-	-	-	-	-
%Loss (Income) from Affiliates/Rev	0.0%	0.0%	0.0%	-0.2%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Bloomberg, Analysts' projections

**Non-Controlling Interest.** Non-controlling interest adjustment reflects net income attributable to minority shareholders in FM subsidiaries. Zambian government owns 20% of Kansanshi and KPMC owns 20% of Cobre Panama. To calculate the percentage of non-controlling interest, we take the forecasted percentage of total production from the Kansanshi and the Cobre Panama mines, and adjust that by the copper's share of total revenue. During our forecasted period, this comes to about 2.3% of non-controlling interest. Although from year to year, profitability at each location may vary widely, we believe that this is a roughly accurate way to project non-controlling interest.

**CapEx and PP&E**

**CapEx.** Management is planning \$1.4B, \$0.9B and \$0.6B for 2018-2020 with the majority going toward Cobre Panama (\$1.2B in 2018 and \$382M in 2019). However, overall CapEx guidance has not been accurate and underestimate actual CapEx spend by 28% on a historical average basis. We, thus, adjust the management's guidance upward by that amount.

With debt load at historical high and tightening capital market, we do not expect FM to engage in any project with the same scale as Cobre in our projected period. As such, we only project sustaining CapEx based on management adjusted by 28% and inflation of 2% after 2021.



**Exhibit 8: Historical CapEx**

In \$ MM	2012	2013	2014	2015	2016	2017
Actual CapEx	1,372	2,600	2,890	1,820	769	2,017
Guidance			2,100	1,300	710	1,070
<b>Difference</b>			<b>-27.3%</b>	<b>-28.6%</b>	<b>-7.7%</b>	<b>-47.0%</b>

Source: Bloomberg

**Net PP&E.** During the recent earnings call, the management mentioned that it is still reviewing selling its Ravensthorpe assets, which has a net book value of \$630mm at YE2017. Given the high costs of that assets and the likelihood of lower prices in the next few years, we believe that a Ravensthorpe divestiture will be very likely in the next two years.

ANTO has also made a few acquisitions historically. The most significant was its purchase of Inmet Mining Corp for \$1.0bn of cash in 2013. We believe that such acquisitions are likely in the future. However, we did not include M&A in our projection due to the speculative nature of estimating M&A activities.

Net PP&E is therefore the previous year's net PP&E plus CapEx, minus depreciation (D&A adjusted by the change in intangibles). Divestitures are not accounted here, because the 2018 divestitures are already in the balance sheet category of disposable assets. However, the 2022 impairment is accounted for in the net PP&E calculation.

**Exhibit 9: PP&E**

In \$ MM	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Beginning Net PP&E	N/A	4,954	11,986	14,719	15,923	15,811	17,173	18,887	18,757	18,601	18,434	17,926	17,722	17,407
+ Capex	1,372	2,600	2,890	1,820	769	2,017	2,404	1,357	829	846	863	880	897	915
- Depreciation (excl. intangibles)	N/A	4,432	(157)	(616)	(881)	(655)	(690)	(857)	(985)	(1,012)	(971)	(1,083)	(1,213)	(1,277)
<b>Net PP&amp;E</b>	<b>4,954</b>	<b>11,986</b>	<b>14,719</b>	<b>15,923</b>	<b>15,811</b>	<b>17,173</b>	<b>18,887</b>	<b>18,757</b>	<b>18,601</b>	<b>18,434</b>	<b>17,926</b>	<b>17,722</b>	<b>17,407</b>	<b>17,046</b>

Source: Bloomberg, Analysts' projections

**Working Capital**

**Related Balance Sheet Items.** Items such as Account Receivable, Inventories, Payables and Accruals are related to total revenue. Account receivables have been fluctuating around 11% during recent years. Inventories have been fluctuating around 35% historically, and account payables in the low 20%. We believe that they will continue to fluctuate near their historical range in the foreseeable future, with the exception of inventories, which we believe would rise as a percentage of revenue (over 40%, which is within the historical range) due to higher copper production and also a potential for global demand headwind as per our discussion in the Industry Report.

