

Junior Mining – An Imperfect Business Model That Works!

On an individual basis junior companies are not sustainable but collectively they are a vital part of the mineral exploration and mining sector

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Main Points

- Junior Mining works well collectively but on an individual basis the probability of success is low...hence the title of this presentation.
- It's a boom and bust business. The seeds of the next boom are planted in the ashes of the bust and currently it is a bust with expenditures down by 39% and 24% YOY for juniors and majors, respectively.
- The financing model is changing due to the big banks and discount trading platforms and fewer boutique brokers who specialize in resource stocks. We need to democratize private placements as a first step to allow non-accredited investors to participate in private placements thereby broadening the sources of capital available to juniors.
- In the medium to long term there are issues that threaten both the junior and senior mining companies. Discovery probabilities are decreasing and exploration costs soaring. The continued reliance on an aging demographic for technical expertise is not sustainable and the boom-bust nature of the industry is not appealing to today's investors.

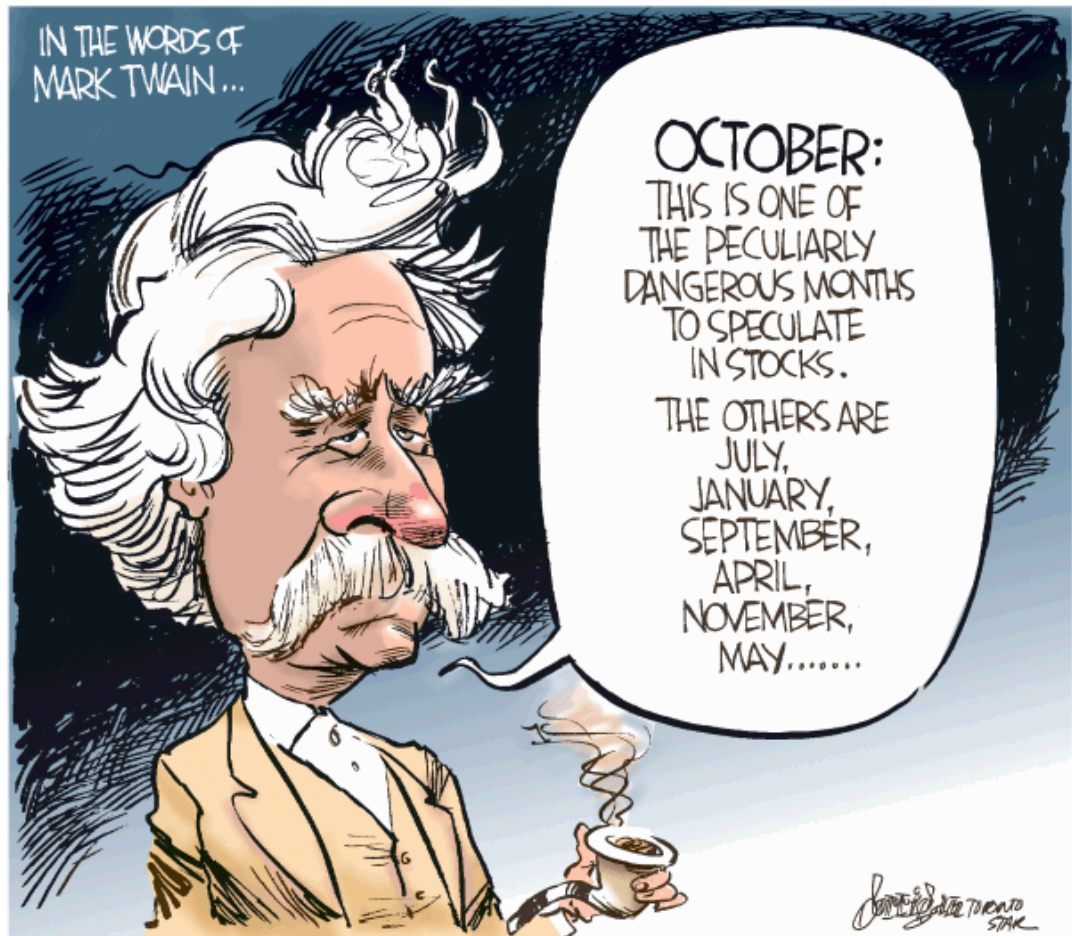
Disclosure Statement

I am a geologist not an investment professional.

The opinions in this presentation are mine and are not necessarily shared by the PDAC or my employer.

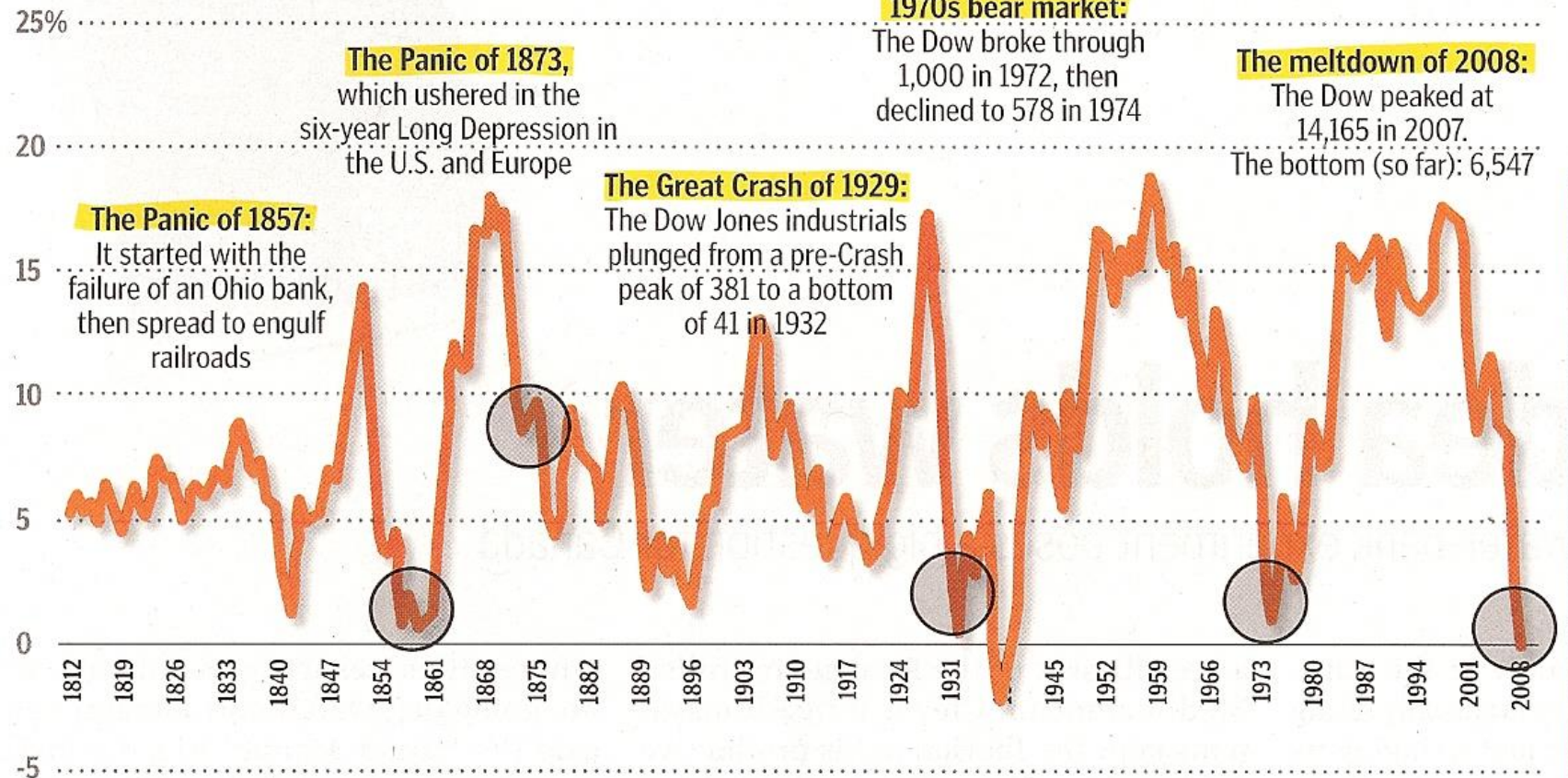
Securities mentioned in this presentation are used to illustrate the volatility of the marketplace.

