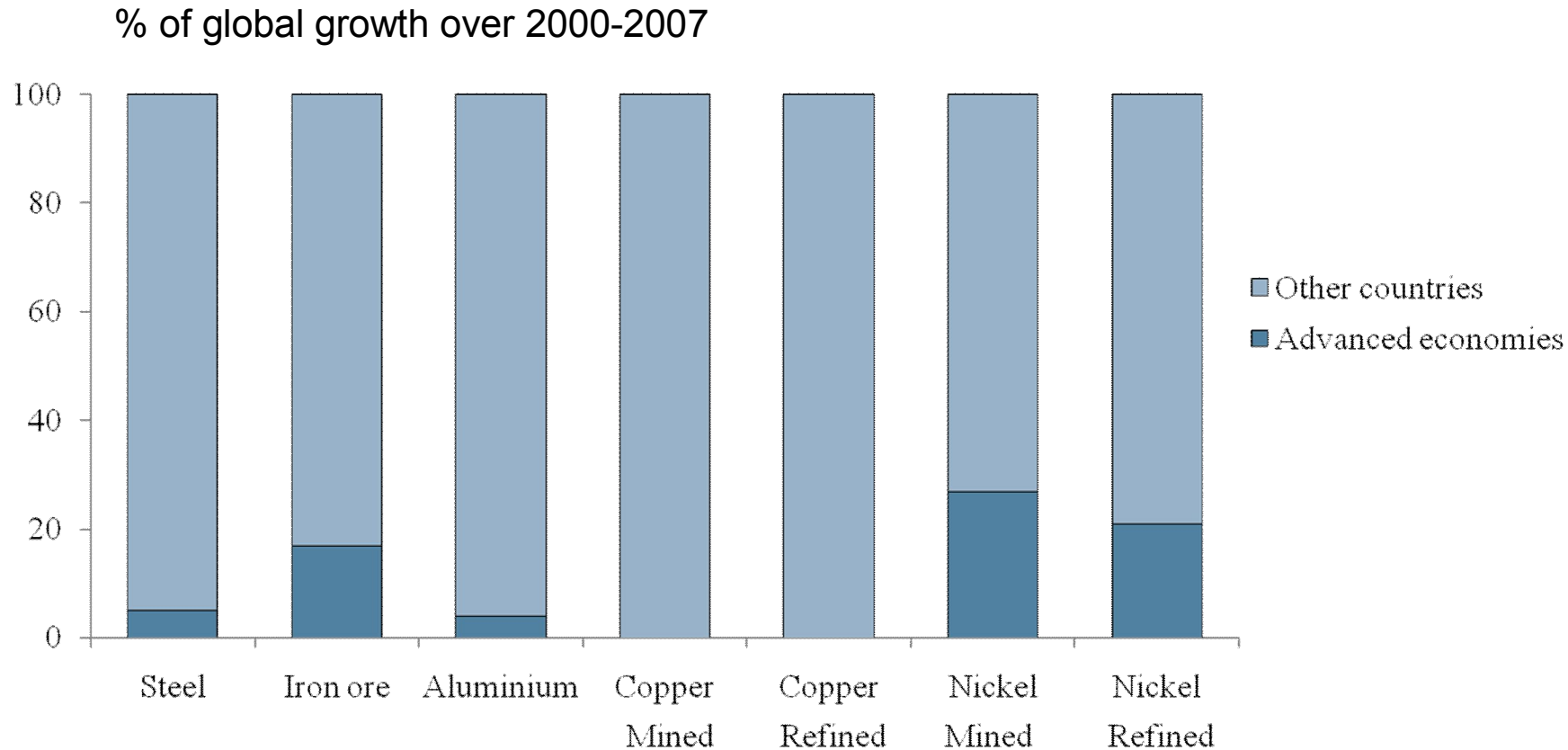

Emerging Players in the Mining Industry

David Humphreys
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World Bank conference on Extractive Industries, Washington DC, 3-6 March 2009

