

Class 8
Using Demand and Supply to Predict Changes in Prices and Quantities

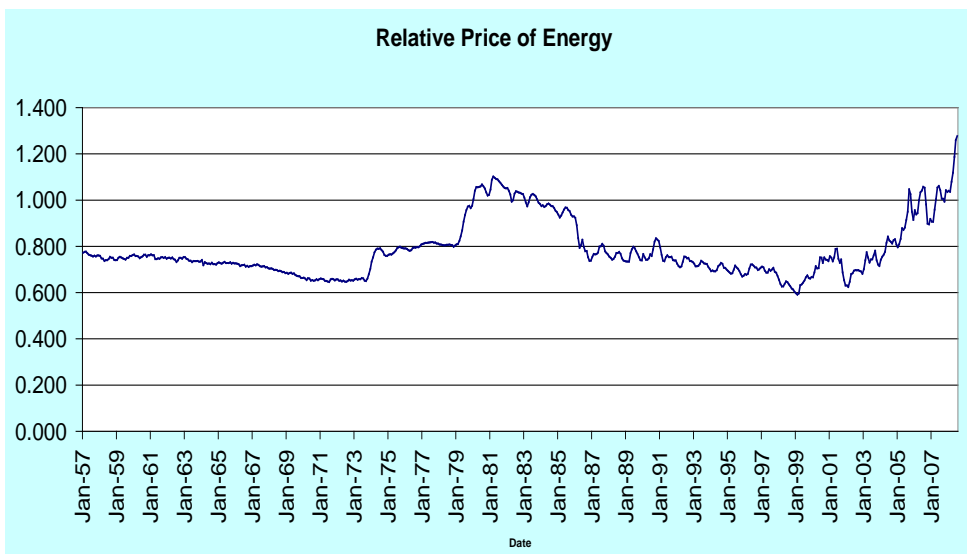
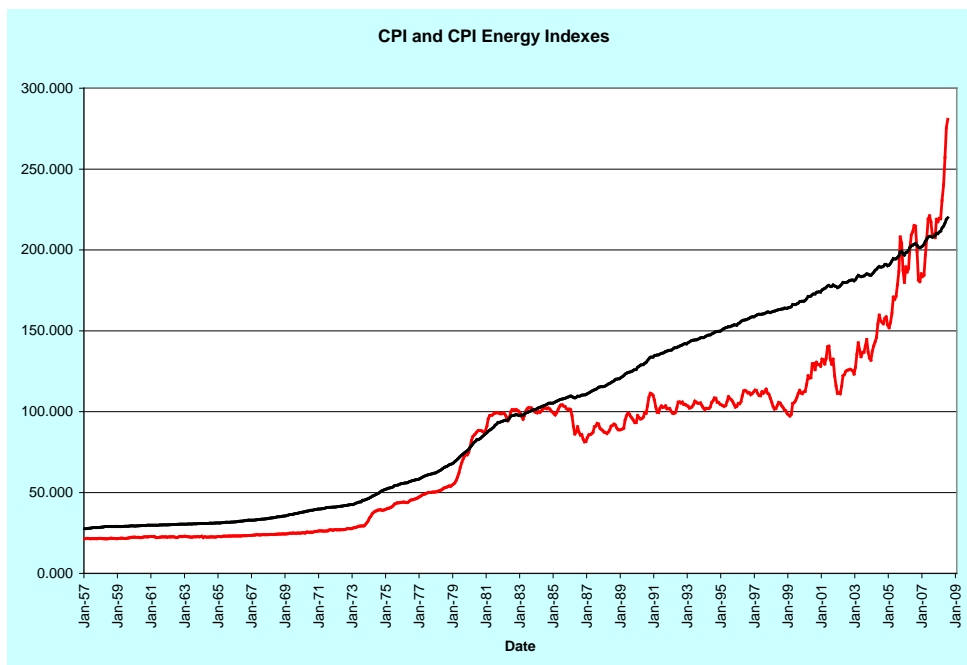
The purpose of these exercises is to help students gain the ability to apply demand and supply to a wide variety of problems.

1. Unfinished business from Tuesday's lecture.
2. We will work problems in class from Chapter 3 (pp 89-90), Chapter 4 (pp 123-125 except for questions on elasticity of demand, and Chapter 5 (pp 154 – 156 except for questions on elasticity).
 - a. Please bring your book with you to class.
 - b. Salemi will choose some problems for students to work either together or in groups.
 - c. Students will have a chance to propose other problems to work. Please look over the problems and decide which ones require attention in class.
3. Data Exercise on Relative Prices
4. Analysis of “Fast Rising Steel Prices Set Back Big Projects”

Data Exercise

The following tables show the consumer price index (CPI), the consumer price index for energy products, and the ratio of the two. The data are from Fred, the data site at the Federal Reserve Bank of St. Louis, an excellent source of economic data (<http://www.stls.frb.org/>).

1. How would you interpret the data series in the second chart which is the ratio of the CPI-Energy index to the overall CPI index?
2. Given the data in the second chart, how would you conjecture that the relative demand for compact cars and SUVs has changed over the period covered by the data?
3. How would you check your conjecture?



Fast-Rising Steel Prices Set Back Big Projects

ArcelorMittal's Net Rises but
Shipyards, Builders Feel Pinch

By ROBERT GUY MATTHEWS
May 15, 2008; Page B1

Relentless increases in the price of steel are halting or slowing major construction projects world-wide and investments in shipbuilding and oil-and-gas exploration, setting the stage for a potential backlash against steelmakers.