Caveat Emptor



UP

Rolling 10-year returns from U.S. large-cap stocks



Source: Globe and Mail Report on Business Magazine

DOWN

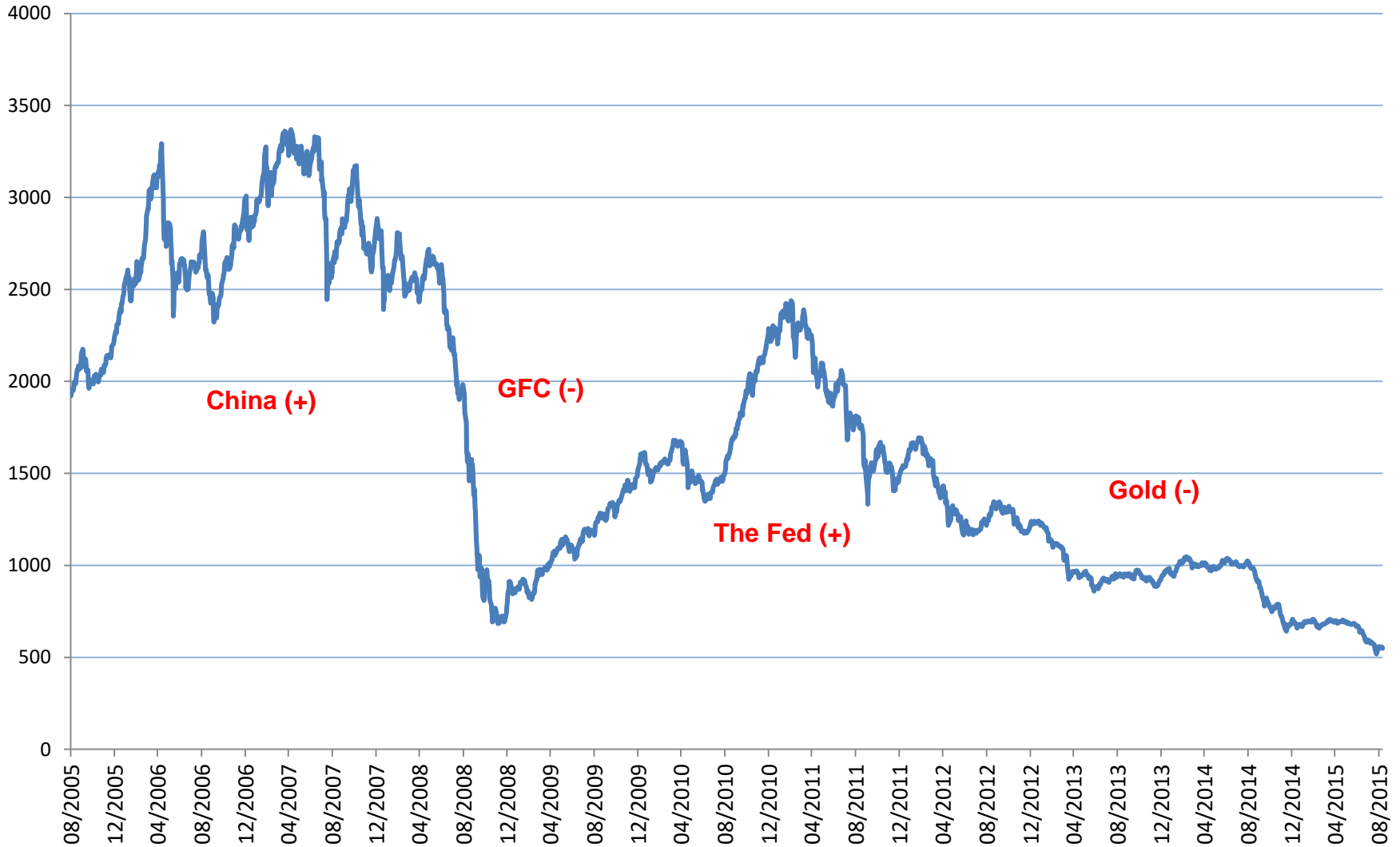


Depressed share price examples of both major and junior mining companies (May 2009)

Business Environment Summary (in May of 2009)

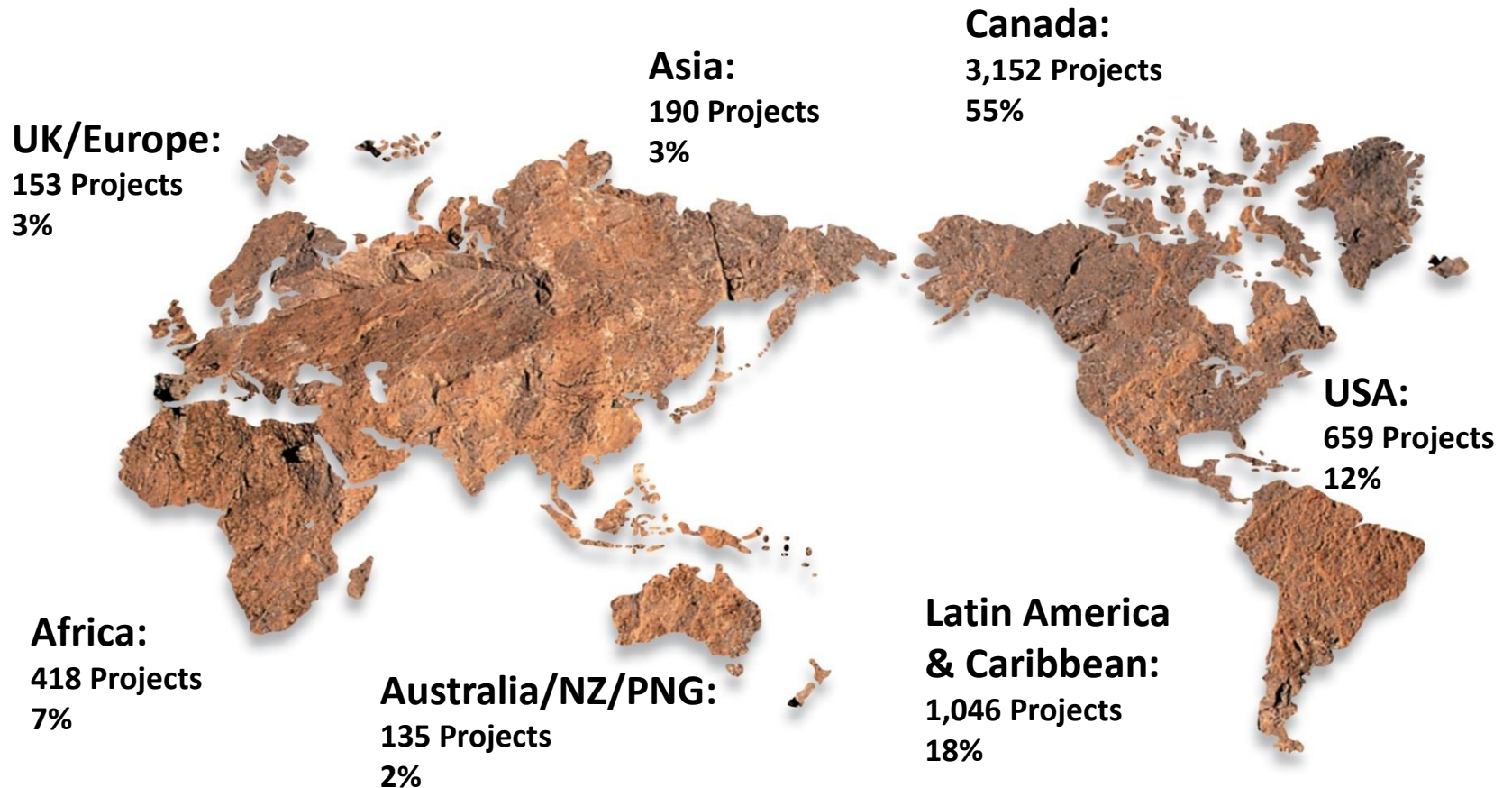
- *Market capitalizations of Junior Mining companies are severely depressed +*
- *Many Senior Mining companies are saddled with too much debt +*
- *Lower metal prices =*
- *A window of opportunity (1-2 years?) to acquire mineral resources with reduced price premiums*

