

# Corporate Concentration, Financialization, Commodity Price Formation, and Exchange Rate Dynamics: Implications for Food Security

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## Abstract

This paper argues that corporate concentration in agribusiness and financial activity in commodity markets jointly shape food prices and contribute to food insecurity. It builds on Keynes, Kalecki, and Minsky and examines global markets for wheat, maize and soybeans with previous studies and illustrative data. The largest grain traders set prices in physical markets and speculate through their financial subsidiaries to sustain the value of their assets. Net grain importer countries pay grain commodity prices in US dollars, so their exchange rate affects domestic food prices. The paper closes with policy options for food security and economic policy sovereignty. By bringing these strands together in a single interpretation, the paper contributes to the ongoing debates on food security and economic policy sovereignty.

**Keywords:** Financialization; Food Security; Agribusiness Concentration; Commodity Price Formation

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## INTRODUCTION

To understand the tension between agribusiness corporates with final consumers, agribusiness corporates with agricultural producers, and ultimately agribusiness corporates with food insecurity, we need to understand the following key elements:

- I. Spot, futures, and forward prices and swaps, and their link to hedging and speculation;
- II. Corporate concentration in the agricultural market and how this distorts pricing;
- III. Nature of the system—need to value assets for balance sheet health;
- IV. Financial activity in commodity markets: deregulation, speculation and the rise of index investments; and
- V. The case of countries that are not food self-sufficient and depend on capital inflow to appreciate the exchange rate to lower the prices of imported basic grains.

The following sections cover each of the topics listed, with an additional brief section at the end on policies to be considered to address food insecurity, and disrupt the forces that induce it

The main research question of the essay is: *how do corporate concentration in agribusiness and financial activity in commodity markets affect farmers, consumers, the exchange rate, and food security, and how can these effects be addressed?*

The structure of the paper is as follows. Section I introduces the analytical framework by clarifying the relationship between spot, futures, and forward prices and swaps, and their respective roles in hedging and speculation. Section II examines the role of corporate concentration in agribusiness and its implications for food security. Section III situates the recent engagement of corporates, pension funds, hedge funds, investment banks, speculators, and other institutional investors in futures markets and swaps of agricultural commodities within the broader logic of capitalism. Section IV brings the role of deregulation in conversation with financialization, and commodity markets with examples from the global markets for wheat, maize and soybeans from 2004 to December 2025. Section V briefly brings the exchange rate into the conversation, and its effects in the national economy. It argues that countries that are not self-sufficient in food commodities often rely on an appreciated exchange rate to lower the prices

of imported grains, a strategy that harms national producers and leaves them exposed to capital-flow cycles. Section VI, also the last section of the paper, outlines policy measures aimed at addressing both the structural sources and the manifestations of these dynamics.

This paper does not offer new empirical evidence; its contribution to the post-Keynesian literature is to connect debates that are usually held separately. Several studies combine two or three of the dimensions discussed here: financialization and commodity price formation (UNCTAD 2009, 2011; Mayer 2009; Nissanke 2012; Bicchetti and Maystre 2012; Ghosh et al. 2012; Clapp and Helleiner 2012); financial speculation and market power (Newman 2009; Murphy et al. 2012; Weber and Wasner 2023; Storm 2023; Rabensteiner et al. 2025); corporate concentration and food security (Howard 2016; Clapp 2021; Clapp et al. 2025); speculation, concentration and price transmission to developing countries (Ghosh 2011; Weber et al. 2024); and capital flows, exchange rates and inflation in the periphery (Tavares and Belluzzo 1984; Frenkel 2008; Ocampo 2016). This paper brings all four (price formation in commodity markets, corporate concentration, financialization and exchange rate dynamics) into a single interpretation. Drawing on Keynes, it explains how hedging and speculation shape prices in futures markets. Relying on Kalecki and Minsky, it shows how the largest grain traders set prices in physical markets and speculate through their financial subsidiaries to sustain the value of their assets. Following literature on the balance of payments and exchange rates in the periphery (Frenkel 2008; Ocampo 2016), it then shows how dollar pricing and the exchange rate transmit these world prices to food-importing countries, where the exchange rate can cancel, soften or amplify changes in world prices. The exposure of these countries to world prices set in US dollars is part of the food security question at the centre of the paper.

At the same time, the charts of this paper illustrate some of these mechanisms rather than test them. The paper is written in an accessible way so that readers without a specialised background can follow the argument and have a glimpse of the interconnected dynamics behind the food we all eat and, hopefully, mobilize collective action.

## I. SPOT, FUTURES AND FORWARD PRICES AND SWAPS, AND THEIR LINK TO HEDGING AND SPECULATION

Spot, futures and forward prices and swaps are key elements to understand hedging and speculation. Prices matter for the decision making of each actor—each will make judgments based on their own balance sheet (with assets and liabilities).<sup>2</sup>

### Some definitions:

- **Spot price:** The current market price of a commodity.
- **Expected spot price at maturity:** Market participants' *expectation* of what the spot price will be at maturity.
- **Futures contract and futures price:** A *standardized* contract, traded on a regulated exchange, to buy or sell a commodity at a future date. The futures price is the *agreed* price in the contract.
- **Forward contract and forward price:** A *private* contract between two parties, not traded on an exchange, to buy or sell a commodity at a future date. The forward price is the price agreed in the contract (Clapp and Helleiner 2012, 185–186).
- **Swap:** A private financial contract in which one party pays another according to changes in a commodity price or a commodity index. No physical commodity is delivered. The swap dealer, usually a bank, buys futures contracts to offset its exposure from price changes (UNCTAD 2009, 56).
- **Commodity index:** A basket of many commodities not necessarily of the same kind (for instance oil, metals, wheat, maize, soybeans and others) that moves up and down together as one price. (UNCTAD 2009, 56).

### Why do price differentials matter for hedging and speculation?

**For commodity producers,** the relationship between the *futures price* (the price agreed today for delivery later) and the *cost of production* matters to ensure profitable production (Kregel 2024, 199). Commodity producers *hedge* when they can lock in a price for their physical production that guarantees income stability and balance sheet health. For instance, in the case of agriculture, to start production today farmers need to make sure that today's futures price for delivery later will be sufficient to cover today's production cost plus a mark-up. This would remove the price risk in production. If today's futures price for delivery later is lower than today's cost plus a profit margin, producers may hold off production. As Hyman Minsky writes:

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<sup>2</sup> Note that balance sheets are interrelated between actors. See Minsky (1991, 11).

*The price system in a capitalist economy must carry the carrots that induce the production of the physical resources needed for future production. To do this it is necessary that the present validate the past, for unless the past is being validated and the future is expected to validate present investment and financing decisions, none but pathological optimists will invest (Minsky 2008, 158).*

Hedging, in the context of this paper, is understood as the desire to reduce risk and guarantee income stability by actors who need to lock in prices because either they are the commodity producers themselves or their production depends on the commodity as an input.

*Speculators*, unlike producers, care about the difference between the *expected spot price at maturity* and the *futures price*. They will try to gain profit on the mispricing of the spot and future prices, and their respective relationship—also called speculation. There are two scenarios that can happen in this process, one called *contango* and the other one *backwardation*. In *contango* (future price > expected spot price at maturity), the speculators may sell overpriced futures if they expect the futures price to fall toward the spot price. If the futures prices fall, they can buy it back later at a lower price and profit on the difference. In *backwardation* (futures price < expected spot price at maturity), speculators buy low priced futures contracts expecting spot prices to rise. They profit when the futures price rises toward the spot price.<sup>3</sup>

While *producers* try to hedge against production risk—what Keynes (2017, 124–125) would call a real cost risk—, *speculators* bet on mispricing and arbitrage in the process. Hedgers and speculators coexist and need each other, up to a certain degree. This is because hedgers, to reduce risk, need someone to guarantee a future purchasing price today for delivery later; speculators provide liquidity to hedgers by taking that risk in exchange for the chance of profit. Even grain traders critical of financial investors acknowledge that speculators "provide liquidity which is indispensable for hedging" (UNCTAD 2011, 43). In practice, however, the line between hedging and speculation is not clear cut, since "all derivatives trading, including for price risk management, will contain elements of speculation" (Newman 2009, 547).

