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Research Report

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ÖFSE Policy Note, No. 20/2018

Provided in Cooperation with:
Austrian Foundation for Development Research (ÖFSE), Vienna

Suggested Citation: Tröster, Bernhard (2018) : Commodity price stabilization: The need for a policy mix that breaks the vicious cycle of commodity dependence and price volatility, ÖFSE Policy Note, No. 20/2018, Austrian Foundation for Development Research (ÖFSE), Vienna, https://www.oefse.at/publikationen/policy-notes/detail-policy-note/publication/show/Publication/Commodity-Price-Stabilization-the-need-for-a-policy-mix-that-breaks-the-vicious-cycle-of-commodity/

This Version is available at:
https://hdl.handle.net/10419/175086

20/2018 POLICY NOTE

Commodity Price Stabilization – the need for a policy mix that breaks the vicious cycle of commodity dependence and price volatility

Bernhard Tröster

The concept of the 'resource curse' has typically been used to explain the adverse effects of resource abundance on economic growth and development. More recently, however, the validity of this approach has been challenged. Not the abundance of natural resources per se, but the ability to cope with the volatility of commodity prices is now seen as one of the major factors for the development of commodity-dependent low-income countries (CDLICs). The reduction of economic uncertainty caused by unstable commodity prices is therefore a central policy objective. Policy interventions at both, the global regional and national level targeting commodity price stability are necessary for resource-rich countries in order to implement commodity-based development strategies, which can ultimately lead to structural change.

Why volatility matters

Global commodity prices tend to be volatile. This is typically attributed to the characteristics of fundamental supply and demand relations but also to destabilizing speculation on commodity derivatives markets. As half of the world's population lives in countries where the production, extraction and export of natural resources are key economic activities, fluctuations in commodity prices have a significant influence on welfare and poverty via multiple direct and indirect channels. The import of basic commodities affects food and energy security, poverty and economic development further. The uncertainty caused by commodity price volatility, largely transmitted via commodity imports and exports, is seen as a major threat to economic and social development causing adverse macroeconomic consequences by obviating economic growth and increasing vulnerabilities on the household level, in particular in episodes of prolonged and/or excessive price fluctuations.[i]

The impact from commodity price volatility is typically asymmetric as actors in LICs (governments and households) face limitations to utilize price risk management (PRM) instruments to mitigate price risks. Further, extreme price shocks can lead to irreversible negative welfare shocks when existing coping mechanisms are diminished or fail. In combination, this can set in motion a downward spiral of rising vulnerability, affecting fragile systems and actors the most, for instance in the case of food systems. Therefore, policies to cope with commodity price volatility can have important stabilizing functions supporting development.

In the long run, diversification and structural change are the ultimate means to reduce the vulnerability to the adverse effects of commodity price volatility and unfavorable price trends. As these complex processes require stable macroeconomic circumstances, the reduction of price risks is as a necessary condition for these strategies. For instance, measures to stabilize public revenues from extractive industry activities can provide continuous financial funds for governments to implement broad industrial policies by subsidizing companies' learning rents to establish linkages to extractive industries, building institutional capacity and funding education, infrastructure and social policies.

Dimensions of policy interventions

As the term 'natural resources' incorporates a large variety of raw materials such as energy, mineral and agricultural commodities which differ significantly with regard to value chain structures and actors' characteristics, policies targeting commodity price volatility must take into account these specificities. In addition, country-specific circumstances are important for the effectiveness of these policies. Thus, a mutually consistent policy mix rather than a one-fits-all approach is necessary to target commodity price volatility and the related effects.

In principle, the wide range of policy approaches can be categorized at least with respect to four dimensions:

(i) by spatial dimensions (global, regional or national),

(ii) by commodity characteristics (extractive (minerals, oil) or diffuse (agricultural raw materials) resources),

(iii) by type of actors (for instance government or smallholders) and

(iv) by type of interventions (direct price controls or mitigation of consequences).