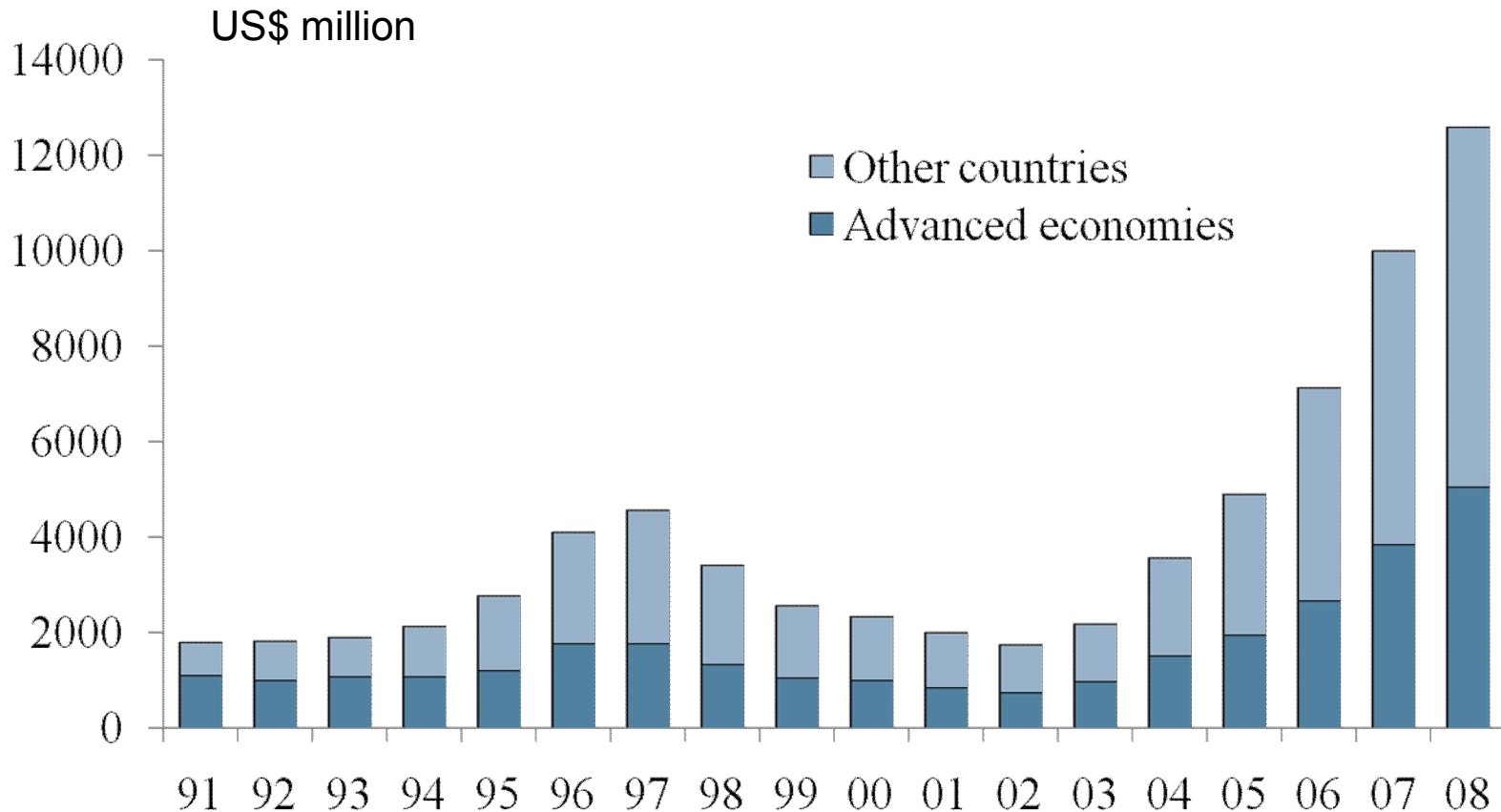


Mine and metal production since 2000



