Can Chilean Copper Maintain Its World Market Share?

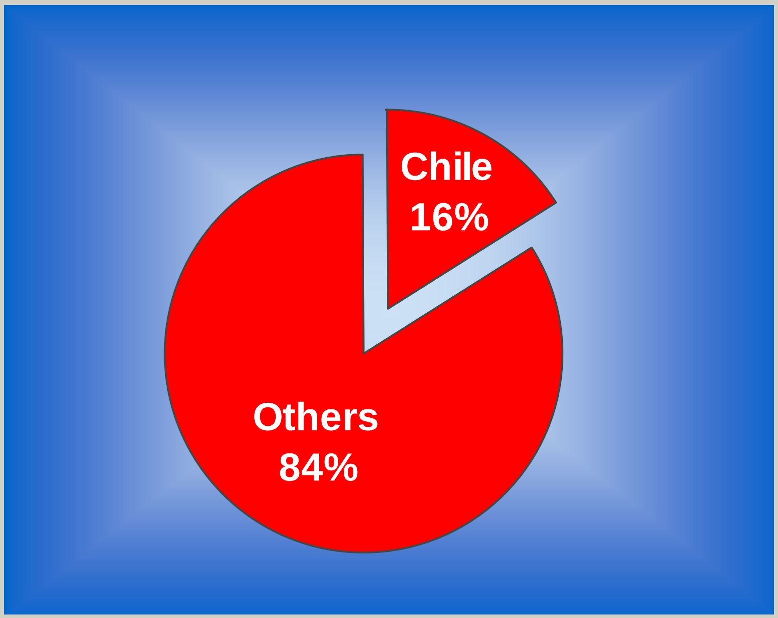
Diego Hernández
President Base Metals-BHP Billiton

CRU 4th. World Copper Conference

bhpbilliton

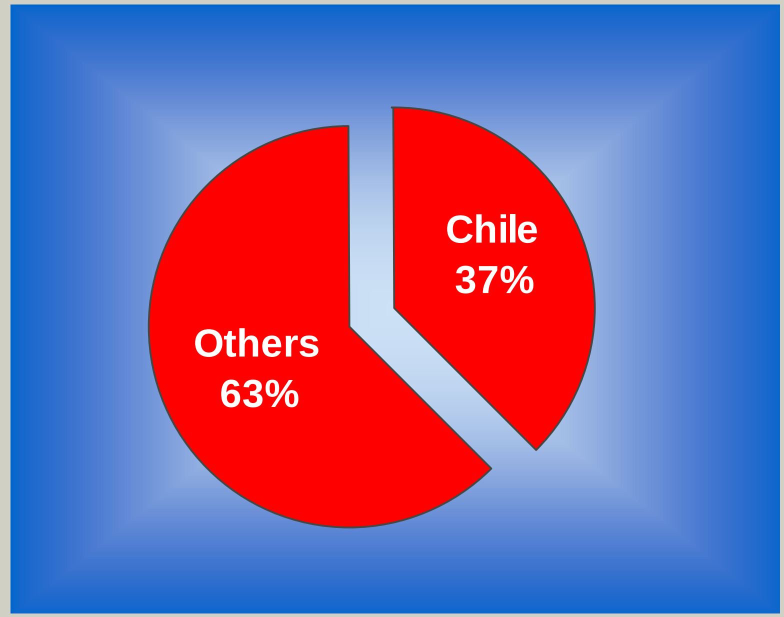
Chilean and World Mine Copper Production