S&P/TSX Venture Composite Index –2005 to Present

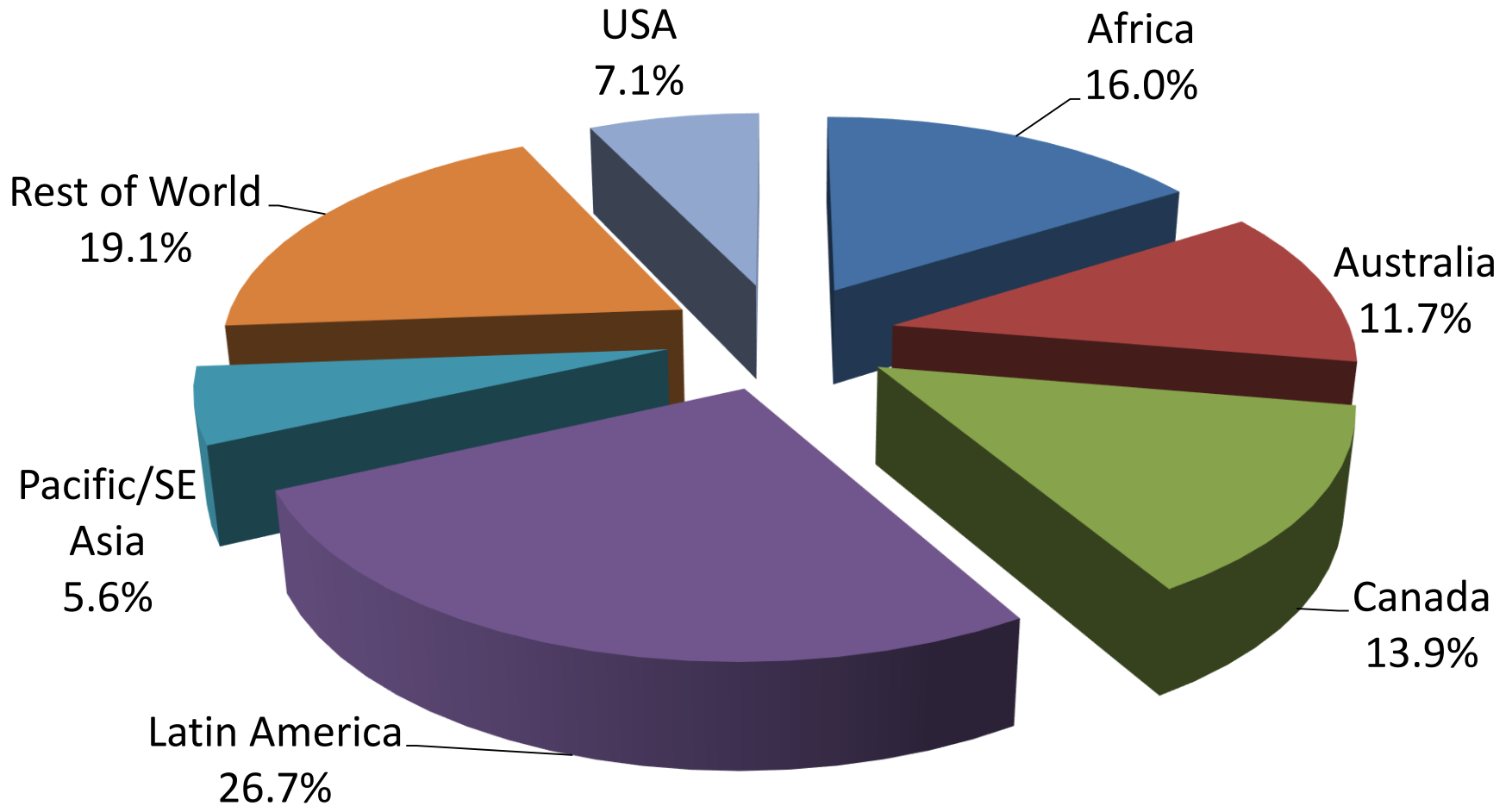


Canada's Global Footprint

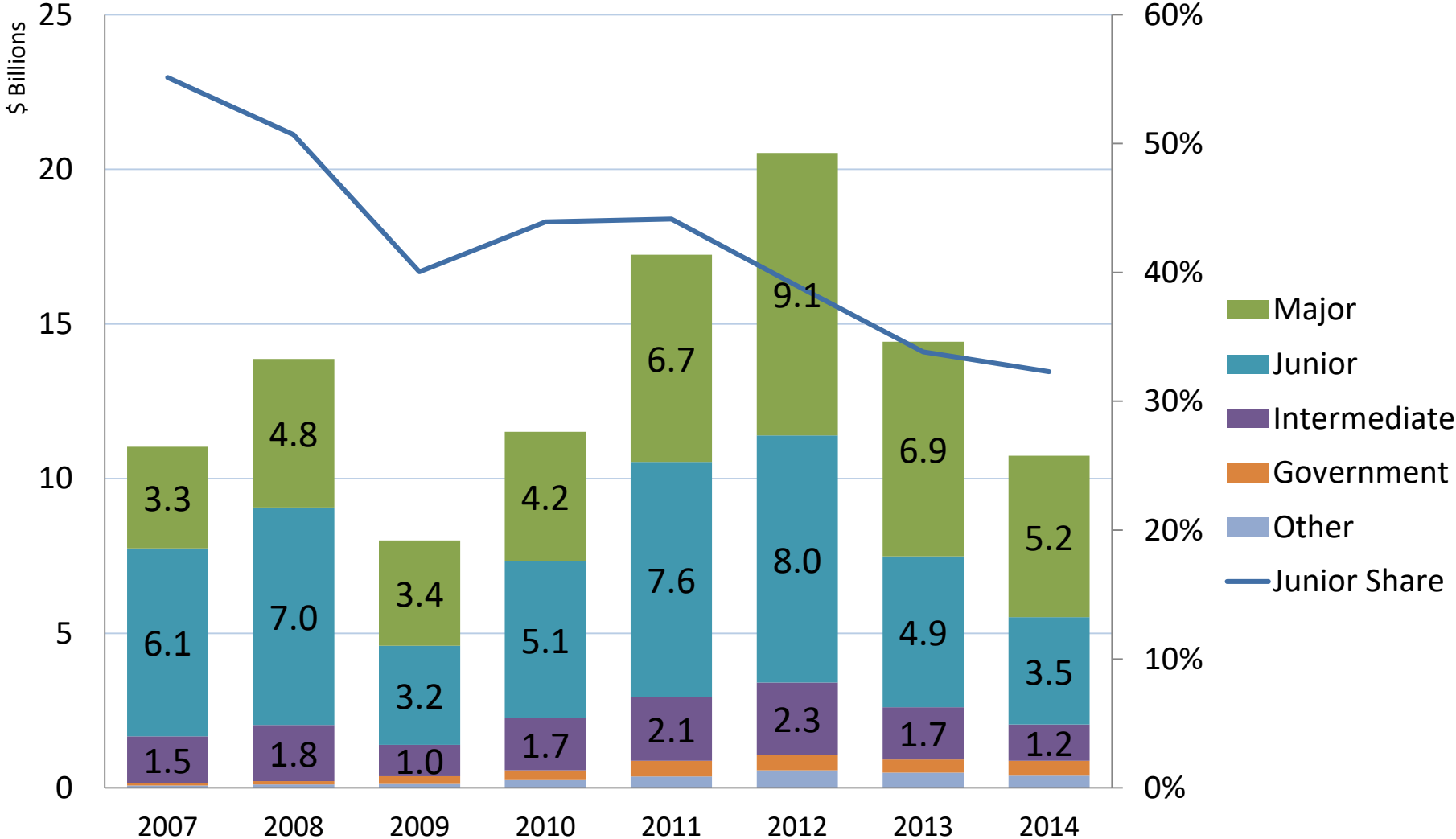
- #1 in listed mining companies globally
 - 1,492 mining companies on the TSX and TSXV
- #1 in equity capital raised globally (\$8.9 billion in 2014)
 - 62% of the equity capital raised globally for mining



Share of Exploration Budgets by Locations in 2014



Exploration Budget by Company Type



Source: SNL and PDAC calculations

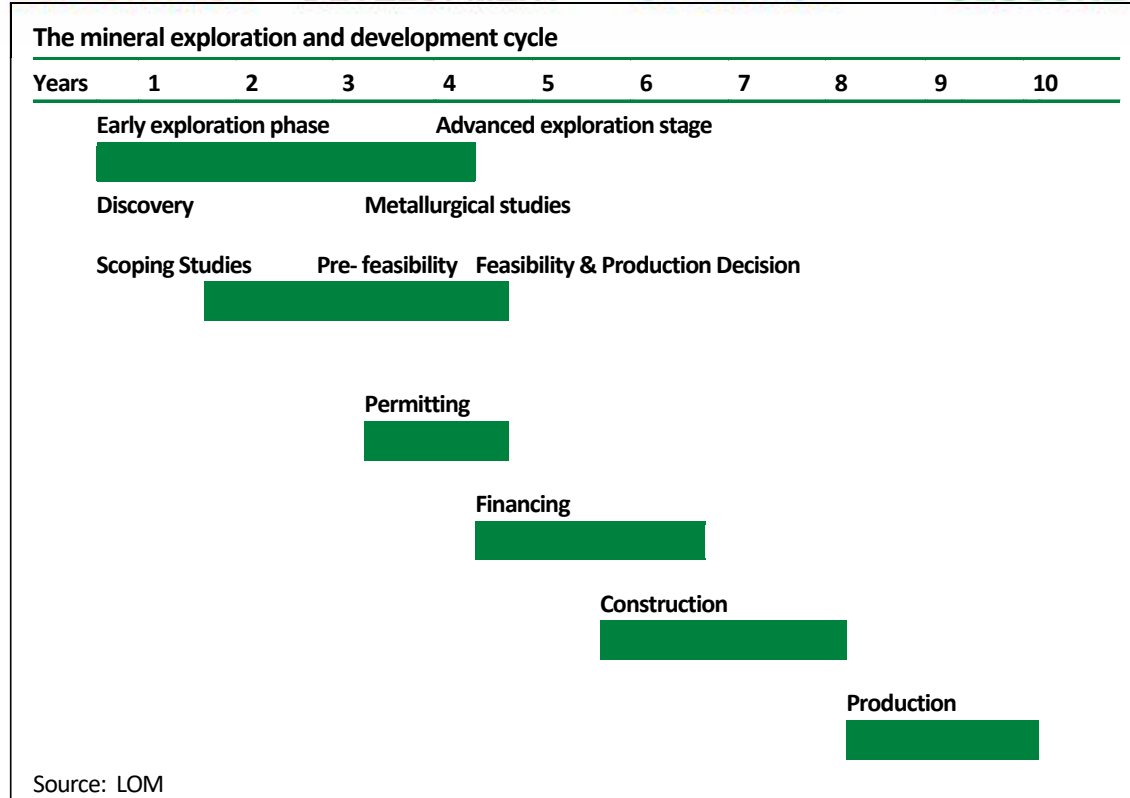
What to know about Mineral Exploration

Exploration is a slow and methodical process

- Typically takes 7 to 10 years from discovery to the start of a new mine
- A property can be explored many times, by different companies without success
- At any time, the exploration company or its investors may decide the potential rewards are no longer worth their investment and the company may choose to sell the property or hold it until market conditions improve
- Fewer than 1 in 10,000 mineral showings discovered actually become a mine
- Unlike mine operators, exploration companies depend entirely on capital markets to obtain funds for projects



