CIM-MEP: Sept. 27, 2018

Mine Financing in 2018: More Changes…

…and then Basel III!

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An Outline

- A capital-intensive industry once the darling of the capital markets

- An industry-with assets that are now, and will remain, “foggy”

  -with a changing capital base (“darling” gone; Basel III coming)

  -with a changing political base, from bedrock to swamp

- To survive, industry must pay attention to assets, capital and politics

- Questions, and (hopefully) answers

Message: Change is here to stay; so adapt…or die!!

Four New Terms and Three Concepts

- **TGTR** - acronym for “thin grade, too remote”
- **FAAMA** - acronym for Facebook, Apple, Amazon, Microsoft, Alphabet
- **Basel III** - Banks need more capital for structured debt; so, less debt will cost more
- **AID** - Additional infill drilling; essential when project in construction (if not before)
- **A New Industry** - Economic shifts means more assets in “fog”
  - Mining now seen as LOM annuities, not growth
  - Slow-motion, “careful” consolidation-
    - seniors hedging seed money in juniors until F/S done
- **Re-risking the Project** - Feasibility Study (F/S) must assess both <u>costs and/or risks</u>
- **Political De-risk** - Hire more locals; more local equity; more stand-alone and senior reporting; more infrastructure sharing; more risk insurance

First, the Industry: In the "Fog"

- **OECD Demand**: USA at full speed yet talking tariffs; EU in Brexit; Japan in QE
  - Real cost of debt remains 0%; not good for investment or most base metals ; good for Au, Li, Co, Ni

- **BRICS Demand**: Markets now largest; each now has its own issues
  - China, second largest in GDP; one of top 7 with SE Asia; India in next 11 with 5 FSUs & former Indochina
  - Indicates a growing source of "local" capital, as 18 countries are now "positive global"
  - India's consuming households grew from 3.4 million in '95 to 35 million in 2015
  - World wide, poverty fell from 35% to 11% from '95 to '15; consumption rises, albeit slowly

- **Displacement**: EVs, UBER-model, urban lifestyles (ride-share, no cars) to alter demand

- **Displacement**: Re-cycling to further increase supply and reduce demand

- **Existing Supply**: Assets being depleted with growing costs; fewer bargain-buys

- **New Supply**: New projects are fewer, weaker, further afield (TGTR: next slide)

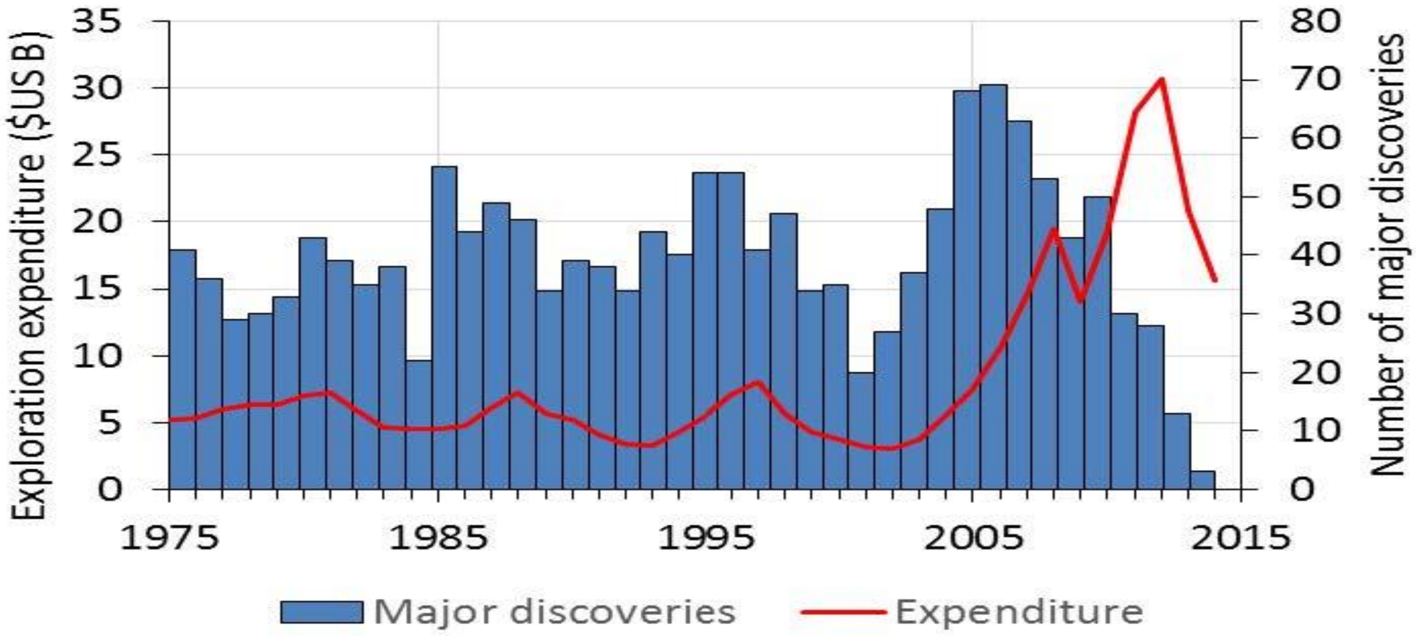
- **Capital**: Happy with FAAMA for US$ 4.4 trillion in market cap (or 2.7 Canadas)

