

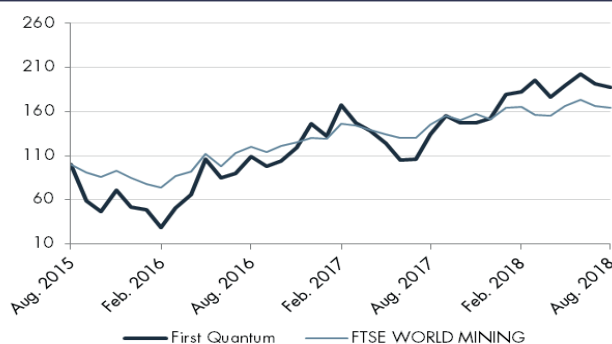


August 2018

FIRST QUANTUM MINERALS

Market profile

Country	Canada
Sector	Basic Resources
Industry	Nonferrous Metals
Price (CHF)	14.3
52-week high (CHF)	17.4
52-week low (CHF)	9.3
Market Cap (CHFm)	9'873
Avg. daily volume	6'818'000
Beta	2.2
ISIN	CA3359341052



Key metrics (in CHF)

	2017	2018e	2019e		2017	2018e	2019e
EPS	-0.16	0.78	1.27	PE	n.m.	18.3x	11.2x
YOY Growth	n.m.	-39.8%	62.8 %	EV/EBITDA	14.1x	8.8x	6.3x
Dividend Yield	0.0%	0.1%	0.1%	EBITDA Margin	0.06%	33.1%	37.9%

Executive Summary

First Quantum Minerals is a fast-growing company founded more than 20 years ago with a strong conviction in the long-term fundamentals for copper. The story began with the 1996 purchase of the Bwana Mkubwa Mining license in Zambia to reprocess tailings from past mining activities.

The company's assets and operations now cover nine countries and five continents. Today, First Quantum Minerals is one of the world's top ten copper producers. In 2017, the company produced 573.9 k tons of copper in addition to 199.7 k ounces of gold and 17.8 tons of nickel.

First Quantum now consists of seven mines: Kansanshi and Sentinel in Zambia. Guelb Moghrein in Mauritania. Las Cruces in Spain, Pyhäsalmi in Finland, Cayeli in Turkey, and Ravensthorpe, which is now under care and maintenance in Australia.

First Quantum can be considered as a levered play on copper, therefore the investment case on the company is twofold. First, we are bullish on the red metal on a medium to long-term horizon. Second, we think the company fundamentals are likely to improve as its production capacity will nearly double in the next few years and its balance sheet risk will be drastically reduced. Both these factors should trigger a significant rerating of the share price of First Quantum.

Contrarily to most of its mining peers, and when the market was eager to see managements cutting costs and capex, First Quantum counter cyclically invested to develop the Cobre Panama project. As a result, the company will be able to grow its copper production at a time when the lack of investments in the sector will be felt and hence prices poised to increase materially. To sum up, First Quantum will give investors an interesting exposure to the copper sector.

First Quantum Minerals

Olivier Aeschlimann, Senior Financial Analyst, Fund Manager

August 2018

Company description

First Quantum Minerals is a leading and fast-growing company founded more than 20 years ago with a strong conviction in the long-term fundamentals for copper. The story began with the 1996 purchase of the Bwana Mkubwa Mining license in Zambia to reprocess tailings from past mining activities. The company's assets and operations now span nine countries and five continents. Today, First Quantum Minerals is one of the world's top ten copper producers. In 2017, the company produced 573.9 k tons of copper in addition to 199.7 k ounces of gold and 17.8 tons of nickel.

Key steps of the company's history:

- First incorporated in 1983
- Acquisition of Inmet Mining Corp in March 2013
- Seven mines: Kansanshi mine and smelter (80% owned) and Sentinel (100%) in Zambia. Guelb Moghrein (100%) in Mauritania. Las Cruces (100%) in Spain, Pyhäsalmi (100%) in Finland, Ravensthorpe (100%) in Australia, which is now under care and maintenance, and Cayeli (100%) in Turkey. (Fig.1).

In addition to this, First Quantum has a robust pipeline of copper and nickel projects at various stages of development:

- Cobre Panama (Panama): a large open-pit project under development towards phased commissioning during 2018, with continued ramp-up over 2019.
- Taca Taca (Argentina): a copper-gold-molybdenum porphyry deposit acquired in 2014.
- Haquira (Peru): a copper project acquired in 2010.
- Enterprise (Zambia): a nickel mine project acquired as part of the Trident prospecting license area in 2010, which included the Sentinel mine (Fig.2).

