

PART I

COMMODITIES: WHY THEY'RE GOING UP

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CHAPTER 1

Commodity Cycles

On January 10, 1980, Dr. Albert Johnson, a dentist in Oklahoma City, withdrew \$10,000 from his savings account and marched determinedly down to a local coin shop. Despite the scenes he had watched on television, he was surprised to see a line snaking around the corner, but he waited patiently for 40 minutes to buy some gold coins. Little did he know that he would have to wait a lot longer to turn a profit . . . 28 years to be precise. At the beginning of 2008, he finally had a profit.

Long Cycles for Commodities

To everything there is a season, as the Good Book tells us. For commodities, the cycles tend to be longer and more extreme than for many other products or services. There are sound economic reasons for this, far beyond the excessive speculative nature of resource investors or the natural tendency of investors—humans, really, in all their pursuits—to assume trends will continue.

First, we should recognize that the very long-term trend for most resource prices is downward. This is not true, however, for gold and silver, which have monetary attributes and tend to hold their value. But for commodities generally, prices today, for example, are still below, in real terms, prices in the mid-nineteenth century.

Why is that? As economies develop, they move away from basic industry toward more high technology and services. Moreover, there is much more efficiency in the use of resources; despite the United States' reputation as a “gas-guzzler” nation, the input of energy into

8 Investing in Resources

each unit of production is far less today than it was 20 and 30 years ago. Technology plays a role, creating more efficient substitutes with less resource usage; fiber optics replacing copper wire is a clear example. Technology also plays a role in improving exploration and production of resources; think of the massive “pre-salt” oil fields off Brazil’s coast. Twenty years ago, they would not have been discovered nor would anyone be thinking seriously of producing from them in any realistic time frame. The ultra-deep-sea technology did not exist.

None of this invalidates the theme and conclusions of this book, namely that we are only in the middle of a long-term “super cycle” for commodities, one that will see significantly higher prices. Within this very long-term downtrend in prices are periods, sometimes quite long, of dramatically increasing prices. I am not referring to price spikes caused by supply disruptions resulting from wars or natural disasters, but rather to the multiyear periods of upward price movement caused usually by a new source of demand, be it in the early nineteenth century from Britain, in the late nineteenth century from Germany, in the 1910s from the United States, and after World War II from the rebuilding of Europe followed by Japan, Korea, and Taiwan. Once the economies of these newly developing countries mature, demand reaches a new plateau and the inexorable decline in prices resumes. (See Figure 1.1.)

Higher prices can also come about because of easy credit, sparking a false economic boom. (I will have much more to say about this later.) Similarly, low prices tend to come about from broad declines in economic activity. However, from time to time, lower prices can result from specific developments, such as a major new discovery (e.g., the California gold rush) or new technologies that enable erstwhile uneconomic ores to be mined profitably. Such price adjustments tend to be temporary, however.

The Cycle of Production

But within this long-term trend—beyond the horizon for most investors—are the inevitable booms and busts of the cycle. There are many reasons why these ups and downs tend to be longer and more extreme for commodities than for most other goods and services. For the underlying reason, though, we have to turn to economic theory. The Austrian theory of the structure of production provides a logical explanation. Dr. Mark Skousen has written the clearest exposition

