

BOOMORBUST

How commodity price volatility impedes poverty reduction,
and what to do about it.



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**BOOM OR BUST: HOW COMMODITY PRICE VOLATILITY IMPEDES
POVERTY REDUCTION, AND WHAT TO DO ABOUT IT**
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JANUARY 2008

ISBN 978-1-894784-04-7

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Tackling Commodity Price Volatility

This document is the synthesis of a larger project, sponsored by the Norwegian Government, on policy options to tackle the problem of commodity price volatility. The titles and authors of the in-depth policy papers and case studies referenced in this piece are listed in Annex 2. The full-length policy papers and case studies are available on the IISD Web site at: <http://www.iisd.org/markets/policy/price.asp>

Summary

Commodity price volatility is a big problem for commodity-dependent countries and producers. An estimated two billion people, nearly a third of the global population, depend on the production of primary commodities like rice, cotton and copper. At the family level, farmers and workers rely on commodity production for the cash incomes they use to pay for food, school fees and healthcare. At the national level, 95 of the 141 developing countries derive at least half of their foreign exchange earnings from commodity exports.

But commodity prices are highly volatile in the short term, sometimes varying by as much as 50 per cent in a single year. To make matters worse, price volatility is increasing across a broad range of commodities. In the past 30 years, there have been as many price shocks across the range of commodities as there were in the preceding 75 years. Clearly, low commodity prices will result in lower incomes for farmers and fewer jobs for workers. But *volatile* prices also have a negative effect on livelihoods. The inherent uncertainty of unstable prices complicates financial planning and environmental management for commodity-dependent countries and producers, deepening commodity dependence and widening existing inequalities.

Meanwhile, over the long term, prices for primary commodities have been falling relative to the prices of manufactured goods, making it increasingly expensive to invest in technology and purchase other finished goods. Commodity producers are, in effect, running to stay still.

At the same time, consolidation among multinational commodity traders has led to a loss in market power by the major commodity-producing nations. The trends towards increasingly volatile prices, slipping relative prices and shifting power along commodity supply chains have left commodity-dependent countries and producers in a precarious position, grappling with the dual problems of low returns and high risk.

Since the turn of the millennium, the risks facing commodity producers have been partially disguised by strong prices for certain commodities. But the basic problem facing commodity producers—intense volatility in market prices—has not gone away. Relatively high commodity prices in some sectors are blinding commodity-producing countries and producers (and the international community) to the lurking dangers of continuing market uncertainties.

At the heart of the commodity price problem is the imperfect nature of commodity markets. The theoretical ideal of a supply-meets-demand market equilibrium is rarely, if ever, actually achieved because commodity supply and demand forces respond inflexibly to price fluctuations. But it is not price volatility *per se* that is the problem—rather it is the volatility of national and individual *incomes* that obstructs long-term planning, drives commodity dependency, widens inequality and leads to environmental degradation.

SUMMARY

The difficulties caused by commodity price (and income) volatility have, of course, been recognized for decades. Many attempts have been made to help developing countries manage price volatility. Commodity price volatility is a serious problem, but it is not a hopeless one. The basic economic tools necessary to help commodity producers get more predictable incomes are well-known and better-understood than ever before, and some innovative variations are being developed. This publication looks in some detail at the experience, problems and promise of five different types of economic tools: supply management, national revenue management, market-based price risk management, compensatory finance and alternative trade initiatives.

Predictable incomes are critical if commodity-dependent countries and producers are to escape the cycle of commodity dependence, which is in turn integral to wider economic stability and poverty reduction. Experience leads us to four conclusions:

1. There is no “silver bullet”—no single policy that will address all aspects of commodity price volatility.
2. Price or income stabilization interventions can create their own moral hazards and market distortions.
3. Supply-side constraints, such as limited access to knowledge and poor infrastructure, are enduring obstacles.
4. But despite the challenges, we have options that will work—under the right circumstances.