**Change in Working Capital** is simply the change in account receivables, inventories, and account payables. They fluctuate to around 1% of revenue, which is reasonable in light of recent financial data.

## Other Items

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**Various Balance Sheet Items.** Several items on the balance sheet, including the miscellaneous short-term assets, other assets, intangibles, and other liabilities are simply a projection of their historical averages as a percentage of revenue going forward. We do not have any other reason to expect anything deviating significantly from their historical figures. They are also tied to several line items on the cash flow statement.

**Dividends.** First Quantum currently pays a dividend of C\$0.005 per share twice per year. As dividend payment has fluctuated rather drastically historically, we believe that the best guess for the next two years would be the same dividend figure as in 2017. However, as management expressed willingness to increase cash return to shareholders once Cobre Panama comes online, dividend should increase. We forecast dividend to increase substantially starting in 2020, and any excess cash after CapEx will be returned to shareholders. During the high profit years between 2012 and 2014, around 20% of net income is returned to shareholders. Our forecast is based on this historical precedent, and also the need to maintain cash on balance sheet to a reasonable amount.

## Taxes

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From 2012 to 2017, effective tax rates have been fluctuating wildly. During 1Q18, effective tax rate was 54%. The disclosed statutory tax rates for the Company range from 20% to 35%. The Company has not provided any guidance on effective tax rate in the future. However, historically it has guided between 20% to 25%. Since the geographical operation of the Company has not drastically changed in the past few years and that the recent U.S. tax reform does not apply to FM, we will forecast 22.5% tax rate in the future.