So far, it has only been discussed how *spot prices*, *production cost*, and *futures prices* are important for hedging and speculation in the context of separated actors (farmers and speculators). Four things need to be said about *forwards* and *swaps*: First, forwards and swaps

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<sup>3</sup> The interpretation of contango and backwardation presented above is informed by Kregel (2024,199-200) and by discussions with him during the author's MSc coursework..

are private agreements traded over-the-counter (OTC), outside regulated exchanges. Forwards are not new. What changed after 2000 was the rapid growth of swaps sold by swap dealers<sup>4</sup> to financial investors (UNCTAD 2009, 56; Clapp and Helleiner 2012, 187-188). Second, forward prices are often set by futures prices. Swaps are also tied to futures prices, since swap dealers offset them in the futures market (UNCTAD 2009, 56). Third, the participants that buy and sell swaps are increasingly large financial investors whose participation is driven by speculation and desire of asset valuation (UNCTAD 2011, 19). These actors are not necessarily dependent (in terms of production) on the price stability of the commodity they invest in. Fourth, the *mechanism* in which profits are secured for the speculators, and risks are reduced for hedgers, is the same: via price differentials between the spot price and maturity price.

**Table 1: Differences between spot markets, futures and forwards and swaps.**

|                        | Spot Market                                 | Futures Contract                                                | Forward Contract                                          | Swap                                                                                                                                              |
|------------------------|---------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Definition</b>      | Price for immediate delivery and payment    | Price agreed today for a future delivery via exchange           | Price agreed today for a future delivery via private deal | Private contract that pays according to price changes; no delivery                                                                                |
| <b>Market type</b>     | Cash/physical market                        | Exchange-traded products                                        | Over-the-counter , private                                | Over-the-counter , private                                                                                                                        |
| <b>Standardization</b> | None — depends on location, quality, timing | Fully standardized (quantity, quality, date, location)          | Fully customizable between buyer and seller               | Customizable                                                                                                                                      |
| <b>Regulation</b>      | Minimal (market-based, informal)            | Regulated. In the U.S., by Commodity Futures Trading Commission | Less regulated; fewer protections                         | The Commodity Futures Trading Commission (CFTC)—US regulator of futures market—<br>Excluded from oversight by the Commodity Futures Modernization |

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<sup>4</sup> As mentioned in the table of definitions, swap dealers are usually banks that sell swap instruments to investors, such as pension funds, and buy futures contracts to protect themselves from price changes (UNCTAD 2011, 19).

|                            |                                                    |                                                                                          |                                                                                                    |                                                                                                                                                        |
|----------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |                                                    |                                                                                          |                                                                                                    | Act of 2000. Regulated since the Dodd-Frank Act of 2010 (Clapp and Helleiner 2012, 187, 191)                                                           |
| <b>Position limits</b>     | N/A                                                | Yes. To prevent excess speculation (imposed on certain traders and commodities)          | None. Can hold unlimited positions                                                                 | No limits until 2021. Since then, limits apply to swaps that work like futures contracts (in terms of commodity, terms and conditions)                 |
| <b>Price Visibility</b>    | Public in some markets, opaque in others           | Fully transparent (real-time prices on exchanges)                                        | Private (not publicly reported)                                                                    | Private                                                                                                                                                |
| <b>Used/ Influenced by</b> | Traders, consumers, processors for immediate needs | Farmers, traders, speculators, processors, swap dealers, money managers (UNCTAD 2011,19) | Farmers, grain storage companies and food processing companies (Clapp and Helleiner 2012, 185-186) | Swap dealers (banks) and their clients: pension funds, hedge funds and other investors (UNCTAD 2011,19)                                                |
| <b>Typical Purpose</b>     | Immediate purchase or sale                         | Hedging or speculating on future price changes                                           | Hedging by farmers and buyers. (Clapp and Helleiner 2012, 197)                                     | Speculation on commodity prices to value assets and sustain balance sheet health. Allows portfolio diversification. (UNCTAD 2009, 54; UNCTAD 2011, 19) |

*Source:* Author's elaboration based on Clapp and Helleiner (2012), UNCTAD (2009; 2011) and CFTC (2021).

In the following sections address how corporate concentration, deregulation, financialization, and the nature of the capitalist system affect spot prices, futures and forward prices, and consumer prices of three agricultural commodities, and how these dynamics affect food security. While the paper gives examples of wheat, maize and soybeans, it recognizes that

these price dynamics are not specific to these three commodities but extend to other commodities as well.<sup>5</sup>

## II. AGRIBUSINESS (CORPORATE CONCENTRATION IN AGRICULTURE) AND PRICE DISTORTIONS

Around seventy to ninety percent of the world's grains are controlled by only five companies: Archer-Daniels-Midland; Bunge; COFCO; Cargill; and Louis Dreyfus (Weber 2024, 9; Clapp et al. 2025, 3). This high degree of market concentration is not incidental, but rather constitutive of agribusiness as a system of vertically integrated production and commercialization. Agribusiness corporations are often involved in every step of the production process: ranging from the provision to farmers of loans, seeds, fertilizers and pesticides, to distribution, processing, storage, and sometimes in production (Weber 2024, 9; Rabensteiner et al. 2025, 21; Weber and Wasner 2023). When they do not produce food commodities, they buy them from small producers. Additionally, agribusiness corporations play both as hedgers and speculators (Rabensteiner et al. 2025, 22-23). In this process, and because of their corporate concentration, the big five have direct influence over spot prices (by controlling supply and inventories); futures and forward prices (by influencing expectations in the futures market); and price fixing over final consumer prices. This gives them an extraordinary ability to shape the risks, bringing their risks to zero (Kregel 2024, 199), and shifting the risk to the producer and price volatility to final consumers.

**Price *fixing* in market prices and spot prices.** The higher the degree of concentration/monopoly, the less the prices respond to real supply and demand dynamics (Kalecki 1956, 13). Prices, rather, respond to the power imbalance of the corporate concentration. The mechanism of price fixing—here to consumer goods—is explained by Kalecki (1956) in the context of industry concentration/monopoly in the mid-twentieth century<sup>6</sup>:

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<sup>5</sup> To mention some examples see UNCTAD (2009) for agricultural, energy and metal commodities, Newman (2009) for coffee, and Bicchetti and Maystre (2012) for maize, soybean, wheat, sugar, live cattle, and crude oil.

<sup>6</sup> Note that the author is does not refer to Kalecki's analysis of raw material price formation because the author believes that the way raw material prices were set in 1956 was different from today. Commodities were not financialized as they are now. This last point is expanded in sections III and IV of the piece.

*Such a firm knows that its price  $p$  influences appreciably the average price  $\bar{p}$  and that, moreover, the other firms will be pushed in the same direction because their price formation depends on the average price  $\bar{p}$ . Thus, the firm can fix its price at a level higher than would otherwise be the case. The same game is played by other big firms and thus the degree of monopoly increases substantially. This state of affairs can be reinforced by tacit agreement. (Such an agreement may take inter alia the form of price fixing by one large firm, the 'leader', while other firms follow suit.) Tacit agreement, in turn, may develop into a more or less formal cartel agreement which is equivalent to full scale monopoly restrained merely by fear of new entrants. (Kalecki 1956, 17)*

The takeaway from Kalecki's quote is that corporations are price setters and everyone else is a price taker. Agribusiness, as significant buyers and suppliers, can influence the average price  $\bar{p}$  in all their transactions. For instance, they can do this when *buying a commodity* from small farm producers (below the market price to make extra profit) and when *selling the commodity* (below or above the market price) depending on whether they want to gain market power via dumping or to maximize profits in the short term.