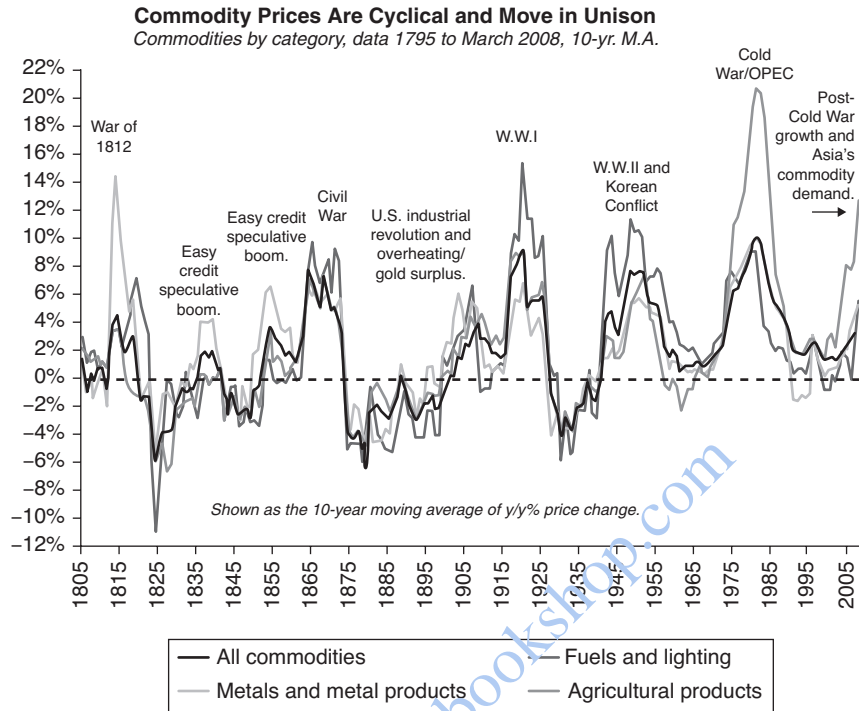


Figure 1.1 Commodity Prices Are Very Volatile

Source: Stifel Nicolaus & Co.; Data: Historical Statistics of the United States.

from what he calls “the businessman’s common sense” approach in which he emphasizes the importance of time.¹ All goods move through various stages of production, from raw materials to semifinished goods to wholesale and ultimately to retail for sale to the final consumer. Ploughs are needed to harvest the wheat that eventually becomes bread. Hides become leather, which is fashioned into shoes. The earlier in the production cycle a product is, the longer the price cycles and the more volatile it will be. It is for the same reason that capital goods tend to be more volatile than consumer goods.

This same principle helps explain why exploration companies tend to be far more volatile than producers; they are further away from the end consumer.

¹See Mark Skousen’s masterly *The Structure of Production* (New York University Press), a book the late Peter Drucker called “a monumental achievement.”

10 Investing in Resources

All production has a time and money component; the further from the end consumption, the longer the time. When consumption patterns change, retailers can respond quickly. If prices decline, stores cut back on ordering at the first possible opportunity and then wholesalers order less. The signals from the market typically take longer to reach the beginning of the production process. But even when the signals are received, huge amounts of capital have already been invested in response to earlier higher demand, and production increased. Mine production cannot be cut off as readily as many further down the supply chain can cut supply (or end users can cut demand). The mines are still producing copper and zinc, but the consumer is not buying homes or automobiles.

Booms Go Further and Last Longer

In a boom, conversely, prices rise more. Because the resource business is so capital intensive, relative to, say, a retail store, easy credit has a far more meaningful impact on the ability and propensity to invest more (and ultimately produce more). Since most resources require significant amounts of energy, far more than many down the supply chain, energy prices tend to be more volatile than even other resources. And note also that whereas a store owner, for example, can open a new store relatively quickly to accommodate increased demand, for the resource producer it takes far longer from the time demand starts to increase, until new production can be brought on. In the meantime, increased demand outstrips supply, forcing up prices.

In an extended period of increased demand, producers first increase production from existing mines, perhaps by stepping up to full capacity, by undertaking expansions, and by reopening closed mines. These are the first steps, but even these take time to implement. Beyond that, new mines are considered; perhaps the property that was marginally profitable at a certain price becomes profitable at the new price. But before committing millions or perhaps hundreds of millions of dollars to develop the project and bring it into production, the company will want to be reasonably sure that the new higher prices are sustainable. Even once the decision is finally made, the company will have to raise the capital, obtain all the permits, and construct the mines. At best, this is a 12- to 18-month process. Again, one can see why mining companies do not respond immediately at the first upward blip in prices. Then, of course, the company

starts speeding development of properties in the pipeline, and finally undertakes new exploration.