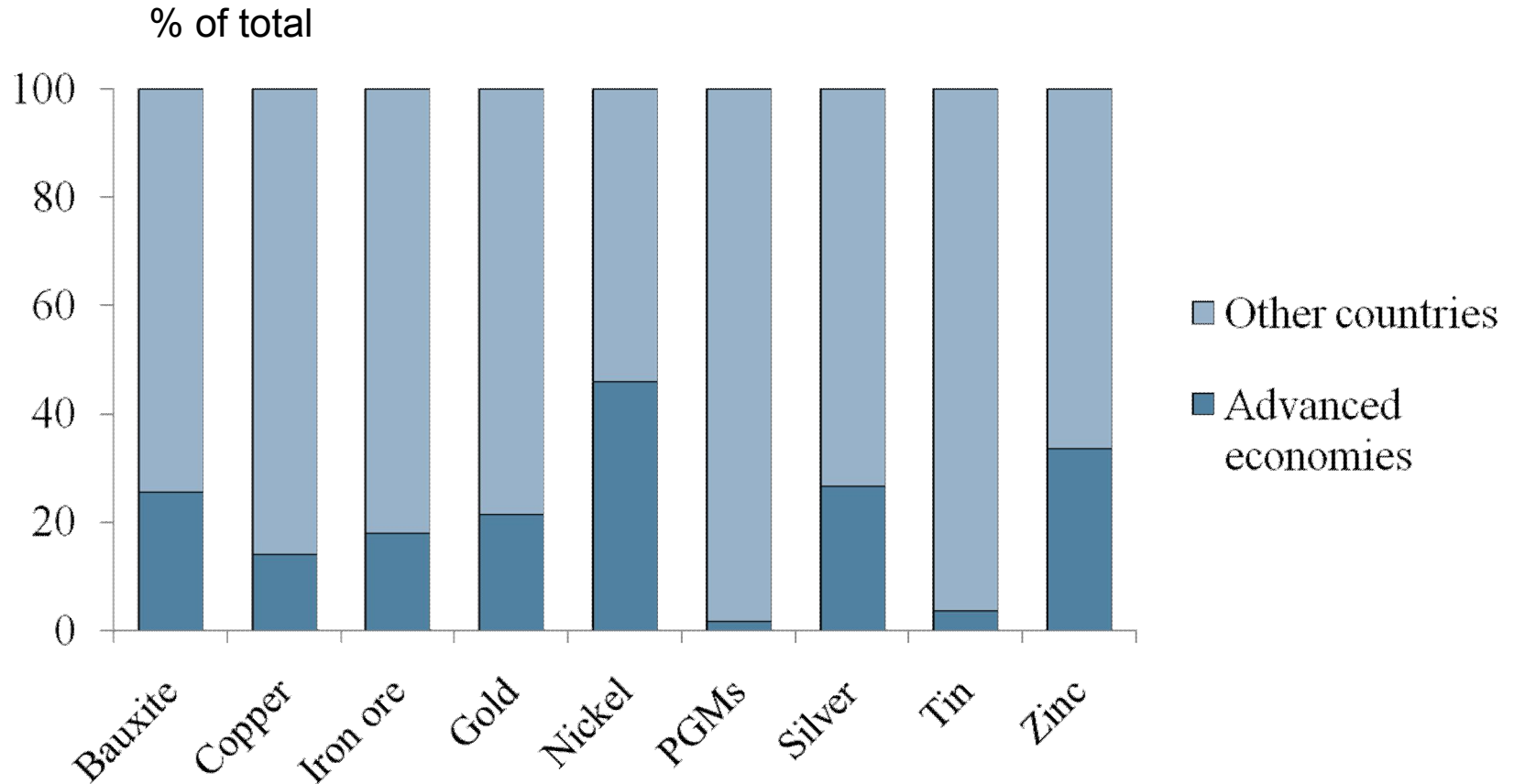
Sources: worldsteel, UNCTAD, WBMS, Brook Hunt .

