

钼供应量前景分析

2014年9月

Jim Lennon

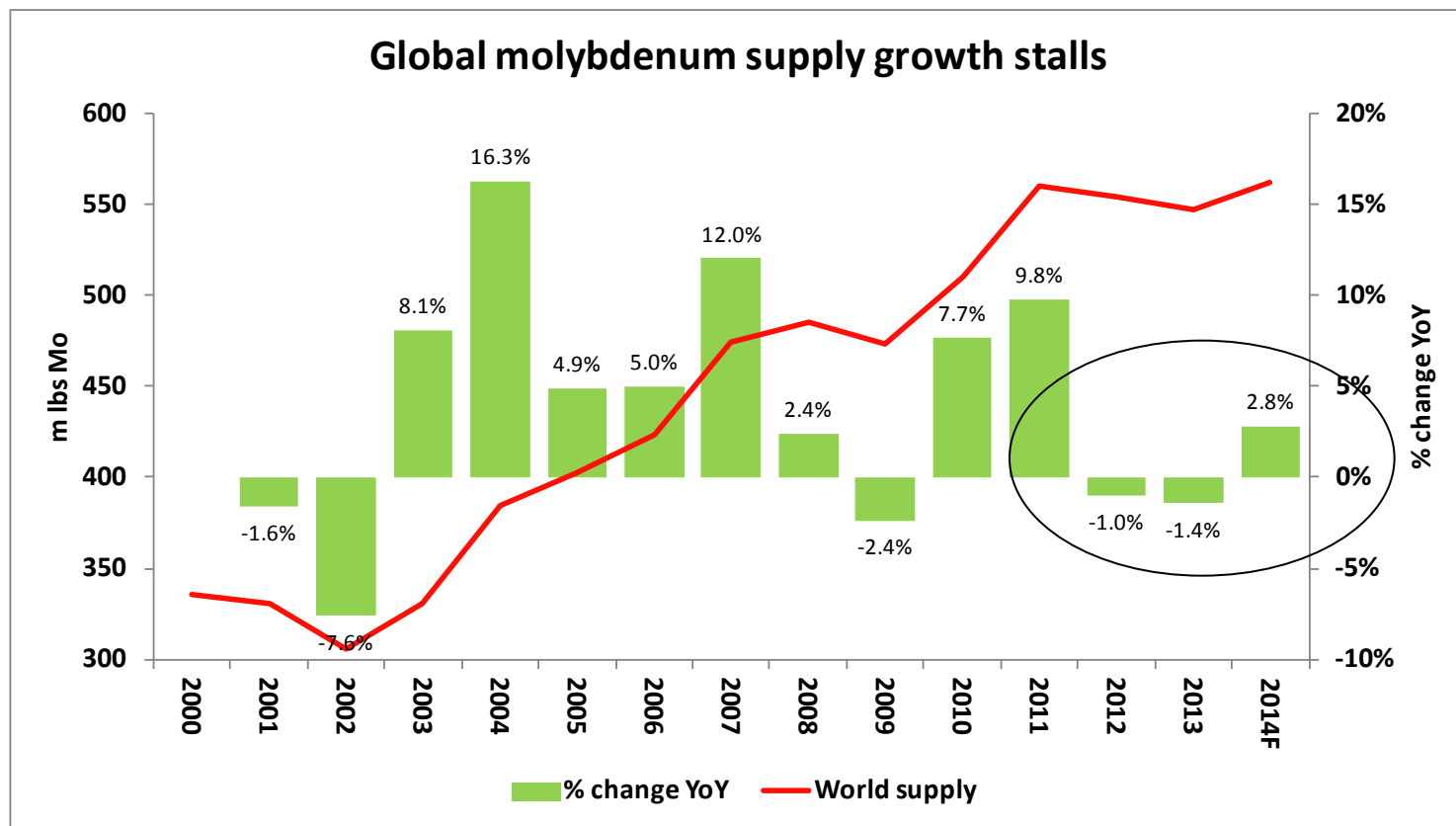
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报告提纲

- 供应量问题
- 中国扮演的角色
- 新项目
- 需求情况— 需要多少新增供应量

钼供应量的未来趋势



Source: WBMS, Company Reports, Cochilco, Peru Mining Ministry Macquarie Research, September 2014