1985



Chile	1,359,800 Ton Cu
Others	6,927,700 Ton Cu
Total World	8,287,500 Ton Cu

2004

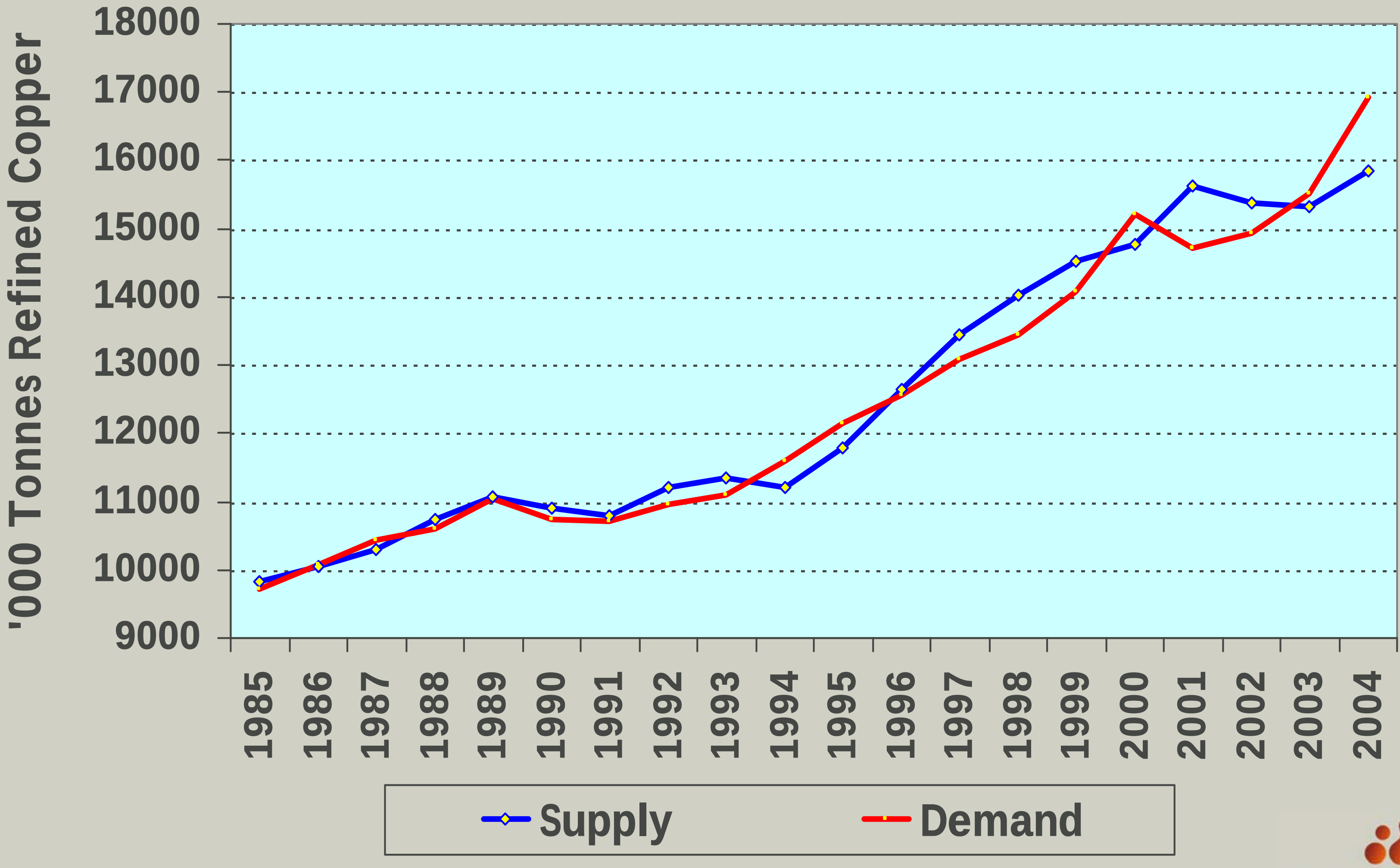


Chile	5,412,500 Ton Cu
Others	9,109,300 Ton Cu
Total World	14,521,800 Ton Cu

Source: International Copper Study Group (ICSG)

bhpbilliton

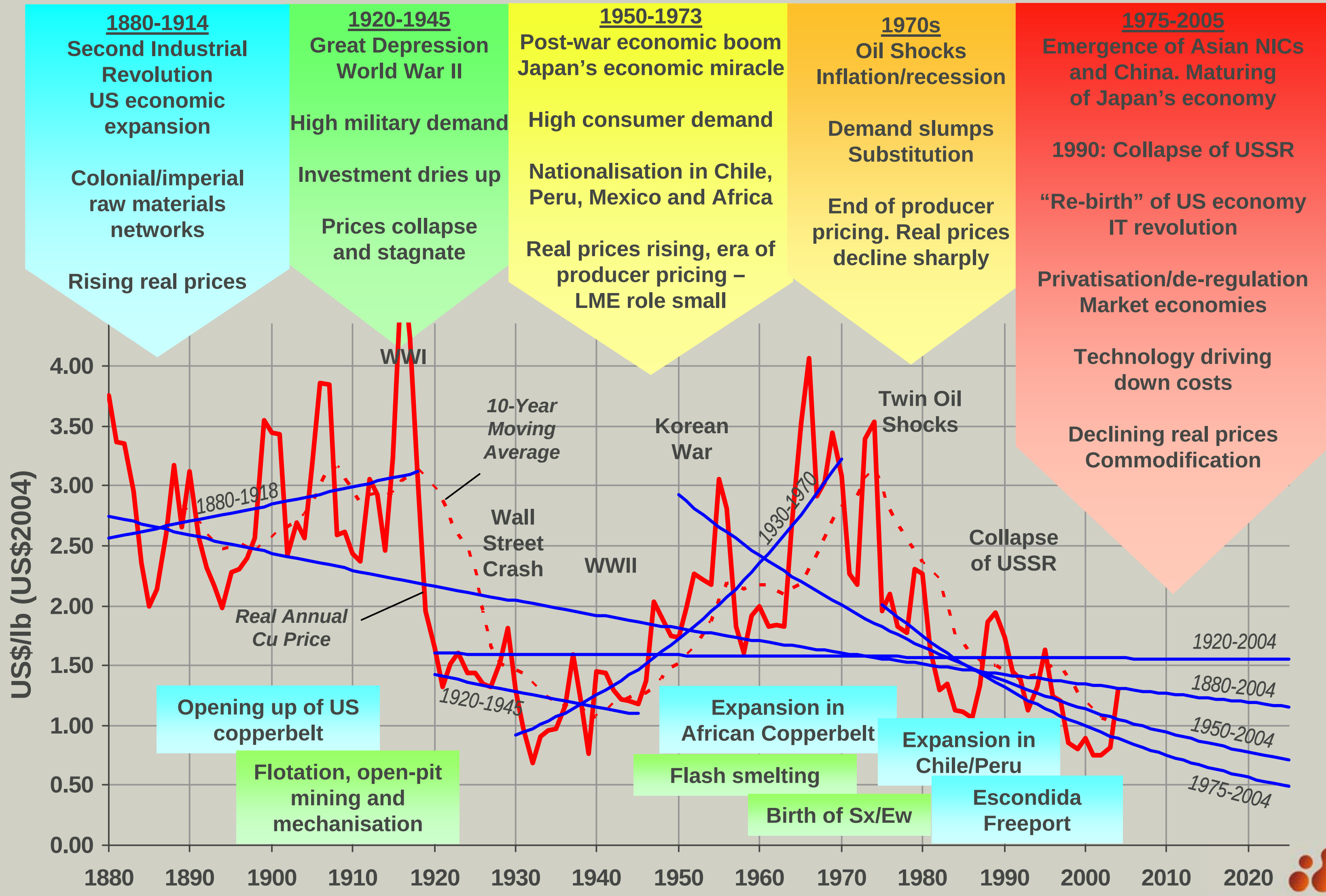
Trends for Global Refined Copper Market during the Last Two Decades