Industry exploration expenditure by region



Source: Metals Economics Group

Global distribution of mineral reserves



Source: USGS, January 2007

World's largest mining companies

- By value of mine production in 2007 -

	<u>Company</u>	<u>Country</u>	<u>% of total</u>		<u>Company</u>	<u>Country</u>	<u>% of total</u>
1.	Vale	Brazil	5.6	16.	KGHM Polska Miedz	Poland	0.8
2.	BHP Billiton	Australia	5.1	17	Antofagasta	UK	0.8
3.	Anglo American	UK	3.8	18	Impala Platinum	South Africa	0.7
4.	Rio Tinto	UK	3.8	19	Vedanta	UK	0.7
5.	Freeport McMoRan	USA	3.3	20.	Gold Fields	South Africa	0.7
6.	Norilsk Nickel	Russia	2.9	21	Kazakhmys	UK	0.7
7.	Codelco	Chile	2.9	22.	PT Antam	Indonesia	0.6
8.	Xstrata	Switzerland	2.9	23.	State of Iran	Iran	0.6
9.	Barrick Gold	USA	1.6	24.	Alrosa	Russia	0.5
10.	Group Mexico	Mexico	1.6	25.	Lonmin	UK	0.5
11.	State of China	China	1.5	26.	Goldcorp	Canada	0.5
12.	Teck	Canada	1.1	27.	Metalloinvest	Russia	0,5
13.	Newmont Mining	USA	0.9	28.	AcelorMittal	UK	0.5
14.	Anglogold Ashanti	South Africa	0.9	29.	Sumitomo MM	Japan	0.4
15.	Glencore Int	Switzerland	0.8	30.	ENRC	UK	0.4

Source: Raw Materials Group



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Source: Raw Materials Group



Emerging market players

<u>Company</u>	<u>Country</u>	<u>Principal products (world ranking in 2007)</u>
Vale	Brazil	Iron ore (1), Nickel (2), Platinum (7) ,Copper (14), Aluminium
Norilsk Nickel	Russia	Nickel (1), Copper (8), Platinum (4), Palladium (1), Cobalt (2)
Codelco	Chile	Copper (1), Molybdenum (2)
Grupo Mexico	Mexico	Copper (6), Molybdenum (3), Silver (9)
Anglogold Ashanti	South Africa	Gold (2), Uranium (10)
KGHM Polska Miedz	Poland	Copper (9), Silver (3)
Antofagasta	UK/Chile	Copper (10), Molybdenum (5)
Impala Platinum	South Africa	Platinum (2), Palladium (3)
Vedanta	UK/India	Zinc (5), Copper, Cobalt (5), Iron ore, Aluminium
Gold Fields	South Africa	Gold (4)
Kazakhmys	UK/Kazakhstan	Copper (11), Silver (5)
PT Antam	Indonesia	Nickel (4)
Alrosa	Russia	Diamonds (2)
Metalloinvest	Russia	Iron ore (4)
ENRC	UK/Kazakhstan	Ferrochrome (1), Ferromanganese, Iron ore, Aluminium

Source: Deutsche Bank, Brook Hunt

March of the emergers. Why now?

- State disengagement from sector has permitted companies to attract entrepreneurial talent and adopt more commercial, expansionary objectives
- Companies are often based in mineral-rich countries and enjoy privileged access to under-developed local resources
- Strong cash flows from high commodity prices and improved standards of corporate governance have given companies better access to capital
- An ambition to improve the risk profile of the companies through diversification has encouraged companies to seek to invest globally
- A strategic requirement to secure raw materials for their domestic metallurgical operations have motivated companies to invest upstream

Acquisitions by emerging market companies

- 1999 Vedanta acquires Copper Mines of Tasmania
- 1999 Grupo Mexico acquires Asarco
- 2002 Rusal acquires Friguia alumina refinery (Guinea)
- 2003 Norilsk Nickel acquires Stillwater Mining (US)
- 2004 Vedanta acquires Konkola Copper Mines (Zambia)
- 2005 Rusal acquires holding in QAL alumina refinery (Australia)
- 2006 Vale acquires Inco
- 2006 Rusal acquires Alcon aluminium smelter (Nigeria)
- 2007 Rusal merges with Sual and Glencore's alumina business
- 2007 Norilsk Nickel acquires nickel assets of OMG and LionOre