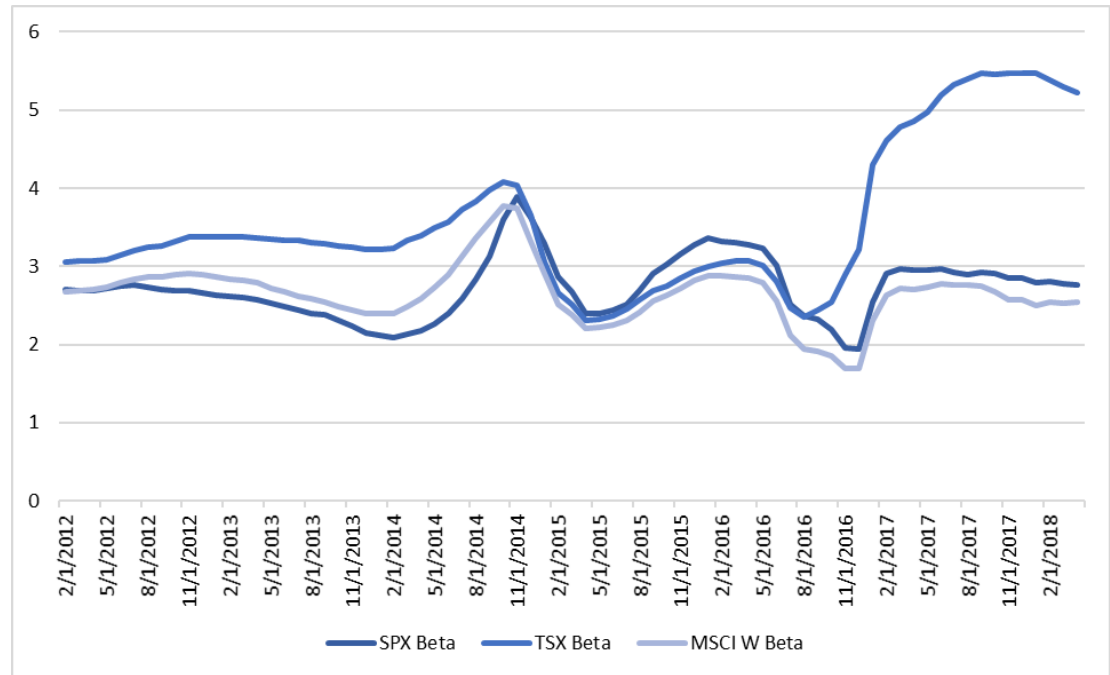
## Cost of Capital

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**We use cost of equity of 18.9%.** 5-year rolling betas fluctuated between a low of 2 and a high of 5, and appears to be somewhat correlated with copper price cycle. The beta is extremely high given the volatility of the company's stock. We, therefore, use an average of betas in our cost of equity calculation. The regressions with S&P 500, TSX and MSCI World result in similar trends but TSX beta is much higher, especially since 2017. The beta we use is 2.8.

In our calculation, we use 10-year treasury yield of 2.94% as Rf and a historical global equity market risk premium of 5.7%. This results in cost of equity at 18.9%.

**Exhibit 10: 5-year rolling betas with respect to S&P500, TSX, and MSCI World**



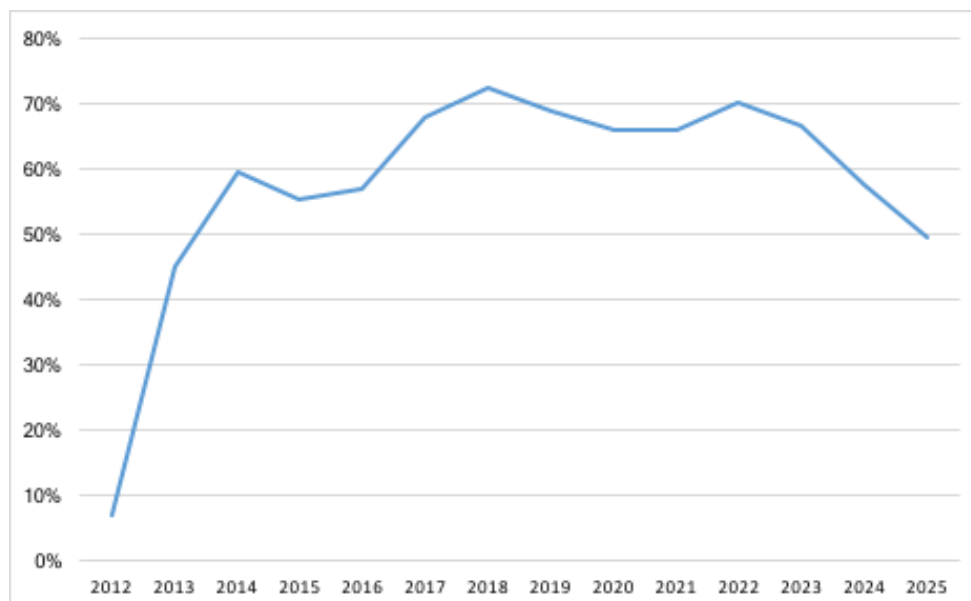
Source: Bloomberg

**Cost of debt of 7.5%.** Interest expense to average debt stands at 7.5% in FY2017. We believe this is a reasonable estimate given that FM has a poor credit rating. Its ratings are B3/B/B with the Big Three agencies, with negative outlook at Moody’s. The Company has major debt maturity from 2021 until 2026, with a weighted average year of 5.3. Currently FMCN 7.25% 04/01/21 yields 7.3%, suggesting that a 7.5% estimate is reasonable.

**Debt to equity ratio.** D/E ratio has been rising to close to 70%. Despite of the management’s verbal commitment to reduce debt on the balance sheet, it has not been able to do so. Paying down excess debt will be especially difficult given our forecast of lower copper prices. Debt balance will not meaningfully come down until the turn of the next upcycle. We therefore believe that a portion of CapEx will still be funded with additional debt (from bank loans) and FM will refinance its maturities at maturity. In our forecasted period, debt to equity ratio will remain in the mid-60% range until 2024.