The single actors affected by commodity price volatility face however limitations in the ability to utilize certain policy instruments. This can be caused by country specific factors, for instance by a fragile national financial system, or by changes in international policy frameworks. Over the last decades, policies to curb excessive price volatility and to stabilize income from commodities have experienced a shift from largely interventionist and state-run measures to market-based instruments. While the latter mirror the increasingly globalized and competitive nature of commodity production and trade, the asymmetry in volatility effects at the expense of actors in CDLICs requires the support of national measures by suitable global and regional interventions.

Limits of financial PRMs

After the commodity price boom and bust cycles in 2007/08 and 2011/12, international organizations such as IMF, OECD or FAO published a wide range of recommendations for governments on how to cope with volatile commodity prices, in particular with prices of food commodities (e.g. OECD 2011). It is widely stressed that policies should not target the elimination of commodity price volatility per se, but rather focus on the reduction of the associated uncertainty. As the information content of price fluctuations are assumed to influence supply, demand, stock and trade decisions, any direct price interventions would distort the efficiency of commodity markets. Thus, the improvement of transparency and the dissemination of price information have been defined as important factors to trigger more efficient decision making processes by producers, buyers and policy makers, which should in turn reduce sudden and irrational actions causing price fluctuations (see for instance Tröster 2015 on the Ethiopian Commodity Exchange).

In this context, the increasing importance of commodity derivate markets over the last decades is of particular importance. For decades, international and national price stabilization systems had prominent roles in stabilizing prices and export earnings via buffer stocks and export quotas. As these international and national institutions were largely dismantled in the 1980s and 1990s, commodity derivatives markets have been promoted as the central instruments for price discovery and price risk management. Today, futures prices are generally used benchmarks in physical trade, which consequently transmit global prices to the national level (Staritz et al. 2018).

Due to their hedging function, the use of derivatives (futures and options) has been encouraged by international financial institutions as an effective PRM mechanism for producers and exporters in developing countries. Mexico and its national oil company are typically cited as an example for governmental actors that hedge revenues from oil exports by purchasing put options. However, other examples of financial PRM schemes for cocoa farmers' cooperatives in Côte d'Ivoire (Nissanke/Kuleshov 2012) and Sri Lanka's attempt to hedge its crude oil imports (Reuters 2012) have shown that hedging strategies with derivatives can be risky and costly, in particular, when complex trading strategies are involved. In addition, issues such as high transaction and financing costs, uneven access to information and high technical, organizational and regulatory barriers make these hedging mechanisms largely unsuitable as universally applicable instruments for most actors.

The success of hedging strategies with derivatives depends further on the efficiency of the derivatives markets. An increasing amount of research shows that the strong influx of financial investors, e.g. banks, institutional investors and hedge funds, into these markets has effects on short-term price movements in addition to fundamental factors (Ederer et al. 2016). The associated risk of excessive volatility can in turn influence the use of market-based hedging strategies adversely via higher margin calls (futures) and higher credit risks (options). More importantly, the central role of derivatives markets as a global price benchmark increases the risk that excessive volatility is transmitted along the value chain down to producer prices (Tröster 2015; Staritz et al. 2018).

Beyond the limited availability and applicability for most actors in commodity value chains, PRM strategies with a focus on market-based instruments have important limitations with regard to excessive price fluctuation. They are not appropriate to curb these extremes in commodity prices directly and are often incomplete in mitigating the indirect income effects as they become more expensive and more risky in episodes of extreme price fluctuations. Further, derivatives are typically not available or too expensive for mid- to long-run hedging operations. Thus, financial PRM strategies require – at least – complementary policies that reduce the amplitude of variations by smoothing out extremes in commodity prices.

The missing global PRM policies

By stabilizing global benchmark prices in the first place, policies to curb commodity price volatility on a global level can have an enabling function for other (national) policy measures and should therefore have a central role in a policy mix targeting commodity price stabilization. However, previous attempts to promote stability of selected commodity prices and to work against declining terms of trade in the form of international commodity agreements were abandoned in the 1980s and 1990s as dysfunctional or financially unsustainable, even though these mechanisms did not necessarily fail their objectives. The subsequent market-oriented strategies have made commodity derivatives markets the pivotal mechanism to determine commodity prices and manage price risks. Thus, attention has been drawn on proper legal and regulatory frameworks of commodity derivatives markets in order to avoid excessive price swings resulting from high levels of speculation on these markets.