Policy-makers need to tackle the very real risks facing commodity-dependent countries and producers. If the international community is indeed committed to reducing poverty, then thoughtful, decisive action is necessary now more than ever. Taking the following seven guidelines into consideration will help ensure that future policy responses are more coherent and successful than past initiatives:

1. Look for complementary policies.
2. Engage stakeholders at all levels.
3. Do not underestimate the importance of the private sector.
4. Keep it as simple as possible.
5. Address the potential moral hazard by integrating income stabilization into a wider rural development or diversification program.
6. Build flexibility into programs.
7. Ensure that the reach of the implementing agencies matches the scope of a policy's goals.

Acknowledgements

We would first like to acknowledge the generous support of the Government of Norway, without which this project would not have been possible. Our warm thanks to all of the authors of the background papers for this project: Samuel Asfaha, Willings Botha, Vijaya Switha Grandhi, Adrian Hewitt, Hank Lim, Tom Lines, Moses Masiga, Véronique McKinnon, Chandan Mukherjee, Nelson Nsiku, N.C. Pahariya, Jason Potts, Alice Ruhweza, Alejandra Ruiz-Dana, Lamon Rutten, Lim Tai Wei and Frida Youssef.

Thanks also to Adam Gross, Olle Östensson, Leonela Santana-Boado and Chris Wunderlich for commenting on successive drafts of this publication and to graphic designer Darryl Hartle. The Advocacy Project (<http://advocacynet.org/>), Amelia Bookstein and David Cohen have kindly provided some of the images used in this publication and Chris Charles has ably managed the project from its inception.

ABBREVIATIONS AND ACRONYMS

CF	compensatory finance	MDGs	Millennium Development Goals
CFE	Compensatory Finance Facility	NRF	national revenue fund
CFC	Common Fund for Commodities	OPEC	Organization of the Petroleum Exporting Countries
EU	European Union		
FIC	Fondo de Innovación para la Competitividad (Competitiveness and Innovation Fund)	STABEX	Système de stabilisation des recettes d'exportation (stabilization of export earnings program)
FLEX	Fluctuations in Export Earnings program	UN	United Nations
FOB	free on board	UNCTAD	United Nations Conference on Trade and Development
GIS	geographic information system	UK	United Kingdom
ICA	international commodity agreement	US	United States
ILO	International Labour Organization	USDA	United States Department of Agriculture
IMF	International Monetary Fund		
LDC	least-developed country		

CONTENTS

Abbreviations and Acronyms	3
1. The commodity price problem	4
2. Multiple factors drive income volatility	8
3. Problems of unpredictability	10
4. Time to break the trend	12
5. Policy options	14
A. Supply management	14
B. National revenue management	18
C. Market-based price risk management	22
D. Compensatory finance	26
E. Alternative trade initiatives	30
Policy options summary	34
6. Conclusions	36
Annex 1: Key terms	38
Annex 2: Policy papers and case studies	40
Endnotes	41

1 The commodity price problem

How can we cope with this problem? Cotton prices are too low to keep our children in school, or to buy food and pay for health. Some farmers are already leaving. Another season like this will destroy our community.

– Brahimia Outtara, Artisanal cotton farmer,
Logokourani Village, Lerabe Province, Burkina Faso¹



Woman tends a rice field in Ngenge, Uganda - David Cohen, 2006

DEPENDENCE

Commodity price volatility is a big problem for commodity-dependent countries and producers. An estimated two billion people, nearly a third of the global population, depend on the production of primary commodities like rice, cotton and copper.² At a family level, farmers and workers rely on commodity production for the cash incomes which they use to pay for food, school fees and healthcare. At the national level, 95 of the 141 developing countries derive at least half of their foreign exchange earnings from commodity exports.³ In 2003, cotton made up 72.7 per cent of Mali's export earnings and crude oil accounted for a massive 89.7 per cent of export earnings for Equatorial Guinea.⁴ These countries often have ineffective personal tax systems, so export tariffs and taxes represent an important source of government revenue.