Company's main product

Copper

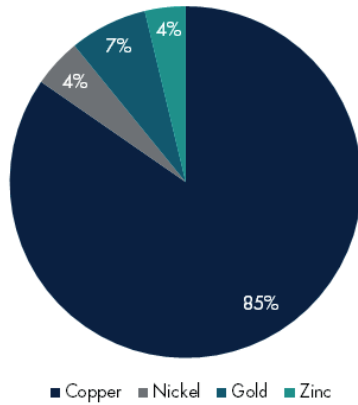
First Quantum's primary product is copper. Copper has a wide range of applications because of its many useful properties. Infrastructure and electrical network account for 35% of current copper demand. Then, construction represents 24% of demand. There is some element of crossover between infrastructure and construction in terms of copper use, as one effectively runs straight into the other in terms of electrical wiring. A combination of white goods and general consumer use also accounts for 24% of copper demand, with the main applications again involving electrical

Fig. 1: Location of assets

Source: First Quantum



Fig. 2: Sales by product
Sources: First Quantum

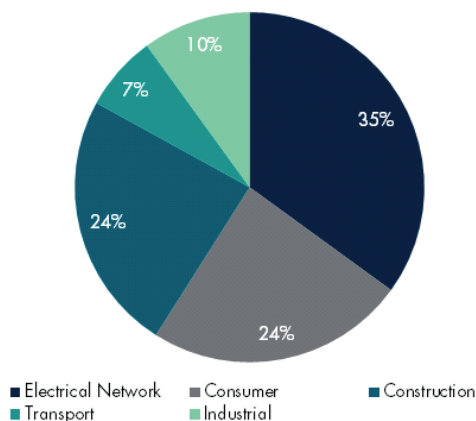


heat transfer. Machinery makes up around 10% of current copper consumption, also for electrical conductivity in the main. Lastly, transportation represents approximately 7% of end demand (this does not include infrastructure for transportation). Copper is a key component for automotive, aerospace and rail applications (Fig.3).

Gold

The company also produces gold at the Kansashi and Guelb Moghreïn mines. In addition to its use in jewelry, gold has many other important applications. It plays an important role in health applications and research. It is used in medicine, lasers, thermometers and genetic research. Gold

Fig. 3: Global copper consumption by end use
Source: Copper Alliance



is the most ductile metal and a good conductor of heat and electricity. It is used in computers, telecommunication, digital technology and space exploration sectors. Of course gold is also used as storage of value and as a reserve “currency” by most central banks of the world.

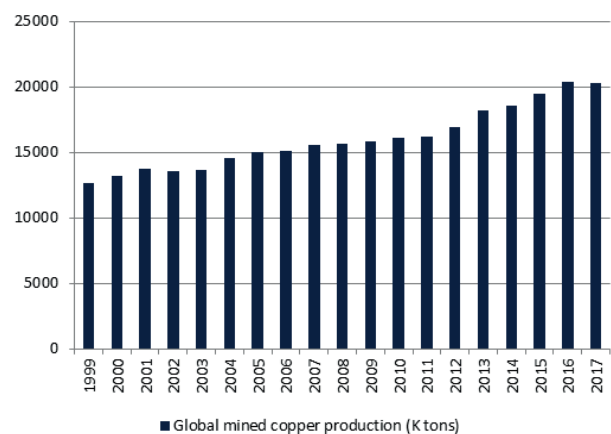
Nickel

First Quantum entered the nickel business with the start of operations at the Ravensthorpe nickel-cobalt mine. Nickel is predominantly an alloy metal. Its chief use is in nickel steels and nickel cast irons, of which there are many varieties. Nickel is used in many industrial and consumer products, including stainless steel, magnets, coinage, rechargeable batteries, electric guitar strings and special alloys. It is also used for plating and as a green tint in glass.

Industry overview

The global copper market turnover represented about USD 121 billion in 2017. In terms of tonnage, according to Bloomberg Intelligence, the global copper production was 20.2 million of metric tons in 2017, a slight decline of 0.73% in comparison to 2016 (Fig.4).