Source: ICSG, BHP Billiton

bhpbilliton

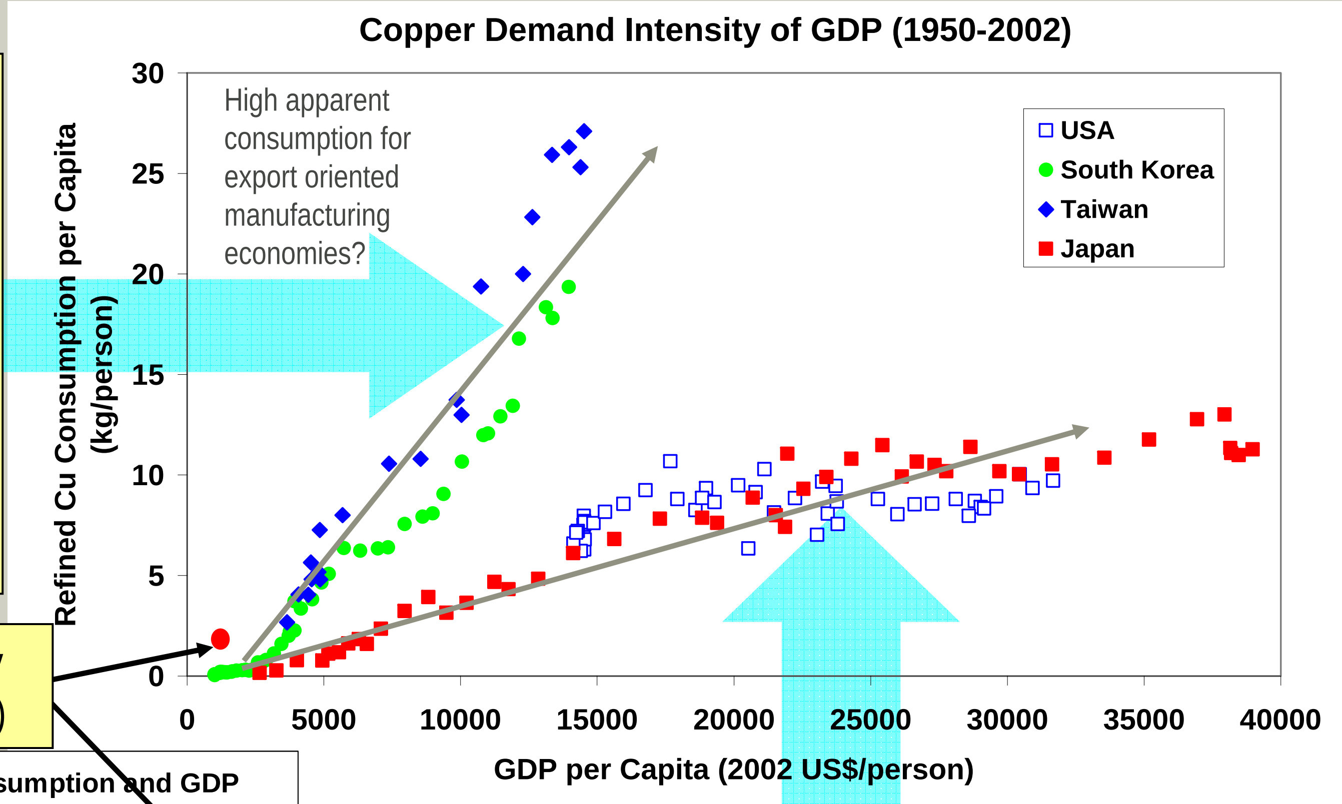
Global Copper Prices – 1880 to 2005



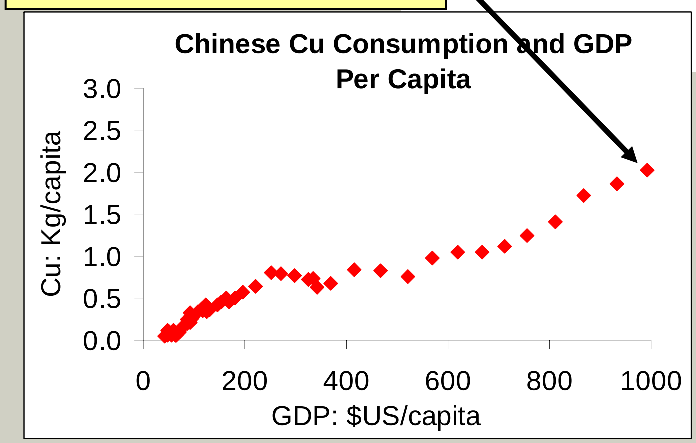
bhpbilliton

Market Demand for Copper: Industrialising countries have followed two distinctive “intensity” paths

Korea and Taiwan have shown very strong increases in copper intensity *per capita* as they industrialised since the 1970s