Primary commodity – A commodity in its raw or unprocessed state, such as iron ore. In contrast, pig iron is considered a semi-processed product, and a steel girder is a manufactured item.

Gold mining in the Democratic Republic of Congo - Amelia Bookstein, 2006

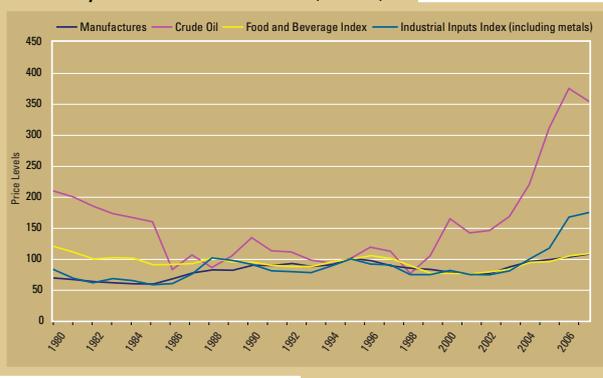


VOLATILITY

Commodity prices are highly volatile in the short term, sometimes varying by as much as 50 per cent in a single year.⁵ Between 1983 and 1997 for instance, world market prices for Robusta coffee beans swung between 40 per cent and 195 per cent of the average.⁶ From August 2003 to March 2004, world soybean prices rose from US\$237 to US\$413 per tonne—an increase of 74 per cent—only to fall back down to US\$256 per tonne over the next 24 months.⁷

To make matters worse, price volatility is increasing across a broad range of commodities. Since the 1970s, there have been as many price shocks across the range of commodities as in the preceding 75 years.⁸ Unpredictable price fluctuations can significantly reduce national revenue, cost millions of jobs and render farmers' cash crops nearly worthless in one fell swoop.

Commodity and Manufactures Price Indices (1995=100)



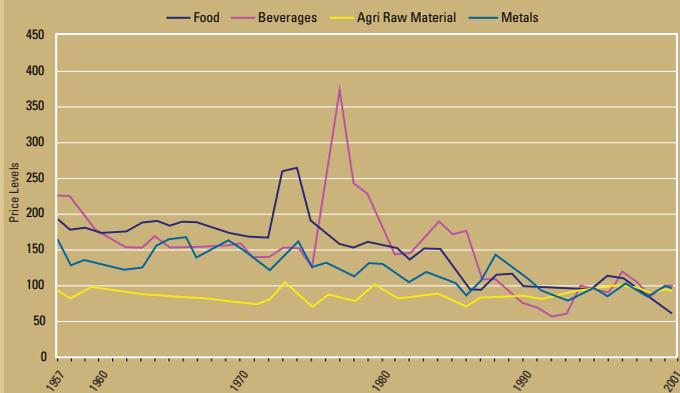
The poorest producers are hurt most by commodity price volatility since they have few resources and social safety-nets to fall back on when commodity prices turn against them.⁹ The 25 million households that depend on coffee production, for instance, face severe hardship when coffee prices suddenly drop. Between 2000 and 2004, for example, coffee prices fell from US\$1.20 per pound to between US\$0.75 and US\$0.45 per pound. In Nicaragua, agricultural workers were forced to migrate to impoverished urban areas, experiencing a marked decline in their quality of living. The resultant increased income inequality not only has serious impacts at the individual level, but also undermines overall economic growth, creating a potentially disastrous feedback cycle.¹⁰ At the national level, fluctuating revenues make fiscal planning extremely difficult. When soybean prices swung dramatically between 2003 and 2006, Paraguay, the world's fourth largest soybean exporter, saw the value of its soybean exports rise and then fall by over US\$400 million.¹¹