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### Exhibit 11: Debt-to-Equity



Source: Bloomberg, Analyst Projections

**WACC of 13.34%.** We assumed a steady leverage and decided to use WACC as our cost of fund. Given that market capitalization is 57.5% of capital, our calculated WACC is 13.34%. In the 2017 Annual Report, FM disclosed that it used 12% as cost of capital for its valuation at Cobre Panama project. However, we believe that with a deteriorating credit quality from a rising debt balance, and a markedly higher rate environment, our calculated WACC is more reasonable than the historical figure used by management.

## Valuation

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**Free Cash Flow.** We calculated free cash flow to the firm from our projection. We forecast FCFF from -\$955mm in 2018 (due to CapEx) to \$2.2bn in 2025. Free cash flow is heavily weighed down by high CapEx—a typical circumstance for the industry.

**30.6% downside.** We calculate expected enterprise value to be \$12.2bn, adjusting for \$7.1bn debt and \$1.5bn cash on hand at the end of 1Q18, implied market capitalization should be \$6.6bn, or C\$8.5bn. Price target is C\$12.38 per share (using USDCAD of 1.2838), compared to C\$17.85 per share at the end of April 27, 2018. Our price is low compared to Street consensus.

**Sensitivity to copper price.** Our valuation is sensitive to copper price projection. Our average real copper price for the projected period is \$5,986 comparing with \$4,979 in the last 25 years (all adjusted for inflation into today's

\$). Nevertheless, China's demand has driven the average copper price in the last 5 years to historical high of \$7,059 in real term. Current market valuation implies real copper price of \$6,141 on average.

We also modeled the case of China's financial crisis where copper price reacts in a similar fashion to 2008 global financial crisis. In this case, the downside is at 50.9%. If we forecast no price fluctuation and demand downside from 2020, then the stock appears to be fairly valued. Our valuation is highly sensitive to a price decrease in the next 5 years, which we believe is a real possibility.

**We recommend SELL.** Although we are positive on copper price (long-term projected price higher than long-term historical average), FM cash flow is weighed down by high CapEx requirement. We believe there is more downside risk to copper price due to China's slow down. FM's current stock price is at best fairly valued, providing no upside for a long thesis. Thus, we recommend a SELL on this company.