China’s position today (>doubled in 10 years)



Japan followed a path of slower, but consistent, increases in copper demand intensity of GDP (per capita) during its post-WWII industrialisation

bhpbilliton

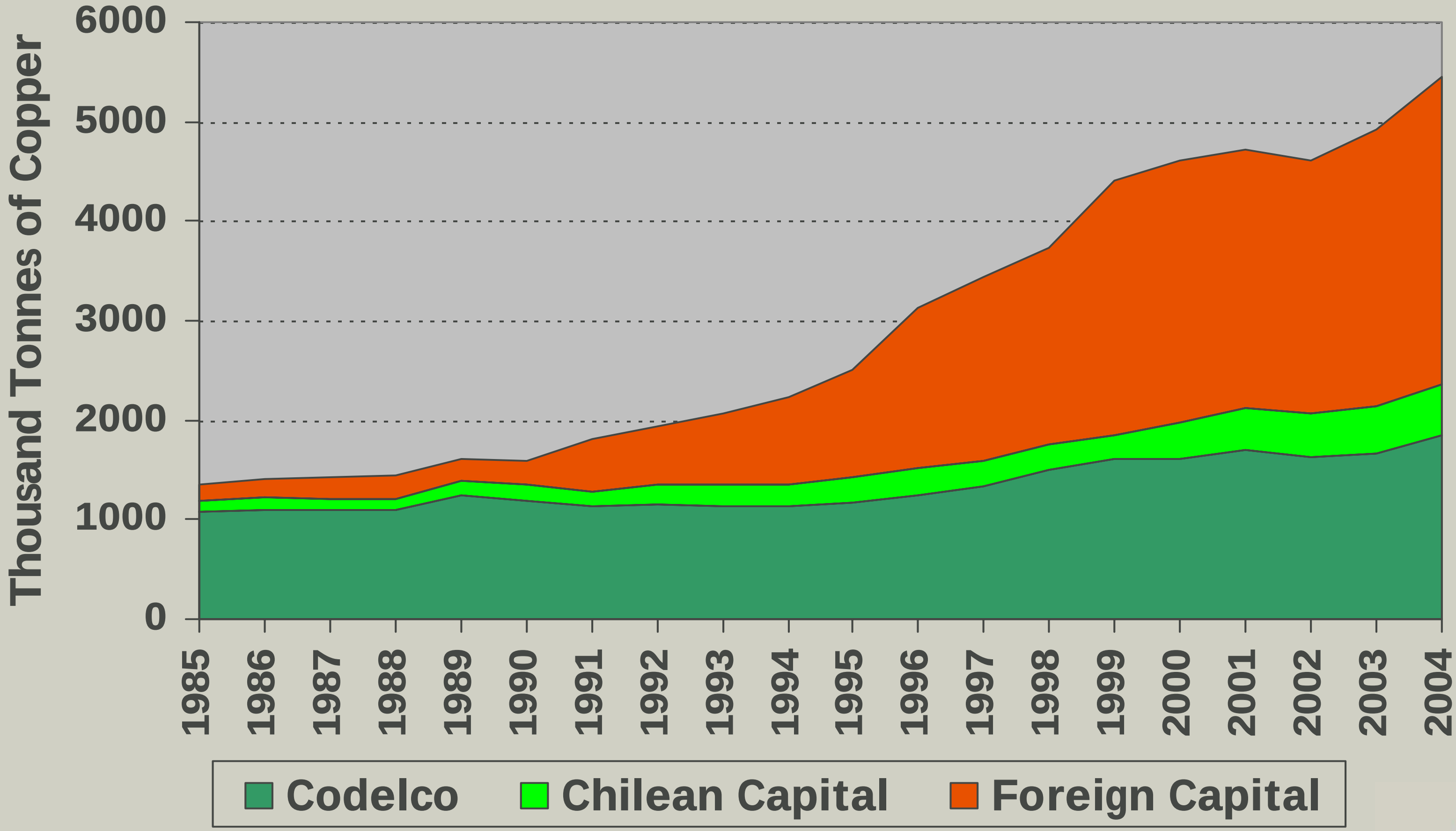
Copper Price Trends During the Last 20 Years
(Cash LME Copper Price in January 2005 terms)