There are differences even among the various commodities, with farm output able to respond quickest to new price signals (albeit always dependent upon nature) and oil output, the slowest. In addition, for oil and extractive industries generally, there are heightened political, environmental, and social obstacles to overcome, which also take time. Few people object to a new farm starting operations; many complain of a new mine.

We can see how the cycle works, however, for resources (as for any good). Increased demand leads to higher prices, which curb demand and lead to decreased production, which leads to lower prices, which leads to increased demand and so on. (See Figure 1.2.) Or as resource broker and investor Rick Rule puts it: The cure for high prices is high prices, and for low prices, low prices. The length of the cycles and their volatility depend to the greatest extent on how early they are in the production cycle and therefore how quickly they can respond to changing price signals.

So cycles tend to be long. According to researcher Martin Murenbeeld at Dundee Wealth Economics, the shortest cycle for gold, up or down, since 1800 was 10 years (in the 1970s), while for copper, the shortest cycle was 14 years, a long bear market ending in

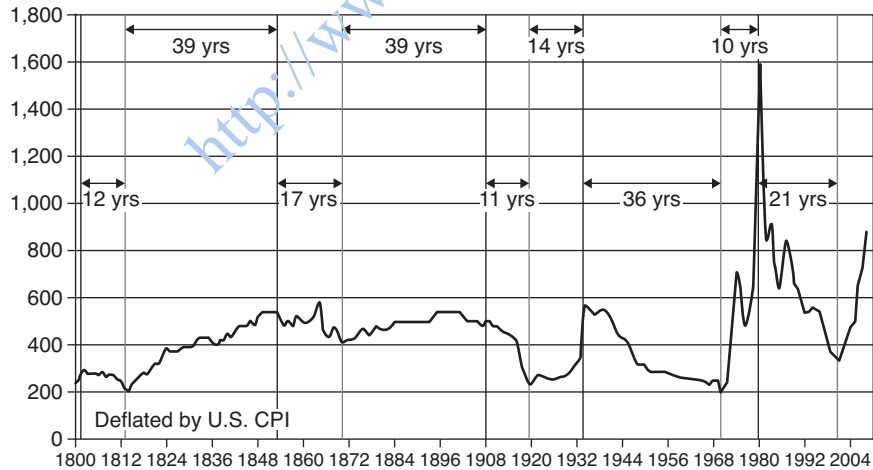


Figure 1.2 Gold Moves in Long Cycles

Source: Global Financial; Data: U.S. Bureau of Labor Statistics.

12 Investing in Resources

1932. Even within these long cycles, however, corrections are normal and can be violent. For example, near the onset of its 1970s bull market, gold fell almost 50 percent in the 18 months from the beginning of 1974. Copper, like most resources, was in a bear market from the end of the inflationary 1970s until 2001, yet during that period it more than doubled from 1987 to 1989, and again in the 18 months from the beginning of 1994, with several lesser but still appreciable rallies along the way. So countertrend rallies are normal, and in resources can be quite extended and very powerful, more so than in goods and services closer to the end of the supply chain.

Slowly Out of the Long Winter

For most resources, there was a very long period of low prices from the end of the 1980s inflationary boom to the onset of the new millennium. That 20-year winter caused underinvestment and mine closures and led fewer people to enter the profession. The people who were on top of their game in the last boom, whether company executives or humble field geologists, had in many cases made a lot of money. These people were often approaching retirement, and many retired early or moved to other industries. As the downturn dragged on, after 10 and 20 years, top students moved into MBA programs, not geology or mining engineering courses. By the time the next upturn started, the people who ran the industry in the 1970s were retired, and few new graduates had entered the business. Indeed, Robert Quartermain, who just recently stepped down as president of Silver Standard, told me that he believes the biggest challenge the industry seeks today is finding enough skilled personnel, particularly those with the skills sets “to operate in a competitive and regulated global environment.”

