

# Resource challenges: navigating through volatility to create long-term value

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**RioTinto**



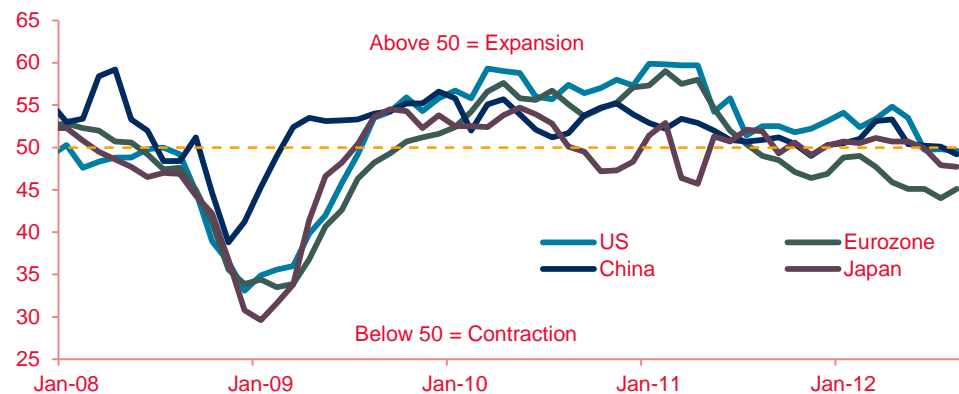
# Discussion topics



# Short term market uncertainty and volatility continue

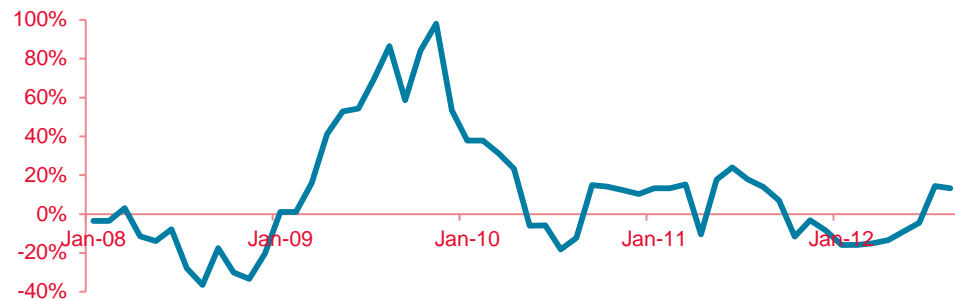
## Synchronised slowdown underway

Purchasing Managers Index – Manufacturing



## Monthly new home sales growth in China

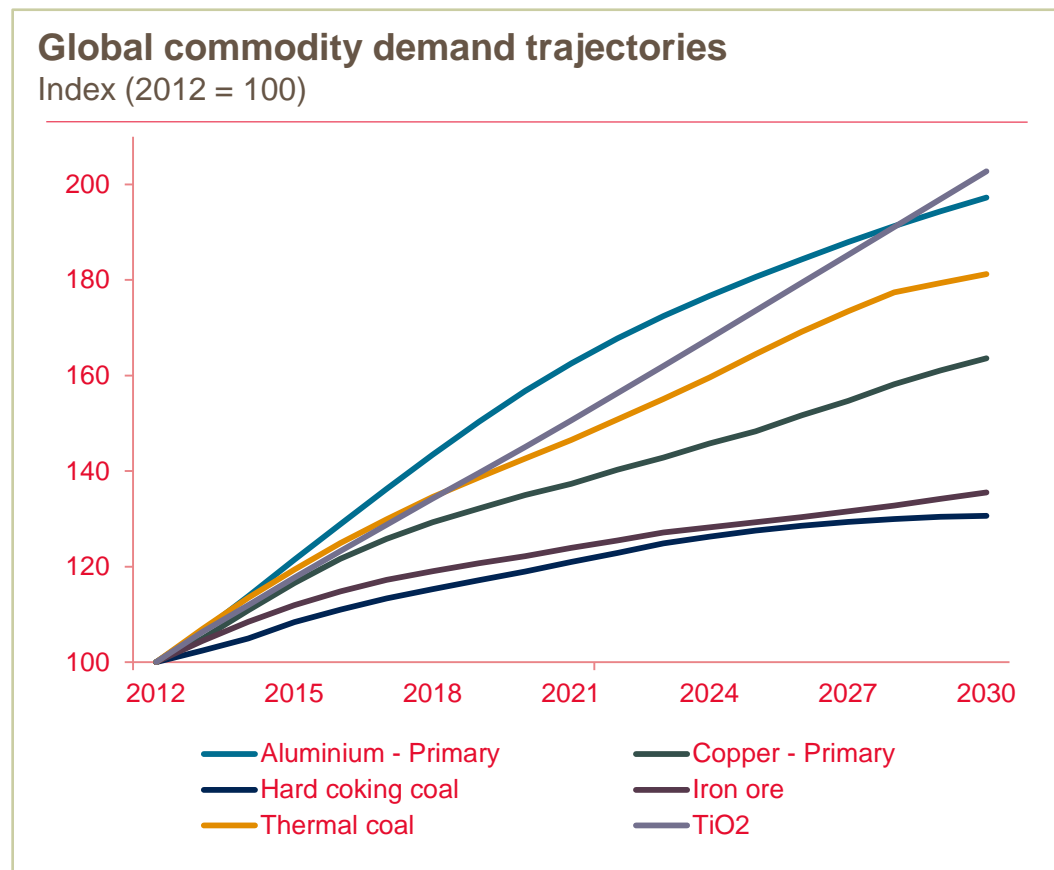
% change year on year



Source: CEIC / NBS

- Continued deleveraging and austerity in OECD
- Rate of growth in our markets in China is robust but is decelerating
- Expect a sequential pick-up in Q4 with signs of improvement in property market
- Impacts of stimulus extended out vs previous estimates: to be felt after Party Congress
- Market to remain volatile