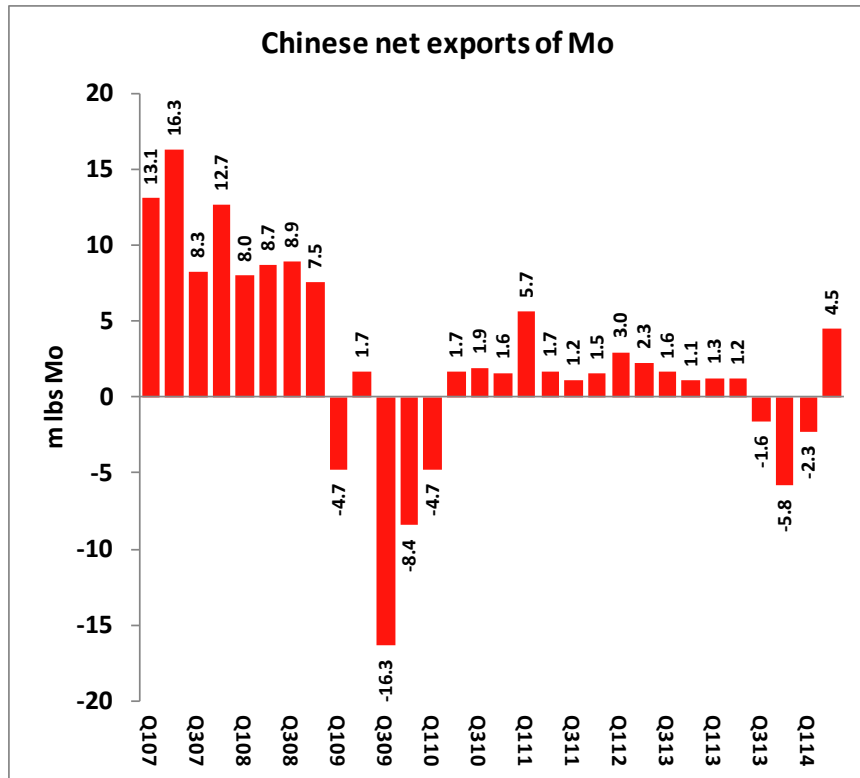
供应量问题: 已知和未知的...

- 容易跟踪中国以外其它矿山的供应量 - 个别企业除外，多数公司或国家有季度报表。
- 很难跟踪矿石的焙烧量和冶炼量，以及库存变化 - 用矿石产量推算量，有时是不准确的。
- 由于品位不同，而且矿山经常调整生产计划，所以很难预计伴生矿的供应量，伴生产品生产企业矿只知道来年的计划。
- 中国与其它国家的贸易量是可知的，反映了中国的净供应量对其它国家价格的影响

我们不了解...中国

- 2013年以来，没有矿山排名月报
- 以前的矿山排名明显低估了实际产量
- 怀疑当前的排名低估了实际产量
- 怀疑2009年造成大量库存（净进口量激增）
- 目前这些库存量仍然存在还是已经消耗了？
- SRB的作用（据说目前在买入）。
- 现有和未来矿山产能基本未知
- 行业的成本构成— 原料和成品的价格？

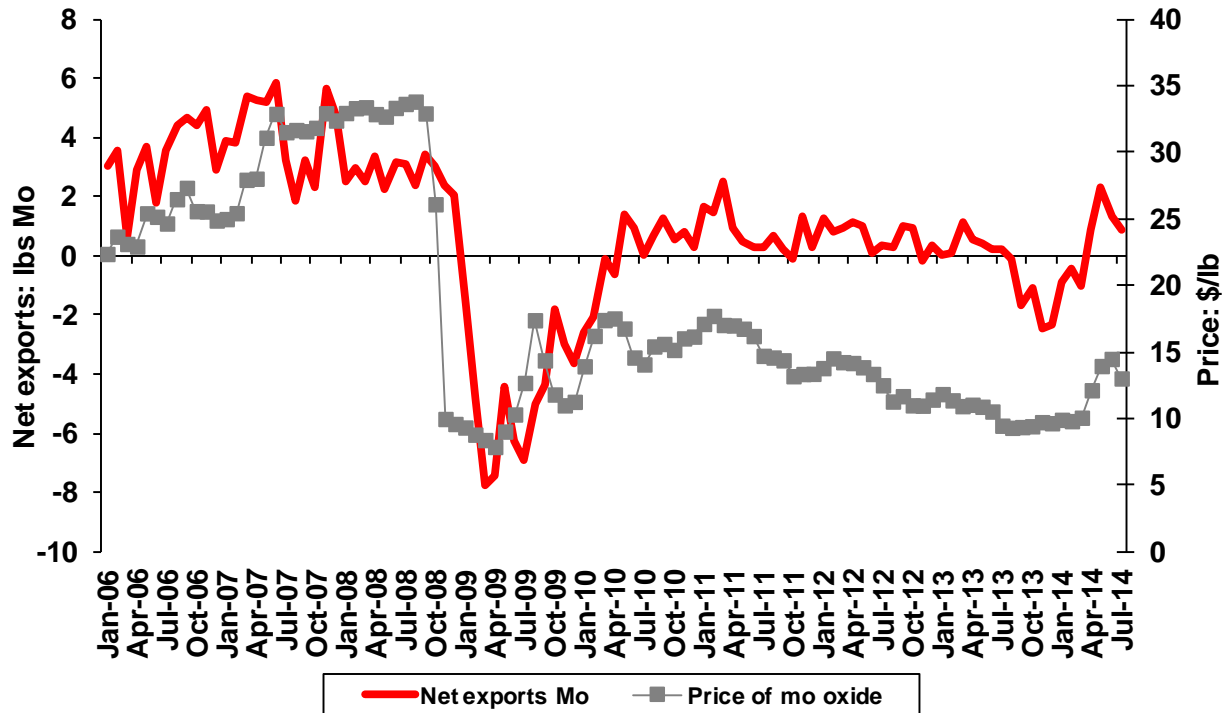
中国以外的市场供应量能够跟踪 - 中国的净出口量波动是关键



Source: WBMS, Company Reports, Cochilco, Peru Mining Ministry Macquarie Research, September 2014

