Chapter 3

The Changing Landscape in Commodity Markets and Trade and Implications for Development

Machiko Nissanke[1]

Abstract

This chapter describes how commodity markets and trade have evolved over time. This evolution has included the increased entry of financial investors and heterogeneous traders into commodity markets as well as changes in governance structures in global commodity trade. As investors, by creating derivatives products, continuously hold virtual forms of commodities within their asset portfolio, commodity prices have moved further away from market fundamentals, making them more sensitive to volatility in the financial sector. A direct consequence of this phenomenon is manifested in heightened price volatility—which became most apparent at the beginning of the Great Recession (2008–09). This 'financialisation' of commodity markets has altered conventional processes of price discovery and risk-hedging, with implications for managing price volatility at the producer level. Further, the process of market consolidation by very large multinational commodity-trading conglomerates has been intensified across commodities globally. To counteract some of these adverse effects, producers and producing countries should pursue mitigating strategies.

3.1 Introduction

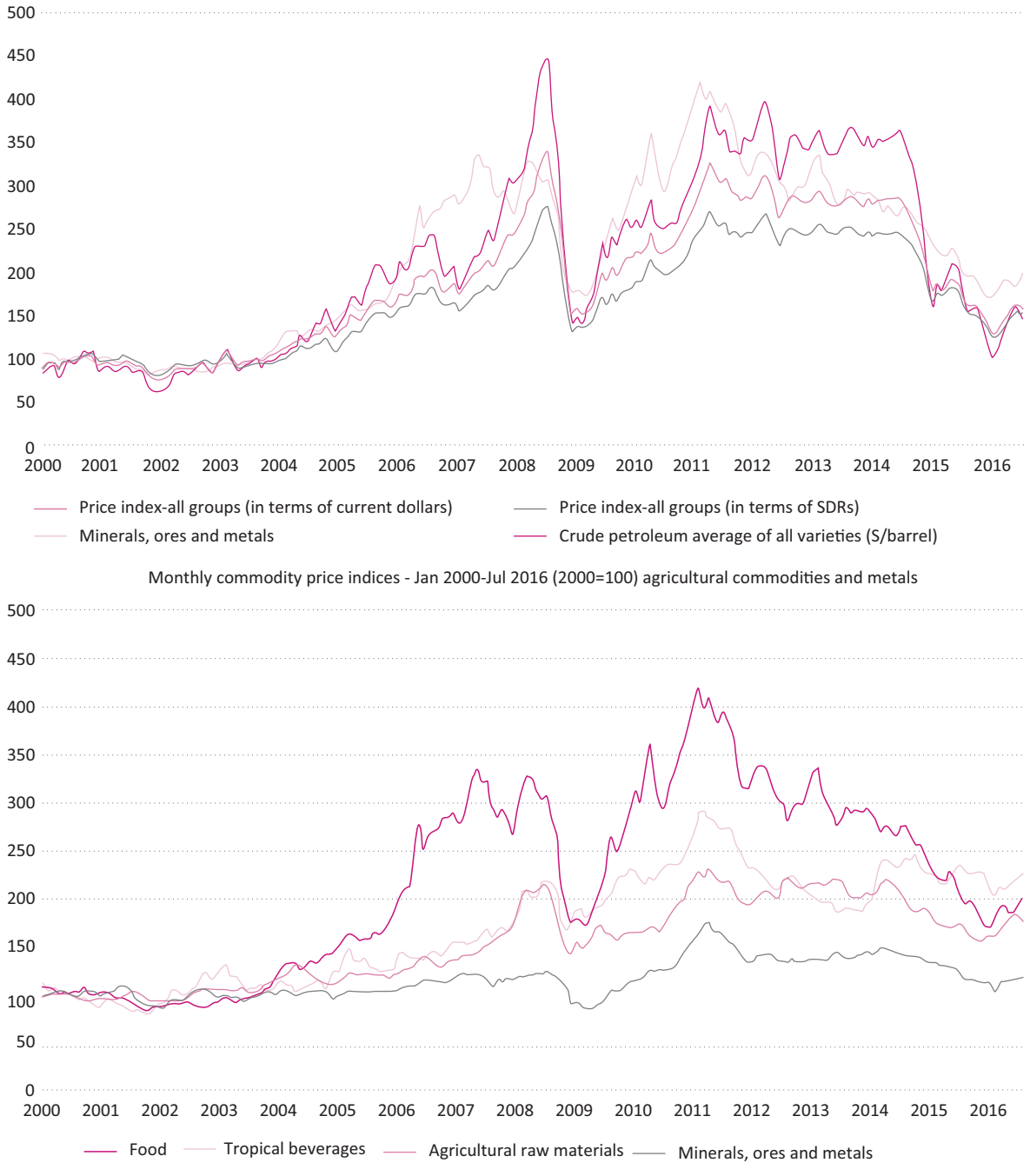
As the process of globalisation has intensified over recent decades, the landscape of world commodity markets, trade and production has undergone significant changes, at both the global and the national level. At the global level, heightened price volatility since the 1990s, alongside the collapse of the International Commodity Agreements (ICAs), has led to rapid expansion in derivatives markets across commodities, as demand for risk-hedging instruments from commodity stakeholders has intensified. The rapid growth of derivatives markets has in turn attracted new players—financial investors who are not engaged in trading physical commodities—to the trading floors. This has resulted in a radical change in the structures of trading on commodity exchanges.

There is mounting evidence that the unprecedented magnitude of swings and *excessive* volatility in commodity prices over the past decade, as shown in Figure 1, may reflect the ever-increasing linkages between activities in commodity and financial markets. Through this process of 'financialisation' of commodity markets, the volatility in commodity markets and that in financial markets can feed on each other and constitute an inbuilt mechanism of destabilisation and uncertainty in the world economy.[2] The simultaneous appearance of severe strains in both commodity and financial markets in 2007–09 cannot be treated as a mere coincidence: the major shift in global liquidity conditions induced by the banking crisis at the time was behind the highly charged volatility in both markets.[3] Thus, the growing number of interlinked activities between commodity

and financial markets by financial investors could manifest itself in important changes in commodity price dynamics. Over the *short term*, prices have become less reflective of market fundamentals—the actual supply and demand dynamics of physical commodities.

At the same time, fundamental demand–supply relationships in commodity markets continue to shape price cycles over the *medium term*. For example, the recent commodity price cycle, depicted in Figure 3.1, was triggered and sustained by an upsurge in demand for

Figure 3.1 Commodity prices for 2000–16



Source: IMF, Monthly Commodity Price Data (http://www.imf.org/en/Data)

commodities (e.g. oil and metals as well as agricultural commodities) from fast-growing emerging economies such as China and India. This, together with little investment in supply capacities during the period of low and declining real commodity prices in the 1980s and 1990s, gave rise to a 'commodity super-cycle' lasting more than 10 years—the longest medium price cycle in recent history. Likewise, commodity prices started following a clear downward trend across the board from their peak in 2011–12, and further experienced intense turbulence throughout 2014–15, led by the dramatic fall in oil prices. The commodity price index as a whole has plummeted since mid-2014. The end of the commodity super-cycle was by and large brought about by reduced demand for commodities against the backdrop of a considerable slowdown in the global economy, and in particular in that of China and other emerging economies, *and* the supply glut developed for a number of hard commodities resulting from the rise in investment during the boom.