**Price distortion in spot prices** should be understood in light of the vertically integrated structure of agribusiness corporations. These corporations exercise control over multiple stages of the commodity chain, including distribution, storage, and sometimes production. Agribusiness control over supply flows and inventory stocks allows them to have control over spot prices in two ways. First, they can withhold stocks and reduce supply in the market. Withholding stocks, *ceteris paribus*, drives spot prices up. This is a form of creating an artificial scarcity. Second, they can flood the market with additional inventories. Additional inventories, *ceteris paribus*, can bring spot prices down. This pushes away farmers whose production costs are above the market spot price. Agribusiness control over inventories also gives them an information advantage: they use data on their own stocks to learn about market conditions before the rest of the market participants know (UNCTAD 2011, 42).

**Influence on spot prices through the futures market.** Futures markets were transparent and regulated.<sup>7</sup> But, in the context of large financial and agribusiness corporations, deregulation and financialization, spot price signals are distorted by speculation. The five largest grain traders (Archer-Daniels-Midland, Bunge, COFCO, Cargill and Louis Dreyfus) have developed financial

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<sup>7</sup> Futures markets were transparent and regulated after the USA Commodity Exchange Act of 1936 and maintained, in relative terms, until the wave of financial deregulation that intensified from the 1980s onward and accelerated in the late 1990s and early 2000s.

activities alongside physical trade through their own financial subsidiaries, funds or financial services that invest in or trade food commodities (Murphy et al. 2012, 6 and 28).<sup>8</sup> In fact, commodity trading companies increasingly resemble financial holding companies (Newman 2009, 548–549). Through these subsidiaries and funds, large agribusinesses act as financial investors. –The commodity traders surveyed by UNCTAD agreed that financial investors create "substantial volatility and price distortions in the short run" because of the enormous volumes they trade relative to the overall market, specifically in grains (UNCTAD 2011, 43). Since changes in futures prices can affect spot prices (Nissanke 2012, 742), large agribusinesses can influence spot prices by taking large speculative positions in the futures market (Ghosh 2011, 298-299).

**Implications.** Corporate concentration in agribusiness is problematic as a whole because, as explained point by point, below: price signals get distorted; small farmers income and profits become more volatile and unstable, and final food consumers are more prone to experience price volatility and seller's inflation.

*Price signals get distorted.* The higher the degree of concentration/ monopoly, the less the prices respond to real supply and demand dynamics (Kalecki 1956, 13). Prices, rather, respond to the power imbalance of the corporate concentration. The financial no longer follows the real. The financial sector now shapes the real sector affecting output, prices, consumption, investment, employment, and income distribution (Minsky 2008, 123). In food markets, this means that the prices of basic grains paid to farmers and the prices paid by final consumers increasingly depend on financial positions in futures markets and less on supply and demand dynamics (Nissanke 2012, 742; Ghosh et al. 2012, 478). This point is further developed in Section IV, where the charts on total global supply, global utilization and the average price index of wheat, maize and soybeans illustrate this dynamic.

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<sup>8</sup> Examples of the financial subsidiaries and funds of Archer-Daniels-Midland, Cargill, COFCO and Louis Dreyfus, with regards to agricultural commodities, are the following. Archer-Daniels-Midland owns ADM Investor Services, a futures brokerage. Cargill's financial subsidiaries include Cargill Risk Management (Salerno 2017, 215). Previously it also owned Black River Asset Management. COFCO manages its financial businesses through COFCO Capital, which includes COFCO Futures, COFCO Trust and the COFCO Agricultural Industry Fund (COFCO 2026). Louis Dreyfus's agricultural hedge fund was Edesia Asset Management, previously called the Louis Dreyfus Commodities Alpha Fund, which closed in 2017. Bunge does not have its own hedge fund. Its financial activity is part of its financial services business (Bunge 2025, 6).

*Small farmers* become price takers and dependent on the prices and contracts that agribusiness corporations are willing to offer. As small farmers can't control spot prices, they have less access to hedging. For instance, during the 2008 price spike, many grain elevator operators refused to enter into forward contracts with farmers, "depriving farmers of their main mechanism for hedging their risk" (Clapp and Helleiner 2012, 196–197). This unequal dynamic makes small farmers income and profits more volatile, unstable, and dependent on agribusiness terms. The concentration of agribusiness, and its ability to set buying prices, lead to extraction of income from small producers and reduce the viability of their production (Ghosh 2011, 294-295).

*Final food consumers* are prone to experience price volatility and seller's inflation, which endangers food security (Weber et al. 2024, 14; Rabensteiner et al. 2025, 21), and can be subject to extraction of income. Market prices are set at the level the agribusiness wants<sup>9</sup>, and not the one that clears supply and demand. The concentration of agribusiness, and its ability to set consumer prices, result in extraction of income from consumers. Concentration of agribusiness, regardless of where the corporations are located, affects global prices given the fact that markets are more globally integrated today due to long standing efforts of trade liberalization. As Isabella Weber and her co-authors write: "National grain prices are more closely linked to international prices." They continue, "[i]n large parts of the Global South, domestic grain prices mirror global price fluctuations. In Sub-Saharan African countries, international price fluctuations are often passed on 100%." (Weber et al. 2024, 9).

Agribusiness corporations not only profit from extraction of income from producers and consumers via the control of spot prices and selling prices, respectively. They—in addition to other players—speculate on the prices of food commodities because of their need to value assets, among other reasons that go beyond the limits of this paper.

### III. NATURE OF THE SYSTEM: NEED TO VALUE ASSETS

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<sup>9</sup> According to Rabensteiner et al. (2025, 21), "Subran et al. (2023) attribute up to 20% of recent food inflation to profiteering."

This section explains why large agribusiness firms and financial investors speculate in food commodities, even when their (productive) activities do not depend on those commodities. Following Minsky, the answer lies in the the need for asset valuation as a core feature of capitalism ( 1991, 11-13). Assets must, in some way or another, validate liabilities. The logic is the following: the ratio of valued assets against liabilities matters for solvency and access to credit. If the value of capital assets drops—even if the firm's operations are profitable—the firm may be unable to roll over debt, refinance, or attract investment, leading to fragility and potential insolvency.

How the assets are valued changes depending on the stage of capitalism. In pre-financialized capitalism assets were real assets. In the context of financialization, assets comprise real and financial instruments (Minsky 1991, 2) where, for the most part, the sum of assets do not reflect real activity; they are mainly financial assets tied to expected future income. As Minsky writes: “As soon as the operator or the ostensible owner of assets began to finance part of the position in assets with financial instruments that were promises to pay money, the simple enumeration of assets had to be replaced with a valuation of assets” (Minsky 1991, 11).

Corporations today increasingly speculate on commodity futures contracts. Rabensteiner et al. (2025, 23) note, for instance, that “food commodity trading companies increasingly rely on financial instruments and markets to hedge their commercial positions and engage in strategic speculation.”<sup>10</sup> Following Minsky, the paper argues that one reason is the need to sustain the value of the assets that serve as collateral on their balance sheet and, in that process, to maintain or increase their borrowing through the ratio of valued assets against liabilities<sup>11</sup>; and to remain solvent. This applies to agribusiness corporations as well as pension funds, hedge funds, investment banks, and other institutional investors, which hold commodities whose value can increase over time in their portfolios even though they do not depend on those commodities for production. In the case of the largest grain traders, Archer-Daniels-Midland and Bunge value a large part of their grain inventories, including maize, wheat and soybean, at market prices

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<sup>10</sup> While tangential, large international coffee trading companies also have refocused their investment strategies away from productive investment towards speculative investments in commodity derivatives for the purpose of the so called “risk management”. (Newman 2009, 557).

<sup>11</sup> Liabilities are fixed, but assets fluctuate in value.

(Bunge 2024, 14; Archer-Daniels-Midland 2025), so the value of these assets on their balance sheet changes with commodity prices. The same logic applies to the financial subsidiaries and funds of these traders, discussed in Section II. Section IV shows how deregulation opened agricultural futures markets to a wide range of financial investors, including pension funds, hedge funds, investment banks, and the financial subsidiaries and funds of the largest grain traders.