- In real terms, copper price level at present is still lower than peaks in the 80's and 90's

bhpbilliton

Mine Copper Production in Chile by Source of Capital

- Not surprisingly, most of the increase in production during the last 15 years came from foreign investments



Source: Cochilco, BHP Billiton

Refined Copper Demand Forecast

- According to the most respected market analysts, until 2010 the average annual growth in refined copper demand would account for 631,000 tonnes of copper (3.5% per annum)

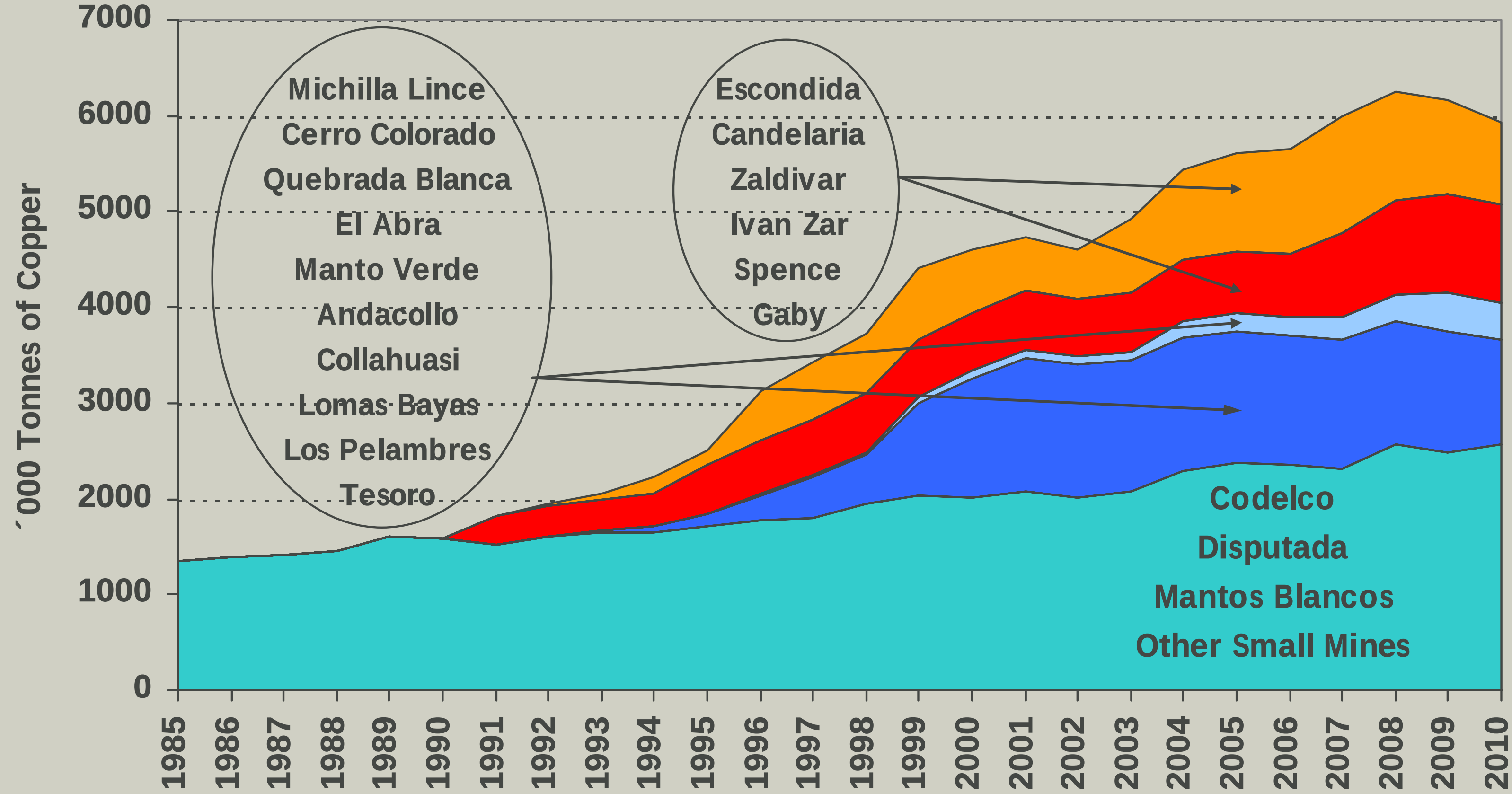
Demand growth (% p.a.)		Calendar Year 2005	2006	2007	2008	2009	2010	Total 2005-10	per year 2005-10
Company	Analyst 1	4.4%	3.9%	4.0%	3.3%	2.7%	2.1%	22.1%	3.4%
	Analyst 2	2.4%	3.5%	2.8%	3.1%	4.1%	n.a.	16.9%	3.2%
	Analyst 3	3.5%	1.4%	6.9%	5.3%	-0.4%	6.2%	25.0%	3.8%
	Average	**3.4%**	**2.9%**	**4.6%**	**3.9%**	**2.1%**	**4.2%**	**23.0%**	**3.5%**