In addition, the process of market consolidation by transnational corporations (TNCs) has been intensifying along the commodity chains in recent decades. Today, TNCs can significantly dictate the patterns of trade through intra-firm trade under their globally integrated production and marketing strategies. TNCs' activities are strategically organised and integrated horizontally as well as vertically. This is reflected in their dominance in commodity value chains.

In agricultural commodity production and marketing, there are considerable asymmetries in market power and access to information, technology and marketing know-how between TNCs, on the one hand, and local entrepreneurs, farmers and traders in developing countries, on the other. In mineral commodities, many concerns in developing countries were privatised in the 1990s under the auspices of the World Bank and the International Monetary Fund (e.g. copper mines in Zambia). A handful of TNCs are now able to exert a large influence on how commodity production and trade are organised and rents are distributed along the value chains. These changes at the global level have taken place in parallel with significant shakeups in the institutional environments and arrangements facing commodity producers at the national level, which have resulted from the waves of domestic market and trade liberalisation and deregulation implemented since the mid-1980s.

These changes in governance over world commodity exchanges and trade have had profound developmental implications for commodity producers and producing countries, in particular those classified as commodity-dependent developing countries (CDDCs), the majority of which are low-income countries in Sub-Saharan Africa (SSA) and the Economic Commission for Latin America and the Caribbean region.[4]

This chapter presents a summary discussion of the changes taking place in commodity markets, trade and production, and their implications for development. It is structured as follows. In Section 2, we describe how the financialisation of commodity markets has generated *excessive* volatility well above what can be explained by market fundamentals, and ended up impairing the ability of futures markets to provide stakeholders engaged in physical trading with an effective mechanism of price discovery and risk management. In Section 3, we examine how changing governance structures and market arrangements, and in particular the consolidation of TNCs' market power, have affected the modes of commodity trade, the distribution of rents and price transmission mechanisms along value chains. Section 4 offers concluding remarks.

3.2 Changing structures in world commodity markets and excessive price volatilities[5]

3.2.1 Market fundamentals and the commodity super-cycle

Unlike for earlier price cycles, which have typically been triggered by supply shocks, explanations for the commodity super-cycle of 2002–14 are mostly found in the 'Asian driver' story on the *demand* side.[6] For example, the sharp increase in prices of minerals and metals was driven by fast-growing demand from newly industrialising emerging economies, in particular from the two most rapidly growing economies—China and India. This was the result of their intensive use of these raw materials for their industrialisation drive, physical infrastructure-building and urbanisation trends. Similarly, a steady increase in demand for agricultural products was associated with substantial increases in and changing patterns of consumption, given rising per capita incomes in emerging economies. For example, China has become a significant net importer of agricultural products, including grains, soya beans and vegetable oils, as well as raw materials such as cotton and rubber. Pressured to meet this fast-growing demand, industries in minerals, metals and oils were hit by supply constraints, as investment in these sectors had been subdued in the 1980s and 1990s as a result of historically low commodity prices at that time. Similarly, agricultural production in low-income developing countries was neglected in the final two decades of the past century, in the absence of technology diffusion and supporting infrastructure.

The synchronisation of price movements across commodities is also explained by other common conditions, such as low stocks observed at the time of escalating prices, or side-effects of rising energy prices through associated higher transport costs and other input costs for their production and marketing. For example, the high correlation between metal prices and energy prices is a result of high use of energy-intensive technology in mineral and metal sectors. There is a special twist in the link between the rise in oil prices and that in food prices in relation to the dramatic increase in food prices between January 2006 and May 2008. On this occasion, there was an abrupt shift in arable land use from food crops towards bio-fuel crops in the face of soaring fuel prices. For example, subsidies available for converting maize to ethanol in the US encouraged this process. Vegetable oilseeds and oils saw an equally, if not more, dramatic increase as food crops. Climate change, intensified by soaring global fuel consumption, also adversely affected agricultural production in many countries.

Finally, the end of the super-cycle was brought about by the reversal in supply–demand dynamics—that is, excess supply conditions developed over time across commodities, resulting from i) sustained investment and the entry of new producers enticed by high expectations that the boom would last longer; and ii) weakened demand in the face of the fragile recovery of the global economy from the financial crisis, in particular the markedly reduced growth prospects of key emerging economies after 2012–13.

3.2.2 Intensified financialisation of commodity markets and their impacts on price dynamics

While there have been significant changes in market fundamentals, a question that is frequently raised relates to whether ever-increasing volatility in commodity prices and their co-movements can be explained simply by shifts in supply–demand relationships on their own. As Keynes (1942) observed, financial investors have historically always been active in holding commodities as a part of their portfolio. However, it is the fast expansion of liquid commodity derivatives that has provided investors with the ideal and most

cost-effective means of including commodities in their portfolios without bearing the cost of holding commodities physically. They have been able to hold commodities in *virtual* forms as an asset class through the use of complex derivatives products and financial instruments. After the burst of the dotcom bubble at the turn of the twenty-first century in particular, financial institutions and investors switched to aggressively target commodities as part of their strategy of diversification away from equity and bond markets. Commodities have thus become more integrated into the asset portfolios of financial institutions and investors.

In responding to the increasing interest from financial institutional and private investors, more complex commodity-linked financial instruments and products have kept being launched. For example, commodity index funds were launched specifically as a vehicle for speculating on price movement in commodity futures. Commodity index traders—usually swap dealers active in over-the-counter (OTC) dealings, mostly based at big investment banks such as Goldman Sachs, Morgan Stanley, J.P. Morgan and Barclays Bank—sell these instruments to institutional investors (e.g. hedge funds, pension funds or sovereign wealth funds) or wealthy individuals.[7] To offset their exposure to changes in prices, index traders continuously take a long position in the futures market.[8] Treating commodities in aggregate, their trading decisions are not so based on the demand–supply conditions of a particular physical commodity. Hence, commodity-specific fundamentals feature much less in their futures trading positions. Further, given that much derivatives trading is conducted by means of index trading of a bundle of commodities, prices of various commodities have become highly correlated.

There are now three categories of operations in commodity derivatives markets: informed, uninformed and noise trading. *Informed trading* is the rule followed by commodity stakeholders—that is, those with interests in physical trading and who use derivatives instruments mainly for risk-hedging purposes. As stakeholders, they try to base trading decisions on the market fundamentals of a particular commodity. However, they are constrained by great uncertainty surrounding the future directions of fundamentals as well as by the paucity of reliable data on inventories. Hence, they tend to resort to following market sentiments and the herd.

The other two trading strategies are likely to be adopted by traders acting for clients who hold *virtual* commodity stocks ('open interests') in their asset portfolio. Managers of money funds or other investment funds are classified as *uninformed traders* who make profits on futures trading by employing techniques such as chartist analysis or momentum trading on price trends. They exploit actively price volatilities on a high-frequency basis. *Noise traders*, such as index traders, make strategic decisions on commodity trade in relation to development of other asset markets as part of investors' portfolio allocation. Operating across different asset markets, their allocation decisions are subject to swings in market sentiments that determine common cyclical liquidity conditions in assets markets—that is, they are subject to global liquidity cycles.