Bottom Line: Positive but uncertain cycle; <u>low cost</u>, <u>self-discipline</u> both essential

New Projects: Depletion of Finds and of Market Confidence

Graph: Major Finds vs. Exploration- Running on Empty (Source: UBC Keevil)

- M&A rush of 2009-2012, overbidding, $160bn in write-offs and loss of Wall Street support
- Explains why Majors now want to see the F/S from the Juniors, before buying
- Better productivity, technology and cost-sharing all needed for the TGTR projects



Footnote: Exploration expenditures versus number of major discoveries, where major is defined as a gold deposit containing more than 1 Moz of gold or a copper deposit with more than 1 Mt of copper. (Courtesy of MinEx Consulting).

For New Projects, Forget the Past !!

- **The Past:**
  - Majority of Vancouver companies formed in 1995-2007
    - "globalisation", no Iron Curtain, EU, BRICS with up-side
    - Average price was 42 cents on the dollar
  - Non-producing Reserves then re-stated upwards with rising metal prices
  - Public sector had surpluses; hence was very supportive
    - Permits and infra were mostly "grandfathered"

  Result: Investors got growth from discounted assets and new assets
    - Being played out again in bitumen, BTW: majors have discounted and left

- **The Present:**
  - New assets weaker, further afield (ie: TGTR; prior slide)
  - Mining now seen by capital market as LOM annuities, not growth
  - Flat prices leave few Reserves to be re-stated upwards
  - Permits, access, politics, internet add complexity and delays
  - Investors have FAAMAs: want growth **and dividends**

  Result: Majors now hedge: will purchase only if F/S is acceptable

- **The Future**: A cautious game: prices <u>**will**</u> rise (e.g: BMO sees 5m t Cu shortfall by 2025)

Then, Re-Risk the F/S to Explore ALL Options

Why? Majors hedging bets until the F/S is in; no guarantee of buyout

- New milestone; does not preclude the ‘bankable’ F/S (could make two F/S)

- Review all risk options, for example:
  - Phasing; wait for permits, before proceeding, etc.
  - Share infrastructure with other mines and/or public sector and/or public
  - Between 35N and 35S, look at solar in Arizona, Atacama, Africa, Asia

- Sensitivity analysis benchmarked to real outcomes, not fiction

- Include additional infill drilling, or AID, during construction or before. Why?
  - Mitigates cost overrun risk (per McKinsey, a 43% occurrence)
  - Expands refinancing options post-commissioning (especially if Basel III comes)
  - Absorbs the softer metal markets, if they prevail, at commissioning
  - Shows the markets you have “growth”