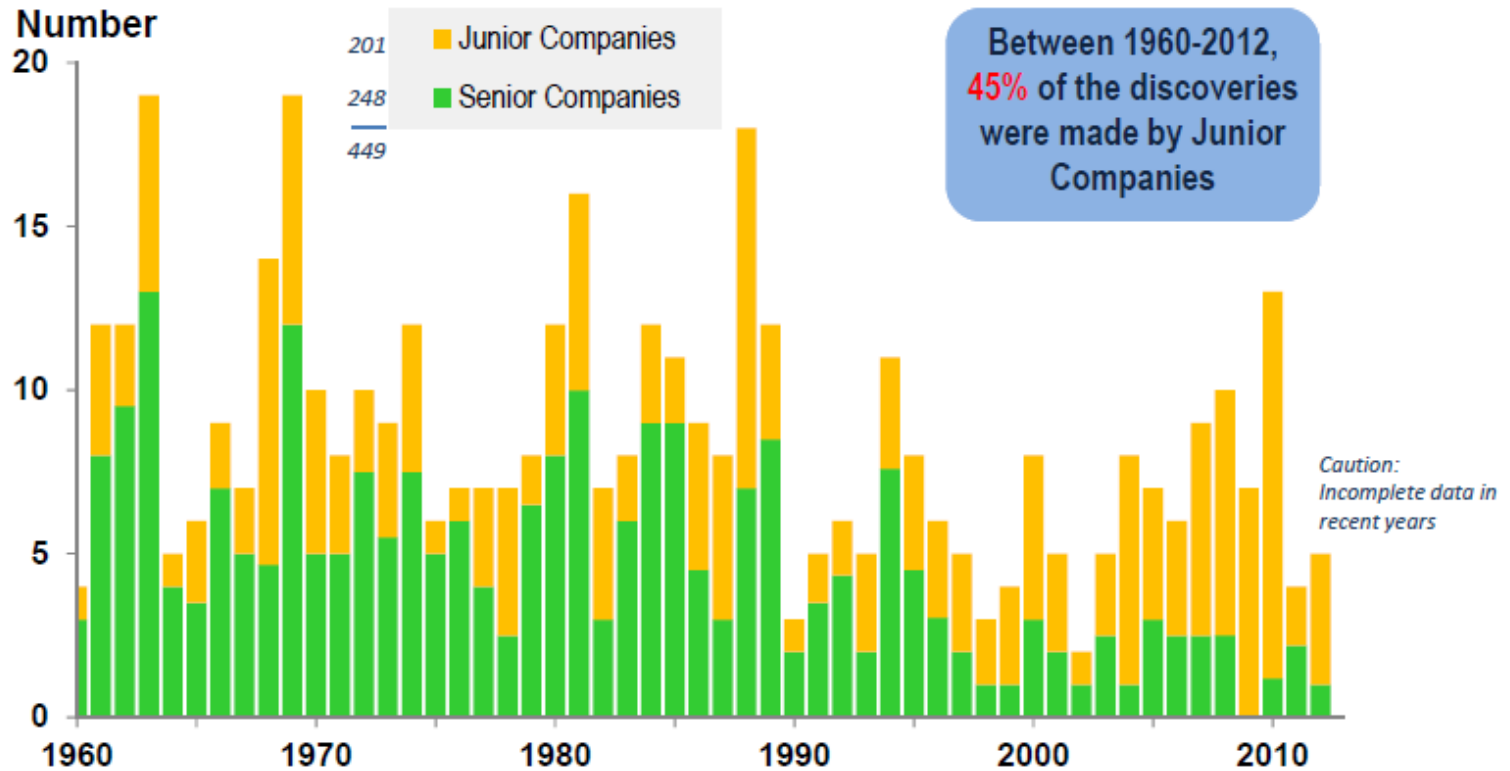
Exploration is the first stage of the mineral development cycle



Source: LOM

Number of deposits found by “Senior” and “Junior” Companies

Number of significant mineral discoveries in Canada: 1960-2012



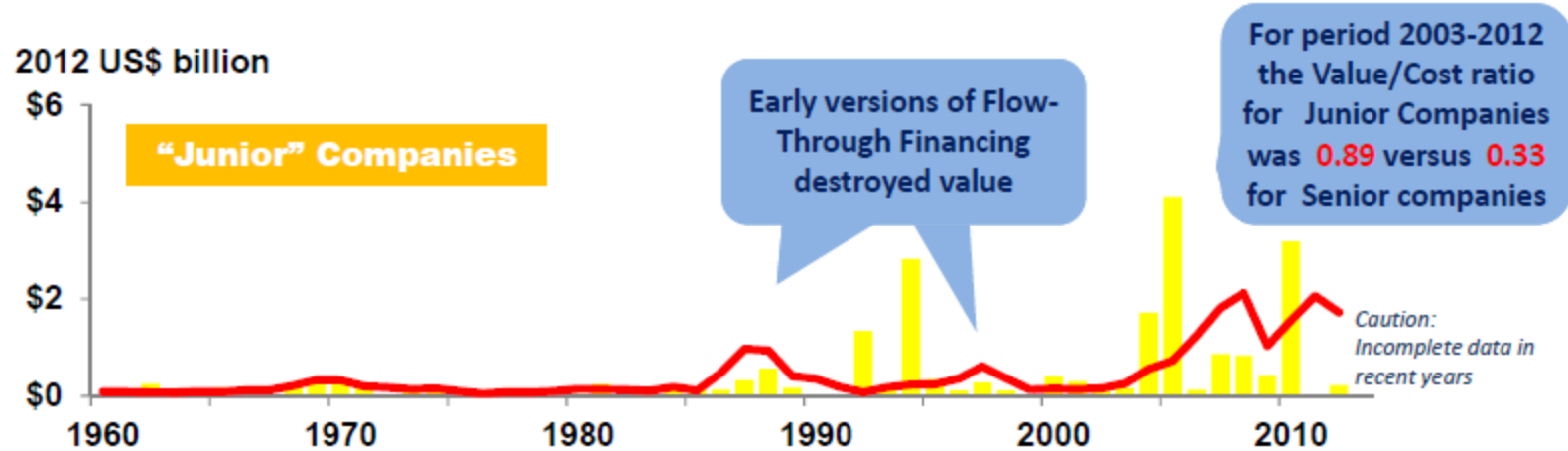
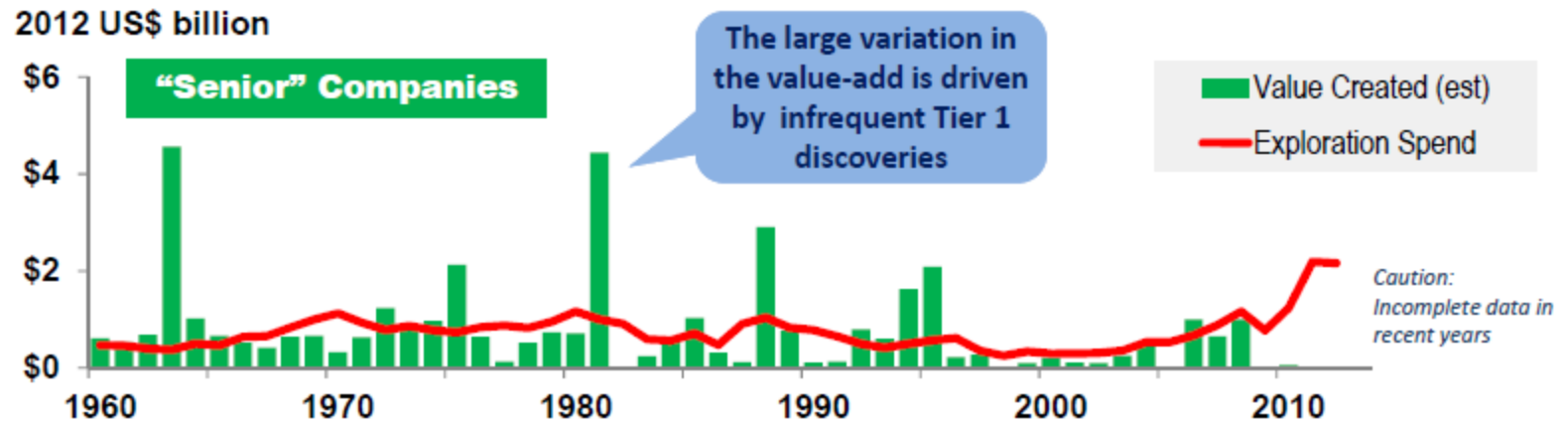
Note: “Significant” defined as being a Moderate, Major or Giant discovery.

