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Index funds' financial speculation with agricultural commodities: Functioning. Effects.

For quite some time long-only index funds have been suspected of being responsible for price increases in agricultural futures markets. This suspicion has prompted demands to drastically limit long-only index funds' scope of activity. Such demands and their underlying diagnoses, however, contradict the current state of scientific knowledge. To date, the empirically oriented literature has not provided conclusive evidence that long-only index funds with their futures transactions significantly have increased the level or volatility of agricultural commodity prices. Indeed, recent theoretical works suggest that long-only index funds, pursuant to their investment strategy, rather stabilize agricultural commodity prices and fulfill an important collateralization and competition function in agricultural futures markets. The commitment to these funds reduces risk premiums and thus enables food producers to hedge against price fluctuations at lower costs. Mitigated risk premiums motivate farmers to put larger parts of their harvests into storage, which counteracts seasonal price fluctuations. To safeguard sustainable global food supply, long-only index funds should not be subjected to stricter market entry regulations.

Agricultural futures transactions, which are known to be passively managed by long-only index funds, have been at the centre of public attention for some time. Indeed, some critics have pilloried index funds as "hungermakers" (Schumann, 2013; Bass, 2013). Such lambasting is based on the suspicion that index funds triggered excessive financial speculation with agricultural commodities, and thus decoupled market prices from fundamental data. This prompted critics to derive the political demand for either dramatically restricting the scope of activities for long-only index funds, or totally prohibiting their engagement in agricultural futures markets by regulatory means. Such demands are popular. A FORSA survey suggests that they are currently approved of by three out of four Germans (FORSA, 2013). Such demands and their underlying diagnoses, however, contradict the current state of scientific knowledge.

IAMO Policy Brief 9 (2012) was based on an in-house literature review (Will et al., 2012) and called attention to the fact that the empirical literature available at the time was largely unable to con-

firm that index funds triggered excessive financial speculation. Though empirical literature yielded differing findings and contentious interpretations of such findings, there is hardly any conclusive evidence to prove that long-only index funds have significantly raised the level or volatility of prices of agricultural commodities with their futures transactions. Numerous further empirical studies have been published in the meantime that support this assessment (e.g. Gilbert/Pfuderer, 2013; Sanders/Irwin, 2013; Schmitz/Moleva 2013). A very recent survey study commissioned by Foodwatch (Bass, 2013) also provides hardly any conclusive evidence for index-induced price surges in agricultural commodity markets. Rather, the study could only conclude that speculation-induced price increases may be possible: "There are sufficient scientific and empirical indications for price changes be caused by excessive financial speculation [...] in certain situations" (p. 4).

Moreover, recent findings based on theoretical analyses (Prehn et al., 2013 a, b) clearly show that long-only index funds are in principle not suitable to

drive agricultural commodity prices and to decouple them from fundamental data. This policy brief will:

- outline the functions of agricultural futures markets
- discuss the investment strategy and functional principle of long-only index funds
- analyze the influence of index funds on price discovery and market performance
- conclude with various implications for politics

Functions of agricultural futures markets

Before the first agricultural futures markets were established in the mid-19th century, price uncertainty made storing agricultural produce and investing into warehousing capacities extremely risky. Notably, farmers were compelled to sell immediately after harvesting. This caused high markdowns for farmers directly after harvests, and high prices in the remaining part of the season. Agricultural futures markets enable farmers and traders to collateralize their prices and set up warehousing investments. Thus, seasonally-conditioned fluctuations in supply and resulting price fluctuations can be dampened; thus, agricultural futures markets fulfill an insurance and price stabilization function.

The proper functioning of an agricultural futures market means that concluding a short contract (hedging a selling price) indispensably requires concluding a long contract (hedging a buying price) and vice versa. In other words, the number of long contracts has to be equal to the number of short contracts. Farmers who intend to hedge against their price risk basically adopt a short (or selling) position. The higher the futures price, the higher the incentive for farmers to hedge their prices.

"Classical" speculators such as hedge funds are market participants who adopt respective counter-positions. These speculators typically adopt a long position and thus enable farmers (and commercial traders) to hedge against the risk of dropping prices and thus provide liquidity to the agricultural futures market. The market position that is adopted by a "classical" speculator always depends on the futures price compared to the anticipated spot price. If the futures price is higher than the expected spot price, a speculator will also take a long position, i.e. expect a dropping price. In contrast, if the futures price is lower than the anticipated spot price, he will take a long position, that is, he is betting on rising prices. Speculators, contrary to farmers and commercial traders, do not take a counter-position in the spot market and hence, de facto accept the price risk and act as insurance service providers.