Fig. 4: Global copper production (K tons)
Source: Bloomberg Intelligence

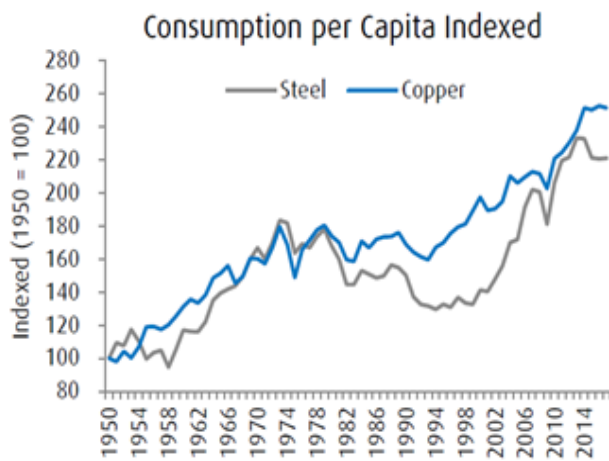


On a long-term view, copper demand has seen consistent growth. The metal has seen increasing penetration in use on a per capita basis. This



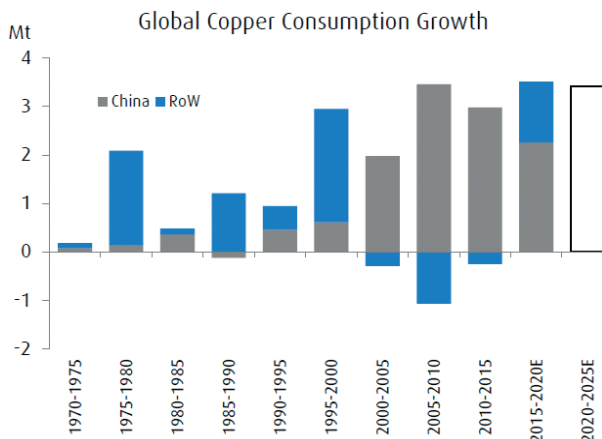
is due to urbanization and to an increased demand for copper-containing wires and consumer products. While copper is naturally exposed to industrial cycles, its consumption has been more consistent than other early stage metals such as steel, where there have been sustained periods of falling demand on a global basis historically (Fig.5).

Fig. 5: Copper and steel consumption
Sources: ICSG, Worldsteel



With the growth in renewable energy and electric vehicles, both global trends, total copper demand could well expand at over 3% CAGR through 2025 and at 3% through 2030. This is

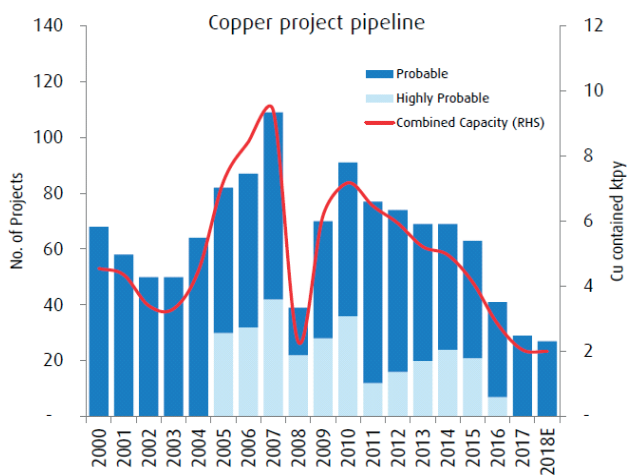
Fig. 6: Global copper consumption growth
Source: ICSG



above the trend seen over the past twenty years, a period which included China's urbanization and industrialization push. As a result, refined copper consumption should grow by over 3 million tons from both the 2015 – 2020 and 2020 – 2025 periods (Fig.6).

On the supply side, the pipeline of current probable and highly probable projects is currently extremely low, both in terms of number of projects and capacity. To put this in context, Graph 7 shows the number of copper projects classified as probable and highly probable in Wood Mackenzie's outlook at the start of any given year. At the start of 2018 there were no highly probable projects and only ~20 probable projects, which combined make up just 2million tons of supply. Even in the depth of the financial crisis, more projects were coming through the pipeline while 2010 had around 4 times the current number. In addition, the long lead time, high upfront capex market-moving megaprojects seen in the last cycle are simply not palatable to boards and investors at the present time. Actually, First Quantum's Cobre Panama is one of the few mega projects to start production next year (Fig.7).