#### **IV. FINANCIAL ACTIVITY IN COMMODITY MARKETS: DEREGULATION, SPECULATION AND THE RISE OF INDEX INVESTMENTS**

Over the last decades it is possible to see a significant change in the regulation of futures and swaps markets. The regulatory framework has been shaped by a conflict between the financial and corporate interests that favour deregulation and the regulatory efforts that respond to the public interest (Clapp and Helleiner 2012, 198-199). The case of position limits after 2010, discussed below, illustrates how financial innovation and industry opposition have repeatedly kept ahead of regulation. Additionally, it can be argued that the shift to financial activity in the commodity market is logical under a capitalist system that needs to reinvent itself to survive. This tendency can be understood, yet it is not being justified nor supported by the author. The resilience of the system to reinvent itself does not mean that it is not fragile. “Capitalism is both intermittently fragile and resilient”, as Minsky (1991, 10) points out. The discussion below addresses three central issues: How deregulation opened agricultural futures markets to financial investors; how under financialization and deregulation futures prices drive spot prices; and the implications of financial activity in commodity markets for producers and consumers and how it accentuates price volatility and food insecurity.

##### **Deregulation and the entry of financial investors into agricultural futures markets.**

**From the 1970s until the late 1990s**, commodity producers would hedge on futures markets<sup>12</sup> by locking future prices to cover against risks of a price reduction happening between cultivating the land and harvest. Hedging was a risk management tool to stabilize farm income. Futures

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<sup>12</sup> Futures market were tightly regulated by the CFTC.

prices were arguably more closely linked to real-world supply and demand. The Commodity Futures Trading Commission (CFTC), created in 1974, was institutionally strong: it oversaw commodity *futures*; set position limits (how many contracts one player can hold); oversaw the balance between hedging and speculation to avoid market distortions; and monitored market abuse.

Deregulation started before 2000. In 1987 the CFTC began to accept “risk-management” positions as exempt from speculative position limits and, in 1991, it granted the first hedge exemption to a swap dealer affiliated with a large commodity trader, allowing it to hold wheat, maize and soybean futures to offset a commodity index swap sold to a pension fund. Similar exemptions followed for other swap dealers and index products (CFTC 2008, 1, 14–15; Clapp and Helleiner 2012, 187). In this way, investors with no physical exposure to the commodities could obtain price exposure indirectly, through swap dealers, beyond the limits applied to ordinary speculators.

**After the early 2000s**, with the United States Commodity Futures Modernization Act (CFMA) of 2000, a large part of over-the-counter derivatives, including commodity swaps, was excluded from CFTC oversight (United States Congress 2000, Sec. 106). This opened the way for commodity index investment: investors bought index products from swap dealers, who then offset their exposure in the regulated futures markets using hedge exemptions (CFTC 2008; US Senate 2009; UNCTAD 2009, 56). This meant three things. : First, commodities like wheat, maize, and soybeans became also financial assets heavily traded by hedge funds, investment banks, and speculators, and not only by agents who produce them or whose productive structure depended upon the price stability of them. Assets in commodity index funds grew more than tenfold, from about USD 15 billion in 2003 to USD 200 billion by mid 2008 (Clapp and Helleiner 2012, 188). This became noticeable especially after the United States housing financial crisis, as investors were searching for other sources of profits (Ghosh 2009, 9; UNCTAD 2009, 54; Ghosh 2011, 292). Since late 2008, commodity futures prices have moved together with the United States stock market, a sign that commodities are traded as financial assets (Bicchetti and Maystre 2012, 1). Second, agricultural futures prices became less closely linked to supply and demand fundamentals, and for maize, soybeans and wheat the convergence between futures and spot prices weakened (US Senate 2009; UNCTAD 2009, 74; UNCTAD 2011, 45). ;

Third, the CFTC lost oversight of a growing share of commodity trading, which now took place over-the-counter, outside the regulated exchanges, without position limits, disclosure requirements or regulatory oversight (Clapp and Helleiner 2012, 187).

**From Dodd-Frank (2010) to the 2021 position-limits rule.** The Dodd-Frank Act of 2010 was a regulatory attempt motivated by the loss of oversight over commodity trading after the early 2000s. The Dodd-Frank Act attempted to bring swaps back under CFTC oversight and asked for position limits on both futures and similar swaps. But putting this into practice was slow and contested (Clapp and Helleiner 2012, 199): swap dealers were allowed to keep exemptions from the position limits in some agricultural products (Ghosh 2011, 301) and position limits were only implemented eleven years after the Act, in 2021, at levels higher than before for the main agricultural contracts (CFTC 2021). In other words, after the global financial crisis the limits on speculation were loosened, not tightened.

The deregulation of the financial system shows a clear corporate preference towards deregulated exchange, more flexibility in *futures*, and the growth of over-the-counter swaps. Under the current deregulated and financialized system a larger pool of financial participants can be part of the purchasing and exchange of futures and swaps (Ghosh 2009, 4), and investment for speculation in the financial system dominates over investment in the productive sector.

### **Futures prices drive spot prices under corporate concentration and financialization.**

Two considerations are important to keep in mind. First, under corporate concentration—as seen in section II—prices (spot, consumer, and futures prices) do not longer represent real supply and demand dynamics. Prices instead respond to market power. Information asymmetries become the rule between the small producers and large players (corporate producers and investors) (UNCTAD 2011, 42). Second, under financialization and deregulation, futures prices are driven by speculation and market sentiment of financial investors (UNCTAD 2011, 6 and 43; Nissanke 2012, 741). Financialization reversed the previous dynamics between spot and futures prices, in which *future prices* = f(spot prices); and *spot prices* = f(real supply and demand) (Nissanke 2012, 742).

In this context, futures prices drive spot prices. This dynamic has been analysed in the case of maize, hard and soft wheat and soybeans. Hernandez and Torero (2010) found that changes in

future prices leading to changes in spot prices on these commodities happens more often than the reverse (Hernandez and Torrero 2010, Cited in Ghosh et al 2012, 482). There are significant negative implications behind this dynamic of futures driving spot prices. Producers, traders and processors use futures prices as the main reference, or benchmark, for their spot transactions and for their decisions on production and inventories (Nissanke 2012, 742; UNCTAD 2011, 7). For this reason, when futures prices go up, spot prices (market price) also go up, even in the context of constant demand and growing supply (Ghosh 2009, 8). This hurts producers. When futures prices are driven by speculation rather than by supply and demand, producers receive "confusing, misleading and often completely wrong price signals" that "cause over-sowing in some phases and under-cultivation in others" (Ghosh 2011, 294). They also face greater uncertainty about the reliability of these signals, which makes production and storage decisions more difficult and hedging more expensive (UNCTAD 2011, 20).

The following three charts—on wheat, maize and soybeans—illustrate how prices moved in relation to global supply and global demand by comparing global supply and global utilization. Global demand is measured by AMIS's "domestic utilization" at the world level, that is, the actual domestic use of each commodity for food, feed, industrial and other uses (AMIS 2026). Global supply is opening stock plus production. The charts suggest that prices rise even in years when global supply outstrips global demand.<sup>13</sup> The charts cannot, however, identify how much of these price movements is due to speculation, since its impact is hard to disentangle from other factors (UNCTAD 2011, 24; Nissanke 2012, 742). Four phenomena can be highlighted from this initial suggestion. First, as discussed earlier, the United States Commodity Futures Modernization Act in 2000 allowed the mismatch of world's food commodity prices to their respective supply and demand dynamics by allowing a larger pool of financial participants to be part of the purchasing and exchange of futures and swaps. This can be observed as early as 2006/2007. From 2005/06 to 2008/09 the average nominal global price of wheat increased 130%, maize 129%, and soybeans 95%. Global supply of wheat and maize also grew, by 7% and 12%, respectively, while soybean supply fell by 3%.<sup>14</sup> It is worrisome, to say the least, that changes in

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<sup>13</sup> Ghosh (2011) also shows this in her piece. See page 290 and 293.

<sup>14</sup> Author's calculations based on annual average prices from the ICG Grains and Oilseeds Index sub-indices (nominal 2004=100), and supply and domestic utilization data from the Agricultural Market Information System (AMIS) Market Database (using International Grains Council statistics).