NRCan defines “Junior” company as having no income i.e. Junior Explorer + Prospector + Unknown

“Senior” company includes Major + Moderate + Small Producers + Industrial + Govt

Source: MinEx Consulting © November 2013

Trend in exploration spend and value-add over time in Canada: 1960-2012

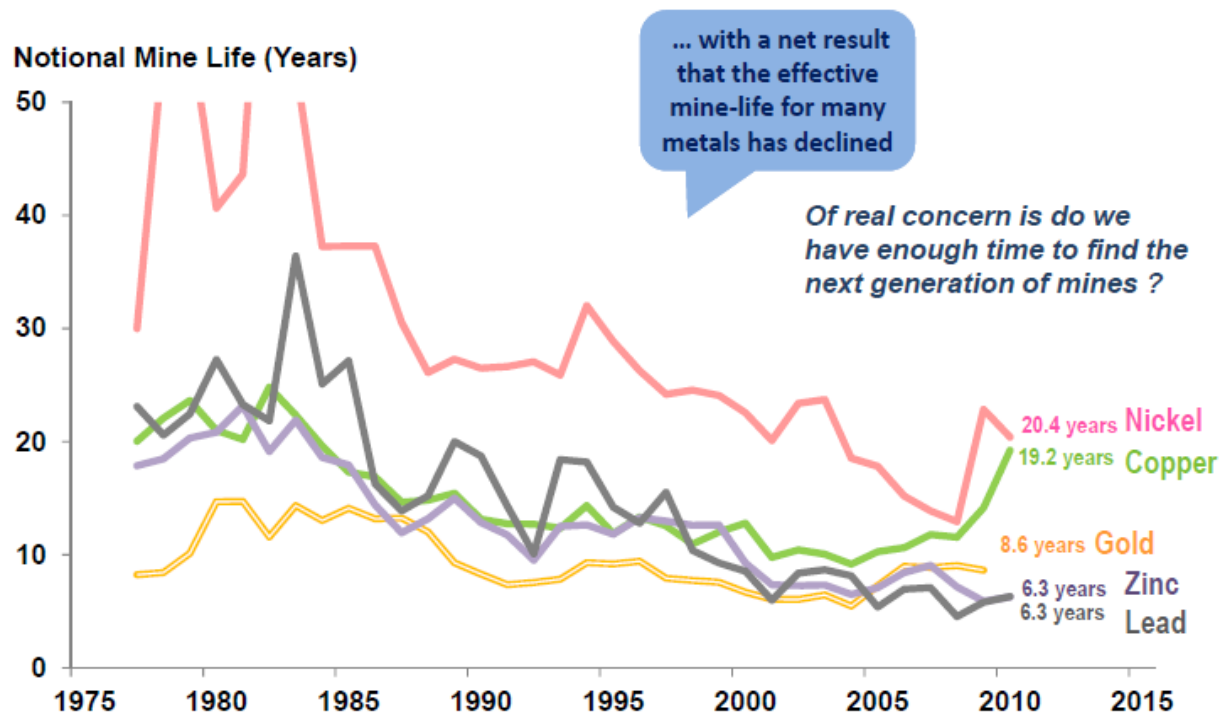


Warning: Values are indicative-only, and accurate to +/- 50%

Source: MinEx Consulting © November 2013

Declining Reserves

Trend in the average mine-life for Canada

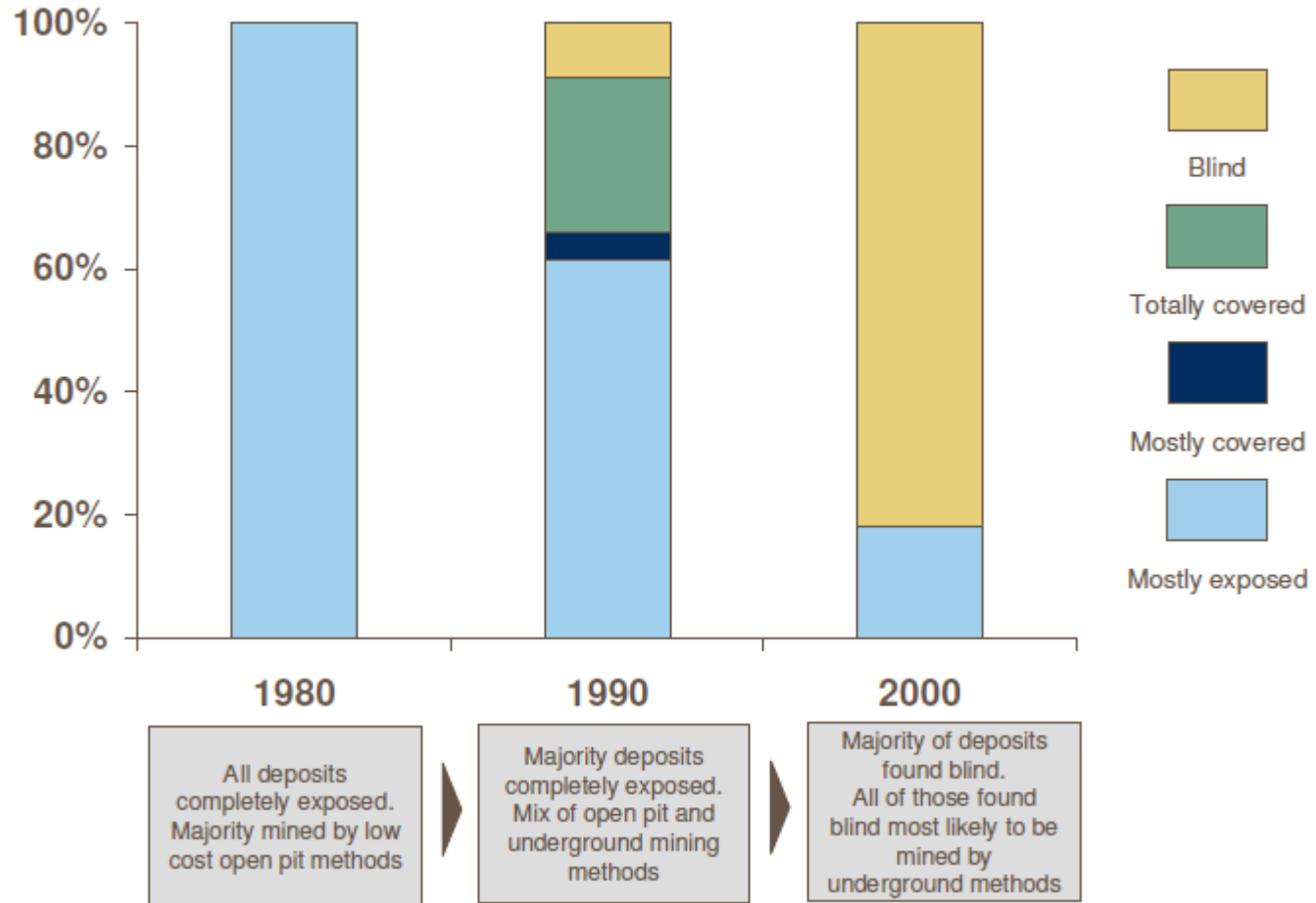


Note: Notional Mine Life is the ratio of Current Reserves to the Current Mining Rate, and assumes 90% recovery factor during mining and processing