Refined Copper Demand (kmt)		Calendar Year 2004e	2005	2006	2007	2008	2009	2010	Total 2005-10	per year 2005-10
Company	Analyst 1	16,936	17,674	18,357	19,084	19,719	20,256	20,681	3,745	624
	Analyst 2	16,755	17,157	17,758	18,255	18,821	19,592	n.a.	2,837	567
	Analyst 3	16,801	17,388	17,640	18,858	19,857	19,778	21,007	4,206	701
	Average	**16,831**	**17,407**	**17,918**	**18,732**	**19,466**	**19,875**	**20,844**	**4,013**	**631**

Source: CRU, Bloomsbury and Brook Hunt

bhpbilliton

Copper Mining Projects in Chile According to Geological Knowledge of Deposits before 1975



Source: BHP Billiton

DEPOSITS DISCOVERED AFTER 1975

- Brownfield expansion
- Greenfield project

DEPOSITS DISCOVERED BEFORE 1975 PARTIALLY KNOWN / EXPLORED

- Brownfield expansion
- Greenfield project

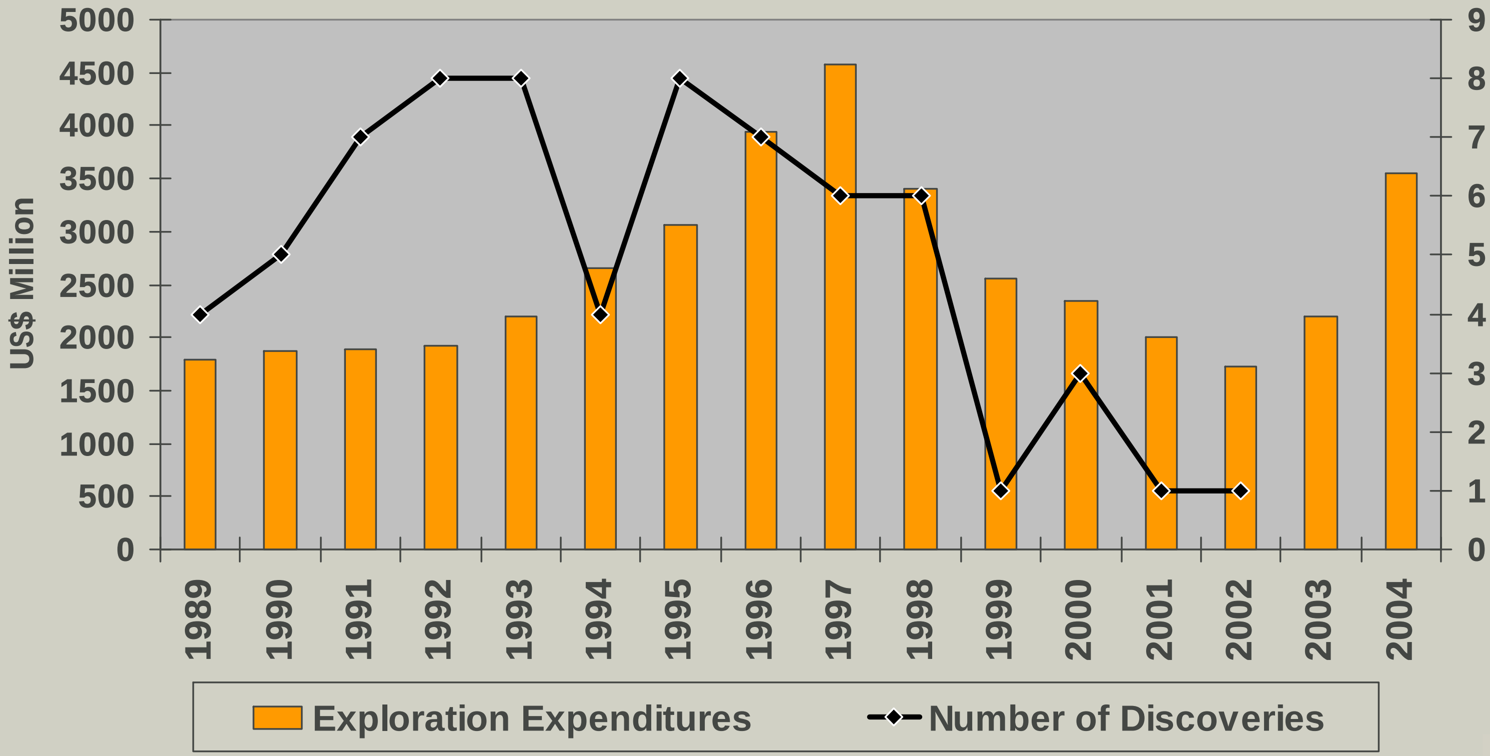
Copper mines starting production after 1990

- Copper mines in production before 1990 (including brownfield expansions)

bhpbilliton

Exploration expenditure and the number of discoveries in the global non-ferrous sector