There was a deficit of capital as well as of experienced people. When demand is low and prices are low, capital wants to go elsewhere and there is no interest or need for new capacity. (Environmental issues compound the problem.) The last smelter in the United States was built in 1969. Only one new lead mine was opened in the past 25 years. So mines were often old and inefficient. When prices started to move, executives did not at first believe the sustainability of higher prices; they had been fooled by a few short-lived rallies during the bear years, another reason the response was slower and delayed.

Eventually of course, they do “believe,” and expand mines, proceed with new mines, speed up development, and increase exploration. Unlike the proverbial widget maker, however, a mining company is far more physically restrained in its response to higher demand; there are very defined, natural limits to just how much output can be increased over a certain period for time, even with the best will and other conditions being right.

Higher prices also spur the move toward improved technology for exploration or mining and there have been numerous examples of this in recent decades: In the 1970s, heap-leaching for gold and copper, which enabled many low-grade disseminated deposits to be mined economically; SX-EW techniques, which enabled copper to be extracted from smaller, erstwhile uneconomic ores; later, improved magnetic and satellite imagery, which facilitated more efficient exploration; and horizontal drilling, which allowed for the exploration of oil deposits hitherto hidden. The list goes on. And a sustained period of higher prices leads more students to choose relevant fields, boosting the knowledgeable manpower. In addition, banks want to invest more capital in the booming sector.

It Takes Time to Cut Back Production

Similarly, when prices start to decline, new products can be delayed, but the mining company tends to be slower, for example, to lay off exploration personnel in the field, whose success may be measured in years, than the shoe store owner who lays off a salesman or two promptly. But exploration geologists are deemed expendable compared with head office staff, exacerbating the supply response on the other side of the valley; if the exploration has not been undertaken, then companies don't have the projects to develop.

Even reducing production is not such an easy task. Many mature mines, particularly underground ones, realistically may never come back into production once they are closed. Capital for mine expansions may have already been raised, the trucks ordered, and the new mining camp built. A company does not easily or readily abandon the decision to proceed. The geologist laid off by the big company that is scaling back exploration may start his own small exploration company or perhaps become a consultant, so the exploration work continues for some time, even as prices decline.

14 Investing in Resources

So we see why the response from resource producers, whether to higher or lower prices, tends to be delayed.

These shifts in production can be very long term, the classic example being Argentina. In the 1920s, Argentina boasted the world's fourth-largest GDP and was called "the bread-basket of the world." It has since declined to such a point that no one thinks of the country as an economic powerhouse, and this year's planting of wheat being recorded as the smallest acreage in a century. There can also be extreme volatility within the sector. We saw how energy tends to be more volatile with longer cycles than, say, farm produce because response time to higher or lower demand is longer. But even apart from these fundamental forces, specific developments can lead to great volatility within the sector. This might be a major new mine coming on stream or perhaps production difficulties at a big producer.

Great Volatility within Cycles

Let's look at the first decade of the millennium. Of 14 major commodities, gas was the top performer in 2000 (up 320 percent), again in 2002 (up 86 percent), and in 2005 (up 83 percent), but in two of the years that followed these, it came in dead last, down 74 percent in 2001 and down 44 percent in 2006. This is a classic example of the mean reversion principle. Frank Holmes, CEO of United Services, which specializes in resource mutual funds, emphasizes this as a central principle. He points out that, over the decade not one commodity consistently outperformed. The swings are not always so dramatic or so immediate, of course; you can't always buy the worst performer and expect it to be the best the following year. Palladium was the worst performer in 2002 and again in 2003, and close to the bottom the next year. But more often than not, a huge upswing—above the rest of the group—in one year will mean underperformance in the not-too-distant future.²

We have discussed how the supply response tends to be delayed and slow, both from higher and from lower prices. Occasionally, it can be relatively quick, however, though still slower than the shoe store or car dealer. This is when the economy drops rapidly. This was

²See www.usglobaladvisors.com. This Web site has a wealth of educational material for investors, including a dynamic table of resource returns over the past decade (www.usfunds.com/research/2009-commodities-periodic-table-of-returns/).

