


## Chapter 47

# Investing in Commodities in Times of Uncertainty and Lax Monetary Policy

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### ABSTRACT

*This chapter presents empirical evidence showing the impact of economic uncertainty and monetary policy on the volatility of commodity futures markets. The findings are in line with those of the relevant literature according to which rising uncertainty predicts rising volatility in commodity markets. The author shows that the unobservable economic uncertainty measures of Jurado et al. (2015) have a significant and long-lasting positive impact on the volatility of commodity prices. Hence, the OLS regression results show that commodity markets are significantly affected by the rising degree of unpredictability in the macroeconomy, while they are relatively immune to observable macroeconomic fluctuations. The expansionary monetary policy is followed by rising volatility in agricultural and energy markets, while it has much smaller effect on the volatility of metals markets. Financialization in commodity markets has increased the dynamic linkages between monetary policy shocks and commodity price volatility.*

### INTRODUCTION

Commodity markets are the the oldest kind of market and it is believed to have originated many centuries ago at around 4500BC. The reason for the ancient roots of the first commodity market, is that commodity markets were originally physical markets (a market in which people trade manufactured products such as wheat, sugar and gold). For this reason, commodity prices were primarily driven by the laws of supply and demand (for commodities). As time went by, commodity markets, while being dominated by traditional market participants (commodity producers and commodity consumers), they have become more sophisticated. For example, the first well organized futures market was a market for

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copper futures contracts. Commodity futures and options markets were initially used for commodity producers and consumers as methods to hedge their price risk. For example, wheat producers could take a short position in wheat futures markets and hedge their price risk exposure they would otherwise have when trading at the wheat physical (spot) market (since via the futures market, they have an agreement to sell their commodity at a pre-specified price in a pre-specified date in the future (at maturity of the futures contract)).

Although commodity spot markets and commodity derivative markets have long worked as markets used solely by commodity producers and consumers, this is no longer the case for the majority of agricultural, metals and energy commodity markets. Since early 2000s, a large inflow of funds (like hedge funds and pension funds) has increased presence to commodity markets. Since early 2000s, a large inflow of funds (like hedge funds and pension funds) has increased presence to commodity markets, for example, according to Commodity Futures Trading Commission, the institutional holdings in commodity futures have increased from \$15 billion in 2003 to over \$200 billion in 2008. Hence, a large part of commodity markets is by now composed by institutional investors and not by traditional commodity market participants. The financialization of commodity markets has made structural changes in the nature and in the way commodity prices are determined. Since the early 2000s, the large inflow of funds and the increased presence of financial investors to commodity markets have transformed them into a separate asset class which has become more integrated to the rest of the financial markets (Basak & Pavlova, 2016; Cheng & Xiong, 2013; Irwin & Sanders, 2012; Silvennoinen & Thorp, 2015). The financialization and the further globalization of commodities has already given commodities a dual property: they can be a real asset (when held by commodity producers, investors and consumers) and a financial asset (when being part of the portfolio of investment banks, hedge funds, pension funds etc.). The effect of financialization on commodity prices and volatility is of crucial importance for traditional commodity market participants like commodity producers and investors. Moreover, volatility in commodity futures markets is significant for non-conventional commodity market participants like hedge funds who use commodity derivatives for hedging or speculation purposes. For example, the key determinant of commodity option prices whose price is directly related to the volatility of the underlying commodity futures contracts<sup>1</sup>.

The scope of this chapter is to present some stylized facts about commodity market volatility in times of uncertainty and expansionary monetary policy before and after the financialization (of commodities) period, and ultimately, to highlight some possible implications for investing in commodities in times of macroeconomic turbulence and lax monetary policy. For example, is it optimal to invest in commodities in times of rising or falling uncertainty in the economy? Is the expansionary monetary policy followed by increasing or decreasing volatility in commodity futures markets? Has financialization increased or decreased the sensitivity of commodity markets to uncertainty and interest rate shocks? The literature so far has identified an excess co-movement in agricultural, metals and energy commodity prices and has attributed this co-movement is correlated with macroeconomic fluctuations (Alquist et al., 2019; Byrne et al., 2013; Delle Chiaie et al., 2017; Pindyck & Rotemberg, 1990; Yin & Han, 2015; among others). Frankel and Rose (2010) claim that there are times when nearly all commodity prices move together towards the same direction, that it is difficult to ignore macroeconomic phenomena when searching for the determinants of commodity prices. Another strand of the literature has shown the significant role of monetary policy shocks and of interest rates on commodity prices (Frankel, 2008; Frankel & Rose, 2010; Frankel & Hardouvelis, 1985; Gordon & Rowenhorst, 2006; Gilbert, 2010; Gospodinov & Ng, 2013; Gubler & Hertweck, 2013; Triantafyllou & Dotsis, 2017; among others). For example, Frankel

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