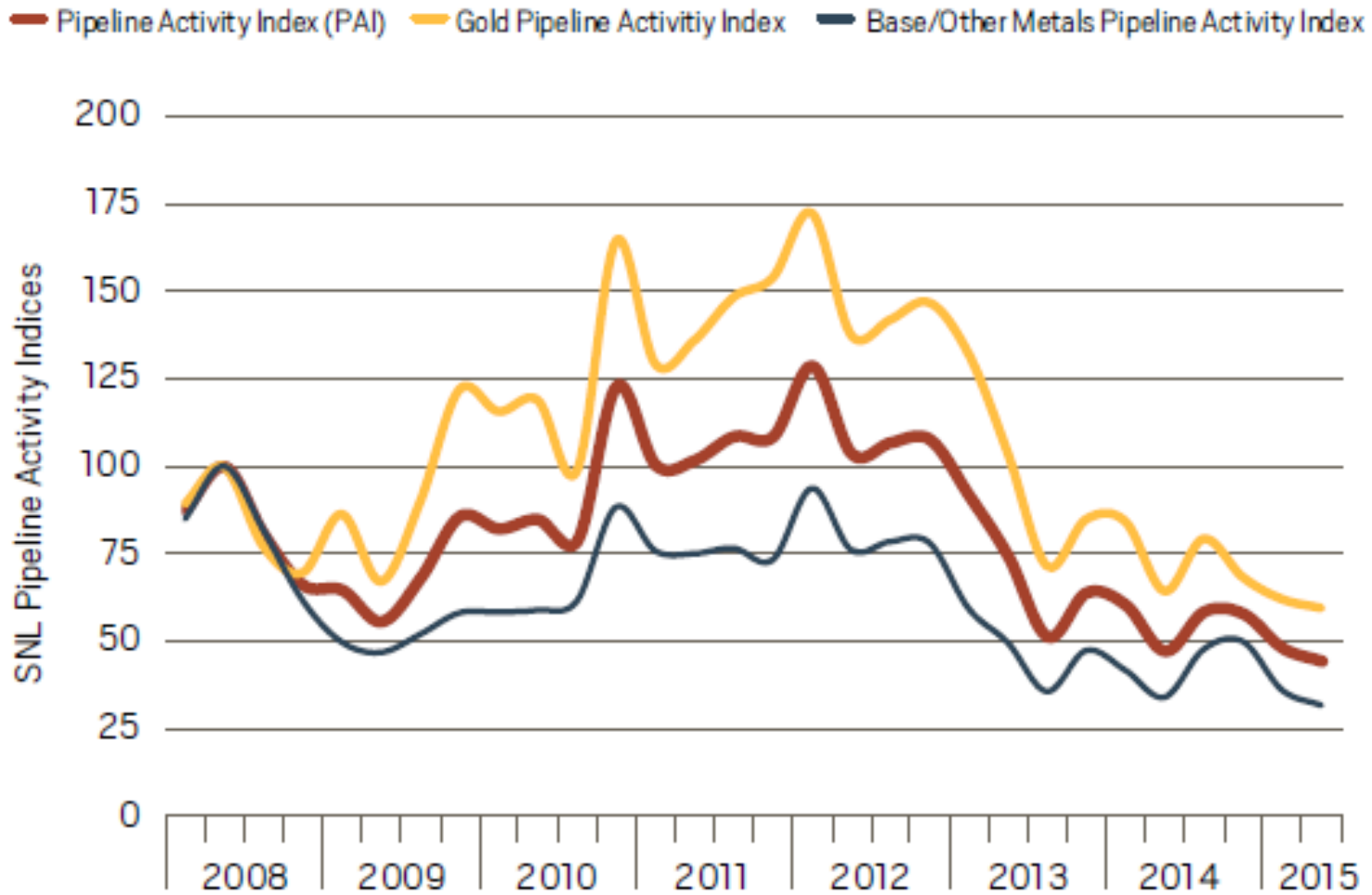
Source: MinEx Consulting © November 2013, based on data from NRCan

New deposits are becoming harder to find

Indicative depth of new discoveries > than 4 Million tonnes
(by contained metal)

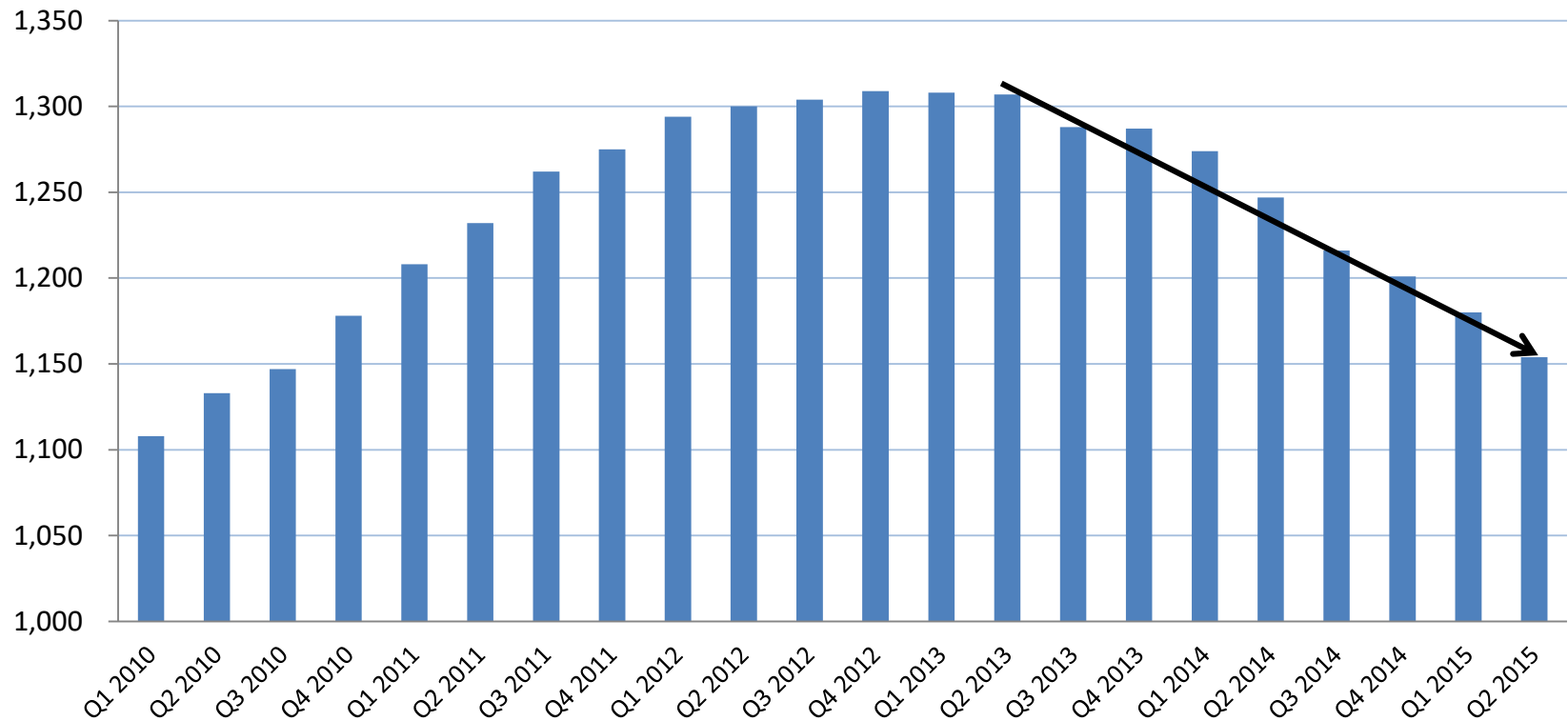


Indices by Metal



Pipeline Activity Index: A measure of exploration and development activity in the international mining industry created by SNL Metals & Mining.