中国钼出口量的波动与价格密切相关

Chinese net trade in moly (Mo content) and prices



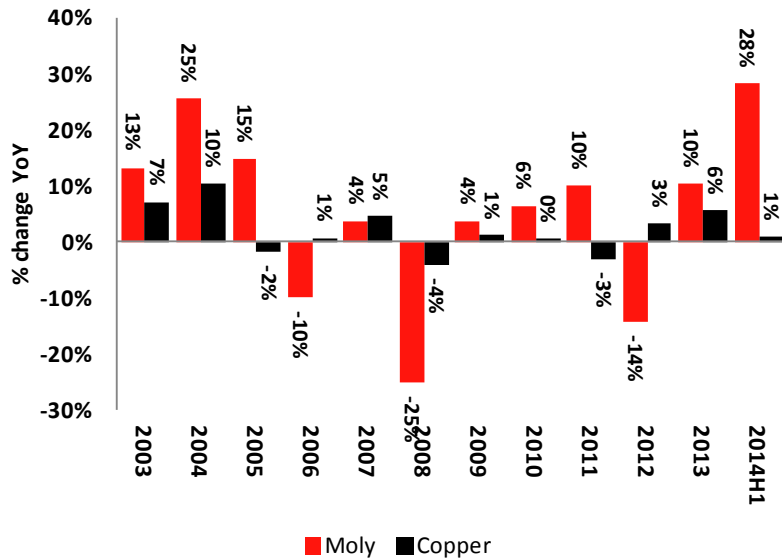
Source: Chinese Customs, Platts, Macquarie Research, September 2014