United States regulation<sup>15</sup> affect the world's average food prices. Second, amidst the United States housing financial crisis, in 2008, the food commodity market became a new source for speculation and profits as investors were searching for other sources of profits (Ghosh 2009, 9). From 2009/10 to 2011/12 the average nominal global price of wheat increased 46%, 69% for maize, and 23% for soybeans, despite a global supply greater than global utilization.<sup>16</sup> Third, the period from 2011/2012 to 2016/2017, after the Dodd-Frank Act but before position limits were effectively implemented, is characterized at first by high prices given the speculation from 2009/2010, and then by falling prices: after peaking in 2011/12 (2012/2013 for soybeans), prices declined every season unit 2015/2016. Fourth, global food prices from 2020 to 2024 were not in fact driven by global shortage of food or food stocks due to war or Covid-19 (as often attributed) but rather by the rise of energy (Martins 2024, 452-453; Storm 2023, 248-249), fertilizer prices (Rabensteiner et al. 2025, 20) and agricultural commodity speculation on futures markets (Weber et al. 2024, 7–8; Rabensteiner et al. 2025, 22). From 2020/21 to 2022/2023 the average nominal global price of wheat increased 64%, maize 67% and soybeans 60%, while global supply of all three rose slightly, by one to three percent. For wheat the speculation spike arrived a period later (from 2020/21 to 2021/22) with a nominal average prices increase of 32%.<sup>17</sup> The following quote from Weber et al. illustrates the deregulated tendency of financial players to speculate with unprecedented amounts of money on agricultural commodities and profit on price differentials to secure quick and generous profits while valuing their assets. They write:

*According to market studies, the sum invested in global funds associated with agricultural commodity speculation was USD 4.5 billion in the first week of March 2022 alone - usually an entire month's worth of investments. In the first four months of 2022, investors poured EUR 1.2 billion into the two largest agricultural funds, the Teucrium Wheat Fund and the Invesco DB Agriculture Fund. In the previous year, the figure was USD 197 million, spread across twelve months.* (Weber et al. 2024, 8)

Note the change of order of magnitude invested in the two largest agricultural funds from 2021 to 2022: from USD 197 million across twelve months to EUR 1.2 billion in the first four months of 2022.

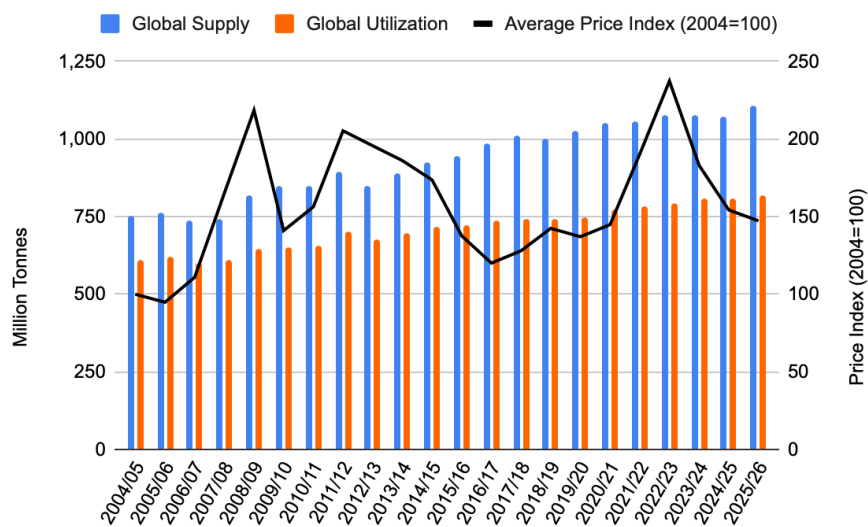
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<sup>15</sup> As discussed earlier in the paper with respect to the United States Commodity Futures Modernization Act of 2000.

<sup>16</sup> See footnote 14.

<sup>17</sup> See footnote 14.

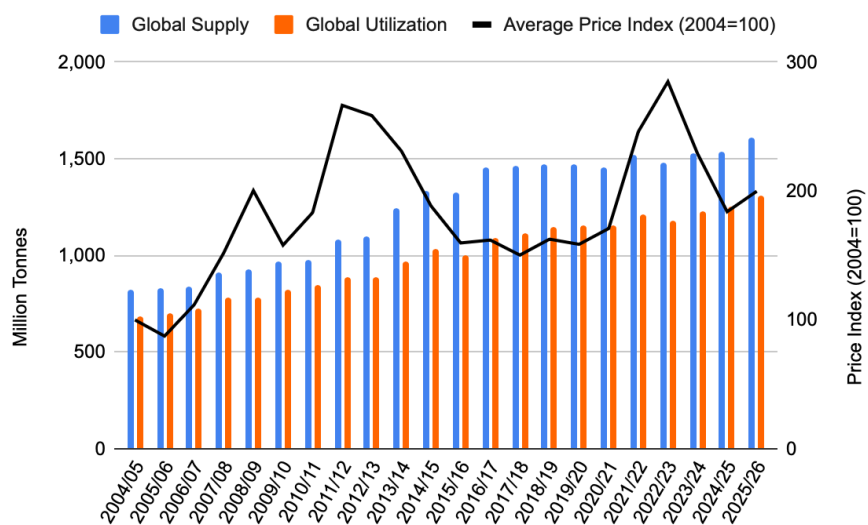
**Chart 1: Global wheat supply, global wheat utilization and average price index (2004–2025)**



**Source:** Author's elaboration based on supply and domestic utilization data from the Agricultural Market Information System (AMIS) Market Database (using International Grains Council statistics), and commodity price sub-indices from the IGC Grains and Oilseeds Index (GOI).

**Note:** The price series corresponds to nominal international export/spot price indices from the IGC Grains and Oilseeds Index (GOI), rebased to 2004 = 100. The annual price index corresponds to the average of daily index values in each calendar year.

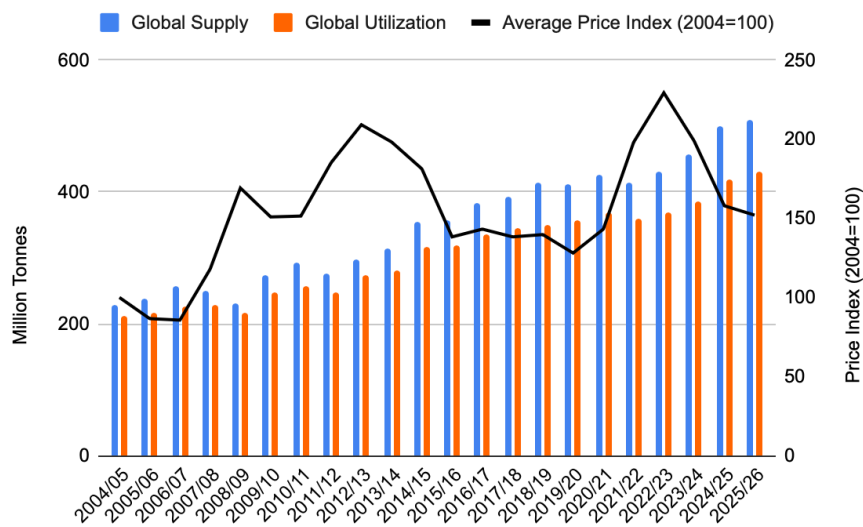
**Chart 2: Global maize supply, global maize utilization and average price index (2004–2025)**



**Source:** Author's elaboration based on supply and domestic utilization data from the Agricultural Market Information System (AMIS) Market Database (using International Grains Council statistics), and commodity price sub-indices from the IGC Grains and Oilseeds Index (GOI).

**Note:** The price series corresponds to nominal international export/spot price indices from the IGC Grains and Oilseeds Index (GOI), rebased to 2004 = 100. The annual price index corresponds to the average of daily index values in each calendar year.

**Chart 3: Global soybean supply, global soybean utilization and average price index (2004–2025)**



**Source:** Author's elaboration based on supply and domestic utilization data from the Agricultural Market Information System (AMIS) Market Database (using International Grains Council statistics), and commodity price sub-indices from the IGC Grains and Oilseeds Index (GOI).