Fig. 7: Copper project pipeline
Source: Wood Mackenzie



Competitive positioning

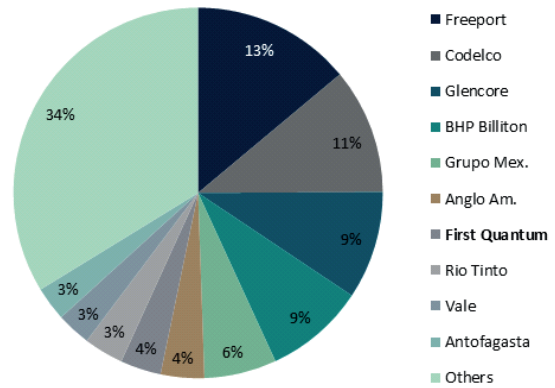
The copper mining market is quite concentrated at the top (with the top 5 producers accounting for nearly 50% of the total output) but shows a very long tail of medium to small producers. The world leader is Freeport McMoRan which contributed to 14% of the world production in 2016. Freeport took over Codelco (Corporacion Nacional del Cobre), which is a Chilean State owned company. As of the end of 2016, Codelco contributed to approximately 11% of the world production. Then, BHP Billiton and Glencore both produced 9% of the world output in 2016. First Quantum, with 4%, was number 7 in 2016, just behind Grupo Mexico (6%) and Anglo American (4%) (Fig.8).

First Quantum has showed a remarkable growth trajectory from 2012 to 2017. Its production jumped from 310 k tons to 580 k tons in 6 years and should continue to progress to 750 k tons in 2019 and should reach 910 k tons in 2020. This evolution should propel the company form number 7 to 6, above Anglo American (Fig.9).

The Cobre Panama project: a game changer

The Cobre Panama copper mine will have a mine life of over 40 years and will produce approximately 350 k tons per year from 2021 (full capacity). The total cost of the project is budgeted at USD 6.3 billion. The project includes an inter-

Fig. 8: Market shares of copper producers
Source: Bloomberg Intelligence



national port and a 300 Megawatt power plant. The project's operations will employ 3250 people. The time schedule of the project is as follow:

2018: First generation form power plant. Complete prestrip, develop terrace mining. Start commissioning of process plant.

2019: Start ore feed from mine to process plant. Ramp up process plant to annualized 74 million tons mill feed. Target 150 k tons of copper concentrate production.

2020: Ramp up process plant to annualized 85 million tons mill feed. Target 270 – 300 k tons of copper in concentrate production.