- May need an updated F/S, once AID and commissioning are done (to make three)

- And no internal QPs, please…(make sure external QPs are fully paid….in cash)

Re-Cost/Re-Risk: Some Recent Examples

- Simple costs within the perimeter fence, often overlooked…
  - Phasing/scaling using less capital (ie: Sabina; LithiumAmericas)
  - BHP sheds South32, Barrick sheds, and now looks to shed more

- All mine development and infrastructure costs increasingly shared
  - Pretium went it alone; now dealing with massive debt, short-selling
  - Low infra utilisation supports "pooling" (ie: Goldcorp/Teck in Chile)
  - Cerro Casale, once a "dog" now a j/v (Goldcorp/Barrick in Chile)
  - RTZ on OT with Mongolia; B2Gold on Fekola with Mali
  - Risk-sharing at all levels of risk (Barrick/PRC in Argentina)
  - LithiumAmericas sold 50% of Phase 1 to SQM of Chile, then
    - sold a sale-offtake interest on its share to Ganfeng of PRC and Bangchak of Thailand

- Co-generation revenues and cost-transfers for better Free Cash Flow
  - Solar energy feasible between 35-N and 35-S, thanks to PRC and net metering
  - Power is sold "across the fence" and after mine is gone to mitigate clean-up costs
  - B2Gold has solar sold to nearby village for energy cost savings and lower political risk
  - A counter example? DetourGold/Inco in Ontario would not be without public infrastructure

- Majors hedging (ie Yamana on Leagold; Barrick on Midas; South32 on Arizona; Ashanti on Puregold, etc)

Then (Perhaps) Comes Basel III: Projects to Need Equity

Basel III is post-2008; banks to need more capital (6% vs 3% Tier 1 capital needed)

- Involves more capital from banks; less and more expensive debt (so, play the market)
- Adoption delayed; details have yet to be provided, and approved; in the meantime:

- <u>More robust projects: less debt to cost more: aim for lower debt, more equity</u>
  - A green light for phasing; sharing infrastructure with others

- <u>More institutional lenders: but will require careful screening because:</u>
  - Institutional lenders have different objectives; some not nice (BlackRock, Pimco being sued)
  - Debt from equity funds may have "equity squeeze" objective in mind, if you are in default
    - Default often not waived nor remedied, so great "free" equity for lender
  - Stream lenders can be predatorial "pawn-shops"
    - If your stream sale price is below your all-in cost (or, AISC), please re-think!!

- <u>Get your project risk down, and your public cost-sharing up (with some symmetry)</u>
  - F/S should have the 5-c's: clear, concise, consistent, current and complete

- <u>Get your political risk DOWN, especially if more equity is needed (next slide)</u>

Basil III, cont'd: More Equity? De-risk!!

Basel III will involve more equity. For the equity, please consider:

- <u>Offer public sector symmetry, or upside, not just cost-sharing</u>
- <u>Hire locals, not ex-patriates</u>
  - Qualified locals protect the local interests from local hostiles; expats are often clueless
  - DRC and Lundin are good examples of locals being hired
- <u>Send seniors in for regular face-to-face meetings with all stakeholders</u>
- <u>Set up an independent "Political and Permits" department (i.e.: RTZ)</u>
  - Answers to the top, directly
  - Subordinating this to "operations" or to "legal" <u>will not</u> do
  - This risk does not come in gradients like costs and prices, it is a binary and when it goes, it is gone
- <u>Share the infrastructure; may increase some costs, but reduces overall risk</u>
  - B2Gold is a recent example in Namibia power and in Mali with new village
  - Lundin in DRC won with local access to expat schools and expat clinics
- <u>Some MIGA and/or EDC insurance, for foreign projects, also helps</u>