## Appendix: Financial Projections

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018E	FY2019E	FY2020E	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E
<b>Revenue Assumptions</b>														
Global Cu Production and Forecast (mmt)	17	18	19	19	20	19	21	23	26	27	26	27	27	28
Real Copper Price (\$/t)							7,500	6,800	6,500	5,500	5,000	6,000	6,000	6,000
Nominal Copper Price (\$/t)	7,959	7,332	6,863	5,511	4,868	6,173	7,500	6,936	6,763	5,837	5,412	6,624	6,757	6,892
Gold Price (\$/oz)	1,675	1,357	1,266	1,160	1,256	1,280	1,338	1,362	1,379	1,406	1,434	1,463	1,492	1,522
Nickel Price (\$/t)	17,530	15,013	16,892	11,835	9,606	10,414	12,940	12,871	13,625	15,220	15,524	15,835	16,152	16,475
Copper Market Share	2.5%	2.4%	2.3%	2.2%	2.6%	3.1%	2.9%	3.3%	3.6%	3.5%	3.7%	3.7%	3.8%	3.8%
Kansanshi Copper (kt)	261	271	262	227	253	251	250	244	244	246	245	245	245	245
Sentinel Copper (kt)				33	140	191	229	244	265	278	292	307	322	338
Las Cruces Copper (kt)	68	69	71	70	74	74	73	73	73	73	73	73	73	73
Guelb Moghrein Copper (kt)	38	38	33	45	33	29	31	31	31	31	31	31	31	31
Cayeli Copper (kt)	31	32	29	24	25	17	21	21	21	21	21	21	21	21
Pyhasalmi Copper (kt)	13	15	14	12	15	14	10	5	-					
Kevitsa Copper (kt)	8	15	18	17										
Cobre Panama Copper (kt)								150	285	300	315	331	347	365
FM Copper Production (kt)	419	439	428	428	539	574	614	769	919	949	977	1,008	1,040	1,073
Gold Production (koz)	202	248	230	211	214	200	200	200	195	336	343	350	358	366
Nickel production (kt)	41	52	51	29	26	20	21	22	23	24	25	26	28	29
Implied Copper Revenue	2,800	2,704	2,466	1,982	2,206	2,976	3,866	4,479	5,223	4,655	4,442	5,608	5,902	6,213
Implied Other Revenue	912	971	997	516	451	401	535	552	580	837	882	931	982	1,037
Implied Total Revenue	3,712	3,675	3,462	2,498	2,657	3,377	4,401	5,031	5,802	5,492	5,325	6,538	6,884	7,250
Copper Share of Total Revenue	75.4%	73.6%	71.2%	79.4%	83.0%	88.1%	87.8%	89.0%	90.0%	84.8%	83.4%	85.8%	85.7%	85.7%
Percentage of Actual	126%	103%	98%	99%	99%	102%								
Effective Income Tax Rate	15%	41%	-17%	-632%	7%	498%								
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018E	FY2019E	FY2020E	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E
<b>Total Revenue</b>	<b>2,950</b>	<b>3,553</b>	<b>3,542</b>	<b>2,511</b>	<b>2,673</b>	<b>3,310</b>	<b>4,401</b>	<b>5,031</b>	<b>5,802</b>	<b>5,492</b>	<b>5,325</b>	<b>6,538</b>	<b>6,884</b>	<b>7,250</b>
COGS	1,849	2,419	2,544	2,224	2,334	2,975	3,191	3,690	4,229	4,455	4,677	4,919	5,178	5,450
<b>Gross Profit</b>	<b>1,101</b>	<b>1,134</b>	<b>998</b>	<b>287</b>	<b>339</b>	<b>335</b>	<b>1,210</b>	<b>1,341</b>	<b>1,573</b>	<b>1,037</b>	<b>648</b>	<b>1,619</b>	<b>1,707</b>	<b>1,800</b>
SG&A	76	123	116	83	70	74	97	111	128	121	117	144	151	159
Other Operating Expense (Income)	(1,164)	116	41	280	(11)	78	70	80	93	88	485	105	110	116
<b>Operating Income</b>	<b>2,189</b>	<b>895</b>	<b>841</b>	<b>(76)</b>	<b>280</b>	<b>183</b>	<b>1,043</b>	<b>1,150</b>	<b>1,353</b>	<b>828</b>	<b>46</b>	<b>1,371</b>	<b>1,445</b>	<b>1,524</b>
<b>EBITDA</b>	<b>2,361</b>	<b>1,352</b>	<b>1,413</b>	<b>447</b>	<b>966</b>	<b>1,077</b>	<b>1,835</b>	<b>2,055</b>	<b>2,397</b>	<b>1,817</b>	<b>1,004</b>	<b>2,548</b>	<b>2,684</b>	<b>2,829</b>
Interest Expense	10	233	370	392	432	517	472	496	511	526	542	558	514	470
Other Non-Operating Loss (Gain)	(19)	(238)	(382)	(384)	(419)	(394)	(528)	(604)	(696)	(659)	(639)	(785)	(826)	(870)
<b>Earnings Before Taxes</b>	<b>2,197</b>	<b>899</b>	<b>852</b>	<b>(84)</b>	<b>267</b>	<b>60</b>	<b>1,100</b>	<b>1,257</b>	<b>1,538</b>	<b>961</b>	<b>143</b>	<b>1,597</b>	<b>1,758</b>	<b>1,924</b>
Income Tax Expenses	328	370	(141)	531	19	299	247	283	346	216	32	359	395	433
Extraordinary Loss (Gain)	-	-	-	(5)	267	-	-	-	-	-	-	-	-	-
<b>Net Income</b>	<b>1,869</b>	<b>530</b>	<b>993</b>	<b>(610)</b>	<b>(19)</b>	<b>(239)</b>	<b>852</b>	<b>975</b>	<b>1,192</b>	<b>745</b>	<b>111</b>	<b>1,238</b>	<b>1,362</b>	<b>1,491</b>
Non-Controlling Interest	97	71	159	(114)	26	77	13	19	27	21	3	30	32	34
<b>Net Income, GAAP</b>	<b>1,773</b>	<b>459</b>	<b>835</b>	<b>(496)</b>	<b>(45)</b>	<b>(316)</b>	<b>840</b>	<b>955</b>	<b>1,165</b>	<b>724</b>	<b>107</b>	<b>1,208</b>	<b>1,330</b>	<b>1,457</b>