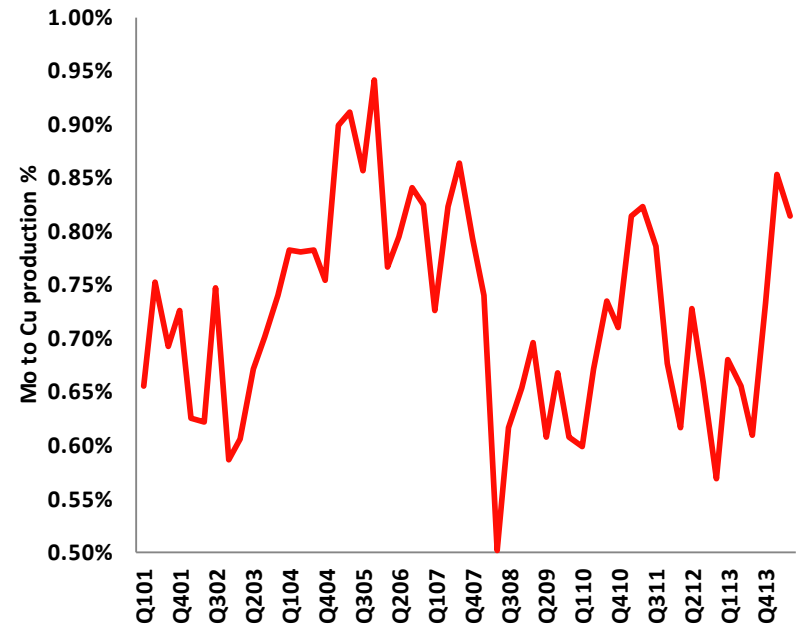
钼产量比铜更不稳定

呈现周期性，周期长度不明显

Changes in Chilean copper and moly mine production



Chilean moly to copper ratio %

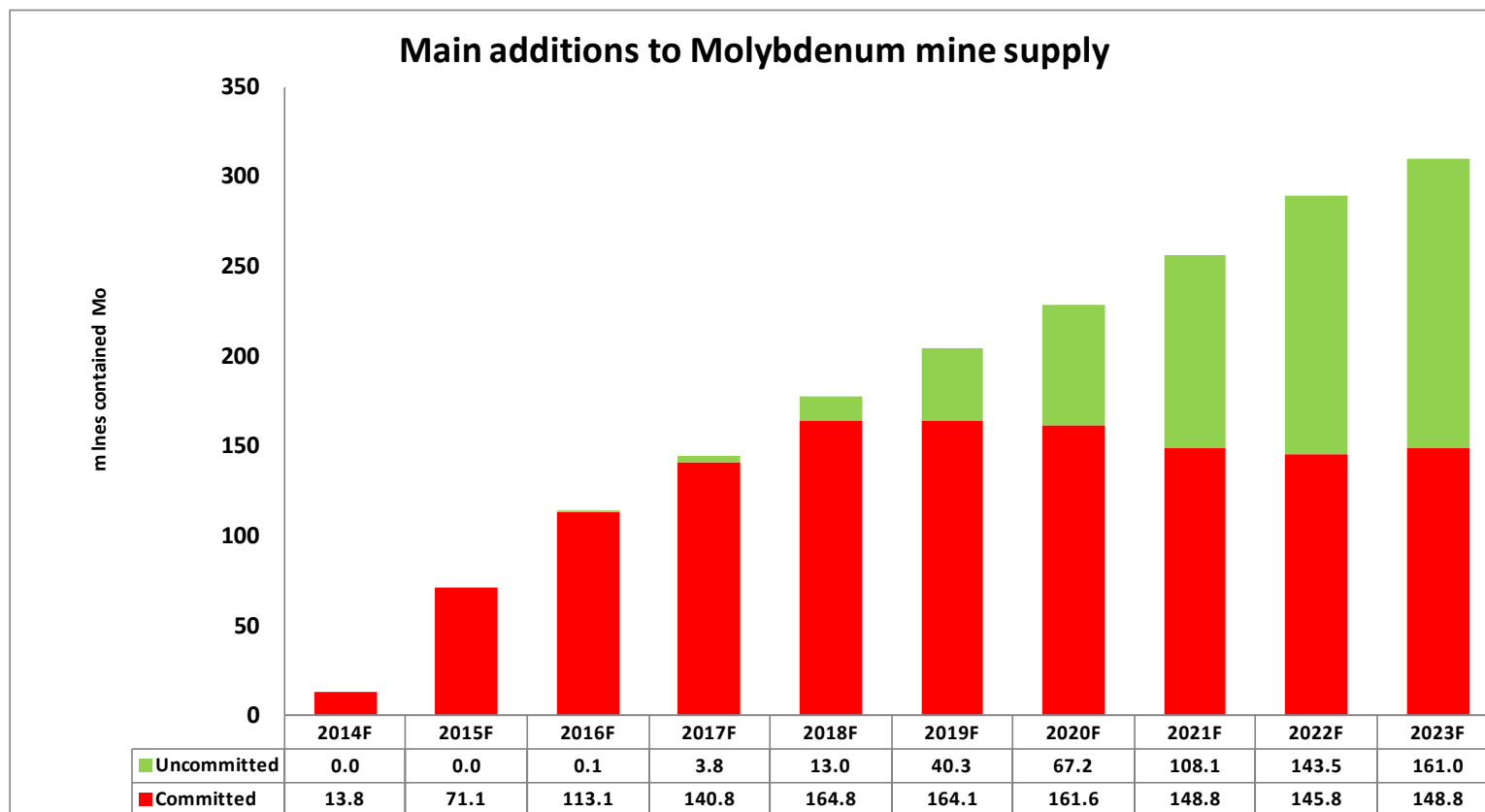


Source: Cochilco, Macquarie Research, September 2014

新供应量前景

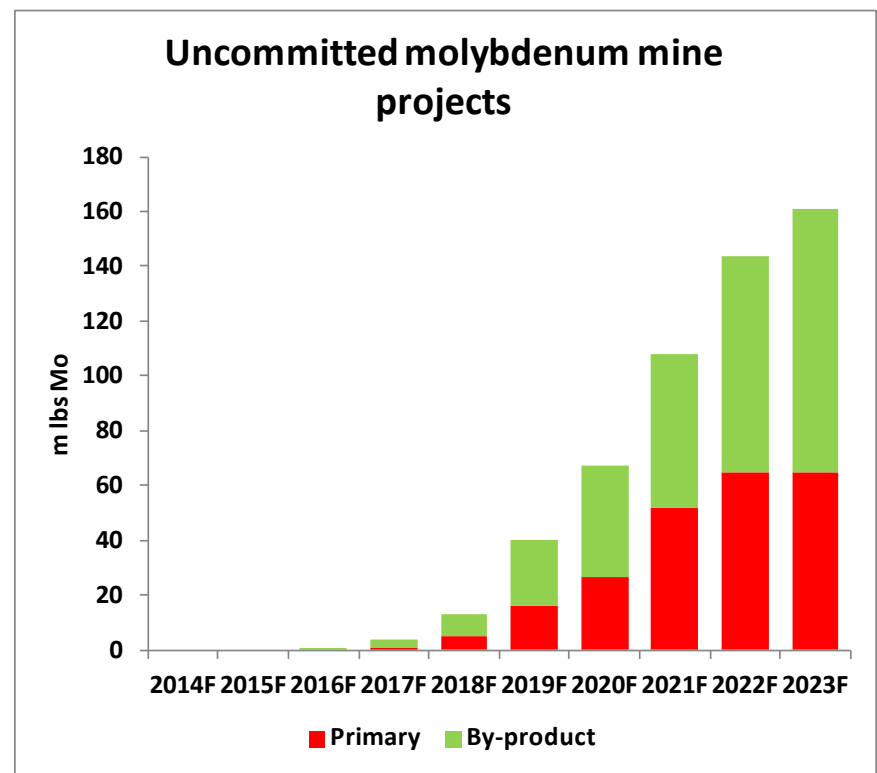
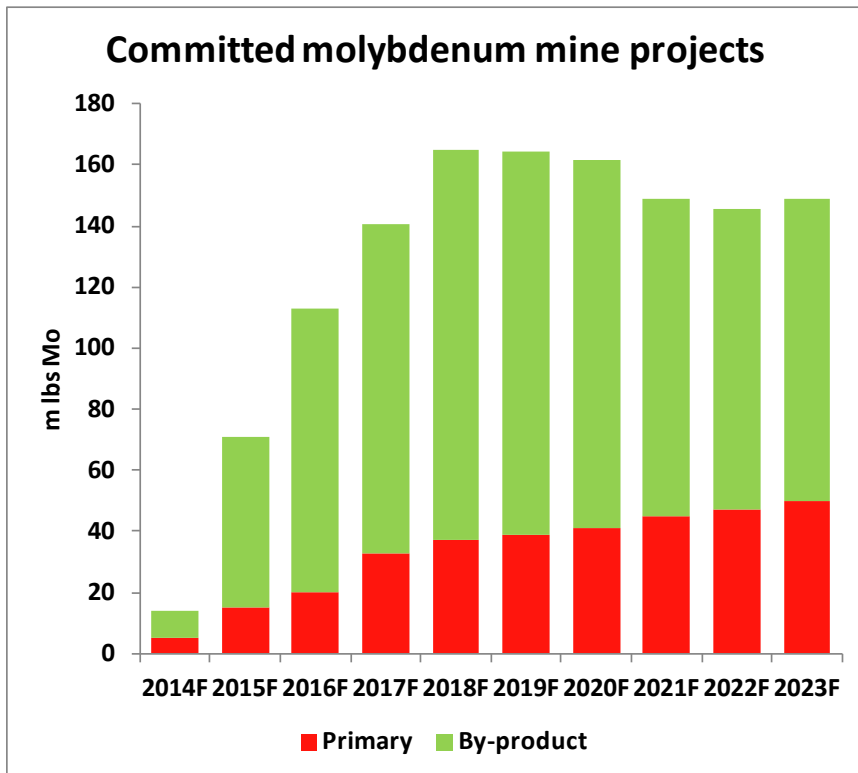
- 项目很多...但是多少个项目能融到资?
- 主要增长来自铜伴生项目 - 多数伴生项目不会受钼价左右，但是在资金短缺的形势下，副产品生产装备的建设同样需要资金
- 中国是确定多少项目上马的不定因素 - 中国会成为主要的净进口国吗？