Fig. 9: Evolution of First Quantum Production
Source: First Quantum

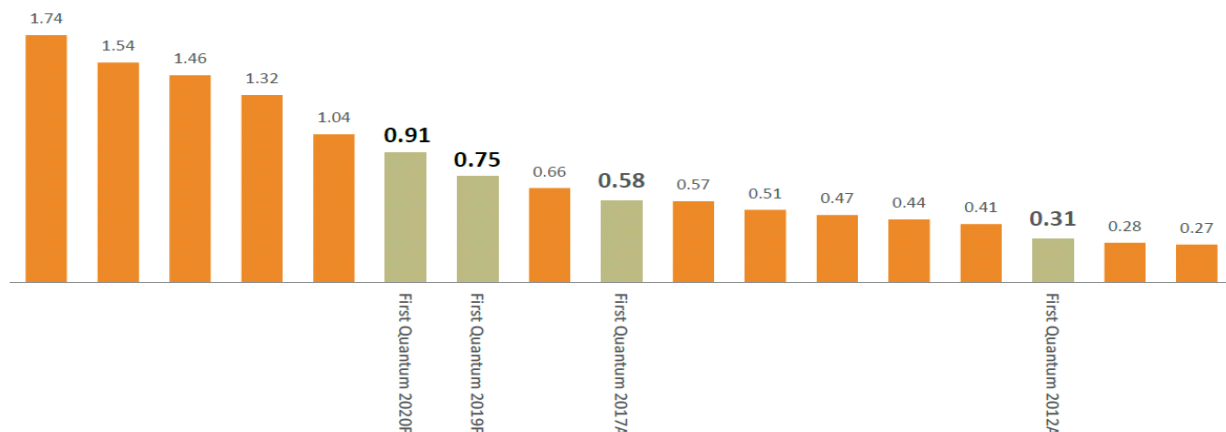
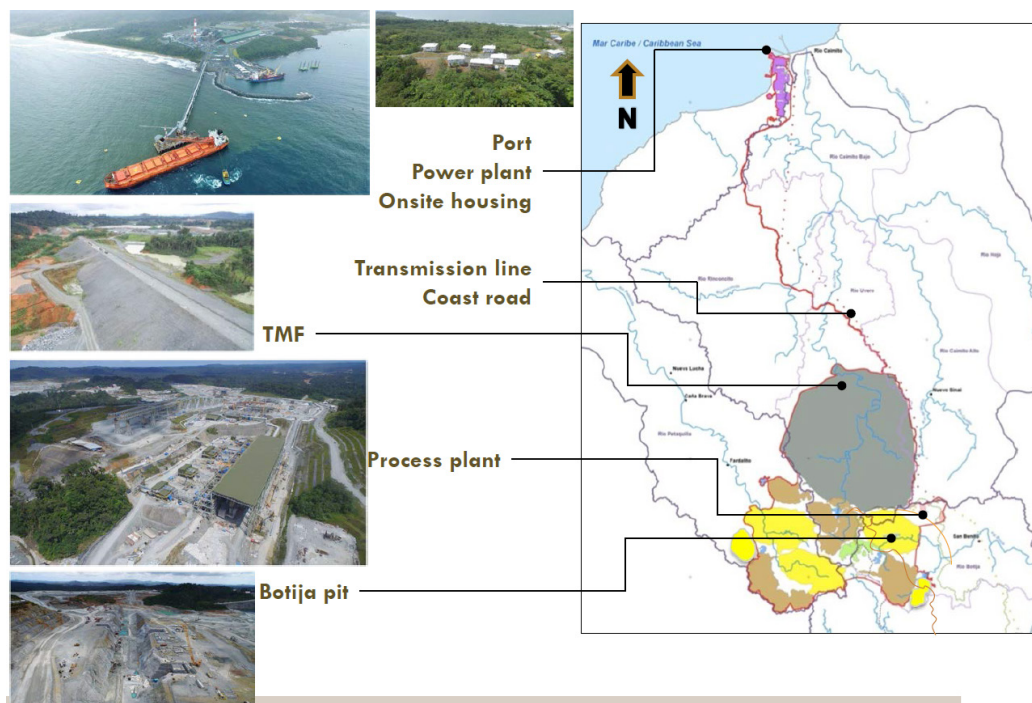


Fig. 10: The Cobre Panama Project
Source: First Quantum



2021: Target 350 k tons of copper in concentrate production (Fig.10).

Financial analysis

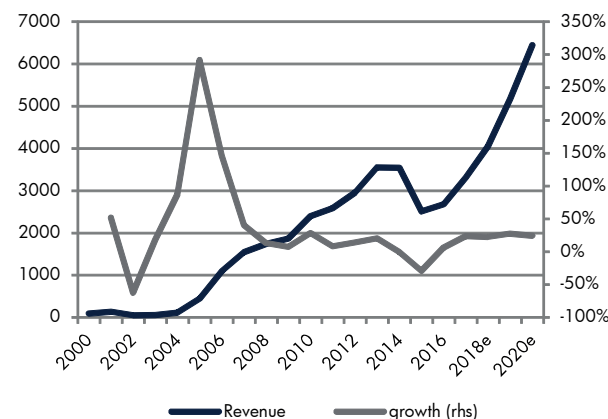
Revenues

The graph illustrates the cyclical nature of a copper mine. Typically the company had no revenues until it started to produce in 2004. Then the growth is very impressive, due to the cumulated effects of the volumes growth and prices increases. Then, as production grows and prices stabilize, revenues have improved steadily (grey line flattens). From 2013 to 2015, the company was affected by the sharp decline in the price of the red metal and revenues fell 28% in 2015. From 2017, we expect a rise in revenue as the price of copper has increased in late 2016. Then, from late 2018, the commissioning of Cobre Panama should be a real game changer for the company as its total production could potentially double from the 2015 level (Fig.11).