As price movements mirror changing positions taken during these heterogeneous trading activities, prices are unlikely to reflect informed decisions based on market fundamentals only. Rather, price signals emanating from futures markets are likely to be contaminated by 'noises' unrelated to demand–supply fundamentals. The larger the share of noise and uninformed trading in relation to informed trading by physical stakeholders, the further prices are likely to move away from the reality of demand–supply fundamentals.[9]

Moreover, 'weight-of-market effects' can generate high price volatility, given positions

taken by powerful trading conglomerates like Glencore and large investment banks. Trading conglomerates like Glencore, operating across minerals and metals markets, or TNCs dominant in agricultural commodity chains, such as Nestlé in both coffee and chocolate or Cargill and ADM as first-tier suppliers of cocoa in global markets, are in a position to influence prices through their simultaneous operations on the spot and in futures markets.[10] In the absence of high counter-party liquidity, large orders by these entities cannot be absorbed without prices being unduly affected. Thus, coupled with the 'weight-of-market effect', the predominance of noise trading—combined activities by chartist/momentum traders and index traders—over informed trading by physical stakeholders could shift commodity markets into a *bubble equilibrium*, in which excessive volatilities are generated.[11]

At the current time, futures markets with sufficient liquidity are indispensable for hedging price risks for those involved in physical trading in the presence of great uncertainty over how demand–supply conditions could evolve in future. Indeed, futures prices posted on world commodity exchanges continue to serve as the benchmark for spot market operations conducted by physical traders and producers.[12] Futures prices hence affect spot prices as well as demand, supply and the level of stock-holding.[13] Yet only when futures prices correctly reflect collective expectations among physical traders regarding futures market fundamentals can such markets function as a vehicle for price discovery and risk-hedging. As the financialisation process has accelerated, the scale of *excess* in price volatility and deviation from fundamentals may become so large that stakeholders in physical commodities will no longer be able to rely on price signals emanating from futures markets to make informed decisions concerning demand and supply conditions, including those affecting investment and technological progress required for substitution and conservation of resources. Under such conditions, futures markets will cease to perform their intended function—that of price discovery and risk-hedging for physical commodity stakeholders. While excessive volatilities can provide powerful trading houses, TNCs and financial investors with attractive short-term gains, it is not possible to safeguard the interests of stakeholders of physical commodities, including those of small-scale producers in commodity value chains.

Clearly, world commodity exchanges do not operate efficiently at all times and in continuity to enable stakeholders with interests in physical trading to obtain effective and reliable protection from risks. This is particularly true when markets are characterised by high volatility in market fundamentals and when financial investors can pursue high-risk premiums as 'noise' traders. Under such 'turbulent' conditions, markets' self-regulating capacity is not sufficient to ensure efficient operations for risk-hedging purposes.

3.3 Evolving governance in global commodity chains and implications for development

3.3.1 Parallel processes of consolidation and fragmentation in global commodity chains, and implications for the distribution of rents

How highly volatile prices are transmitted eventually to producers and economies of producing countries depends critically on evolving governance and marketing structures in commodity chains. In this context, as globalisation has proceeded at an accelerated pace since the 1980s, vertically integrated TNCs have consolidated their position dominating multiple operations (production, processing and marketing) in a commodity chain. Their

dominance has continued to grow along supply chains, enhancing their bargaining power with other actors.[14]

The process of market consolidation by very large multinational commodity trading conglomerates has been intensified across commodities globally. Charts presented in the Appendix illustrate this trend for six soft and hard commodities. For a large number of commodities, developing countries remain important sources of raw materials. Yet the marketing of processed products is dominated by globally operating conglomerates and TNCs. Among soft commodities, two top companies (Nestlé and Jacob Douwe Egberts) controlled 38 per cent of the retail coffee market in 2014, and the top five accounted for a market share of just under 50 per cent of the world market. Likewise, in cocoa, the top five companies, including Cargill, ADM and Barry Collebaut, account for over 50 per cent of the first-tier suppliers of cocoa, while six major TNCs (including Kraft/Mondelez, Mars and Nestlé) account for 59 per cent of chocolate markets. In retailed tea markets, the concentration is less pronounced: the share of the top five companies stood at 39 per cent in 2015. In relation to hard commodities, TNCs based in developed countries, such as Rio Tinto Alcan, Glencore and BHP Billiton, occupy a prominent position in metal markets, with companies based in emerging countries such as China, Korea and India also increasing their market share. Glencore, specialising in commodity trading, controlled 60 per cent of zinc, 50 per cent of copper, 45 per cent of lead and 38 per cent of alumina in 2011, when it went for public listing.[15]

At the country level too, there have been significant changes in the institutional environment facing producers and farmers engaged in primary commodities in agriculture. For example, the waves of domestic market and trade liberalisation/deregulation have transformed arrangements related to the production and marketing of agricultural commodities such as cotton, coffee and cocoa.[16] In many SSA countries, most state-run marketing boards have been dismantled or downsized, and price and income stabilisation funds or mechanisms operating domestically have ceased to exist. In these new environments, domestic commodity producers and traders have become marginalised and isolated, as a result of the withdrawal of government institutional support and the subsequent loss of their bargaining power.

Thus, as TNCs have hastened the integration process of their operations globally, ironically, for small-scale producers and farmers in many countries, domestic commodity production and marketing have become fragmented. This condition has been particularly prevalent in countries like Tanzania and Uganda, where an institutional vacuum has emerged after the abolition of marketing boards or other stabilisation schemes. In these countries, with the withdrawal of institutional support from governments, stable and guaranteed access to necessary inputs such as seeds or fertilisers and new technology is no longer available to farmers engaged in commodity production. While these provisions and services are supposed to be provided by private agents and traders, such arrangements have often resulted in geographical fragmentation of marketing activities. Smallholders are inevitably placed in a weaker position in relation to private traders, many of whom have become agents for TNCs, in both inputs provisions and marketing of their produce in upstream commodity chains.[17] In the process, producers have also become spatially fragmented and isolated both between and within villages.[18] They are often paid a meagre fraction of prices posted in world commodity exchanges.

In fact, the parallel processes of consolidation by TNCs and fragmentation of producers have generally resulted in a hugely skewed distribution of gains and rents from commodity

trade. In the prevailing market structures, the potential benefits of productivity improvements can largely be appropriated by TNCs and global supermarket chains, rather than going to fragmented producers and farmers. The governance structures of primary commodity value chains have become increasingly buyer-driven, with a shift in the distribution of value skewed in favour of consuming countries (Humphrey and Schmitz, 2000, 2004; Kaplinsky, 2000; Kaplinsky and Kimmis, 2006). Today, commodity chains are increasingly characterised by captive or hierarchical governance structures, in which the degree of coordination and power asymmetry is high and market power lies within lead firms—TNCs. In captive or hierarchical governance, the buyer dominates in accessing knowledge and information and tends to dictate the terms of contractual supply relationships (Gereffi et al., 2005; Keane, 2012). The widening gap between producer and retail prices for a composite bundle of commodities[19] indicates how much rents can be created and how skewed rents distribution is in most commodity chains. In many cases, a few large TNCs—often the large trading conglomerates—can exercise their market dominance by reducing the producer price to little more than production costs.