Investments in nonferrous metal mining by Chinese companies

<u>Company</u>	<u>Type of investment</u>	<u>Country</u>	<u>Commodity</u>
Jinchuan Group	Acquisition of minority stake in Albidon (2006)	Zambia	Nickel
	Acquisition of majority stake in Tiomin's Kwale project Tiomin (2006)	Kenya	Titanium
	Minority stakes in Allegiance Mining ('07), Metals X ('07) and Fox Resources ('08)	Australia	Nickel
	Acquisition of Tyler Resources and its Bahuerachi project (2008)	Mexico	Copper, zinc
China Nonferrous Metal Mining Co (CNMC)	Acquisition of Chambishi mines (1998)	Zambia	Copper
	Development rights to Tumurtin-Obi (2003)	Mongolia	Zinc
Zijin Mining	Acquisition of Rio Blanco mine (2007)	Peru	Copper
China Minmetals and Jiangxi Copper	Development rights to Anayk (2007)	Afghanistan	Copper
	Acquisition of Northern Peru Copper and its Galeno project (2008)	Peru	Copper
Chinalco	Acquisition of Aurukun project (2006)	Australia	Bauxite
	Acquisition of Dak Nong project (2006)	Vietnam	Bauxite
	Acquisition of Peru Copper and its Toromocho project (2007)	Peru	Copper
	Acquisition of 9% stake in Rio Tinto (2008)	Global	Various
China Metallurgical Construction Group Corp (CMCC)	Acquisition of Saindak mine (1998)	Pakistan	Copper
	Development rights to Duddar project (2004)	Pakistan	Zinc, lead
	Acquisition of Ramu River project (2004)	Papua NG	Nickel

Norilsk is remote...



...it gets cold...



...but is based on a very rich ore body



Norilsk Nickel: some key facts

- Largest nickel producer in world (+ big producer of PGMs & copper)
- Lowest cost producer of nickel in world
- Largest miner in Russia
- One of largest mining companies in world
- 80,000 employees
- Ownership: Core holdings, Interros (c.30%), (Rusal c.25%)
- Quoted on RTS and Micex
- Revenues: 80% from Russian operations
- Markets: Europe 64%, Asia 15%, N America 13%

Norilsk Nickel modernisation

- 2001 Launches ADR programme
- 2003 First data release on production (base metals for 2002)
- 2003 First IFRS accounts (for 2002). Appointment of independent directors
- 2003 Acquires majority interest in Stillwater Mining
- 2004 First disclosure of mineral reserves (base metals for 2002)
- 2004 Obtains credit rating from S&P (investment grade in 2006)
- 2005 Start of divisional re-organisation
- 2005 First corporate social report (for 2003-2004)
- 2006 Full disclosure on production and reserves (including PGMs)
- 2006 Commits to major investment programme for core operations in far north
- 2006 Spin-off of gold business to Polyus Gold
- 2007 Acquisition of nickel assets of OMG and LionOre
- 2008 Rusal acquires stake in Norilsk Nickel. State makes loans to core shareholders.

Challenges for emerging market players

- Finance - Drying up with credit crunch and general risk aversion towards commodities and emerging markets
- Governance - Skewed shareholder structures leading to tensions between different groups of investors in downturn, the more so where the state becomes involved
- Globalisation - Downturn creates pressures to prioritise objectives of domestic employment and investment
- Management depth - Challenge of broadening and deepening management skills will be tougher in a slow growth market

Pointers to the future

Role of emerging players will nevertheless grow because of:

- Good access to underdeveloped mineral resources
- Incentive of growing domestic mineral demand
- Better availability of finance and management

Development implications unclear:

- Natural understanding of development needs
- But susceptibility to multiple social/political objectives