AMID COMPLICATED REALITIES

Over the long term, prices for primary commodities have been falling relative to the prices of manufactured goods. Between 1986 and 1999, the volume of commodity exports from the least-developed countries (LDCs) increased by 43 per cent. However, the purchasing power of their exports increased by only three per cent.¹² In other words, primary commodity producers have had to produce more for the same return. They are,

in effect, running to stay still, making it increasingly expensive for producers to invest in technology and purchase other finished goods. In 2001, the UN estimated that for every \$1 received in aid by sub-Saharan Africa since the 1970s, \$0.50 has been lost as a result of these deteriorating terms of trade.¹³

Relative Commodity Prices, 1957–2001



At the same time, consolidation among multinational commodity traders has led to a loss in market power for the major commodity-producing nations. Structural adjustment and trade liberalization programs pushed by international donors in the 1980s and 1990s forced many developing countries to privatize their commodity marketing and export authorities. This decreased the buffer

between producers and volatile commodity markets and, in some cases, resulted in a breakdown of quality control systems in developing countries.

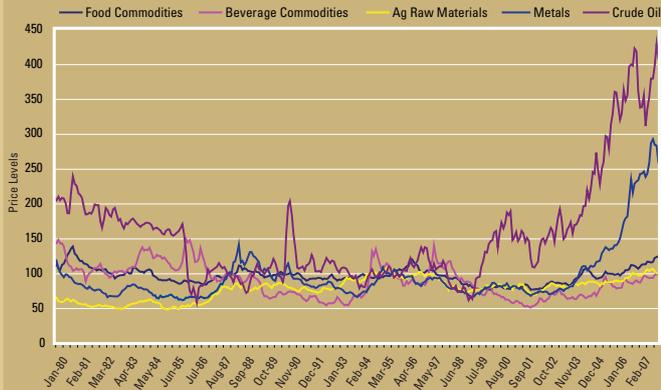
Meanwhile, in the 1980s, many international commodity supply agreements that had previously regulated commodity prices were torn up, reducing international coordination of the production of some key commodities, with immediate impacts on their price. When the tin international commodity agreement (ICA) collapsed in 1985, world prices dropped 30 per cent overnight.¹⁴ Likewise, world sugar prices dropped 38 per cent in the year following the dissolution of the international sugar agreement in 1983.¹⁵ Since the dissolution of the commodity agreements the pattern of price volatility has sharpened.

The result is that commodity-producing countries are left with as little influence over world prices as individual producers have bargaining power with the big commodity traders. The trends towards increasingly volatile prices, slipping relative prices and shifting power along commodity supply chains have left commodity-dependent countries and producers in a precarious position, grappling with the dual problems of low returns and high risk.

HIGH PRICES DISGUISE RISKS

Since the turn of the millennium, the risks facing commodity producers have been partially disguised by strong prices for certain commodities. Driven by soaring demand from the emerging economies of China and India as well as strong US consumption, base metals, such as copper and lead, are trading at or near 10-year highs¹⁶ and many agricultural commodities have rebounded from the very low price levels experienced at the turn of the millennium.¹⁷

Commodity Price Indices (1995=100)



But the basic problem facing commodity producers—intense volatility in market prices—has not gone away. The current boom has affected some commodities more than others, with some markets experiencing little more than cyclical upturns. Meanwhile, the markets that have boomed the least (e.g., cotton, coffee, tea) tend to be the ones upon which the poorest countries depend. Regardless of the extent of the boom, however, what goes up has demonstrated a disturbing propensity to come back down, and fast. In 2006 Stephen Roach, Morgan Stanley’s chief economist, warned of a commodity bubble, stating that it’s not a matter of if the bubble bursts—but when.¹⁸

Relatively high commodity prices in some sectors are blinding commodity-producing countries and producers (and the international community) to the lurking dangers of continuing market uncertainties. Farmers around the world tend to be optimistic, systematically underestimating risk, and

mining companies have begun to talk about current demand as a “supercycle.” But a negative event in a major consuming country—labour unrest in China or collapse of an American bank due to bad loans—could easily trigger a negative commodity price shock.