Recently, an increasing number of farmers and smallholders have been engaging in agricultural production and marketing through new institutional arrangements, such as out-grower or contract farming.[20] Given their informational disadvantages, however, while contract farmer arrangements may guarantee them more secure access to inputs such as seeds, fertilisers and other inputs, farmers and smallholders are often tied to unfavourable contract terms, which are more geared to serve the interests of large agricultural conglomerates or globally operating supermarket chains. A switch from traditional export crops to non-traditional ones such as horticulture, cut flowers or pineapples has proved not to be an easily available option for smallholders. Strict produce standards and sudden switches in demand for crops from one variety to another, in Kenya and Ghana, respectively, have driven smallholders out of exports markets as mainstay supply sources.[21]

In addition, smallholders and farmers engaging in cultivation of food and cash crops in many low-income countries are reported to be increasingly squeezed out in terms of access to productive assets, such as relatively fertile farmlands or vital water or other resources, in the wave of 'land grabbing' by international investors (FIAN International, 2010; IIED, 2010). Large private corporations and financial investors from the US and Europe are investing with an eye to making huge financial gains at a time of rising grain and bio-fuel prices; sovereign investors from the Middle East and Asia are also known to lease or buy up large areas of farmland to solve their food shortage and insecurity problems back home, through aggressive global 'land-grabbing' in fragile low-income countries such as Cambodia, Ethiopia, Mozambique and Sudan.

3.3.2 Price transmission in agricultural commodity chains and the effectiveness of market-based instruments as risk-hedging for producers

Further, smallholders and producers are now exposed to greater price risks as highly volatile prices are directly transmitted from the downstream commodity chain through the international marketing system to small traders and producers operating upstream.[22] While producers have been increasingly exposed to the vagaries of global market forces (i.e. price volatility transmitted from international markets), they are not adequately equipped to deal with price risks and other marketing risks.

Indeed, the collapse of the ICAs to stabilise commodity prices through the management

of buffer stocks or export quotas as envisioned in the 1980s did not lead to a rethinking of the international consensus on how to counteract highly volatile markets.[23] Rather, the absence of agreed alternative mechanisms and instruments for international action seems to have provided the global community with a justification for taking a complacent position by accepting the dominant view that such non-market interventions were not necessary. Instead, much attention was given to enhancing primary producers' access to market-based risk management instruments so that markets could work without undue interference.

Thus, the international donor community has advocated the use of market mechanisms for managing commodity price risks to deal with risks stemming from large price volatility and accompanying income shocks in the CDDCs. The international financial institutions (IFIs) together with UN agencies set up the International Task Force on Commodity Risk Management (ITFCRM) and have actively encouraged agricultural commodity producers and traders to use market-based commodity-linked financial risk-hedging instruments such as futures and options as an effective price risk management mechanism. Critically, such a policy recommendation is predicated on the assumption that commodity derivatives markets operate efficiently for risk-hedging purposes.

However, as discussed in Sections 2, market-based hedging instruments have been ineffective in reducing and hedging price risks. Under the increased financialisation of commodity derivatives markets, prices in futures markets do not often reflect the fundamental demand–supply conditions, and hence act as a predictor of future spot prices that ensures the basis (i.e. the difference between futures and spot prices) will narrow as contracts reach maturity.[24] The greater divergence between spot prices and futures prices—that is, the failure of convergence—makes it harder to use to hedge the risk of stockholding, as losses in one market cannot be effectively offset by gains in the other.

Furthermore, while the use of derivatives instruments for risk-hedging has been presented as an answer to small producers at the micro level as well as to governments in CDDCs for macro-hedging, hedging instruments require large resources to cover high transaction costs in accessing to up-to-date market information and keeping close contacts with the development of financial and other commodity markets. High levels of liquidity are needed to be able to respond to sudden margin calls. Effective hedging periods also tend to be short, while organised derivatives markets such as futures and options cater only for standardised commodities without taking into account quality differences in commodities traded.

Large TNCs and commodity trading houses have their own in-house options and futures brokerages as well as large research departments that follow market trends closely on a daily basis. Their size and financial resources, often together with their diversification across a number of commodities, have allowed them not only to protect their risk exposure in increasingly volatile market environments but also to derive profit from speculating on hourly price movements. In deciding on their market placements, they are in a position to take into account activities of portfolio investors on derivatives markets in addition to their specialised knowledge on physical supply and demand fundamentals affecting prices. Smaller, single-commodity, trading firms either have been forced out of markets or have entered into niche markets, trading in specialty commodities, which can be sold with some premiums or in targeted markets.[25] Such a strategy allows them to survive without being too affected by daily volatile price movements on world commodity exchanges.

However, hedging instruments are costly and imperfect for poor farmers in developing countries for their price risk management. Issues such as high financial costs and skewed access to information, and high technical barriers for small actors, will make it hard to popularise these hedging mechanisms as universally applicable instruments. Local farmers and traders are often forced to use international intermediaries or branches and subsidiaries of TNCs to access these instruments and the technical expertise required. This pushes the cost of hedging even higher. A study commissioned by the Common Fund for Commodities on the pilot risk management scheme for cocoa farmers' cooperatives in Côte d'Ivoire also found that hedging risks using financial instruments had proved difficult and costly for local producers.[26]

Now, in order to build information infrastructure, local commodity exchanges have been established in a number of producing countries, as part of efforts by the ITFCRM to encourage the use of market mechanisms. The emergence of these exchanges is a potentially positive initiative for liquidity, transparency and efficiency at local and regional levels. However, it has been suggested that many of these markets are facing a nearly impossible task in relation to attracting sufficient volumes and liquidity. Further, it has not proved easy to create an adequate regulatory oversight agency such is required for liquid, functioning markets at the local level in a short timescale.

Given these experiences, the government of Côte d'Ivoire is now in the process of re-establishing a national marketing board for cocoa, turning to Ghana for technical assistance. Indeed, in Ghana, despite high pressure from the IFIs to abolish it, the marketing board Cocobod has been operating as the important national institution for governing cocoa production, marketing and trade. The board shields cocoa farmers from price pressure, market risk and high volatility emanating from the Chicago Board for Trade to a large extent, and hence is in a position to guarantee them a more stable income. Ghana's Cocobod holds equal legal and economic power *vis-à-vis* multinational buyers in the value chain and absorbs, at least partly, price pressure and market risk.[27]

3.3.3 Managing resource-based economies over commodity price cycles

As shown in Figure 1 above, developing countries dependent on hard commodities (energy, minerals and metals) for their export and fiscal revenues are susceptible to larger swings in prices over the medium term than those dependent on soft commodities. This makes the former groups of countries, known as 'resource-based economies', particularly susceptible to externally originated shocks, with serious implications for their macroeconomic policy configurations over commodity cycles. Macroeconomic management should be *counter-cyclical* to commodity prices in order to soften the effects of price shocks on both the external and the internal balances *simultaneously*. One of the counter-cyclical measures widely discussed in the literature on Dutch Disease Syndrome from the commodity boom is to facilitate absorption-smoothing over commodity price cycles. Indeed, Dutch Disease is by no means an inevitable 'resource curse', and its symptoms are commonly observed only because economies tend to run into short-term absorptive capacity bottlenecks at a time of boom-induced 'euphoria' or of a sudden influx of foreign exchange. Policy configurations of de-synchronisation of the path of absorption from that of income while increasing absorptive capacity over time should be central to macroeconomic management in response to commodity price fluctuations.

