

<p align="center"><b>Curtin</b> University of Technology</p>	<p align="center"><b>Universidad de Chile</b></p>
	
<p align="center"><b>Graduate Program</b> in <b>Mineral Economics</b></p>	<p align="center"><b>Programa</b> en <b>Economía de Minerales</b></p>

## MINERAL MARKET ANALYSIS

### UnitOutline

**Lecturer**  
**Rod Eggert**

## Instructor

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## Objective

To develop a framework for assessing the market environment in which a mineral or energy company operates. After this course, students should be able to use the principles of microeconomics to understand the nature and extent of competition in the various mineral and energy industries in both the short run and long run.

## Outline

### I. Basic Concepts and Models (Day 1)

- A. Short-Run Model of a Commodity Market
- B. Economic Profits, Economics Rents, and the Extractive Sector
- C. Porter's Five Sources of Competition

### II. Extensions (Days 2-4)

- A. Mineral demand
  - 1. Derived nature of demand
  - 2. Functions, curves, elasticities
  - 3. Substitution
  - 4. Intensity of use
- B. Mineral supply
  - 1. Functions, curves, elasticities, and adjustment periods
  - 2. Estimation
  - 3. Primary supply (individual, joint)
  - 4. Secondary supply (from scrap)
- C. Market volatility, instability, and episodes
  - 1. Immediate-run volatility
  - 2. Short-run instability
  - 3. Long-run episodes
- D. Market structures
  - 1. Competition
  - 2. Monopoly and monopsony
  - 3. Dominant firms
  - 4. Oligopoly and oligopsony
- E. Location and product quality

1. How transportation costs limit the geographic extent of some markets
2. How differences in product quality are reflected in price in some markets

F. Institutional pricing arrangements

G. Sustainability and sustainable development, and other special topics

## Unit Assessment

Quizzes: 15% Beginning of sessions 2, 3, and 4

Group project: 25% Paper and presentation (session 5)

Final exam: 60% Session 6

## Reading Assignments

Porter, Michael E. *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York, Free Press, 1980). Read chapter 1 ("The Structural Analysis of Industries") and chapter 2 ("Generic Competitive Strategies"). Alternatively, read essentially the same material at: Michael E. Porter, "The Competitive Forces That Shape Strategy," *Harvard Business Review*, January 2008, pp. 79-93; available at [www.hbr.org](http://www.hbr.org).

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"The Commodity Boom: Longer-Term Prospects," chapter 2, pp. 51-93 in World Bank, *Global Economic Prospects 2009: Commodity Markets at the Crossroads* (Washington, DC, World Bank, 2008). Available at:

<http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1322593305595/8287139-1327608129931/GEP09Chapter2.pdf>.

World Bank, "Commodity Market Outlook," January 2016. Available at:

<http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/1/991211453766993714/CMO-Jan-2016-Full-Report.pdf>. Focus especially on the metals section.

World Bank, "Special Focus: How important are China and India in global commodity consumption?" July 2015. Available at:

<http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/10/716291444853736301/CMO-July-2015-Feature-China-India.pdf>

*Mineral Economics: Australian and Global Perspectives*, 2<sup>nd</sup> edition, Monograph 29 (Carlton, Victoria, AusIMM, 2013):

- Chapter 5: Peter Howie, “Mineral Demand—The Theory in Practice”
- Chapter 6: Philip Maxwell, “Mineral Supply—Exploration, Production, Processing and Recycling”
- Chapter 7: Phillip Crowson, “Mineral Markets, Prices and the Recent Performance of the Minerals and Energy Sector”
- Chapter 13: Roderick Eggert, “Mining, Sustainability and Sustainable Development”

Humphreys, David. “Pricing and Trading in Metals and Minerals,” draft chapter since published in Peter Darling, editor, *SME Mining Engineering Handbook*, 3<sup>rd</sup> edition (Littleton, Colorado, USA, SME, 2011).