TSX VENTURE LISTINGS



Mining	2007	2008	2009	2010	2011	2012	2013	2014
TSX mining IPOs	13	3	-	16	6	3	-	-
TSXV mining IPOs	40	39	14	36	42	41	7	2

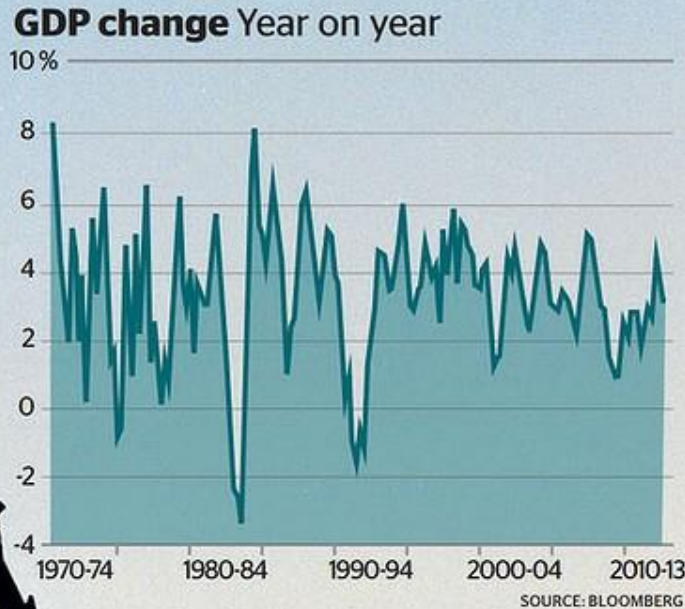
An imperfect metaphor for junior mining



Australian Mining Booms and Busts



The economy:
Four decades
of swings



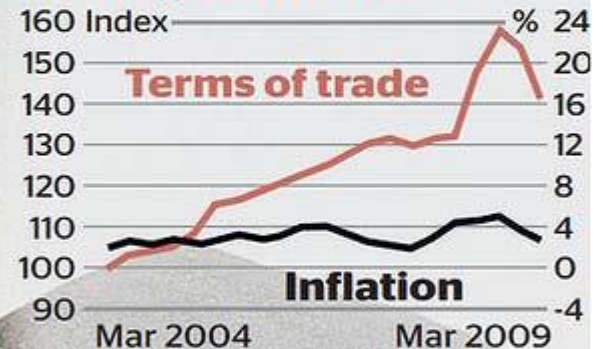
Terms of trade

1970s

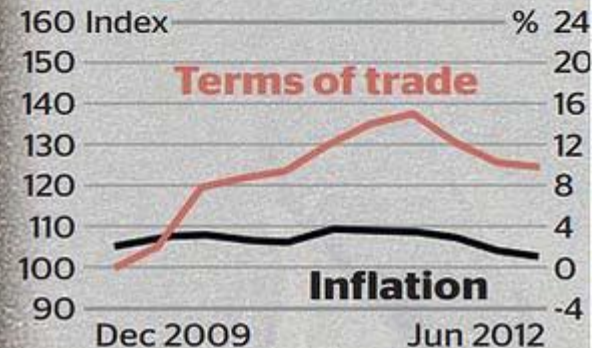
SOURCE: TREASURY



Mining boom mark I



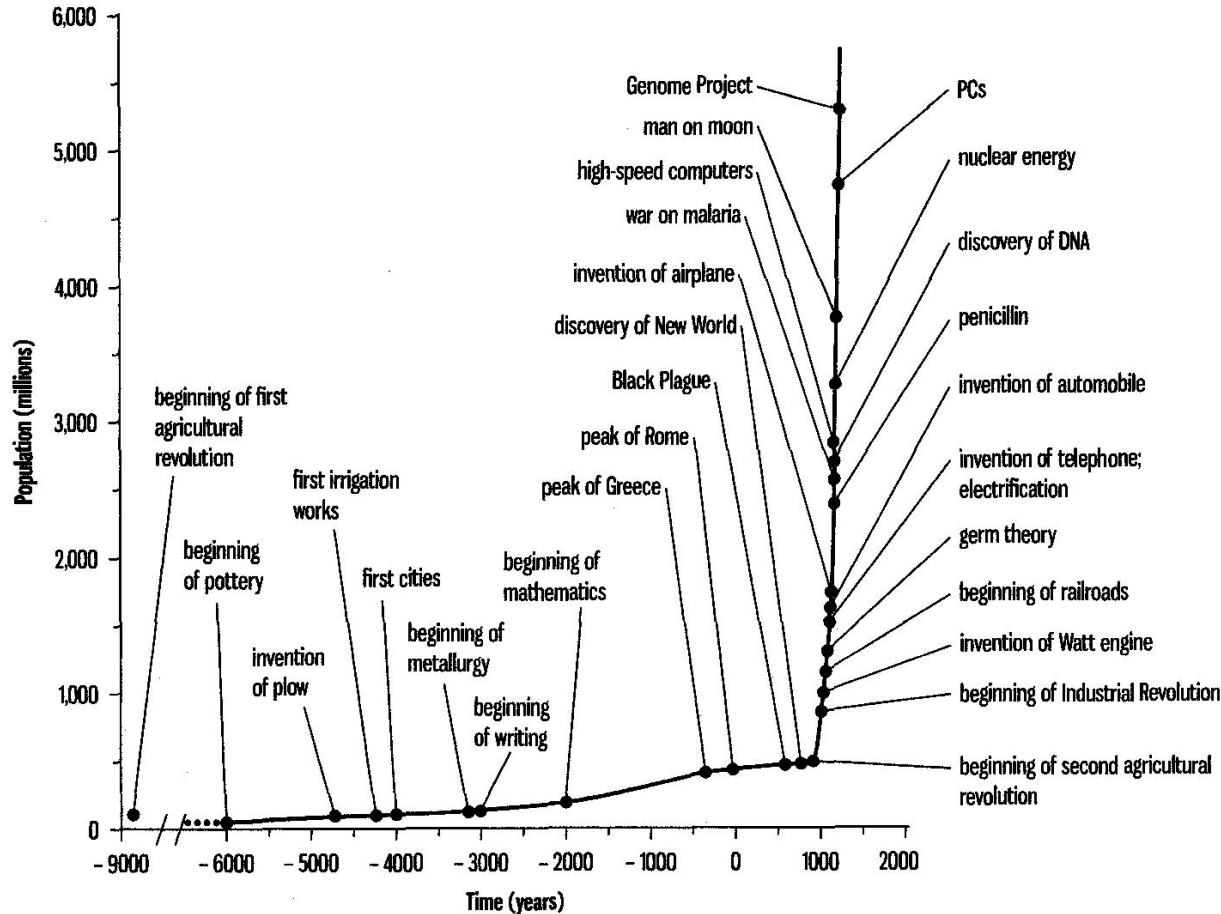
Mining boom mark II



Source: Sydney Morning Herald



Michael Spence – The Next Convergence



Source: Robert Fogel, "Catching Up with the Economy," *American Economic Review* 89(1) (March 1999): 1-21.

Note: There is usually a lag between the invention of a process or a machine and its general application to production. "Beginning" means the earliest stage of this diffusion process.

Acknowledgements

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