Many high- and middle-income countries, such as Norway and Chile, have successfully tackled Dutch Disease by moderating the transmission of commodity price shocks to the rest of the

economy through establishing stabilisation funds.[28] A counter-cyclical fiscal policy entails the accumulation of revenues from the resource sector during booms, and the use of these revenues in situations of falling prices. This policy not only stabilises revenues over the commodity price cycle but also reduces pressure on the exchange rate to appreciate during the boom. Stabilisation policy such as this can be implemented with ease where revenue from natural resources accrues to the government through state ownership of oil and gas resources, as in Norway or Chile, whose government successfully retained its share of 40 per cent of the assets of its previously state-owned copper mining company, Codelco. The Chilean government also negotiated reasonable returns from the private companies in terms of royalty payments and taxation in the privatisation process.

Unfortunately, many low-income countries have obtained very unfavourable terms and low deals from the privatisation of their national resources, with deals often negotiated under the auspices of the IFIs. For example, Zambia's copper industry, previously dominated by the state-owned Zambia Consolidated Copper Mine, was split in the 1990s into a number of mining companies owned by TNCs, with the government retaining a small share. These TNCs benefited from very low royalties, export tax and tax on profits, and other tax concessions, negotiated in secretly signed agreements. Given this, the contribution of the mining sector to the fiscal budget was marginal, until the deal was exposed in 2007, causing a public outcry. This forced the government to renegotiate the taxation regime with the TNCs in 2008. Further, foreign exchanges earned from copper exports have accrued directly to the currency market under the float-cum-monetary target regime that has been in operation, rather than to the Central Bank. This has not only resulted in a pro-cyclical movement in exchange rates (a large currency appreciation during the boom and a sharp depreciation in the bust) but also prevented the Zambian government from establishing stabilisation funds on export revenues. Under the prevailing monetary and fiscal regimes, then, Zambia was left with little room to pursue counter-cyclical interventions.

A brief comparison of Chilean and Zambian macroeconomic management with regard to the recent commodity price cycle suggests that how mineral rents are distributed between domestic stakeholders and TNC conglomerates, and how they are used and managed, makes a huge difference to the future economic prospects of resource-dependent countries. Generally, negotiations conducted between TNCs and host governments over fiscal and tax regimes behind closed doors have tended to produce outcomes that are decisively in the favour of TNCs, since host countries, fearful of TNCs losing interest in their location, offer unnecessarily generous fiscal concessions, such as tax holidays or lower tax and royalty payment regimes. Indeed, asymmetric access to information on TNCs' global strategies, combined with little transparency on negotiation processes, means these negotiations have often led competing host governments to adopt a 'race-to-the-bottom' strategy.

3.4 Concluding remarks

This chapter has examined the changing landscape in commodity markets, trade and production, and implications for development, with a focus on two aspects: i) the 'financialisation' process of commodity markets, and its impacts on price formation and volatility, and stakeholders' positions; and ii) the parallel process of the consolidation of TNCs' dominance and the fragmentation of producers in developing countries, and its effects on rent distribution and price transmission in commodity chains. On both accounts, the *relative* positions of producers

in low-income developing countries and countries heavily dependent on primary commodities for their development aspirations and agenda have been weakened despite the recent 'commodity super-cycle'. They remain structurally vulnerable to shocks originating in world commodity markets and the way the global commodity chains are governed.

Today, there is still a significant overlap between country groups categorised as least developed and those categorised as CDDCs. For these countries, commodity dependence represents a significant part of their vulnerability. Many have found it hard to overcome the 'commodity dependence development trap'—their historical legacy from the colonial era. This may exist as a specific condition resulting from vulnerability-driven negative feedbacks operating through multiple channels. Commodity production and trade remain their most dominant form of link to the world economic system.

An eventual transformation of these economies into more diversified economic structures is the real solution to the commodity dependence trap. Yet heightened price volatility, as well as the emerging landscape relating to commodity marketing and production, may have hampered the diversification process of these economies. Transformation of economic structures as a developmental process would entail structural reallocation of resources from low-productivity, low-value added activities to high-productivity high-value added ones *across* and *within* sectors. This can be realised only through rigorous investment in production capacity and physical and social infrastructure, *and* concerted *societal* efforts to direct public and private investment into new dynamic high-value added activities over time.

To this end, in the transition period, we have to develop strong production capacity in the *commodity* sector, with the process of active learning-by-doing and knowledge accumulation is facilitated and promoted. After all, development should entail the creation of a 'learning society', à la Stiglitz and Greenwald (2014), via learning-by-doing and upgrading activities involved. In this context, it is argued that there is substantial room for deepening linkages between the commodities sector and the domestic industry and services sectors (UNECA, 2013). While the case for linkage development is traditionally made based on the promotion of downstream forward linkages through the processing of raw materials, this points to opportunities to also develop upstream backward linkages and horizontal linkages.

Indeed, there may be the potential for local firms and enterprises that now serve large foreign or domestic corporations in commodity sectors to build productive assets by acquiring important organisational skills and management knowledge and accumulating capital. This would be transferrable to the rest of an economy through demonstration effects or through moving and expanding into new sectors and activities in such firms' own quest for higher private returns. The crux of the matter is then how to make sure that the valuable experiences, knowledge and skills acquired through learning-by-doing processes, as well as the financial resources accumulated, are directed into sectors promising high-value added and *social* returns, so that the economic structures emerging from the transition period will be well articulated and linked through dynamic externalities.

Yet, as discussed in this chapter, the landscape governing commodity production, marketing and trade that has emerged as globalisation has deepened and intensified has tended to limit the process of learning and knowledge accumulation to confined circles, and to not necessarily develop economy-wide spill-over effects. Product and process upgrading may take place at individual production units, but

it is uncommon to see functional or chain upgrading in commodity chains.[29] On the contrary, we have shown that the institutional environments facing producers in commodity chains at both global and country levels may have weakened the capacity and resiliency of smallholders and mining industries in producing countries.

There is an urgent need to reverse this trend. On the one hand, the problems associated with excessive volatility of commodity prices and the resulting income instability have a global dimension and implications. This means there is a need for international action in the form of new global innovative stabilisation schemes and a new compensatory financing facility.[30] On the other hand, there are measures that can be taken at the country level. Market-based mechanisms are often presented as a means to deal with the issues this chapter raises in relation to liberalised environments, but they do not provide a real solution, especially if local institutions and their capacity are too weak to represent stakeholders' interests on the ground.