**Note:** The price series corresponds to nominal international export/spot price indices from the IGC Grains and Oilseeds Index (GOI), rebased to 2004 = 100. The annual price index corresponds to the average of daily index values in each calendar year.

**Implications.** Financial activity in commodity markets is problematic because it distorts price formation and—through that process— harms producers, consumers and food security, while benefits the largest agribusinesses. The starting point is price formation itself. UNCTAD (2011) explains in the context of financialized commodity markets that

*[C]hanges in market prices are not easy to interpret. Market participants cannot easily distinguish between price signals that are based on fundamentals and contain new information, and distorted price signals introduced by market participants that trade on the basis of purely financial news or signals from mathematical models. As the data based on fundamentals is limited (especially for inventories) it is difficult to form price expectations. (UNCTAD 2011, 6)*

If market participants cannot tell which price signals reflect fundamentals, the first to suffer are those who much decide what to produce. As discussed above, producers use futures prices as their main reference to start production today; small farmers carry the risk of overproduction or

underproduction, given price and information asymmetry and the fact that prices respond to financial and not real determinants (UNCTAD 2011, 42; Nissanke 2012, 742; Ghosh 2011, 294). The same distorted price signals affect the other end of the chain: final consumers. Final food consumers face higher and more volatile food prices driven by futures and swaps markets<sup>18</sup>—were financial investors mostly bet on rising prices,<sup>19</sup>—and disconnected from actual agricultural supply and demand conditions (Rabensteiner et al. 2025, 7 and 21; UNCTAD 2011, 43;). The fact that food prices of financialized commodities are driven by financial flows and financial dynamics are volatile as they depend on the market sentiment shows that food prices mimic financial dynamics and are subject to volatility. There are examples of sharp increases and abrupt falls in prices of agricultural commodities at the global level. Ghosh (2009, 6), Weber et al. (2024, 7-8) and Nissanke (2012, 741) show this and it can be seen in the paper's chart one, two and three.<sup>20</sup>

Volatility is not only a financial problem. It has real effects and can lead to food crisis. “Higher prices mean that people are forced to spend a highly disproportionate share of their real income on food.”, Weber et al. writes. “For households and countries in which people spend a high proportion of their income on food,”—they continue —“even short-term spikes can make food unaffordable, pushing people into hunger and potentially destabilizing entire societies and economies” (Weber et al 2024, 10). Ghosh (2009) illustrates that the 2008 speculation on futures markets on food commodities led to food crisis all over the world, and felt more sharply in poor countries. She listed 12 countries where food riots were experienced. She notes that, in 2008, the World Bank estimated that at least 100 million people in low income countries were pushed into deeper poverty due to the global rise in food prices (Ghosh 2009, 11). Government officials of

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<sup>18</sup> Other factors also affect food prices, such as energy and fertilizer costs, supply disruptions and extreme weather (Rabensteiner et al. 2025, 20–21). The impact of financial investors on commodity prices is difficult to quantify, since it is hard to disentangle from these other factors (UNCTAD 2011, 24; Nissanke 2012, 742). Yet the price movements of recent years are hard to explain by market fundamentals alone (Nissanke 2012, 742).

<sup>19</sup> Financial investors almost always take net long positions, that is, they are net buyers of futures contracts (UNCTAD 2011, 27), and index traders hold virtually only long positions (Mayer 2009). They therefore benefit when prices rise. Following Minsky (see section III), when food commodities are also assets on their balance sheets, rising prices also sustain the value of those assets.

<sup>20</sup> For instance, Ghosh (2009, 6) shows a sharp increase in global wheat prices in 2007-2008, where wheat prices between December 2007 and June 2008 increased more than two and a half times, and an abrupt fall in prices in the second half of 2008, where prices fell but not to the same level as before the peak.

countries lacking food sovereignty<sup>21</sup> should be particularly concerned about this. Those who win from these divergence, between financial prices and real supply and demand in grain commodities, are corporate agribusinesses. Their control of both physical and financial arms gives them an extraordinary ability to profit from the divergence, worsening market power imbalances (Rabensteiner et al. 2025, 22-23).

## V. NET GRAIN IMPORTING COUNTRIES: THE EXCHANGE RATE AND THE PRICE OF IMPORTS

Sections II and IV illustrate some of the mechanisms that play a role into the world grain price formation under corporate concentration and financialization. This section, briefly outlines how these prices reach domestic consumers in countries that are net importers of staple grains. It simplifies exchange rate phenomena, but shows an additional asymmetrical dimension of the issue of food security under corporate concentration and financialization in these countries, illustrated with the case of Mexico and maize.

Most internationally traded grains—as is the case for wheat, maize and soybeans—are priced in US dollars on the Chicago Board of Trade (CBOT), while production, consumption and imports occur in national currencies. Their pricing in US dollars makes the exchange rate another factor that can create asymmetric effects on the rest of the world, or at least on the non-dollarized economies. Leaving aside transport costs and tariffs, domestic food prices ( $P$ ) depend not only on the world commodity price, but also on the exchange rate:

$$P_{domestic} = P_{CBOT(world)} \times \frac{\text{domestic currency}}{USD} \quad (1)$$

Mexico imports about half of the maize it consumes: in 2023/24 it imported 24.8 million tonnes (52% of its total consumption of 47.2 million tonnes), more than its own production of 23.5 million tonnes (USDA 2025, 3). Mexico's own data (Table A, Data Appendix) illustrate how equation (1) works. Four moments show how the exchange rate, combined with the world

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<sup>21</sup> “Food sovereignty” is understood as the ability to provide [internally] the basic food for reproduction and maintenance of a population (Huerta 2022, 6-7).

price of maize in US dollars, shaped the price of imported maize.<sup>22</sup> In 2009, the world price of maize fell 21%, but the peso depreciated 21%, so maize in pesos fell less than 5%: the peso's depreciation almost cancelled the fall in maize prices in US dollars. In 2010, the opposite happened: the peso appreciated 6.4%, which reduced the 16% rise in the world price of maize to a 8.5% increase in pesos. In 2011, however, a slight appreciation (1.6%) could not shield Mexico from the world price spike: maize rose 45% in dollars and 43% in pesos. In 2016, the world price of maize barely moved (1.4%), but the peso depreciated 17.7%, so maize in pesos rose 19%. These four examples suggest that the price of imported commodities (in this case, maize in pesos) depends mainly on two factors: the world price in US dollars, shaped in part by financial speculation (section IV), and the exchange rate.

Countries that are not grain self-sufficient—meaning that import a significant percentage of staple grains—may try to lower grain prices by keeping interest rates high, which attracts capital inflows, appreciates the currency and cheapens imports (Marquetti et al. 2025, 96). This apparent relief, however, has a cost and does not last. Higher interest rates make credit more expensive for national farmers, cheapens the imports, and affects national farmers who cannot compete against price differentials (Morett-Sánchez and Cosío-Ruiz 2023, 6).. Moreover, the appreciation lasts only as long as capital keeps flowing in: currencies tend to appreciate during booms in external financing and depreciate in crises, when capital flows reverse (Ocampo 2016, 2). Is the chance of cheaper imported food today worth the cost to national farmers and the exposure to capital-flow reversals?

Mexico, according to Huerta (2026) lost its food sovereignty after the 1994 North American Free Trade Agreement (NAFTA). He identifies a worrisome vicious cycle that deserves attention: To lower staple grains inflation, economic policy has focused on attracting capital inflows with an interest rate differential more than twice as large as the one of the United States. While this does reduce costs in the short term, it acts in favour of the financial sector, relegates national (agricultural) producers and makes Mexico vulnerable against the constant inflow of USD dollars.. Huerta (2026) identifies that this situation is unsustainable and argues

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<sup>22</sup>Author's calculations based on annual averages of the IGC Grains and Oilseeds Index (GOI) sub-indices and Banco de México's FIX exchange rate. It corresponds to import prices before transport costs and tariffs. Annual figures are reported un Table A, in the data appendix.

that the only way to confront this is via import substitution and a strong support to national production. Exchange rate policy alone cannot solve the problem. Year 2011 showed that even an appreciated peso, with respect to the previous year, could not protect Mexico from a world price spike in maize. A more competitive real exchange rate supports long-run growth, especially in developing countries, but it also reduces real wages in the short run (Iasco Pereira and Missio 2022, 372, 378); for a food importer, this means more expensive food. This is why self sufficiency in staple grains is a necessary step necessary step to make domestic food prices less exposed to world prices in US dollars and exchange rate volatility.