目前的主要项目-2023年产量将超过 3亿磅/年



Source: Company reports, Macquarie Research, September 2014

新供应量主要来自于伴生矿—实际产量预测



Source: Company reports, Macquarie Research, September 2014

主要的新增供应量

| <u>County</u> | <u>Company</u> | <u>Project</u> | <u>Timing</u> | <u>Status</u> | <u>Capacity</u> |
|------------------------------------|-------------------------------|----------------------|---------------|--------------------|-----------------|
| <u>Committed primary</u> | | | | | |
| China | Yuchun Luming Moly Mining | Luming | 2014 | Commissioning | 25.0 |
| China | Various | Various | 2015-2023 | Likely | 25.0 |
| Total committed primary | | | | | 50.0 |
| <u>Committed by-product</u> | | | | | |
| Chile | KGHM/Sumitomo | Sierra Gorda | Late-2014 | Commissioning | 35.0 |
| Chile | Pan Pacific Copper | Caserones | Late-2014 | Commissioning | 6.5 |
| Panama | First Quantum | Cobre Panama | 2017 | Under construction | 7.0 |
| Peru | MMG/Guoxin/CITCI | Las Bambas | 2017 | Under construction | 11.0 |
| Peru | Hudbay | Constancia | 2016 | Under construction | 3.2 |
| Peru | Freeport/Teck/Glencore/BHPB | Cerro Verde | 2017 | Planned | 10.0 |
| Peru | Chinalco | Toromocho | 2014 | Commissioning | 11.0 |
| USA | Freeport McMoran | Morenci expansion | 2016 | Under construction | 11.8 |
| USA | Capstone Mining | Pinto Valley | 2013 | Commissioning | 1.5 |
| USA | Grupo Mexico | Mission | 2013 | Commissioning | 1.1 |
| Mexico | Grupo Mexico | Buenavista del Cobre | 2013 | Commissioning | 10.0 |
| Iran | IMIDRO (National Iran Copper) | Nouchoon | 2016 | Planned | 2.2 |
| Iran | IMIDRO (National Iran Copper) | Sar Cheshmeh | 2015 | Planned | 6.0 |
| Total committed by-product | | | | | 116.3 |
| Total committed | | | | | 166.3 |

Source: Company reports, Macquarie Research, September 2014

主要的新增供应量

| <u>Country</u> | <u>Company</u> | <u>Project</u> | <u>Timing</u> | <u>Capacity</u> |
|--------------------------------------|---------------------------|-------------------------|---------------|-----------------|
| <u>Uncommitted primary</u> | | | | |
| Canada | Avanti Mining | Kitsault | 2017 | 23.4 |
| USA | General Moly | Mt Hope | 2018? | 40.0 |
| Australia | Shanxi Donghui | Merlin | 2020+ | 1.7 |
| Total uncommitted | | | | 65.1 |
| <u>Uncommitted by-product</u> | | | | |
| USA | Rio Tinto | Bingham Canyon MAP | After 2020? | 30.0 |
| USA | Augusta Resources | Rosemont | 2018 | 7.0 |
| USA | General Moly/Posco | Liberty | 2020? | 14.0 |
| Chile | Teck Metals | Quebrada Blanca Phase 2 | 2021 | 8.0 |
| Chile | Antofagasta | Centinela (Esperanza) | 2018/19? | 4.4 |
| Chile | Antofagasta | Los Pelambres | 2019 | 4.0 |
| Chile | Codelco | Salvador | 2021 | 5.0 |
| Chile | Goldcorp | El Pachon | 2022 | 15.0 |
| Peru | Anglo American/Mitsubishi | Quellaveco | 2018 | 8.0 |
| Armenia | Armenian Copper Programme | Teghout | 2016 | 0.2 |
| Argentina | Northern Orion | Agua Rica | 2018 | 13.2 |
| Mongolia | Mongolyn Alt (MAK) | Tsagaan Suvraga | 2017 | 1.0 |
| Kazakhstan | Dala Mining | Koktenkol | 2019 | 4.0 |
| Kazakhstan | Kazakhmys | Boschekul | 2017 | 3.6 |
| Total uncommitted | | | | 117.4 |
| Total uncommitted | | | | 182.5 |