As this chapter shows, smallholders and small producers in commodity chains become marginalised and fragmented when the withdrawal of government support creates an institutional vacuum. Remembering that markets do not in fact function in such an institutional vacuum, and without market-supporting institutions in place, there is thus a need to build developmental institutions at all levels. This should include strengthening local organisations' capacity for *collective action* and *conflict resolution*. Local organisations such as farmers' associations and cooperative unions have the potential to safeguard and represent stakeholders' interests, if they themselves are truly accountable to members' interests.[31] Likewise, as discussed in this chapter, depending on how deals over oil and mineral deposits are negotiated, resource rents are channelled more towards enlarging TNCs' private returns at the expense of advancing the developmental agenda of producing countries as a collective society. This means there is a need to strengthen state capacity to negotiate a fair deal on an equal footing with TNCs in an open and transparent forum. Producer countries should act together by sharing information and, if necessary, acting together for the sake of producer countries' collective interests.

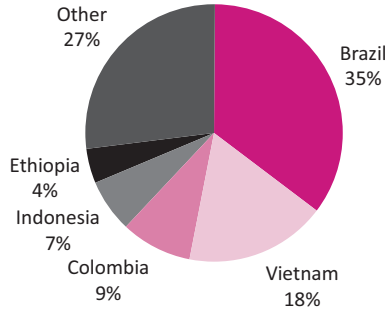
Appendix

Data Sets Provided in Excel[32]

Share in the production of selected commodities by countries vs. market share of processed products by companies

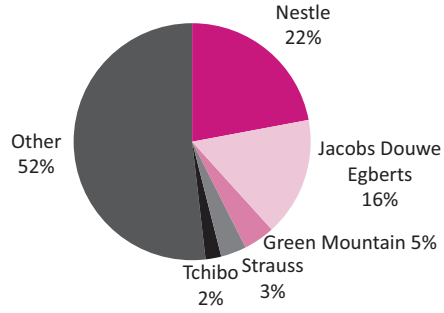
1. Coffee

World coffee production, 2014/15 (%)



Source: USDA (2016).

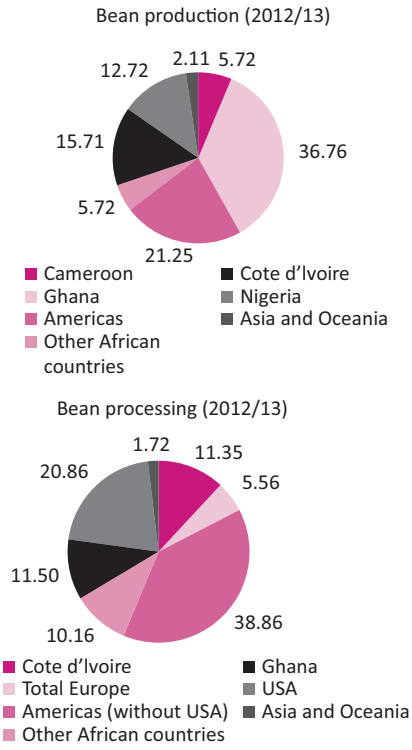
Coffee retail market share (retail sale value), 2014 (%)



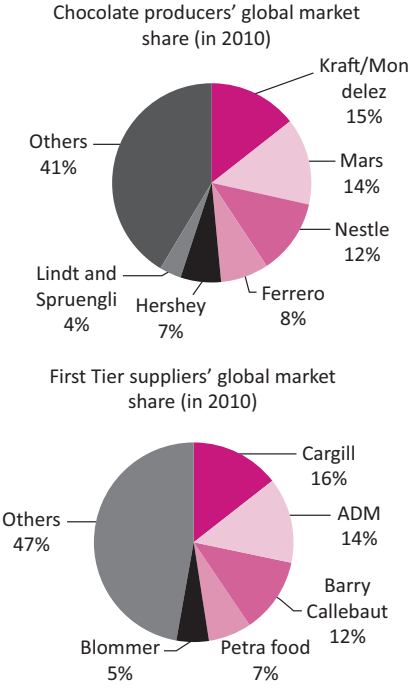
Source: https://www.statista.com/statistics/323254/global-retail-coffee-market-share-by-company/

2. Cocoa

Cocoa bean production and processing by countries and regions, 2012/13 (%)



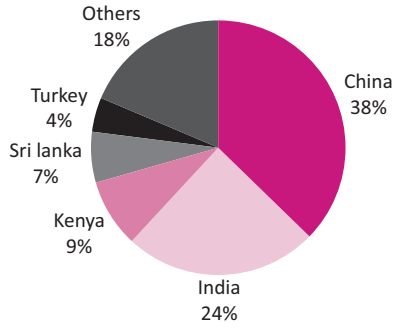
Cocoa producers' and suppliers' global market share, 2010 (%)



Source: ICCO (2013).

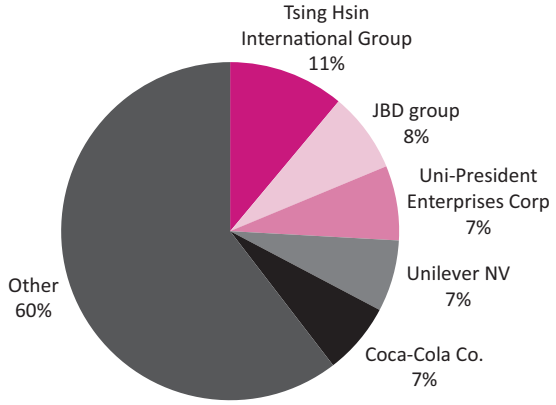
3. Tea

World tea production 2013 (%)



Source: FAO (2015).

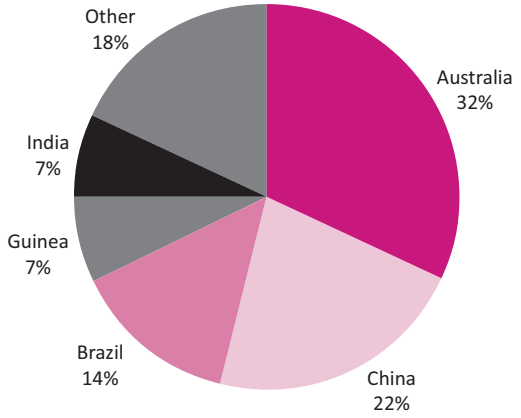
Tea retail market share (Ready-to-drink), 2015 (%)



Source: https://www.statista.com/statistics/387413/market-share-of-leading-ready-to-drink-tea-companies-worldwide/

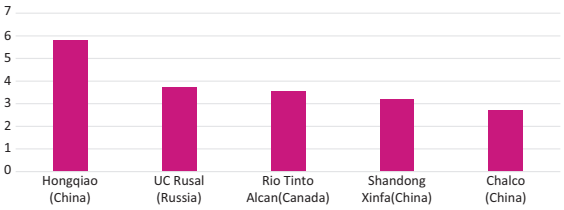
4. Bauxite vs. aluminium

World bauxite production, 2014 (%)



Source: USGS (2016).