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	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018E	FY2019E	FY2020E	FY2021E	FY2022E	FY2023E	FY2024E	FY2025E
<b>Statement of Cash Flow</b>														
Net Income	1,773	459	835	(496)	(45)	(316)	840	955	1,165	724	107	1,208	1,330	1,457
Depreciation and Amortization	172	457	572	523	686	894	792	906	1,044	988	958	1,177	1,239	1,305
Non-Cash Items	(1,239)	312	(304)	957	313	616	(68)	69	85	(34)	(18)	133	38	40
Changes in Working Capital	(364)	(359)	(359)	112	(35)	(274)	(586)	(164)	(317)	32	(58)	(311)	(104)	(110)
Net Cash from Disc Ops	-	-	-	97	9	-	-	-	-	-	-	-	-	-
<b>Cash Flows From Operations</b>	<b>343</b>	<b>869</b>	<b>744</b>	<b>1,193</b>	<b>928</b>	<b>920</b>	<b>978</b>	<b>1,766</b>	<b>1,978</b>	<b>1,711</b>	<b>989</b>	<b>2,208</b>	<b>2,504</b>	<b>2,693</b>
Capital Expenditure	(1,372)	(2,600)	(2,890)	(1,820)	(769)	(2,017)	(2,404)	(1,357)	(829)	(846)	(863)	(880)	(897)	(915)
Net Change in LT Investment	-	2,055	-	-	-	-	(125)	2	3	(1)	(1)	4	1	1
Net M&A	-	(1,044)	-	-	-	(179)	-	630	-	-	-	-	-	-
Other Investing Activities	694	(161)	132	236	65	(23)	268	(88)	(108)	43	23	(170)	(48)	(51)
Net Cash from Disc Ops	-	-	-	(57)	(13)	-	-	-	-	-	-	-	-	-
<b>Cash Flows From Investing</b>	<b>(678)</b>	<b>(1,750)</b>	<b>(2,758)</b>	<b>(1,641)</b>	<b>(717)</b>	<b>(2,219)</b>	<b>(2,262)</b>	<b>(813)</b>	<b>(935)</b>	<b>(803)</b>	<b>(840)</b>	<b>(1,046)</b>	<b>(945)</b>	<b>(965)</b>
Cash Dividend	(130)	(127)	(182)	(41)	(7)	(5)	(5)	(5)	(466)	(290)	(43)	(483)	(532)	(583)
Net Issuance of Debt	330	1,437	1,852	(594)	22	1,488	962	407	249	254	259	264	(731)	(725)
Net Issuance of Equity	-	-	-	1,121	-	-	-	-	-	-	-	-	-	-
Other Financing Activities	(8)	(43)	(11)	(13)	(10)	(82)	671	492	593	(389)	(253)	913	153	155
Net Cash from Disc Ops	-	-	-	(22)	-	-	-	-	-	-	-	-	-	-
<b>Cash Flows From Financing</b>	<b>192</b>	<b>1,267</b>	<b>1,659</b>	<b>451</b>	<b>5</b>	<b>1,401</b>	<b>1,628</b>	<b>894</b>	<b>376</b>	<b>(425)</b>	<b>(38)</b>	<b>693</b>	<b>(1,110)</b>	<b>(1,154)</b>
Effect of FX	-	-	19	5	(16)	-	-	-	-	-	-	-	-	-
Net Change in Cash	(143)	386	(337)	8	200	102	343	1,847	1,419	482	112	1,856	449	574