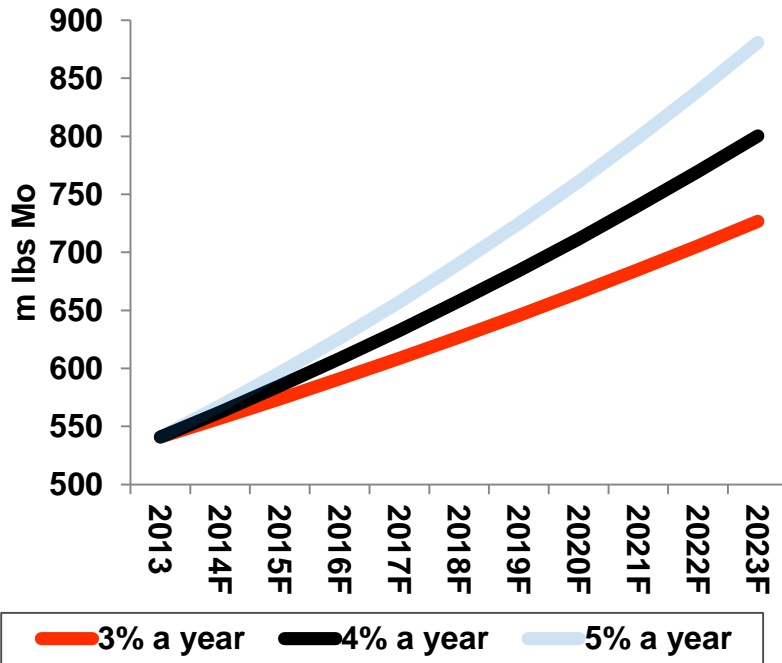
Source: Company reports, Macquarie Research, September 2014