In Turkey, a construction association said this week it will begin a 15-day strike in eight cities Thursday to press steelmakers to cut their prices, which have more than doubled locally since late last year.

In New Delhi, India, an ambitious bridge project has been put on hold because of steel-related cost overruns, and contractors are postponing or reining in construction of much-needed housing for the poor, prompting the Indian government to freeze steel prices for the next three months.

Venezuela, aiming to control prices, renationalized its largest steelmaker and is limiting exports. Oil executives in the U.S., meanwhile, say costly steel is threatening their energy exploration efforts.

Globally, steel prices are up 40% to 50% since December, and industry executives say they haven't hit their peak. On Wednesday, ArcelorMittal, the world's largest steelmaker by volume, boosted prices by €120 (\$186), or 20%, a metric ton in Europe, citing increases in its own costs -- from iron ore to energy and transportation.



A ladle skims slag off of iron before it is poured into the basic oxygen furnace to be converted to steel.

Associated Press

"We have not yet seen that prices have peaked, what we have seen is the costs increasing every month," said ArcelorMittal Chief Executive Lakshmi Mittal on a conference call with reporters.

Iron-ore prices have risen 71% this year. Two other crucial steelmaking ingredients, coking coal and scrap steel, have doubled in price. The run-ups are part of a broader surge in raw-materials prices amid tight supplies and soaring global demand, fueled in part by the rapid industrialization of China, India and other developing nations.

ArcelorMittal said Wednesday that its earnings grew 5.4% to \$2.37 billion in the first quarter from \$2.25 billion a year earlier. Both sales and shipments grew sharply as the Luxembourg-based company sold more steel in emerging markets.

The world's voracious appetite for steel shows little sign of easing. In Turkey, a new shipyard, once completed, will need 100,000 tons of steel a year. And demand in the U.S. is rising, despite a sluggish economy.

While still in a position of pricing power, steelmakers are concerned that over time, their high prices will affect sales. "There will be impact on demand, and that is not a good development for the steel industry," said Aditya Mittal, chief financial officer of ArcelorMittal, on a separate conference call.

As a result, steelmakers are taking steps to cut their costs. To shield themselves from higher raw-material prices, more of them are acquiring their own iron-ore and coal mines or deposits, as well as producers of scrap steel. Nippon Steel Corp. and other Japanese steelmakers announced this month that they would accelerate cost-cutting efforts, which could include layoffs and developing cheaper steel substitutes.

The industry is also consolidating, which should allow producers to become more efficient and gain economies of scale that could ultimately result in more pricing stability and fewer, larger players. In recent months, India's Tata Steel Ltd. and Essar Steel Holdings Ltd. have made major acquisitions, as have Russia's Evraz Group SA and Sweden's SSAB Svenskt Stl AB. Even so, the world's top-five steelmakers still account for just 18% of the world's steel supplies.

Some steelmakers also are experimenting with ways to make their products less expensive, in an effort to keep customers from switching to less-expensive substitutes like aluminum or high-strength plastics. Finnish stainless-steel maker Outokumpu Oyj, which makes steel for appliances, has come up with a way to reduce the nickel content of its stainless steel to make it cheaper.

But until such changes take hold, steel prices will likely continue to increase.

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Lakshmi N. Mittal

Red-Hot Steel

Global carbon-steel products composite prices, monthly



Note: Composite prices are a weighted average of the low transaction values for all carbon-steel products in the flat & long categories identified in the EU, Asia and North America.
Source: MEPS International

Builders recently warned officials in Turkey, which rests in an earthquake zone, that rising steel prices have prompted some contractors to use cheaper, inferior-grade steel, threatening the quality of their buildings.

Some nations, meanwhile, are hoarding steel by erecting export barriers. Last week, India imposed a 15% duty on exported steel. Countries that don't make enough of the metal are slashing import taxes in an effort to attract more. Last month, Iran announced it was lowering its import tax on rebar steel, used in new buildings and roads, to 9% from 20%.

The impact of high steel prices is rippling through industries from shipbuilding to energy exploration. Shipbuilders, who buy vast quantities of high-end plate steel are getting hammered, and analysts say steel-supply problems are slowing the pace of construction, especially at smaller shipyards like South Korea's Daewoo Shipbuilding & Marine Engineering Co.

In April, an executive of **Royal Dutch Shell PLC** told a House committee that steel, which is needed to make drilling equipment and pipelines, and other raw-material costs were hampering efforts to find new energy sources. These costs "are a major challenge for oil and gas companies and are contributing to the delays and postponements of many projects," according to Cambridge Energy Research Associates, a leading energy-research company.

Cellphone users could eventually feel the pinch. Eric Steinmann, development manager at wireless carrier NTCH Inc., which operates under the Clear Talk brand, says steel costs for each of the about 100 cellphone tower poles his company builds annually doubled to about \$30,000 last year.

Robert Griggs, owner of Missouri-based Trinity Products Inc., a maker of steel pipes, tubes and rebar for bridges, said he tells his customers he can only guarantee prices for two weeks. Last year, it took six months for steel prices to rise \$100 a ton, he said. Now, prices are moving that much in a month.

Shifting to lower cost materials isn't an easy option for steel buyers, either. It takes years to retool auto and appliance stamping and dye machines, currently engineered for steel products. Also the cost of alternatives, such as aluminum and certain plastics, is increasing.

Write to Robert Guy Matthews at robertguy.matthews@wsj.com¹

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(1) <mailto:robertguy.matthews@wsj.com>

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