EBITDA and EBITDA margin

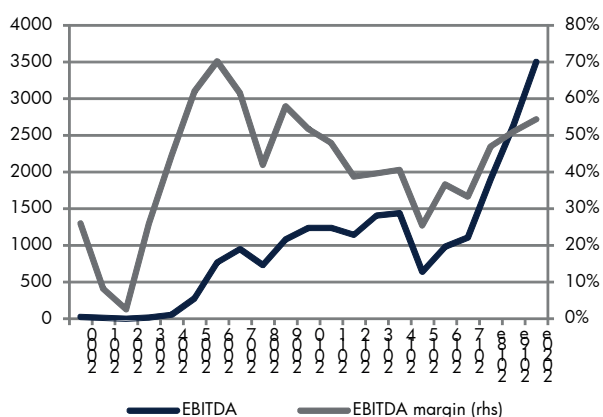
In line with revenues, the company's EBITDA progressed very quickly from 2002 to 2006 when margin peaked at 70%. Then EBITDA continued its growth albeit on a bumpier road until 2014. During this period, EBITDA margins went under

Fig. 11: Evolution of revenues
Sources: First Quantum, estimations IAM



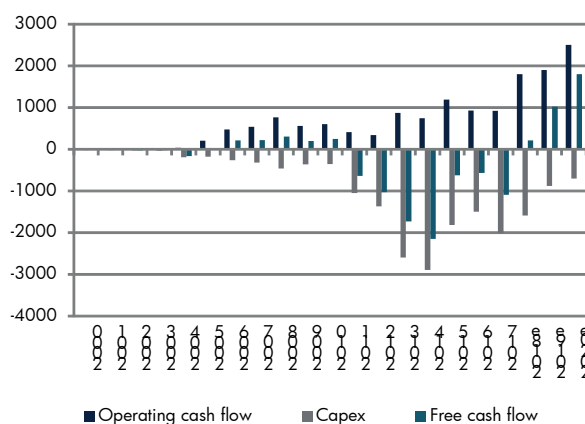
pressure as production costs increased and the price of copper was much more volatile within a downward trend. In 2015, the margin dropped to 25% but is expected to recover somewhat in 2016. The price of copper has already recovered and then should hopefully rise. In addition the company could realize economies of scale with the commissioning of Cobre Panama (Fig.12).

Fig. 12: Evolution of EBITDA
Source: First Quantum



and Cobre Panama mine life is over 40 years... In other words, assuming this project is correctly implemented, it should be extremely cash generative (Fig.13).

Fig. 13: Evolution of cash-flows
Sources: First Quantum, estimations IAM



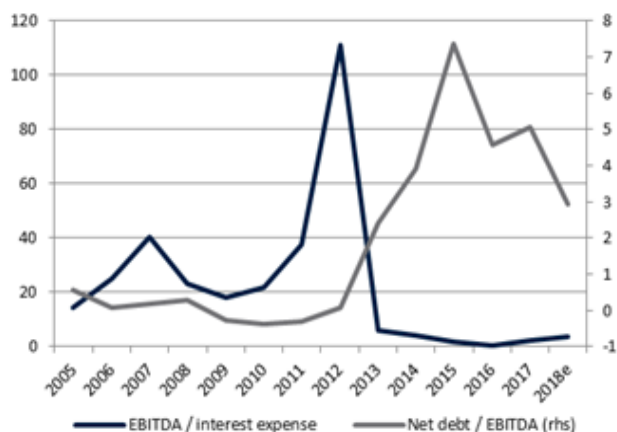
Cash flows

Operating cash flows unsurprisingly show the same cyclical pattern as EBITDA, but with a one year lag. After a strong rise from 2005 to 2008, they stabilized and decreased to a low point in 2012. Then Operating cash flows recovered in 2013 and should stabilize again towards 2018. From 2019, the company should get the first windfall from Cobre Panama. However, the Cobre Panama project came at a huge cost for First Quantum. First the company had to acquire Inmet Mining in 2013 for a total cost of USD 5.1 billion. Half was paid in cash and half in stocks. This represents the USD 2.6 billion capex spent in 2013 and 2014. Then in terms of development capex, this project was and still is a considerable drain of cash. The cost of the whole Cobre Panama project is estimated to USD 6.3 billion. After completion, maintenance capex for the company are estimated at USD 500 million per year. That said, provided the price of copper stays at or above USD 3 per pound, the company should be able to generate 1 billion FCF per year

Balance Sheet

The acquisition of Inmet Mining in 2013 and the consecutive development of the Cobre Panama project had a very negative effect on First Quantum's balance sheet. The net debt reached USD 5.6 billion in 2017 and should stabilize at this level in 2018 before declining as the company start to generate more cash. The EBITDA/interest expense ratio was also alarmingly low in 2016 as a result of the dramatic collapse in the price of copper. However, this ratio has stated to improve markedly in 2017 and has reached the level of 2.1. It is expected to improve further in 2017 to 3.6, well above the danger zone (below 2) (Fig.14, page 8).