需要增加多少产量？

潜在的增长空间

全球潜在的需求增长

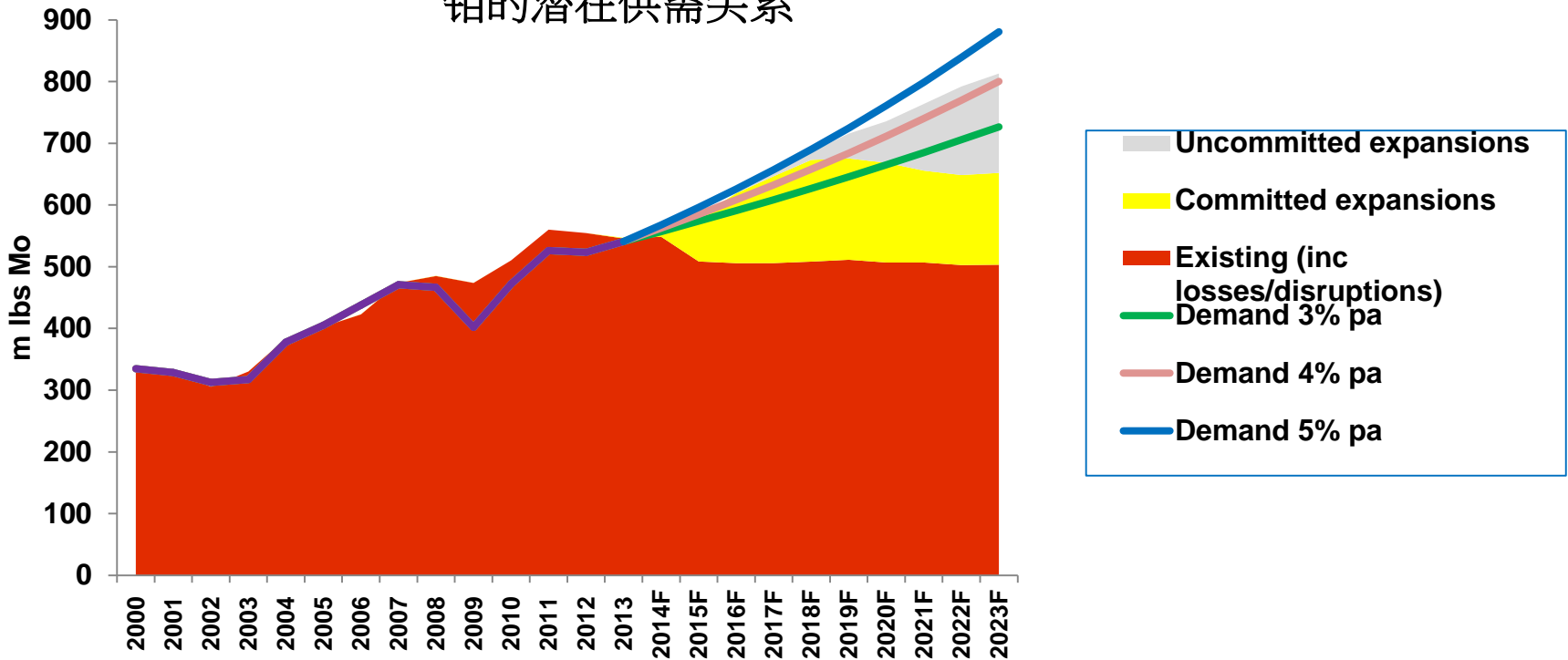


| m lbs Mo | 3% a year | 4% a year | 5% a year |
|--------------|-----------|-----------|-----------|
| 2013 | 541 | 541 | 541 |
| 2023F | 727 | 800 | 881 |
| % growth | 34% | 48% | 63% |
| Growth m lbs | 186 | 259 | 340 |
| Growth '000t | 84 | 118 | 154 |