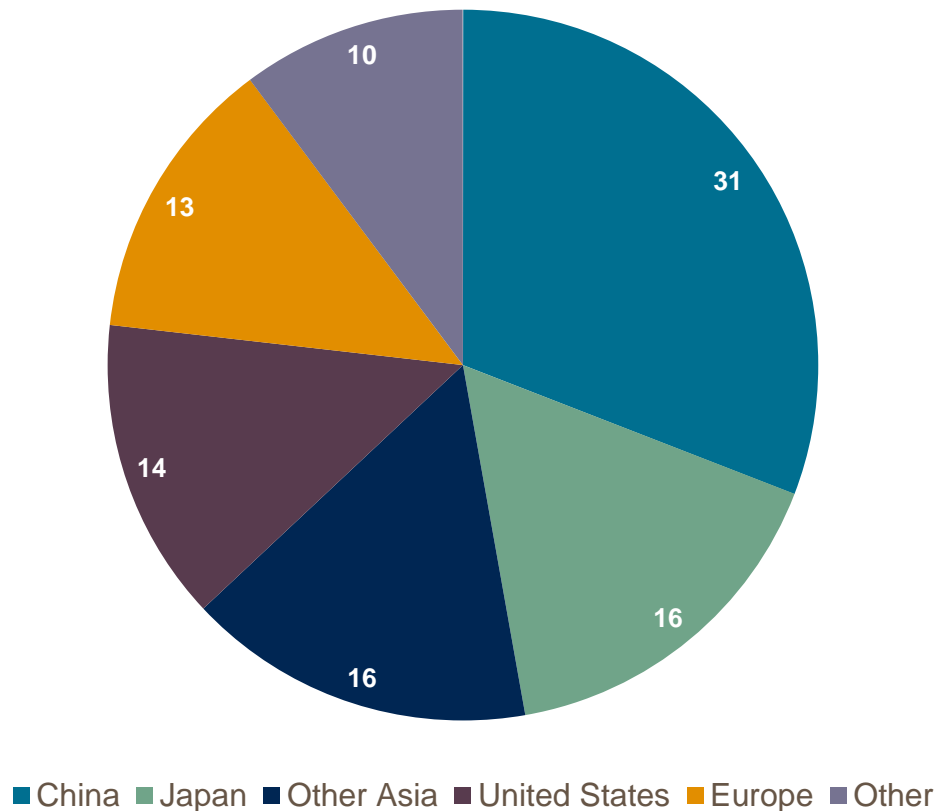
# The long term demand outlook remains attractive



Source: Rio Tinto analysis

- ~2 billion additional people to urbanise by 2030
- Global steel consumption expected to grow by 2 per cent per annum
- China to remain key driver until mid-2020s
- China GDP per capita currently 19% of USA levels
- India and South East Asian economies more than offset flat and then falling consumption in China

# Japan as a key market for Rio Tinto



- Second-largest market in terms of revenue
- \$10.6B in 2011, 16% of Rio Tinto global revenue
- Approximately half of global mining machinery and equipment procured from Japanese companies
- Japanese ships and shipping lines used for seaborne trade
- Japanese joint venture business partners in Rio Tinto operations around the world