<b>Free Cash Flow</b>	<b>(1,020)</b>	<b>(1,594)</b>	<b>(1,715)</b>	<b>2,243</b>	<b>560</b>	<b>(3,156)</b>	<b>(955)</b>	<b>905</b>	<b>1,660</b>	<b>1,391</b>	<b>669</b>	<b>1,886</b>	<b>2,120</b>	<b>2,247</b>
<b>Balance Sheet</b>														
Cash, Cash Equivalents, ST Investments	309	695	357	1,178	1,463	1,296	1,639	3,486	4,906	5,388	5,500	7,355	7,805	8,378
Accounts Receivable	390	548	344	277	283	328	484	553	638	604	586	719	757	797
Inventories	904	1,124	1,197	1,184	1,032	1,082	1,540	1,761	2,147	2,087	2,130	2,485	2,547	2,610
Misc ST Assets	230	177	563	331	295	483	493	563	650	615	596	732	771	812
<b>Total Current Assets</b>	<b>1,833</b>	<b>2,543</b>	<b>2,461</b>	<b>2,970</b>	<b>3,073</b>	<b>3,189</b>	<b>4,157</b>	<b>6,364</b>	<b>8,341</b>	<b>8,694</b>	<b>8,812</b>	<b>11,292</b>	<b>11,880</b>	<b>12,598</b>
Net PP&E	4,954	11,986	14,719	15,923	15,811	17,173	18,887	18,757	18,601	18,434	17,926	17,722	17,407	17,046
LT Securities and Receivables	56	58	279	158	176	140	15	17	19	18	18	22	23	24
Intangibles and Goodwill	-	237	237	237	237	237	339	387	447	423	410	503	530	558
Other Assets	694	647	128	143	186	884	616	704	812	769	745	915	964	1,015
<b>Total Assets</b>	<b>7,536</b>	<b>15,471</b>	<b>17,824</b>	<b>19,431</b>	<b>19,483</b>	<b>21,623</b>	<b>24,013</b>	<b>26,230</b>	<b>28,220</b>	<b>28,338</b>	<b>27,911</b>	<b>30,454</b>	<b>30,804</b>	<b>31,241</b>
Payables and Accruals	388	723	622	676	621	852	880	1,006	1,160	1,098	1,065	1,242	1,239	1,232
Other ST Liabilities	7	36	22	32	320	306	330	377	435	412	399	490	516	544
Total Debt (ST, LT)	397	4,073	5,982	5,874	5,844	6,871	7,833	8,240	8,489	8,742	9,001	9,265	8,534	7,809
Other LT Liabilities	864	1,550	1,110	2,216	2,413	3,466	4,137	4,629	5,222	4,833	4,579	5,492	5,645	5,800
<b>Total Liabilities</b>	<b>1,655</b>	<b>6,383</b>	<b>7,736</b>	<b>8,798</b>	<b>9,198</b>	<b>11,495</b>	<b>13,180</b>	<b>14,252</b>	<b>15,306</b>	<b>15,085</b>	<b>15,045</b>	<b>16,490</b>	<b>15,935</b>	<b>15,385</b>
<b>Total Equity</b>	<b>5,881</b>	<b>9,089</b>	<b>10,088</b>	<b>10,633</b>	<b>10,285</b>	<b>10,128</b>	<b>10,833</b>	<b>11,978</b>	<b>12,914</b>	<b>13,253</b>	<b>12,866</b>	<b>13,964</b>	<b>14,869</b>	<b>15,855</b>

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