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Investor demand and spot commodity prices ☆

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ABSTRACT

The on-going debate over the influence of investor demand on spot commodity prices largely attempts to assess this influence by measuring the growth in investor demand in recent years. Given the serious data problems that plague such analyses, this article pursues another approach in the hope of providing useful insights into the impact of investor demand on spot commodity prices. It focuses on the mechanisms by which investor demand affects spot prices, and in particular on two questions. First, how does an increase in investor demand on the futures markets affect the spot market and spot price? Second, when investor demand is increasing and pushing a commodity's price up, do physical stocks of the commodity also have to be rising, as economists and others widely assume?

On the first question, the article concludes that a surge in investor demand raising prices on the futures markets will have a direct and comparable effect on the spot market prices when these markets are in strong contango. However, when markets are in weak contango or backwardation, price movements in the futures markets have a much looser effect on spot prices. As a result, changes in investor demand on the futures markets may have little or no influence on spot prices in the absence of a strong contango. Instead, changes in fundamentals (that is, producer supply and consumer demand) and possibly changes in investor demand taking place directly on the spot market largely determine the spot price at such times.

On the second question, the article shows that investor demand can be pushing up a commodity's price even when investor stocks are falling, despite the widespread presumption to the contrary.

Introduction

Recent years have seen a rapid growth in the involvement of investors in the commodity markets. Frequently such investors are referred to in a pejorative manner as speculators, in part because they are trading in commodities in the hope of making a profit rather than actually producing or consuming commodities. We prefer the more neutral terms of investors and investor demand, although we do not overlook the fact that there are various types of investors with different motives.

In any case, the rise of investor demand on commodity markets over the past decade or so has coincided with a surge in many commodity prices. It is but a short step to put these two developments together and conclude that investors must have been a major force driving prices up. Yet, the impact of investor demand on commodity prices remains a highly controversial issue both with respect to its exact scale and its implications for prices. More fundamentally, there does not appear to be much agreement on the precise *mechanisms* by which investors shape market prices.

This study addresses the latter issue—the mechanisms by which investor demand influences market prices—though it does have implications for the more general question of how investor demand affects commodity prices. More specifically, it examines two questions:

- How do futures markets affect the spot market and spot prices for commodities? The reason for focusing on the influence of futures markets is that investors mostly trade on the futures markets. There are two reasons for focusing on spot prices: first, these are the most commonly quoted prices. Second, the effects of investor demand on futures markets for futures prices do not seem particularly complicated or controversial.

☆ With the usual caveat that the ideas expressed here are ours and not necessarily theirs, we would like to thank Phillip Crowson, Keith Ellam, Christopher L. Gilbert, Peter Hollands, and Olle Ostensson for their helpful suggestions on earlier versions of this article.
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An outward shift in the investor demand curve on futures markets driven by an increase in investor demand should raise futures prices; and an inward shift should have the opposite effect.

- Do inventories have to rise when investor demand is driving spot commodity prices higher? This is the conventional wisdom held by economists, market analysts, and others. At first blush, it appears intuitively obvious. If investor inventories are declining, investors are adding to the available supply, which should produce a market price lower than it otherwise would be. Moreover, if true, this would eliminate any possibility that investor demand contributes to rising prices when as is often the case inventories are declining or even stable.

The scope of the analysis, it should be noted, is limited in two important respects. First, the focus is solely on the above two questions. Second, the analysis is conceptual in nature. While it does suggest various hypotheses regarding market behavior, tests of these hypotheses are not carried out here. This is in part because the data currently available on the market behavior of investors are for reasons discussed below seriously deficient in various ways. Moreover, even where the needed data are reliable, good empirical analysis requires expertise in terms of modern time series analysis and in terms of institutional knowledge of commodity markets and prices that others possess in greater depth than we. Nevertheless, we believe that the conceptual analysis by itself makes a useful contribution to the literature in this area. To our knowledge, no one else has addressed the two questions of interest and reached the conclusions advanced here.