The investment strategy of long-only index funds

At the beginning of the 2000s, agricultural futures markets underwent a fundamental change. Agricultural commodities became attractive for

institutional investors under return considerations, as yields were achieved of up to ten per cent (Sanders/Irwin, 2012). Consequently, there was an intensified engagement of institutional investors in agricultural futures markets. Institutional investors either bought directly at agricultural futures markets or indirectly through long-only index funds. The latter are specific investment funds committed to tracking a certain index. Long-only index funds always take a long position in the agricultural futures market.

Institutional investors do not, however, pursue this investment strategy – as is widely assumed (e.g. Masters, 2009) – in order to push excess demand and thus increase prices. Quite the reverse, an index can only be tracked when, first, a long position is taken at such agricultural futures markets whose commodities are in the index to be tracked and, second, the percentage values of individual commodities in such an index are kept constant (Prehn et al., 2013 a). Accordingly, commodity contracts that have gained in relative value are partially sold and commodity contracts that have lost relative value are partially bought. The advantage of tracking an index that continually adapts to the proportions of commodities is not only that a diversification return can be attained but also that the risk can be kept constant (Willenbrock, 2011). Long-only index funds have been especially construed as investment certificates for portfolios as they promise a nearly consistent overall return at a lower overall risk.

The influence of long-only index funds on price determination and market performance

In the course of realizing those advantages, the fixed assets of long-only index funds and associated certificates increased from about 50 billion US dollars in 2004 to some 400 billion US dollars in 2011. Respective market shares rose, depending on the agricultural futures market, between 10 and 40 per cent (Sanders/Irwin, 2012). Index funds have thus become key market players along with commercial traders and speculators. In view of this development, the following consequences have been observed in agricultural commodity markets (Prehn et al., 2013 b).

(1) Due to the investment strategy described above, index funds do not behave pro-cyclically, but rather anti-cyclically. These funds buy in reduced titles and sell raised titles over time, and thus contribute to dampening price volatility. Index funds do not intensify price increases.

(2) In addition to their price-stabilizing effect, long-only index funds enhance competitive pressure on "classical" speculators such as hedge funds. These index funds thus fulfill an important competitive function. The increased engagement of long-only index funds boosts competition in agricultural

futures markets, resulting in lowering risk premiums. This in turn enables farmers and commercial traders to hedge their price risks in agricultural futures markets at more favorable rates.

(3) Higher fixed assets in long-only index funds improve liquidity in agricultural futures markets. Index funds look for long contracts and thus enable farmers and commercial traders to hedge in agricultural futures market. It was observed that increased transaction volumes of index funds entailed increases in hedging demands. Consistently positive risk premiums are proof of this.

(4) There is no reason to expect an "excessive" market entry of long-only Index funds, as is frequently suspected. An intensified market entry of index funds, *ceteris paribus*, lowers risk premiums and index funds returns will drop accordingly. Rather, investors will withdraw their fixed assets and thus trigger a (market-conforming) self-correction mechanism. Hence, the market volume of long-only index funds is limited in the medium term. Long-only index funds by no means favor excessive financial speculation.

(5) Finally, the activities of long-only index funds in the agricultural futures market have also a positive impact on the spot market. Lower risk premiums motivate farmers to store larger share of their harvests, which helps dampen seasonal supply and price fluctuations. The functioning of long-only index funds also meets the interest of consumers.

designed to sustainably improve global food security. What is rather required against today's background of demographic development, ever-scarcer resources, climate change and an increasing international division of labor are targeted and concerted efforts to permanently safeguard the global food supply. Needlessly limiting price hedging options for food producers has no place in such efforts.

Policy implications

The interconnections described above suggest that it is prudent for politically responsible actors to abstain from widely demanded measures towards particularly stringent regulations of long-only index funds. Notably stricter position limits are neither reasonable nor practicable. Such limits could be easily circumvented because long-only index funds could be re-issued in any desired number. Should there be any limiting effect, it can be expected that the functioning of the agricultural futures market will be grossly impaired. This consequence would show up even more drastically for a prohibition of long-only index funds that have meanwhile attained a system-relevant position in the agricultural futures market. A prohibition would severely restrict liquidity and competition in agricultural futures markets. Currently there is no economic necessity, aside from transparency-enhancing measures, to limit the activities of long-only index funds in agricultural futures markets through intervention.

Particularly considering the objective of combating hunger, the campaign against the economic activities of index funds is not only unhelpful but rather counterproductive. Indeed, it diverts attention from relevant, urgently necessary reforms

Further information

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Leibniz Institute of Agricultural Development in Transition Economies (IAMO)

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