And the Public Sector Increasingly Beckons

Public sector is a constant..a separate Politics and Permits department helps

nb: we were 3 bn 60 yrs ago, and soon 9 bn; all with a backyard and an internet

- Infrastructure Frameworks: Any operating subsidies, including capital
  - Up to now, some cost-sharing but no upside risk-sharing ("no symmetry")
- Social/Legal Frameworks: Hidden cost, often at the senior government level
  - Aboriginal
  - Training and immigration
  - Anti-corruption
- Environmental Frameworks: Needs clarity, or a clear "grandfather"
  - Can easily be ¼ of the total cost or more, and increasing (ie: energy)
- Fiscal Frameworks: Share upside and downside, transparently and equally
  - Public sector knows that it pays to keep people rural, but needs revenue

Bottom Line: A bird in hand beats two in the….

Blunders Everywhere; Everyone Learning

- Requires consistency from the private sector
  - Goldcorp retreated on all fronts (the 20/20/20 Plan); Penasquito is only greenfield
  - Barrick was $50 bn company in 2003; now a quarter of this; Kinross ditto
    - Numerous blunders including P. Lama, Equinox and others
  - Teck and Leagold and others still geographically wary
  - Mining companies still refuse to pay dividends (IAMGold;Kinross; B2G)

- Requires consistency from the public sector as well
  - Ring of Fire has no deal with Ontario's ancient legislation; needs Ontario's policy review
  - False positives do not help (Prosperity 1;then Prosperity 2 in BC)
    - Both supported by BC, shot down by Conservatives in Ottawa
  - False negatives do not help either (Pacific Booker's Morrison in BC)
    - Successfully spent capital on lawyers, not mine; missed the super-cycle
  - Mongolia got RT to carry equity but with no public consult; DRC forced Glencore to eat $4bn

- But, yes, Virginia, there may be a Santa….
  - B2Gold now at <1m ounces per year, half from Mali; with high-risk mitigation
  - South32 buys ArizonaMining for 50% premium after "major" PEA
  - Barrick waiting for Midas in Idaho to produce F/S
  - Ashanti and Goldcorp awaiting Puregold in Ontario to produce F/S
  - Yamana has 20% and Goldcorp 12% of Leagold, awaiting positive F/S on Brazil

Summary: Basel III is Not Here…But Be Prepared!!

- Robust Economics: Better economics required for more expensive debt
  - Also, be careful on the debt sourcing front
- Re-cost/Re-risk: In F/S, go for “least-risk” and “least-cost”, then compare
- F/S: Should be dynamic, focus on AID and post-commissioning
  - The five c’s are clarity, conciseness, current, consistent, complete
  - Flexibility: leave room for a bankable and a post-commissioning F/S
- Political risk reduction: a series of small steps can add up
  - Stand-alone reporting by senior who meet regularly with locals
  - Infrastructure benefit-sharing
  - Political risk insurance
- Public sector with capital: has a robust return on co-investment
  - Jobs maintained in weak times, dividends in good times: less risk

Summary: it is a Changing Industry (…and Politics Stays)

- FAAMA not leaving; mining but an annuity with increasing TGTR
  - Mining must adapt with constant AID and a bit of self-discipline

- Mining MUST be more pro-active with a dynamic F/S and AID
  - Assess all risk-adjusted options, not just least-cost
  - Now evident at the equity entry level and the bank-entry level
  - F/S is a dynamic component useful with AID for capital sourcing at commissioning
  - Market wants to see growth, and dividends

- Get Politics and Permits department up to senior level, and funded
  - Politics is a binary: you cannot afford to risk production, especially if over 10%
  - For Basel III, political-risk reduction and risk anticipation needed

- Public sector cannot afford the cost of "empty rural"
  - But it needs jobs AND investment income, not just the former

- "Fog" means new supply remains iffy, but with depletion, prices to improve
  - BMO forecast shortfall of 5m t Cu by 2025 is conservative; highly dependent on EV forecast

Yes it is More Complex: It Ain't the 1980s, no more!!

- **A "thanks", un "merci" e un "mille ringrazie", to all**

- **Questions, and (hopefully) some answers**

- **Rumours are true, I am addicted to doppio espressos**

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