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Alarm or rather false alarm? A literature review of empirical research studies into financial speculation with agricultural commodities

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An evaluation of 35 research papers into the impact of financial speculation on agricultural commodities markets has revealed: The vast majority of studies did not confirm the concerns that prevail in public discourse. The current state of knowledge indicates only a few, and weak, findings that verify the assumption that the rise in financial speculation in recent years has increased (1) the level or (2) the volatility of agricultural commodity prices. Instead, those developments have rather been caused by fundamental factors in the real economy. This is why the majority of academic studies are not in favor but against (3) enacting regulatory barriers to market entry. Transaction taxes or position limits are described as involving high risks. Various studies explicitly warn against overregulation, which would impair rather than improve the functionality of agricultural markets. Seen in this light, the alarmism about financial speculation should be classified as a false alarm: Those who desire to effectively combat hunger in the world have to take real-economy precautions to ensure that food supplies will match the envisaged increasing demands.

New players have entered the futures markets for agricultural commodities over the last ten years. Commodity Index Traders (CITs) are heavily engaged in a business model that consists of permanently covering long positions that are continually rolled forward. Without building their own inventories, CITs contribute to hedge agricultural producers against markdown risks.

This recent development has given rise to the suspicion that CITs could be causally responsible for the dramatic price events in 2007/8, 2010/11 and 2012. In view of global hunger revolts there was a great deal of conjecture among theoreticians and practitioners that CIT-conditioned financial speculation with agricultural commodities prompted rapid food price rises that notably affected people suffering from extreme poverty.

This suspicion has sparked an intense international discussion that has already entailed regulatory actions. The US, for instance, has introduced position limits, while Europe is updating the Markets in Financial Instruments Directive (MiFID). Various renowned civil society organizations (CSOs)

in Germany have mounted a joint public awareness campaign in this context. The CSOs demand the introduction of a transaction tax, the subjection of futures market speculators to severe position limits, and a full ban on financial speculations by CITs.

The CSOs commissioned their own studies (Pies 2012) to increase the efficiency of their demands. These groups assert that a "scientific evaluation" of available data provides "overwhelming evidence" that financial speculation causes and exacerbates hunger in the world.

Those statements have prompted strong responses. To give but one example: Thilo Bode, executive manager of foodwatch, asserts that banks, with their speculative futures market transactions, are "hungermakers". Within a few months, Bode attended no less than three publicly-documented debates where holders of economics chairs pointed out that his claims contradicted the state of the art in research (FAZ 2012, Handelsblatt 2012, Sueddeutsche Zeitung 2012). The CSOs, however, maintain their view that scientific evidence is on their side (attac 2012).

IAMO, in collaboration with the Chair in Economic Ethics at Martin Luther University Halle-Wittenberg, have conducted a comprehensive literature review to contribute to clarifying the widely and publicly disputed facts (Will et al. 2012).

Outcomes of a literature review of journal articles

The first part of the literature review analyzed ten scientific articles published between 2010 and 2012 in peer-reviewed journals. All ten studies are individual research projects that employed state-of-the-art econometric methods of time series analysis.

(1) Eight of the ten studies investigate whether financial speculation in futures markets contributed to boosting price levels of agricultural produce. In other words, they examine the assertions made by CSOs. All eight studies unanimously conclude that the anticipated effect cannot be verified.

(2) Four of the ten articles address the question of whether financial speculation in futures markets contribute to intensifying volatility, i.e. price level ups and downs, in agricultural markets. If this were the case, CITs would not collateralize, but spread uncertainty. Two studies deny the effects of dysfunctional volatility. Another study measures a statistically significant correlation but this impact is negative: An increased trading volume reduces volatility. Only one study arrives at a finding that is critical of speculations inasmuch as volatility is increased in the short run; however, the study also qualifies this statement by admitting that this identified effect does not have any medium- or long-term adverse impact.