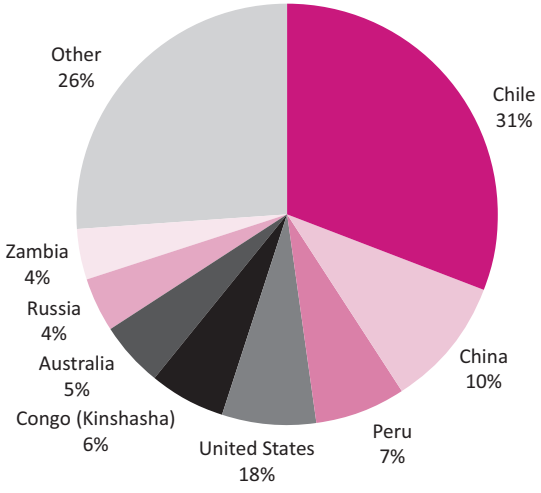
Top primary aluminium producers, 2016 (million metric tonnes)



Source: https://www.statista.com/statistics/280920/largest-aluminum-companies-worldwide/

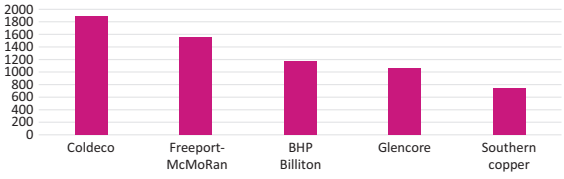
5. Copper

World copper production, 2014 (%)



Source: USGS (2016).

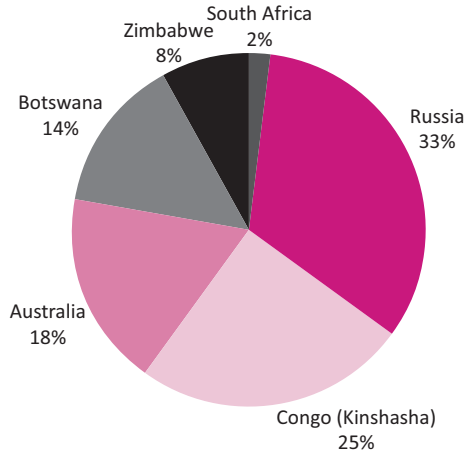
Top copper producers, 2015 ('000 tonnes)



Source: https://www.statista.com/statistics/281023/leading-copper-producers-worldwide-by-output/

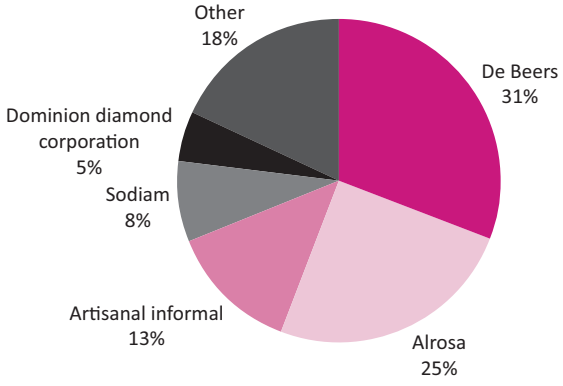
6. Diamonds

World diamond production, 2014 (%)



Source: USGS (2016).

Market share of diamond companies (Value-based sales), 2015 (%)



Source: https://www.statista.com/statistics/274532/global-diamond-production-share-of-major-companies/

Notes

1 Emeritus Professor of Economics, SOAS, University of London. Contact email address: mn2@soas.ac.uk

2 The financialisation of commodity markets was already present in the early 1990s, as observed by Maizels (1992, 1994).

3 See Nissanke (2012) for more detailed discussions on the linkages between commodity markets and financial markets for 2007–09.
4 See Nissanke and Kuleshov (2012) for more detailed discussions on the definition and characteristics of the CDDCs and commodity dependence.
5 See Nissanke (2012) for more extensive discussions on this subject, including a detailed analysis of heterogeneous traders' behaviours and their effects on commodity market structures and an evaluation of empirical evidence on the financialisation of commodity markets.
6 See Kaplinsky (2010) and Farooki and Kaplinsky (2012) for the 'Asian driver' story.
7 The deregulation of position limits previously imposed on investment banks in OTC commodity swap transactions by the Commodity Futures Trading Commission (CFTC) in the US clearly underpinned the expansion of commodity derivatives dealings.
8 By doing so, index traders tend to gain the roll returns and move futures prices in a unidirectional fashion in the process.
9 The interface among traders with different motivations is non-linear and very complex. When market fundamentals undergo structural changes, market conditions are likely to shift from a *fundamental* equilibrium to a *bubble* equilibrium (Nissanke, 2012).
10 See Appendix charts for TNCs dominating in value chains of selected soft and hard commodities.
11 To date, there have been a large number of empirical studies to show how the financialisation of commodity derivatives markets has altered price dynamics. Van Huellen (2015) provides a thorough updated review of empirical studies on this subject, and of new empirical evidence pertaining to how and how much futures prices exert an influence on the spot prices of several commodities.
12 For example, there is wide use of 'price to be fixed contracts' by international traders and roasters, who issues these to coffee growers. These are contractual arrangements whereby the volume, delivery date and differential price are specified but the final price at which the commodity is exchanged will depend on the futures price on the date the price is fixed. This shows the very close relationship between futures prices and the price at which physical coffee is exchanged.
13 Van Huellen (2015) shows that two theoretical approaches—one based on arbitrage pricing models (a theory of price formation in commodity markets through arbitrage mechanisms between physical and derivatives markets) and the other on asset pricing models (a theory of price formation in asset markets)—are required to understand the complex relationship between futures, spot and inventory markets—a complexity peculiar to commodity markets.
14 This trend in commodity chains was already evident in the early 1980s (Maizels, 1984).
15 Glencore's shares in metal markets are those reported in Farooki and Kaplinsky (2012).
16 See Newman (2009) and Bargawi (2009) for detailed case studies based on fieldwork in Uganda and Tanzania. A synthesis of their findings is found in Nissanke (2010b).
17 For example, the top five companies (all subsidiaries of large TNC trading houses) had taken about 70 per cent of the market share in coffee exports by the end of the 2000s in both Uganda and Tanzania. Yet it is worth noting that coffee farmers are generally better off in the Kilimanjaro region of Tanzania, where cooperative unions remain strong and the auction house handles coffee export trade centrally in Moshi.
18 See Bargawi (2009) for discussions on how cotton and coffee producers have experienced fragmentation between and within villages in Tanzania.
19 See Morisset (1998) for earlier evidence on this.
20 See Oya (2012) for a survey of contract farming arrangements in Africa.
21 See Keane (2016) for a Kenyan cut flower case study, and Asante-Poku (2016) for a Ghanaian pineapple case study.
22 See Baffes and Ajwad (2001) and Fafchamps et al. (2003) for empirical evidences on greater price transmission.
23 See Nissanke (2010a) and key references therein for reasons behind the collapse of the ICAs.
24 See Van Huellen (2015) for empirical evidences of this 'non-convergence' phenomenon, pointing to non-performance of futures markets in the role of price discovery for commodity traders.
25 For example, in coffee trade, there is growing demand for 'speciality' coffee such as fair trade and organic coffees or other product differentiation, in a process of de-commodification (Kaplinsky and Fitter, 2004).
26 See Nissanke and Kuleshov (2013) for detailed discussions on this pilot scheme and its outcome and the way forward for assisting farmers in their risk mitigation and coping strategies.
27 See Van Huellen (2015) for the unique institutional structure of the Ghanaian cocoa chain.
28 For example, in 2001, Chile adopted the former Structural Fiscal Balance Policy, which had been in operation since the early 1990s, with a view to developing a cyclically neutral fiscal policy, whereby current expenditure is stabilised by linking it to the structural level of fiscal income (Ffrench-Davis, 2010).
29 See Keane (2016) for case studies in the cut flower and garment sectors.
30 See Nissanke and Kuleshov (2013) for the proposed schemes and facilities at the global level.
31 See Nissanke (2017) for discussions on the institutional foundation for inclusive development

based on the concept of *endogenous* institutions and institutional changes.