Commodity Cycles 15

most clearly seen following the credit crisis of 2008, a very dramatic and unusual period, when access to capital dried up overnight. It was this lack of access to capital amid an economic meltdown, rather than low commodity prices themselves, that caused the sharp cutback in supply.

To gauge how dramatic was the response, look at the news headlines from just a three-week period beginning on the last day of March 2009, production cut announcements “the likes of which I don’t ever recall seeing before, so quickly,” as analyst Ian McAvity put it.

March 31

- Glencore announces it has suspended operations at its Iscaycruz lead/zinc mine in Peru.

April 1

- Japan’s copper smelters plan to cut output for the remainder of the year.
- A Russian consortium postpones launching a new aluminum smelter for two years.
- Montenegro suspends operations at its loss-making aluminum smelter.
- Bosnia’s only alumina plant says it is cutting output for 2009 by two-thirds.

April 2

- Most of Japan’s refined lead and zinc producers plan to cut output in the year ahead.
- Alcoa announces it is cutting aluminum output at its New York smelter to just 20 percent of normal output.

April 7

- Tajikistan cuts aluminum output by 17 percent.
- Rio Tinto is cutting bauxite production at an Australian mine by 23 percent.
- Rio Tinto is slowing the expansion of a Queensland alumina refinery.

16 Investing in Resources

April 8

- Greece's Larco is cutting nickel output by almost 50 percent.

April 9

- Vedanta is shutting part of an Indian smelter.
- Xstrate says it is halting operations at its Sinclair nickel mine in Australia in August if prices do not rebound.
- The Novokuznetsk smelter in Russia is cutting output by a third.

April 10

- Zambia's Luanshya copper mine is delaying a planned resumption of operation.

April 14

- Indonesia's Timah Tbk is cutting tin output by 8 percent this year.

April 16

- Vale announces it will delay the start-up of a new nickel mine in Brazil by at least one year.
- Vale also announced a two-month closure of its Sudbury nickel mines and plants in Canada.

April 17

- FNX Mining says it is considering suspending all production in Sudbury following Vale's announcement yesterday.

April 21

- Russia's RUSAL aid aluminum production falls over 7 percent in the first quarter, halfway toward its full year goal.

April 22

- Indonesian tin output may not reach 90,000 tonnes this year, the energy ministry says, well below initial plans to cut production to 105,000 tonnes.

April 22

- Indonesian state-owned miner Aneka Tambang says first quarter ferro-nickel output fell 24 percent.
- BHP says output from its huge Escondida copper mine in Chile will fall 30 percent this year.
- BHP also says that output from all its operations are under review.
- Freeport Copper says its spending plans continue to be reviewed and may be further cut.

April 23

- Southern Copper says it is cutting its capital and exploration budget for 2009 by 25 percent.
- Mexico's mining chamber says new investment in the sector dropped 25 percent this year.

April 24

- BHP says the economic viability of its Bayside aluminum smelter in South Africa is at risk following a sharp decline in demand.

And it didn't stop there. The supply response from companies was much more dramatic than in previous cycles, partly because the drop in prices and demand was very sharp. To some extent, also, these decisions were forced on companies because of lack of credit, but it is certainly true to say that the supply response to lower demand at the end of 2008 and early 2009 was far deeper and quicker than in previous cycles. It is also true to say that, notwithstanding this, in absolute numbers, production cuts still tend to be more modest and take longer than, say, the output of automobiles or for our shoe store owner.

Cycles tend to be long, and if what we have seen so far in the new millennium is to be all there is, that would make these the shortest cycles on record for most resources. In short, I strongly believe we have many years of higher prices ahead, and both the dramatic emergence of China as an economic superpower and increased supply constraints suggest this cycle will last longer than most.

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