(3) Seven of the ten articles explicitly comment on regulatory issues. There is not a single journal publication that comes out in favor of position limits or even a ban on financial speculation with agricultural commodities. Five articles, however, urge caution regarding the regulation of commodity futures, and indicate the risk that misregulation would not improve, but rather deteriorate the functionality of agricultural markets. These articles warn especially against removing liquidity from such markets, as this may mean that many agricultural producers would not find any barter partners to cover their price risks. As a consequence, agricultural producers would have to bear their risks themselves rather than passing them on to players who are willing and prepared to assume price risks against adequate premiums.

However, it is not only true that most of the studies consider financial speculation to be harmless. Actually, five journal articles explicitly state that financial speculation has a positive effect, and that it contributes to the improved functioning of the futures markets for agricultural commodities.

Grey literature review findings

An additional 25 studies, published between 2010 and 2012, were analyzed to broaden the assessment basis and also cover the current state of research. Again, these were independent empirical studies that have not (yet) appeared in peer-reviewed journals. Their status is rather that of discussion papers and as such they are classified as grey literature.

(1) Thirteen of the 25 papers examine whether financial speculation in futures markets has contributed to increased volatility of agricultural prices. Four papers provide a positive assessment, and nine papers a negative assessment. Two of the four papers caution that their research findings should be interpreted with utmost care:

- One paper explains empirically detected price effects through the increased interconnection of markets.
- One paper points out that it depends on the specific period under review whether an impact of financial speculation on volatility is statistically significant or not.

(2) Nineteen of the 25 papers investigate whether financial speculation in futures markets has contributed to increased price levels in agricultural markets. Nine papers provide a positive assessment and ten papers a negative assessment. Five of these studies caution that their research findings should be interpreted with utmost care:

- One of the papers does not attribute the price increase to financial speculation but to expansive monetary policies enacted by central banks.
- One of the papers analyzes various alternative specifications. Only a few of these tests arrive at positive results. This is why the author concludes that negative effects cannot be blamed on financial speculation, and hence, the all-clear can be given.
- One of the papers cautions that its own positive findings may be attributable to the application of new test methods for which only little experience existed.
- One of the papers can only verify a price impact by financial speculation in markets with low liquidity.

In conclusion, it can be stated that these four papers are opposed by ten studies that expressly cannot confirm a price-increasing effect of financial speculation.

(3) Thirteen of the 25 papers explicitly discuss regulatory issues. Not one paper supports the public call made by civil-society organizations for an exclusion of CITs from the futures market, and for issuing a regulatory ban on financial speculation. Two papers approve a transaction tax, and three papers support position limits to quantitatively contain financial speculation. Seven papers, in contrast, warn against the risks of misregulation, and five papers opine that there should be no attempts at curbing financial speculation because of its overall positive effects. Five treatises explicitly come out against position limits.

Conclusions

(1) The above-described findings prompt three conclusions from the literature:

- Even if the literature still leaves many questions open, the current level of knowledge strongly suggests that the alarm raised by civil society should be classified as a false alarm.
- Political regulatory demands for the introduction of a transaction tax, stipulation of stringent position limits and an all-out ban on financial speculation are contradicted by the dominant mainstream of academic literature.
- In contrast, demands for the regulatory improvement of transparency in futures markets for agricultural commodities are well-founded and supported by research. This particularly applies to regulations towards enhancing information efficiency. Here, Europe is lagging behind the US.

(2) Based on the literature review and its results, we can draw the following conclusions:

- The attempt to name-and-shame CITs and their forward transactions for financial speculation with agricultural commodities has distracted public attention from the political options that are, in fact, appropriate for combating acute hunger crises.
- The biased public perception of the issue is not least due to the fact that civil society criticism fell on particularly fertile soil in view of the world financial crisis.
- This bias can be countered with the economic ethics insight that, due to their hedging function, commodity futures markets operate in a mode of institutionalized solidarity. This alternative view is supported by the findings arrived at in the vast majority of empirical studies, that financial speculation has contributed to making the agricultural markets function not worse, but better.
- Those who want to effectively combat hunger in the world have to take real-economy precautions to ensure that food supplies will match the envisaged increasing demands.

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