32 I am grateful to Roland Baimbill-Johnson and Sophie Van Huellen for collecting and collating data used here.

References

Asante-Poku, N.A. (2016) 'Emerging institutional configurations under global value chains: A case study of the Ghanaian pineapple export sector'. *PhD Thesis, Department of Economics*, SOAS, University of London.

Baffes, J. and M.I. Ajwad (2001) 'Identifying price linkages: A review of the literature and an application to the world market of cotton', *Applied Economics* 33(15): 1927–41.

Bargawi, H. (2009) 'Commodity prices and producers in Tanzania's post liberalisation coffee and cotton sectors'. *PhD Thesis, Department of Economics*, SOAS, University of London.

Fafchamps, M., R.V. Hill, A. Kaudha and R. Waggwa Nsibirwa (2003) *The transmission of international commodity prices to domestic producers*. Working Paper 197. Oxford: CSAE.

FAO (2015) *World tea production and trade, current and future development*. Rome: FAO.

FIAN International (2010) 'Land grabbing in Kenya and Mozambique'. Heidelberg: FIAN International.

Farooki, M. and R. Kaplinsky (2012) *The impact of China on global commodity prices: The global reshaping of the resource sector*. London and New York: Routledge.

Ffrench-Davis, R. (2010) 'Latin America: The Structural Fiscal Balance Policy in Chile: A move towards counter-cyclical macroeconomics', *Journal of Globalization and Development* 1(1).

Gereffi, G., J. Humphrey and T. Sturgeon (2005) 'The governance of global value chains', *Review of International Political Economy* 12: 78–104.

Humphrey, J. and H. Schmitz (2000) *Governance and upgrading: Linking industrial cluster and global value chain research*. Working Paper. Brighton: IDS.

Humphrey, J. and H. Schmitz (2004) 'Chain governance and upgrading: Taking stock', in Schmitz, H. (ed.) *Local enterprises in the global economy*. Cheltenham: Edward Elgar.

ICCO (2013) 'Quarterly bulletin of cocoa statistics'. Volume XXXIX(4).

IIED (2010) 'Alternative to land acquisitions: Agricultural investment and collaborative business models'. Highlights from International Lesson-Sharing Workshop, Maputo, 17–18 March.

Kaplinsky, R. (2000) 'Globalisation and unequalisation: What can be learnt from global value chain analysis?' *Journal of Development Studies* 37(2): 117–46.

Kaplinsky, R. (2010) 'Asian drivers, commodities and the terms of trade', Chapter 6 in Nissanke, M. and G. Movrotas (eds) *Commodities, governance and economic development under globalization*. Basingstoke: Palgrave/Macmillan.

Kaplinsky, R. and R. Fitter (2004) 'Technology and globalisation: Who gains when commodities are decommodified?' *International Journal of Technology and Globalisation* 1(1): 5–28.

Kaplinsky, R. and J. Kimmis (2006) *Competitions policy and the global coffee and cocoa value chains*. Brighton: Institute of Development Studies, University of Sussex, and Centre for Research in Innovation Management, University of Brighton.

Keane, J. (2012) 'The governance of global value chains and the effects of the global financial crisis transmitted to producers in Africa and Asia', *Journal of Development Studies* 48(6): 783–97.

Keane, J. (2016) 'The new trade/new growth nexus for late industrialisers'. *PhD Thesis,*

Department of Economics, SOAS, University of London.

Keynes, J.M. (1942) 'The international regulation of primary products', in Moggridge, D. (ed.) (1980) *Collective writings of John Maynard Keynes*. London: Macmillan/Cambridge University Press

Maizels, A. (1984) 'A conceptual framework for analysis of primary commodity markets', *World Development* 12(1): 25–41.

Maizels, A. (1992) *Commodities in crisis: The commodity crisis of the 1980s and the political economy of international commodity policies*. Oxford: Clarendon Press.

Maizels, A. (1994) ' The continuing commodity crisis of developing countries', *World Development* 22(11): 1685–95.

Morisset, J. (1998) 'Unfair trade? The increasing gap between world and domestic prices in commodity markets during the past 25 years', *The World Bank Economic Review* 12(3): 503–26.

Newman, S. (2009) 'Financialisation and changes in the docial relations along commodity chains: The case of coffee', *Review of Radical Political Economics* 35(3): 271–79.

Nissanke, M. (2010a) 'Issues and challenges for commodity markets in the global economy', Chapter 3 in Nissanke, M. and G. Movrotas (ed.) *Commodities, governance and economic development under globalization*. Basingstoke: Palgrave/Macmillan.

Nissanke, M. (2010b) 'Commodity market structures, evolving governance and policy issues', Chapter 4 in Nissanke, M. and G. Movrotas (eds) *Commodities, governance and economic development under globalization*. Basingstoke: Palgrave/Macmillan.

Nissanke, M. (2012) 'Commodity market linkages in the global financial crisis: Excess volatility and development impacts', *Journal of Development Studies* 48(6): 732–50.

Nissanke, M. (2017) 'A quest for institutional foundations towards inclusive development in Sub-Saharan Africa', in Nissanke, M. and M. Ndolo (eds) *Poverty reduction in the course of African development*. Oxford: Oxford University Press.

Nissanke, M. and A. Kuleshov (2013) 'An agenda for international action on commodities and development: Issues for EU Agenda beyond the MDGs'. Background Paper to the European Report on Development 2013.

Oya, C. (2012) 'Contract farming in Sub-Saharan Africa: A survey of approaches, debates and issues', *Journal of Agrarian Change* 12(*1*): 1–33.

Stiglitz, J.E. and B.C. Greenwald (2014) *Creating a learning society*. New York: Columbia University Press.

UNECA (2013) *Economic report on Africa 2013*. Addis Ababa: UNECA.

USDA (2016) 'Coffee: World markets and trade'. June 2016 Report. Washington, DC: USDA.

USGS (2016) 'Mineral commodities summaries 2016'. Washington, DC: USGS.

Van Huellen, S. (2015) 'Excess volatility or volatility fundamentals?: The impact of financial speculation on commodity markets and implications for cocoa farmers in Ghana'. *PhD Thesis, Department of Economics*, SOAS, University of London.