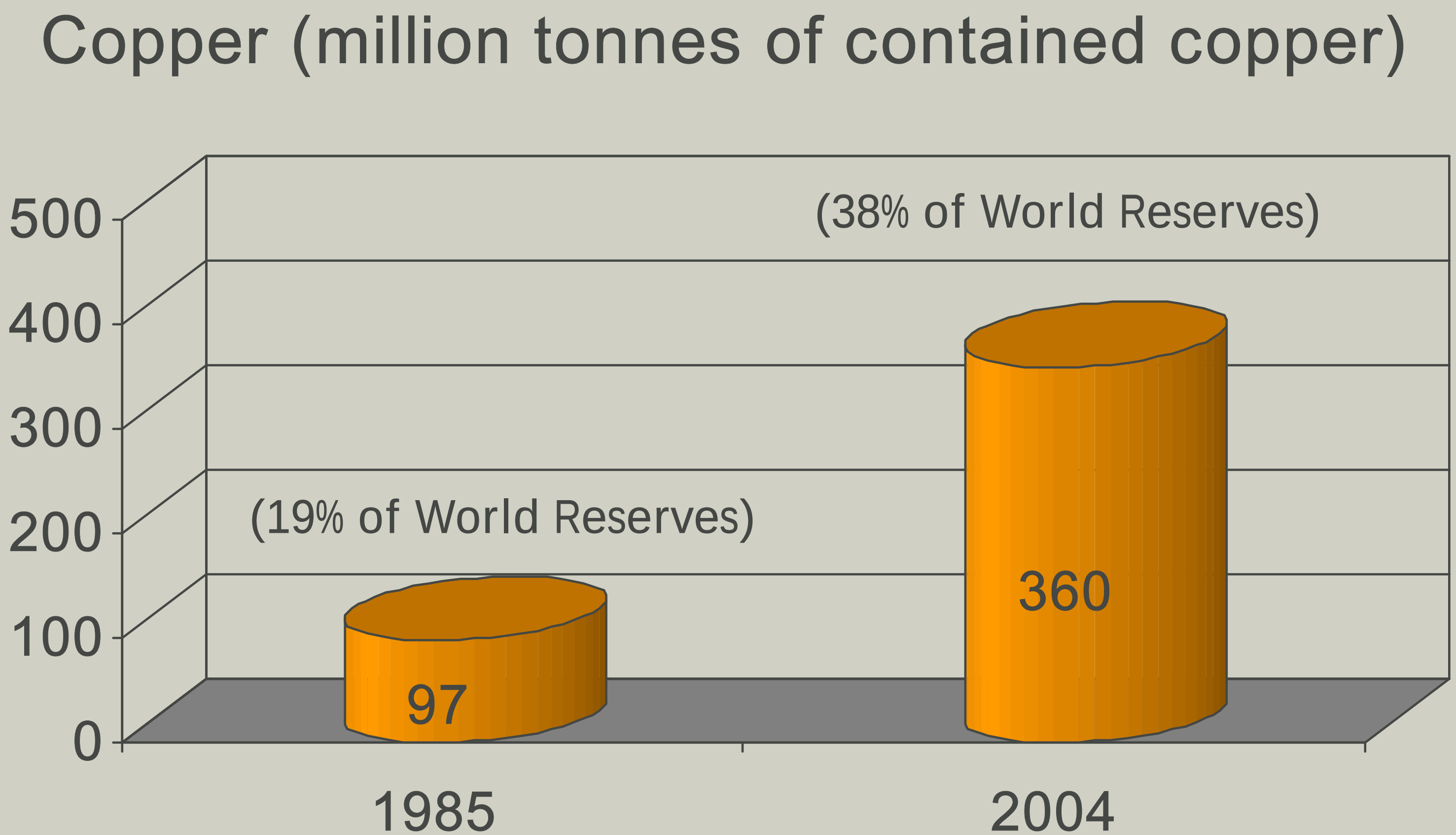
- Investment in geological exploration more than doubled in the 90's peaking in 1997
- Exploration expenditures declined very sharply in tandem with metal prices
- Exploration expenditures are starting to recover again



Source: Metals Economics Group

bhpbilliton

Development of Copper Reserves in Chile



Source: Metals Economics Group

bhpbilliton

The Fraser Institute Annual Survey of Mining Companies

Policy Potential

Place	Rank 2005	Rank 2004	Rank 2003
Nevada	1	1	1
Ireland	2	16	*
Manitoba	3	6	4
Utah	4	26	14
Saskatchewan	5	9	10
Spain	6	*	*
Quebec	7	8	7
Ontario	8	16	8
Alberta	9	7	1
Tasmania	10	3	*
Chile	14	2	3

- Chile dropped 12 places to #14 in the policy potential ranking
- Although it kept its second position as current mining potential …
- That position might also be affected if other countries were to adopt best practices and fix their investment climate