- **Gross sales revenue in 2011 = \$65 billion**

# Japanese steel industry underwrote Pilbara development nearly five decades ago

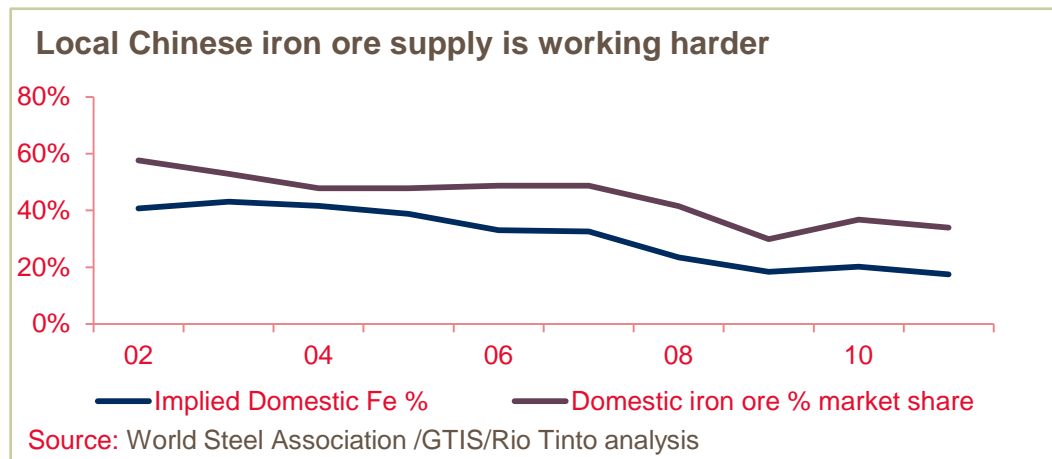


First official train departing Tom Price, 1966

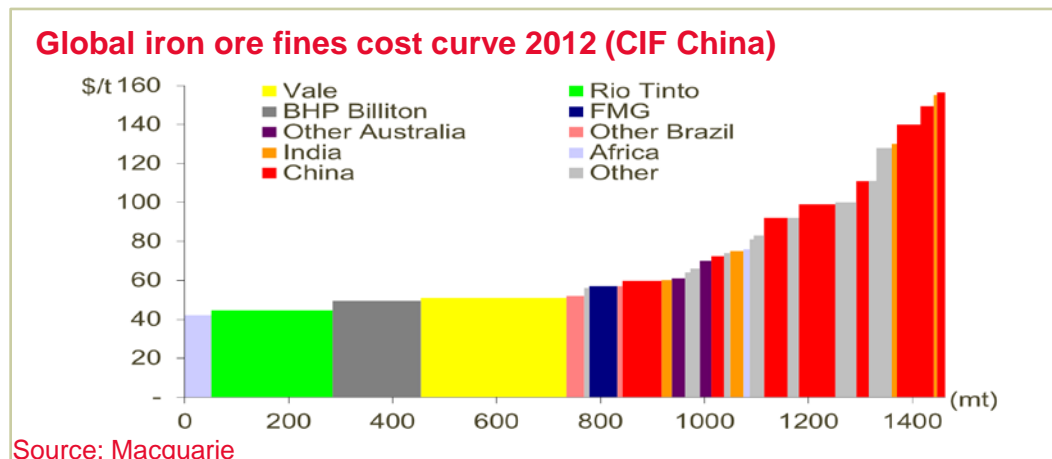


Hamersley Iron official opening, 1966

# The industry supply response is increasingly challenged



- Cost escalation and rising capital intensity will increase pressure on marginal project returns
- Scarcity of highly skilled labour, access to financing
- Rising threat of resource nationalism
- Recent high profile project deferrals





Rehabilitation forests, Richard's Bay, South Africa





Fe



Iron ore used to build the cities of the future

**RioTinto**



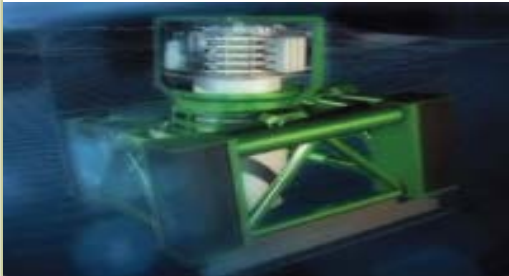
Rio Tinto and Mitsui & Co. joint venture in Laos



# We drive step change innovation

Our Mine of the Future™ is shaped by four significant value levers

## Find



- Find future tier one ore bodies
- VK1 in initial flight trials
- Complex testing programme under way

## Develop



- Develop future block cave mines safer, faster, better
- Tunnel boring system trials to commence at Northparkes during H2 2012

## Mine



- Optimise resource productivity
- Expansion of driverless truck fleet to 150
- Operations Centre
- Smart drilling and blasting
- Autonomous trains (AutoHaul™)

## Recover



- Recover more from mineral deposits
- NuWave™ copper sorting pilot plant being commissioned at KUC

**Innovation networks created through long term strategic alliances**  
**Protection of Intellectual Property is key to sustaining competitive advantage**

# Mine of the Future™ - surface operations in action

Advanced robotics and remote operations drive the Mine of the Future™



**RioTinto**



Mine of the Future™

**RioTinto**



# Questions and Answers