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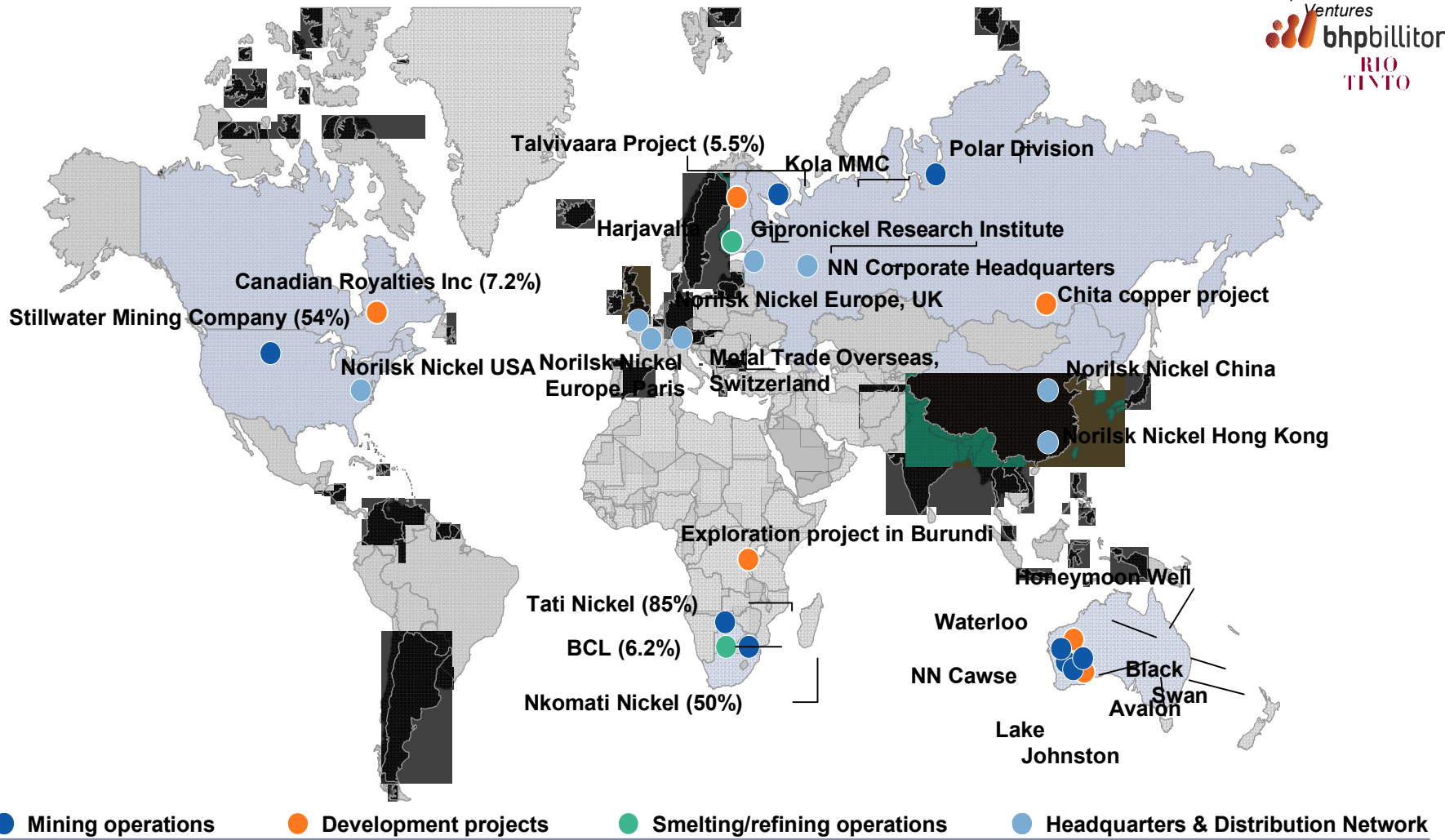
Backup slides

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The Norilsk Nickel legacy

- 1935 Norilsk established as a mining gulag on Taimyr peninsula
- 1936 Severonickel combine founded on Kola peninsula
- 1940 Inco builds Pechenganickel in what was then Finland
- 1957 Norilsk gulag formally dismantled
- 1960 Large new ore body discovered near Norilsk at Talnakh
- 1989 MMC Norilsk Nickel formed from Taimyr and Kola operations
- 1993 First leg of privatisation of MMC Norilsk Nickel
- 1997 Full privatisation of MMC Norilsk Nickel
- 2001 Installation of Mikhail Prokhorov as General Director
- 2001+ Modernisation of company begins

Norilsk Nickel operations worldwide



Source: Company information



The Russian Federation



Comment on the RusAl-Norilsk affair

“The most striking thing about the affair is that a set of business tycoons have, so far, behaved in a way that is a lot more civilised than anything seen from the Russian state. When state firms want a private asset, they send in the tax police, the security services and a few health and safety inspectors, before making an offer. Here, big private firms are dealing with each other mostly using bankers and lawyers.”

“What matters, in the end, is not just the outcome, but also how it comes about. It is heartening to see a Russian company with professional managers who no longer treat minority shareholders as just an obstacle.”

‘The meaning of Norilsk’, *The Economist*, 15th March 2008