Current Mineral Potential

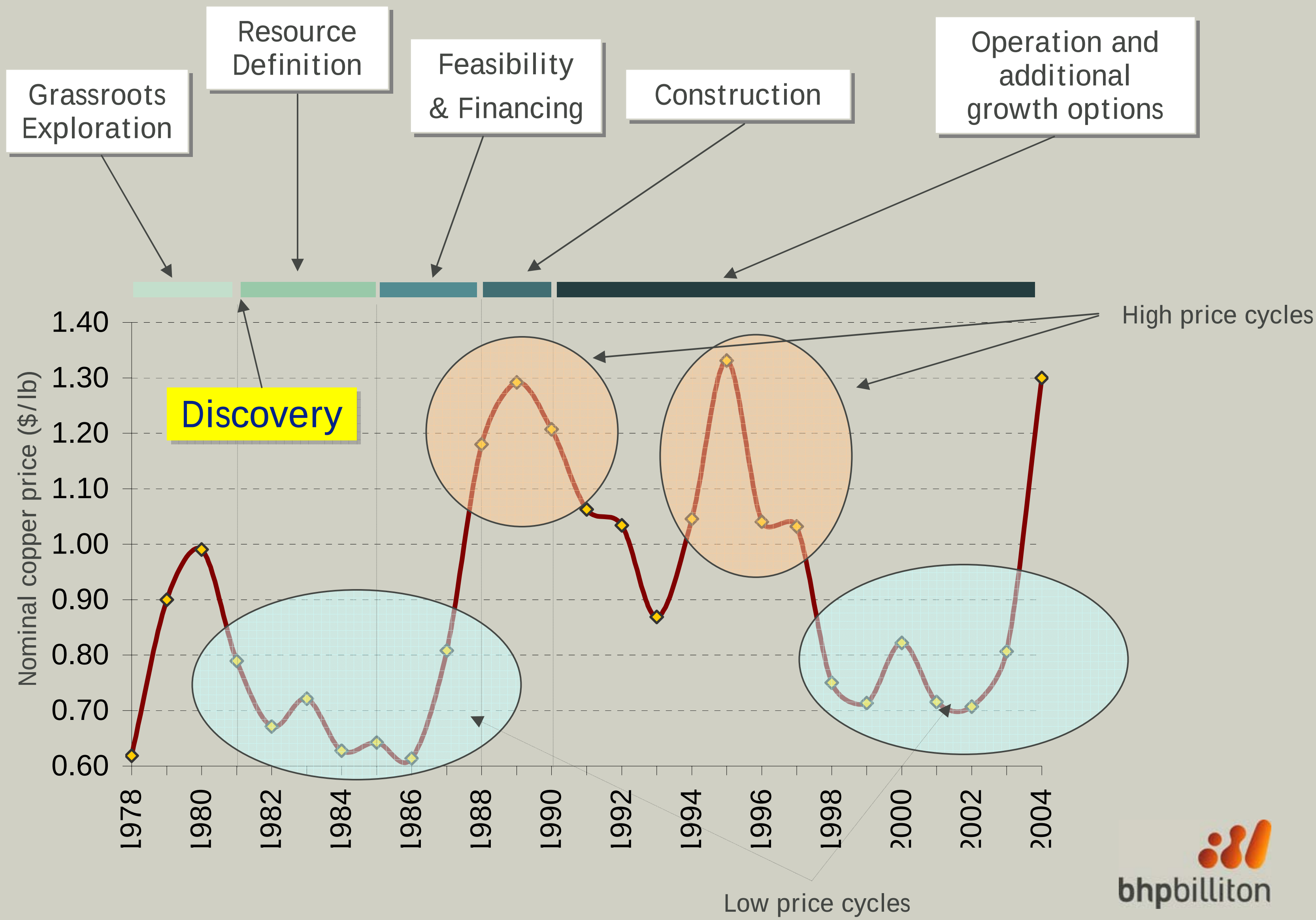
Place	Rank 2005	Rank 2004	Rank 2003
Nevada	1	4	5
Chile	2	2	1
Quebec	3	3	3
Western Australia	4	1	
Mexico	5	14	9
Tasmania	6	20	
Finland	7		
Northern Territory,AUS	8	8	
Brazil	9	11	7
Ontario	10	6	4

Best Practices Mineral Potential

Place	Rank 2005	Rank 2004	Rank 2003
Tasmania	1	34	
Nevada	2	21	9
Alaska	3	24	5
NWT, Canada	4	13	8
Western Australia	5	1	
Indonesia	6	6	17
Peru	7	4	6
Queensland	8	3	
PNG	9		26
Nunavut, CAN	10	14	12
Chile	13	9	2

bhpbilliton

Mining investment cycle – Escondida case study



bhpbilliton

Projects in the pipeline – Potential production by 2010

	150,000 tpy Cu or more	100,000 tpy Cu or more	50,000 tpy Cu or more	Less than 50,000 tpy Cu
Chile	993,000 (5)	-	-	67,000 (4)
Others	400,000 (2)	610,000 (5)	726,000 (11)	668,000 (33)
TOTAL	1,393,000 (7) 40%	610,000 (5) 18%	726,000 (11) 21%	735,000 (37) 21%

Total by 2010 3,464,000 tpy Cu

Source: Public sources and BHP Billiton

bhpbilliton

Conclusions

2005 – 2010

- Chilean production should continue to grow but not enough to keep 2004 market share

2010 onwards

- Market share should decrease (unless additional effort on exploration starting now)