## **VI. HOW TO ADDRESS IT?**

Sections II to V identified specific channels through which agribusiness concentration, financial activity in commodity markets and exchange rate dependence affect producers, consumers and food security. The measures below target some of those channels, and must be tailored to each country to respond to the public interest and resist, to some extent, the negative effects of corporate concentration in agribusiness and financialization. They are organised around three channels: corporate concentration, speculation in commodity derivatives, and dependence on imported grains priced in US dollars.

The first channel is corporate concentration. Since a few traders set prices in physical and financial markets (section II), disruption and elimination of vertical integration, supply chains monopolies, and multinationals must be part of the policy toolkit.. Clapp et al. (2025, 2) and Rabensteiner et al. (2025, 39) believe that stronger competition policies and antitrust laws, including breaking up monopolies would be necessary. National efforts, however, are insufficient: corporate concentration exists beyond nation-states and, under global integration, corporate concentration influence world prices. An international and democratic institution must be created to disincentive and regulate corporate concentration as a whole. Concentration can also be addressed through taxation. The International Capital Tax Commission (ICRICT) proposes to tax corporate concentration beyond those from the OECD and the G20 two-pillar approach to

reform international corporate taxation. ICRICT, proposes a 25% global effective minimum tax on the profits of multinational corporations (2020, 3 and 5).

The second channel is speculation. Since futures and swaps markets drive spot prices in (section IV) interventions into markets are necessary (Ghosh 2011, 295). In the United States, where world grain prices are set, regulation can be reimplemented such that swaps and other over-the-counter contracts follow the rules of the futures market: position limits should be lowered and apply to over-the-counter positions, hedging exemptions should only be given to actors who produce, store or buy the physical commodity; and access to these instruments must be restricted (Ghosh 2011, 296-301). Index funds, specifically, shall be prohibited from investing in grain and other food commodities. (Rabensteiner et al. 2025, 39) At the same time, large food traders should also be recognised as financial institutions and supervised as such, together with their financial subsidiaries (Rabensteiner et al. 2025, 40).<sup>23</sup> Outside the United States, the room for manoeuvre is much more limited. World prices of wheat, maize and soybeans are set in US dollars on the Chicago Board of Trade (CBOT), so national regulation outside the US cannot change them. Moreover, the absence of a global regulator and the differences between national regulations give global traders room to arbitrage between jurisdictions (Rabensteiner et al. 2025, 39). What countries can do is contain speculation in their own commodity exchanges, for instance by banning the futures trading in certain food commodities (Ghosh 2009, 19). India, for instance, banned commodity future markets in the case of several agricultural commodities in 2007-2008 (Ghosh 2009). More recently, the Securities and Exchange Board of India suspended futures trading in several agricultural commodities in 2021 and has extended the suspension valid until March 2027 (SEBI 2021; 2026)

Regulation, moreover, cannot be done once and for all. Since speculation also responds to the tendency of asset valuation regulation will always be behind financial innovations, no matter how ingenious the regulation is. As Minsky wrote: "if regulation is to remain effective, it must be reassessed frequently and made consistent with evolving market and financial structures." (Minsky and Campbell 1987, cited in Kregel 2014, 217). In food markets, this means that commodity derivatives regulation must be reviewed regularly, as new instruments and actors

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<sup>23</sup> In 2012–2013 the Financial Stability Board considered this, but "the traders pushed back, and the decision was scrapped" See Rabensteiner et al. 2025.

appear, and that past reforms must be protected against industry lobbying, which has repeatedly scrapped or diluted them (Clapp and Helleiner 2012, 198-199; Rabensteiner et al. 2025, 40). At the same time, “speculative finance has to be constrained from both ends: the borrowers and the lenders” (Minsky 1976,11). Perhaps, regulation that obliges certain minimum percentage of assets in the balance sheet to be real may reduce the volume of assets that go to financial instruments, while benefiting the productive sector.

The third channel is dependence on imported grains priced in US dollars, which food sovereignty can reduce. To tackle the importing tendency of grains and be less dependant on financial conditions like exchange rates or global grain prices (section V), production of staple foods should be prioritized over cash crops, if the territory allows it. Criteria of national security must be prioritized over criteria of comparative advantage and trade surpluses. Food dependence leaves countries vulnerable to price swings, speculation and shortages (Morett-Sánchez and Cosío-Ruiz 2023, 6) and, as Section V showed, ties the price of food to the exchange rate. Recovering food self-sufficiency<sup>24</sup> requires acting on several fronts at once: land redistribution, protect national producers export restrictions and subsidies, reshape value chains (Roberts and Tshabalala 2024, 4), set price floors (to support small producers) and price ceilings (to support consumers), and attention should be given to FAO’s range of measures that have contributed to addressing global food crisis.

Two instruments cut across these channels are: Public buffer stocks for grains and other staple foods, and compilation and democratization of data. Regarding the latter, instruments that compile real time open access information on production, prices, patterns of consumption, and stocks—within countries and across countries—can help smaller producers and buyers have some bargaining power against agribusiness corporations and reduce information asymmetry (Roberts and Tshabalala 2024, 14; Rabensteiner et al. 2025, 40). This matters because a large share of stocks is held privately, so public stock data are only estimates (Ghosh 2011, 297), which gives large traders an information advantage (UNCTAD 2011, 42). The European Observatory or the African Food Observatories, are some examples of these efforts which could be emulated in other parts of the world.

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<sup>24</sup> In this paper, “food sovereignty” is understood as the ability of a country to provide internally the basic food for the reproduction and maintenance of its population. Self-sufficiency in food is also a precondition for self-determination and autonomy.

Regarding the latter, public buffer stocks for grains and other staple foods<sup>25</sup> can help balance short term fluctuations in price and volume, limit price peaks, and address food insecurity (Weber, 2024; Keynes, 1938; Ghosh 2011, 301; Rabensteiner et al. 2025, 4). They also help break the recurrent cycle in which rising food prices raise the cost of living and lead to new devaluations (Tavares and Belluzzo 1984, 29). Buffer stocks consists of a minimum food and grain reserves managed by governments for the purpose of stabilizing the prices of strategic foods when necessary. At sight of food inflation—because of corporate concentration and speculation in commodity markets—governments can release releases stocks of food to bring prices down. Buffer stocks need support at every level. Internationally, public food stocks programs should be allowed, supported and encouraged, and not penalized, by the World Trade Organization, Food and Agriculture Organization, International Monetary Fund, and World Bank Group, and any intergovernmental agency. Additionally, as Weber writes: “We need to prevent clauses in bilateral free trade agreements from being used to impede the establishment of such food reserves” (Weber 2024, 19). Any bilateral or multilateral arrangement should *always* prioritize domestic production in agriculture, regardless of equal-treatment clauses between different countries producers.

Regionally, buffer stocks could be supported by regional initiatives and institutions and the international community. For instance, it could be reinvigorated of the New International Economic Order project to create an international storage facility for raw materials. Nationally, countries could learn from the experiences of China, India, Brazil, Mexico, the United States and use public stocks to maintain floor prices that curb speculation, enforce price ceilings, offset supply shortages, stabilize prices, support small-scale producers and guarantee their income; diversify cultivation, reduce the need to import staple food and supply food to targeted communities.

## CONCLUSION

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<sup>25</sup> Public buffer stocks as mechanisms for stabilizing commodity prices were discussed by John Maynard Keynes (1938), Nicholas Kaldor, and later developed in contemporary debates by Isabella Weber (2024; 2025), Jayati Ghosh, as well as in policy discussions within the Food and Agriculture Organization and United Nations Conference on Trade and Development.