Regulation of commodity derivatives markets

Given the nature of commodity derivatives markets as financial markets, regulations are an important element for their functioning and stability. The commodity price booms and busts since the early-2000s – preceded by a strong deregulation of these markets –, has led to a debate about the functioning of commodity derivatives markets and policies to curb excessive speculation. In particular, NGOs and

other civil society organizations have called for regulatory measures to target these issues. On the political level, policy proposals were initiated on the G20 level as well as in the US and the EU targeting mainly over-the-counter derivatives, transparency and supervision of commodity exchanges as well as position limits for specific traders or groups of traders (Küblböck/Staritz 2014). In the EU, a new regulatory framework for commodity derivatives is applied as of January 2018 as part of MiFID II. Key innovations are the reporting of net positions and position limits applicable to all commodity derivatives. However, the maximum in one contract held by a single actor can be equivalent up to 35% of deliverable supply and firms can be exempted from position limits by demonstrating that their speculative financial activities are 'ancillary' to their overall activities and to trading in the specific derivatives. Stricter positions limits are set in particular for food commodities (EC 2016). In the US, position limits are set for futures contracts of 28 commodities with a limit of 25% of deliverable supply and exemptions for trades for hedging purposes (CFTC 2011).

The impact of these regulations on excess volatility and on trading strategies of commercial and non-commercial traders are unclear so far, in particular as commodity price volatility has been relatively low in recent years. However, the regulations have been criticized as position limits are considered too high and as fundamental problems of commodity derivatives markets such as high frequency trading, the influence of specific classes of trader and the speculative transactions of physical commodity traders are not or insufficiently addressed (Küblböck/Staritz 2014).

Global stabilization mechanism

As regulatory measures may not necessarily curb excess volatility on commodity derivatives markets, von Braun/Torero (2009) suggest an innovative global stabilization mechanism for food commodities. This includes small physical, decentralized reserves complemented by a 'virtual reserve facility' backed by a financial fund used for interventions in futures markets to countervail price spikes. More conventionally, the creation of physical global or regional food reserves for emergencies and international funds for safety nets have been proposed (OECD 2011). However, new global initiatives have not been put into effect in recent years, and initiatives to smooth extreme price volatility with buffer stocks and/or supply controls are largely dismissed on the global level. Thus, national and regional instruments and policies have become increasingly important.

The role of national and regional policies

National policies in CDLICs to curb commodity price volatility essentially target three channels of influence: (i) government revenues and expenditures related to extractive industries (energy commodities or minerals), (ii) prices for producers of export cash crops (coffee, cocoa or cotton) and other agricultural commodities and (iii) prices of imported food and energy products. Most CDLICs are typically affected by all three categories as their most important export goods are minerals, energy commodities and/or cash crops and – at the same time – basic food commodities (wheat, maize or rice) and fuels are largely imported.

Government revenues and spending rules

Price volatility of point resources such as energy and mineral commodities are a challenge for the management of governmental revenues and expenditures. As unprecedented and fluctuating public spending is a causal factor for adverse growth effects, policies to stabilize these budgetary variables are crucial for CDLICs. This can be achieved by fiscal rules or institutional mechanisms that stabilize government spending based on the accumulation of surpluses in times of high commodities prices and withdraws in times of low commodity prices. A prerequisite for these policy measures are however appropriate public revenue from extractive activities.

Sovereign wealth funds

Common vehicles to achieve these stable spending patterns are sovereign wealth funds (SWFs). Globally one can see a trend towards SWFs as 30 out of the 45 active funds have been established since 2000 (Sachs/Maennling 2015). In Africa, 19 SWFs are active, of which 9 have been established since 2010, primarily sourced from oil and gas extraction. Beyond the aim of balancing governmental expenditures, SWFs have the purposes of intergenerational savings accumulation, buffers against economic shocks, wealth diversification and funding domestic investment (e.g. infrastructure). Thus, these funds can have an important impact on long-term social and economic development goals beyond day-to-day politics, if managed properly.