Source: SMR, Macquarie Research, September 2014

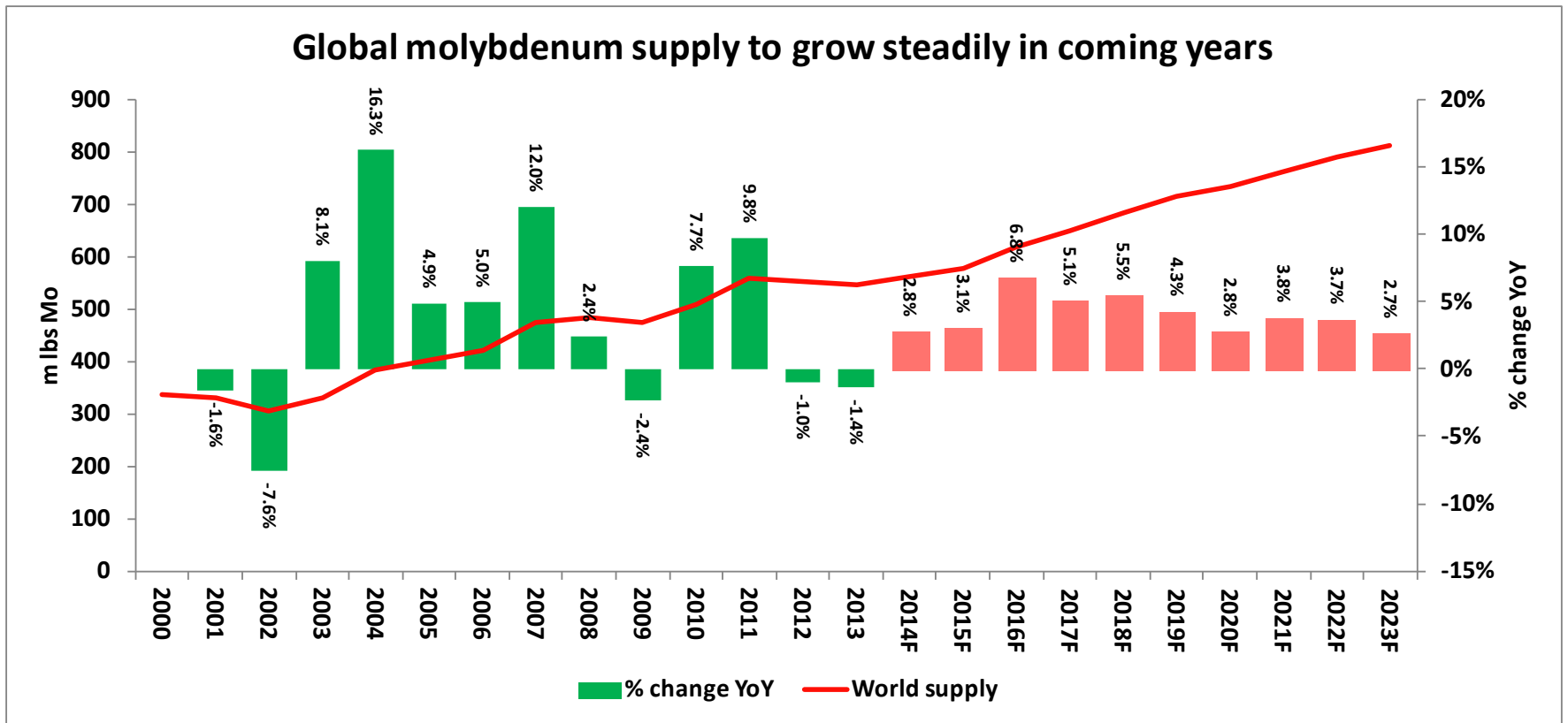
未来可能出现供需平衡

钼的潜在供需关系



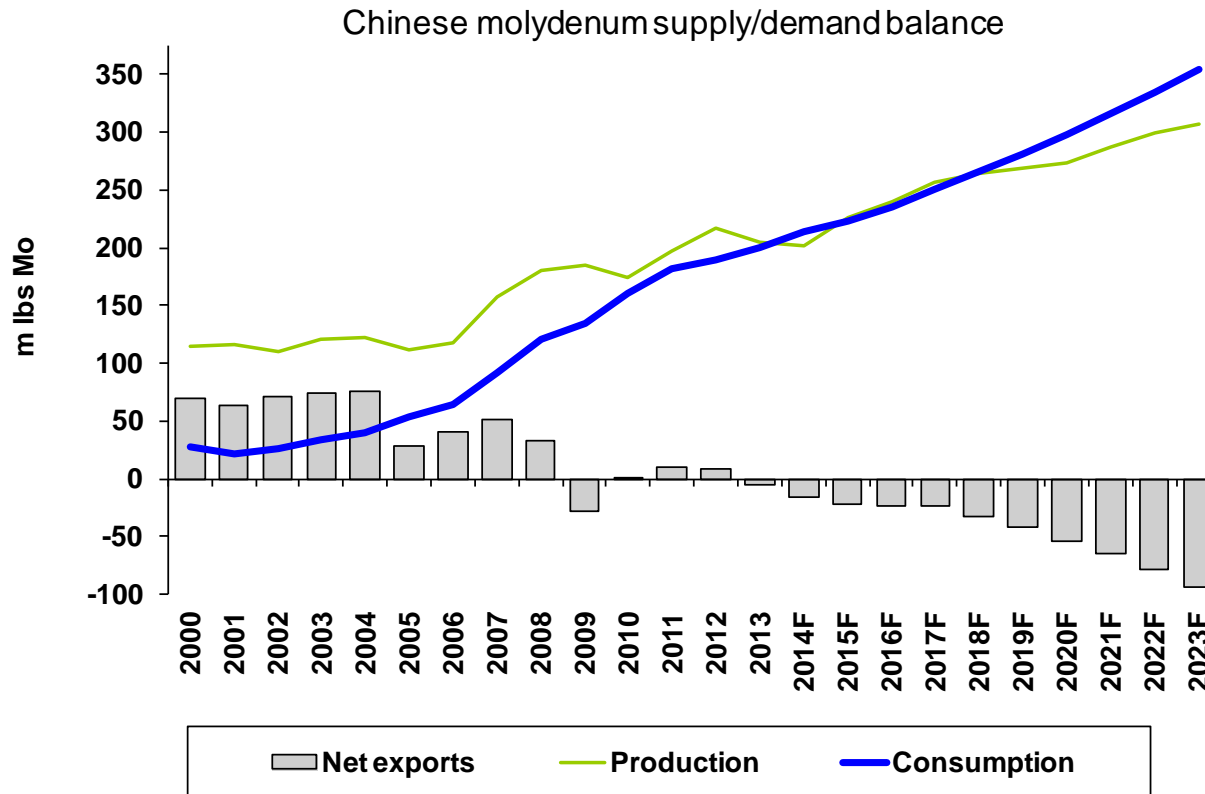
Source: Company reports, SMR, Macquarie Research, September 2014

我们对钼供应量增长趋势的看法



Source: WBMS, Company Reports, Cochilco, Peru Mining Ministry Macquarie Research, September 2014

关键假设: 中国将逐步成为净进口国 (假设年需求增长率为 6%)



Source: Chinese Customs, IMO, Macquarie Research, September 2014

重要结论

- 年增长率3%，2021年前，现有和在建产能之和能够满足市场需求，2023年还需要再增加7500万磅。
- 年增长率4%，2019年需要一些尚未确定的新增供应量，2023年需要再增加1亿磅。
- 年增长率5%，2018/19年市场供应量将严重不足，2023年需求量将高达2.3亿磅（这是一个不太可能出现的“高点”）
- 关键是中国产量数据缺失 – 据保守估计，2013–2023年中国新增供应量接近6500磅 – 中国的供应量取决于价格。



Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return > 3% in excess of benchmark return
 Neutral – return within 3% of benchmark return
 Underperform – return > 3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield.

Macquarie – Asia/Europe

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected <-10%

Macquarie First South - South Africa

Outperform – return > 10% in excess of benchmark return
 Neutral – return within 10% of benchmark return
 Underperform – return > 10% below benchmark return

Macquarie - Canada

Outperform – return > 5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return > 5% below benchmark return

Macquarie - USA

Outperform – return > 5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return > 5% below benchmark return

Volatility index definition*

This is calculated from the volatility of historic price movements.

Very high–highest risk – Stock should be expected to move up or down 60-100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40-60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30-40% in a year.

Low–medium – stock should be expected to move up or down at least 25-30% in a year.

Low – stock should be expected to move up or down at least 15-25% in a year.

* Applicable to Australian/NZ stocks only

Recommendation – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense

Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit /efpowa*

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit /average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 March 2014

| | AU/NZ | Asia | RSA | USA | CA | EUR | |
|--------------|--------|--------|--------|--------|--------|--------|---|
| Outperform | 51.32% | 60.23% | 41.25% | 40.21% | 58.52% | 48.74% | (for US coverage by MCUSA, 8.21% of stocks followed are investment banking clients) |
| Neutral | 34.54% | 24.97% | 40.00% | 53.19% | 35.56% | 32.77% | (for US coverage by MCUSA, 6.67% of stocks followed are investment banking clients) |
| Underperform | 14.14% | 14.80% | 18.75% | 6.60% | 5.92% | 18.49% | (for US coverage by MCUSA, 0.00% of stocks followed are investment banking clients) |

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