This paper aims to explain the relationship between financialized commodity markets, corporate concentration, deregulation, exchange-rate dynamics, and food security under contemporary capitalism. It is written with the purpose to help understand what has been happening to food commodity prices over the last 25 years and why immediate action must be taken at the international, regional and national level to ensure food security.

The paper highlights five tendencies. First, while producers traditionally rely on futures markets to manage price uncertainty, financial actors increasingly engage in these markets to profit from price differentials and to support asset valuation, particularly through less regulated over-the-counter swaps and forward contracts. Second, corporate concentration allows firms to: (a) influence spot prices through supply management and price distortion, affecting small producers; (b) influence futures and forward prices by taking large speculative positions in derivatives markets; and (c) engage in forms of price setting that shape final consumer prices. As a result, price formation becomes increasingly driven by market power, generating distortions across spot, futures, and consumer markets. Third, the profit-driven nature of capitalism induces firms, pension funds, and other institutional investors to prioritize the valuation of their assets. Under financialization, these assets are increasingly financial, and their valuation depends on expectations of future returns. As a consequence, economic actors engage in speculation in futures and forward markets not only to hedge production risks, but also to sustain and increase the value of assets on their balance sheets—even in the case of food commodities. Fourth, under the combined effects of corporate concentration, financialization, and deregulation, the traditional relationship between spot and futures prices is reversed. Rather than futures prices reflecting expectations based on spot prices, futures and forward prices increasingly act as benchmarks that drive spot prices. This mechanism reinforces price distortions and amplifies volatility, further affecting small producers and consumers. Fifth, the exchange rate is another factor that can accentuate asymmetric effects on food commodity prices in non-dollarized economies that import food commodities: it can cancel, soften or amplify changes in world prices. Policies that appreciate the currency through high interest rates sometimes seem to lower the domestic cost of imported grains, but this relief is only temporary while it may leave unprotected national farmers in terms of credit cost, market demand, and exposes the country to capital flow reversal.

The charts in this paper illustrate these tendencies rather than test them: measuring the specific weight of speculation in food prices, alongside other factors, remains a task for further empirical research.

Some of the policy measures aimed at addressing both the structural sources and the manifestations of these dynamics include stronger regulation of commodity derivatives markets, measures to limit excessive speculation, and policies to reduce corporate concentration in agribusiness. The paper also highlights the importance of public interventions such as food buffer stocks, open data on food stocks and prices, and support for domestic food production systems oriented toward food sovereignty.

If food is indispensable to human life, its price formation cannot be left to the dynamics of speculation, financialization, and concentrated corporate power. Immediate action is required to establish or reestablish institutional, legal and preventive systems through which the foods sustaining human life—wheat, rice, maize, and soybean, to name a few—respond to social needs and food security objectives.

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## DATA APPENDIX

Global supply and global utilization, measured on the left axis in million tonnes, are based on International Grains Council (IGC) data, obtained from the Agricultural Market Information System (AMIS) Market Database, in the Supply and Demand Overview section. The series used are "supply" (opening stocks plus production) and "domestic utilization" (food, feed and other uses), at the world level. IGC data were used for both quantities and prices, which keeps the supply, utilization and price series consistent with one another. The charts cover the 2004/05 to 2025/26 seasons.

Average nominal prices, measured on the right axis as an index, come from the IGC Grains and Oilseeds Index (GOI), more specifically, its commodity sub-indices for wheat, maize, and soybeans, available on the IGC website under the Market Information section. The original GOI series are available as a continuous daily index from January 3, 2001 to May 21, 2026, with January 2000 equal to 100. For each calendar year, the price is the annual average of the daily values. The annual averages were rebased so that 2004 equals 100. This adjustment was made to allow a clearer comparison across wheat, maize, and soybean price dynamics within the same time frame used in the global supply and global utilization data.

Because the supply and utilization data are reported by marketing season, the x axis follows the format 2004/05, 2005/06, and so on. For each season, the global supply and global utilization values correspond to that marketing year, while the average price index corresponds to the first calendar year of the season. Thus, for the 2004/05 season, the global supply and global utilization data refer to 2004/05, while the price index refers to the average of 2004.

**Table A: Mexico's exchange rate and the price of maize in US dollars and in pesos, 2000–2025**

| Year | Exchange rate (pesos per USD) | Change (%) | World maize price index (USD, 2004 = 100) | Change (%) | Maize price index in pesos (2004 = 100) | Change (%) |
|------|-------------------------------|------------|-------------------------------------------|------------|-----------------------------------------|------------|
| 2000 | 9.46                          |            | 81.4                                      |            | 68.2                                    |            |

|             |              |              |              |              |              |              |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 2001        | 9.34         | −1.3         | 82.4         | +1.2         | 68.1         | −0.1         |
| 2002        | 9.67         | +3.6         | 90.9         | +10.4        | 77.9         | +14.3        |
| 2003        | 10.79        | +11.6        | 96.4         | +6.0         | 92.2         | +18.3        |
| 2004        | 11.29        | +4.6         | 100.0        | +3.7         | 100.0        | +8.5         |
| 2005        | 10.89        | −3.5         | 87.4         | −12.6        | 84.4         | −15.6        |
| 2006        | 10.90        | +0.1         | 111.8        | +27.8        | 108.0        | +28.0        |
| 2007        | 10.93        | +0.2         | 152.1        | +36.0        | 147.2        | +36.3        |
| 2008        | 11.14        | +2.0         | 200.4        | +31.8        | 197.8        | +34.4        |
| <b>2009</b> | <b>13.50</b> | <b>+21.1</b> | <b>158.0</b> | <b>−21.1</b> | <b>188.9</b> | <b>−4.5</b>  |
| <b>2010</b> | <b>12.63</b> | <b>−6.4</b>  | <b>183.3</b> | <b>+16.0</b> | <b>205.1</b> | <b>+8.5</b>  |
| <b>2011</b> | <b>12.43</b> | <b>−1.6</b>  | <b>266.5</b> | <b>+45.4</b> | <b>293.5</b> | <b>+43.1</b> |
| 2012        | 13.17        | +5.9         | 258.6        | −3.0         | 301.7        | +2.8         |
| 2013        | 12.77        | −3.0         | 231.0        | −10.7        | 261.3        | −13.4        |
| 2014        | 13.30        | +4.2         | 188.4        | −18.4        | 222.1        | −15.0        |
| 2015        | 15.88        | +19.4        | 159.7        | −15.2        | 224.7        | +1.2         |
| <b>2016</b> | <b>18.69</b> | <b>+17.7</b> | <b>162.0</b> | <b>+1.4</b>  | <b>268.2</b> | <b>+19.3</b> |
| 2017        | 18.91        | +1.2         | 150.3        | −7.2         | 251.8        | −6.1         |
| 2018        | 19.24        | +1.7         | 162.7        | +8.2         | 277.2        | +10.1        |
| 2019        | 19.26        | +0.1         | 158.7        | −2.5         | 270.7        | −2.4         |
| 2020        | 21.50        | +11.6        | 170.9        | +7.7         | 325.6        | +20.3        |
| 2021        | 20.28        | −5.7         | 246.1        | +44.0        | 442.2        | +35.8        |
| 2022        | 20.12        | −0.8         | 284.9        | +15.8        | 507.8        | +14.8        |
| 2023        | 17.73        | −11.9        | 229.0        | −19.6        | 359.8        | −29.1        |
| 2024        | 18.33        | +3.3         | 183.9        | −19.7        | 298.7        | −17.0        |
| 2025        | 19.20        | +4.8         | 199.8        | +8.6         | 339.9        | +13.8        |

*Source:* Author's calculations based on the IGC Grains and Oilseeds Index (GOI) maize sub-index and Banco de México (FIX exchange rate, series SF43718).

*Note:* Annual averages of daily values, nominal. A positive change in the exchange rate is a depreciation of the peso. The price in pesos follows equation (1) (world price index  $\times$  exchange rate, rebased to 2004 = 100), before transport costs and tariffs. Years discussed in Section V (2009, 2010, 2011 and 2016) are in bold.