The presentation proceeds as follows: the next section, ‘‘Investors in commodity markets’’, examines the nature of investors in commodity markets. Section ‘‘Earlier studies’’ reviews some of the on-going public debate on the subject in order to highlight the continuing controversy over the role of investor demand on commodity prices. This review, it should be noted, is not a comprehensive critical assessment of all the relevant literature. Given the number and diversity of the studies on this topic, such an effort is well beyond the scope of the inquiry here. Section ‘‘Linkages between the spot and futures markets’’ then focuses of the first of our questions, the linkages between the spot and futures markets. Section ‘‘Investor demand and commodity stocks’’ then turns to the second question regarding the influence of investor demand on commodity prices when investor stocks are declining. Section ‘‘Conclusions and an agenda for research’’ highlights the conclusions and sets out an agenda for future research.

Investors in commodity markets

Investors are interested in acquiring market exposure to commodities either because they hope to make a profit from such an exposure or because they deem it will impart desirable characteristics to their overall portfolios of investments (such as, greater stability of returns). They are, in effect, interested in commodities as paper assets. They can be distinguished from producers, consumers and traders whose interest in the commodity markets is primarily physical. Traders use the markets principally to hedge price risk or in some cases to take advantage of arbitrage opportunities arising from differences in prices either on different markets or at different dates on the same market.

Another group of market participants requiring mention are swaps dealers. They are not necessarily interested in holding physical metal or in having exposure to metal prices (and thus may not strictly speaking be investors), but rather they make their living by trading financial instruments, including acting as counterparties to investors. Nevertheless, their activities are necessary to the functioning of investors in the market and so they are logically grouped with investors rather than producers, consumers, and traders.

Investment in commodities is, of course, nothing new. As long as the commodity markets have existed, there have been those who have sought to make money by buying commodities in the hope of selling them at a higher price later on. What is new is the scale and mode of investment interest in commodities.

Investors use a variety of instruments. They can buy and sell commodity futures and traded options on exchanges, such as the London Metal Exchange (LME) or The New York Commodity Exchange (Comex). They can conduct deals directly over the counter (OTC) with counterparties, such as banks. They can buy commodity-based Exchange Traded Funds. Finally, they can buy and take physical possession of commodity stocks.

Investors can be separated into two distinct categories, long–short investors and long-only investors. Long–short investors, as the label implies, can go both long and short in the market; they can also take positions using traded options. Thus they can benefit from falling as well as rising commodity prices. Such investors are typically leveraged (that is, they use borrowed money), very price responsive, and generally quickly stopped out of their positions when the market moves against them.

Some analysts (Gilbert, 2008; Hollands, 2010b) refer to such investors as speculators while reserving the term investors for those whose primary interest is diversifying their portfolios so that they include a given amount of exposure to commodities. The latter, as noted below, are not typically leveraged, are not very price responsive, and are not easily stopped out of their positions. This study, however, refers to speculators and investors simply as investors and instead makes the distinction between long–short investors and long-only investors.

The long–short investors encompass several different groups. First, there are the Commodity Trading Advisors (CTAs). These ‘technical’ investors use computer models based on past patterns of price behavior to anticipate future price movements and to profit from them. The nature of their investment strategies means that they are sometimes referred to as ‘trend-following’ or ‘momentum’ investors. A second important group contains the hedge funds. These include both generalist hedge funds that periodically dip into commodities and specialist commodity hedge funds. Like the CTAs, they can go long and short in the market but their investment decisions tend to be more discretionary, more judgment based. Thus, while they can and do use technical tools, more often the big decisions will flow from their perspective on developments in the broader economy and from their research into the fundamentals of individual commodity markets. A third group of long–short investors includes the proprietary trading desks of the major investment banks that trade commodities on their own account. They borrow strategies from both CTAs and hedge funds.

These long–short investors, promoting the notion of commodities as a new asset class, rose to public prominence in the mid 1990s. At the time, concerns were expressed in some quarters that their activities might be distorting markets.

Also originating in the 1990s, but at the time attracting little attention and only moderate amounts of money, were the standard bearers of the other major category of commodity investors. These are the long-only commodity index funds, commonly referred to as CIFs. In contrast to long–short investors, these investors are generally unleveraged, much more price insensitive (making pre-agreed purchases on a pre-agreed time scale), and not stopped out of their positions at all. In other words, they are essentially passive investors. The two principal such funds were initially the Goldman Sachs Commodity Index fund