However, the record of SWFs is mixed given the differences in the quality of public financial-management systems but also due to excessive commodity price volatility. Newly established SWFs might not be equipped with sufficient funds to balance extreme one-time price drops or episodes of prolonged price decline. In addition, the conversion of 'underground' assets to financial assets via SWFs generally create interdependencies between financial asset prices and the value of SWFs, which requires further risk management.

Income stabilization mechanisms for producers of cash crops

An important issue for national policies is income stabilization for producers of cash crops such as coffee, cocoa or cotton, which are important export goods for a large number of CDLICs. Thus, price stabilization schemes through pan-seasonal fixed producer prices are a useful instrument to cushion price risks for producers. For instance, the cotton price system in Burkina Faso ensures price stability for farmers throughout the season, potential post-season premiums, and provides a smoothing fund to cope partly with the price risk accruing to processors (Staritz et al. 2018). The local context is a crucial in the design of such price stabilization schemes. Given asymmetric power structures between the involved parties, an important prerequisite for price negotiations is tripartite institutional structures including farmers, processors/exporters and government agents as

well as strong and independent farmers' associations. Similar to SWFs, excessive commodity price volatility is a main challenge for national price stabilization funds. Short-term price drops or long-lasting low-price periods can deplete a funds' resources.

Beyond national stabilization schemes, the support for cooperative structures can play an important role for smallholders as they reduce the exposure of single cash crop producers to price fluctuations and provide opportunities for increased value addition (see Tröster 2015 for the example of coffee).

Support for food and energy consumption

Finally, households in CDLICs typically spend a large share of their income on food products. Thus, measures to avoid adverse effects from peaks in food price are important. An indirect support of affected households via national emergency reserves in combination with social and food security safety nets is commonly advised. According to the World Bank (2017), more than 1.9 billion people in 130 low and middle-income countries currently benefit from social safety net programs. These instruments require however sufficient funding and capacities to overcome times of crisis.

A mutually consistent policy mix

Overall, CDLICs face various challenges and constraints with regard to national policy options to mitigate the effects of commodity price swings. As shown above, commodity price volatility causes vulnerabilities in CDLICs and is at the same time a risk to the applicability of various policy measures to reduce these vulnerabilities. Thus, a policy mix including national and international instruments is necessary to avoid a downward spiral of rising vulnerability.

Central elements of such a policy mix would be measures on an international level in order to reduce the volatility of global commodity prices. As these prices derived in commodity derivative markets typically serve as the major benchmark for all other prices in commodity values chains, the efficiency of national policies would be significantly enhanced, if price peaks and drops could be avoided in the first place. However, there is a strong resistance to international measures that are too interventionist in the eye of most international actors.

The role of regional policies

A possible way out of to this dilemma could be provided by enhanced regional cooperation. For instance, regional stabilization funds for cash crops could improve the credibility of these schemes via better management independent from national political considerations, while bargaining power vis-a-vis international traders could be increased. Alternatively, national stabilization schemes might be coupled with regional counter-cyclical financing facilities to mitigate income shocks from commodity price movements and ensure the financing of national price stabilization schemes and policy space for counter-cyclical macroeconomic measures. These effects could be further enhanced with the support of regional or international development banks.

A current example of such a regional initiative is the intended cooperation between Ghana and Côte d'Ivoire in the cocoa sector. As both countries produce around two thirds of the global supply of cocoa beans, the building of storage and warehousing facilities and the establishment of a regional stabilization fund could enhance the control over the supply chain and reduce the vulnerability of smallholders. Most importantly, the project, funded by the African Development Bank, intends the promotion of local processing and consumption in the long-run (AfDB 2017).

Ultimately, CDLICs need to reduce their dependence on commodities and diversify their economies not only in order to deal with price instability and external vulnerability, but also in order to achieve structural transformation to higher value added activities, better jobs and sustained growth. Diversification and commodity based industrial development require a broad set of industrial policies and capacities at the public and private sector as well as sufficient policy space. For the latter, price stabilization is an important prerequisite.

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i Please see also all ÖFSE publication on 'Commodities and Development' here: https://www.oefse.at/en/research/commodities-and-development/

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