Fig. 14: EBITDA/interest expense and Net debt/EBITDA
Source: First Quantum



Investment case

First Quantum can be considered as a levered play on copper, therefore the investment case on the company is twofold. First we are bullish on the red metal on a medium to long-term horizon. Second, we think the company fundamentals are likely to improve as its production capacity will nearly double in the next few years and its balance sheet risk will be drastically reduced. Both factors should trigger a significant rerating of the share price of First Quantum.

Some reasons to be bullish on copper

1. Relatively to how much it is used, copper is geologically the scarcest industrial metal. The easy copper has been mined first, so the higher grade, open-pit copper has largely already been mined.
2. Grades are declining, and copper mines are getting deeper and older. This is a clear upward pressure on mining operating costs.
3. In addition to this, productivity gains have been stagnant, in a trend sense, since the end of the 1990s and nothing may change this evolution.
4. Meanwhile, mining wage rates have increased dramatically, as a consequence of

the cessation of productivity gains. Moreover, persistent labor unrest/strikes across the industry continue to lend upward pressures to production costs.

5. In addition, less and less copper is being found by exploration, and the new discoveries tend to be of lesser quality.
6. When copper is found, ever more stringent environmental requirements are lengthening the time needed to approve, finance and execute mine construction.

For these reasons, we are facing a structurally challenged copper industry supply-side. The set of currently investable projects is significantly more challenged than the one that existed “pre-super cycle”. In essence, the low-hanging fruit has been picked, we started with a set of possible projects, developed the best ones when prices were high (leading to the current wave of supply that has been, and to some extent continues, to come online), and have failed to adequately replenish that set via exploration. As a result, even with virtually no growth in demand, the prices are set to increase from the next decade or even before.

Some reasons to be bullish on First Quantum

Contrarily to most of its mining peers, and when the market was eager to see managements cutting costs and capex, First Quantum counter cyclically invested to develop the Cobre Panama project. This bold move was initially perceived as endangering the company’s balance sheet (which it did) to a point that could have triggered an existential risk for the company. However, First Quantum’s management proved able to raise additional equity (the existential risk was overwhelming the dilution of shareholders and this operation was well received by the market) while negotiating better terms and amending too challenging covenants with bankers. In other words, the going concern assumption of the company is no longer questioned. It is now largely accepted that the industry is quietly getting out of what was one of its worst period ever.

The company will be able to grow its copper production at a time when the lack of investments in the sector will be felt and hence prices poised to increase materially.

To sum up, First Quantum, which is well diversified, with six operating mines and exposure to copper, nickel and gold will give investors exposure to the following features:

1. A significant copper producer with a meaningful nickel business. The company is poised to jump from a tier two producer to a major actor of the copper market, with a production level above Grupo Mexico or Anglo American.
2. A platform of cash generating and geographically diversified operating assets. As the Cobre Panama project starts to produce and prices to increase, the cash flow of the company will improve dramatically.
3. A portfolio of world-class copper deposits.
4. A highly skilled management who successfully turned around the company at a time when financial conditions were extremely difficult, a world class technical and operations teams able to build a very challenging greenfield project in Panama.

Risks

Developing copper mines in emerging markets is a risky business. Through its operations in Mauritania, Zambia, Panama and Turkey, First Quantum is exposed to a significant **political risk**. This could manifest in the form of increased resources nationalism, arbitrary rise in taxation or royalties, or difficulties to obtain permits. To develop its growth projects, the company has incurred a significant debt burden. Failure to meet covenants or to satisfy any debt-related obligations could expose the company to a severe **financial risk**. The company may also have to raise fresh equity, which would translate into dilution for existing shareholders. Some of the company's projects are early stage or of huge size and present many technical and engineering challenges. First Quantum is thus exposed to an important **operational risk**. Finally, as a copper miner, the company has no control over the price of the commodity it produces and is consequently exposed to market risk. If the price of copper were to fall and stay below First Quantum production costs, the going concern assumption of the company would become questionable.