Ignoring past experiences will cause even greater problems for those dependent on commodities when prices inevitably fall. And the prices **will** fall.¹⁹ As Chris Richardson, director of economic research firm Access Economics, puts it: “The phrase ‘this time it’s different’ always worries me, and right now it’s being banded about a lot. The only supercycles to date have otherwise been known as world wars.”²⁰

INCOME, NOT PRICE, IS KEY

Although we focus on commodity prices, it is not price volatility *per se* that is the problem—rather it is the volatility of national and individual *incomes* that obstructs long-term planning, drives commodity dependency, widens inequality and leads to environmental degradation (see Section 3). The best long-term solution to the commodity price problem is economic diversification away from dependence on a narrow and volatile revenue stream. However, this is much easier said than done. Structural barriers in international trade (tariff and standards escalation) impede diversification. The foreign direct investment necessary to diversify continues to elude the poorest and most fragile states. Commodity price volatility itself can also impede economic diversification by encouraging the dedication of productive assets to straightforward exploitation when prices are high and then denying the investment capacity to diversify when prices are low. To reduce overall dependence on commodities, countries and producers first need some semblance of revenue (or income) stability.

2 Multiple factors drive income volatility

Rice producers want a better life. We work hard for it. But when we get to market we are bombarded with an invasion of cheap imported rice, so we have to sell at any price that a buyer is prepared to give us. How can we compete against the big guys? – Inodil Fils, Rice Farmer, Arribonite Valley, Haiti¹⁹

At the heart of the commodity price problem is the imperfect nature of commodity markets. The theoretical ideal of a supply-meets-demand market equilibrium is rarely, if ever, actually achieved because commodity supply and demand forces respond inflexibly to price fluctuations. In effect, one side of the supply/demand equation is always trying to hit a moving target. Agricultural production can be the most difficult to adjust, since planting and planning decisions must be made far in advance of physical purchases. Thus, situations of oversupply can last a long time while it can be difficult to boost production in the case of a shortage. Factors that commonly drive commodity income volatility in commodity markets include:

- *Business cycles in key markets* – Industrialized countries are the primary consumers of many commodities. When these consuming countries experience economic downturns, prices of primary commodities suffer in turn. The Asian economic crisis and the global economic downturn immediately following the 9/11 terrorist attacks in the US both had severe effects on commodity prices, just as the surging economies of China and India are being credited with driving up prices of copper and other base minerals and metals.
- *Changing weather patterns* – Extreme weather events in major commodity-producing countries can cause price spikes. For instance, even a rumour of frost in Brazil during the main Arabica coffee growing season will cause a spike in Arabica coffee prices. Climate change is expected to increase weather-related volatility in the future, as extreme weather events become more common and producers struggle to adapt to changing growing seasons.
- *Conflict in producing countries* – Political instability in supplier countries or important transit countries can disrupt commodity supplies, creating sharp spikes in commodity prices. For instance, periodic conflict in Côte d'Ivoire over the past few years has affected cocoa lands and supply routes, playing havoc with cocoa prices. On October 11, 2002, cocoa prices reached a 17-year high of US\$2,405 per tonne, only to drop 15 per cent to US\$2,040 by the end of the month on news of a truce between Ivorian rebels and government forces.²¹

- *Exchange rate fluctuations* – Even when world market prices are stable, exchange rate fluctuations affect a commodity's value in local currency since major markets denominate prices in US Dollars or in Euros but producers are paid in their local currency. From a producer's perspective, a product's value in Euros is irrelevant; what matters is the purchasing power he gains by selling a product for local currency.
- *Price speculation* – Investors and funds that use commodity derivatives (e.g., futures and options) as part of their investment strategy can amplify the price effects of true shifts in supply and demand. As of January 2007, Wall Street investment funds accounted

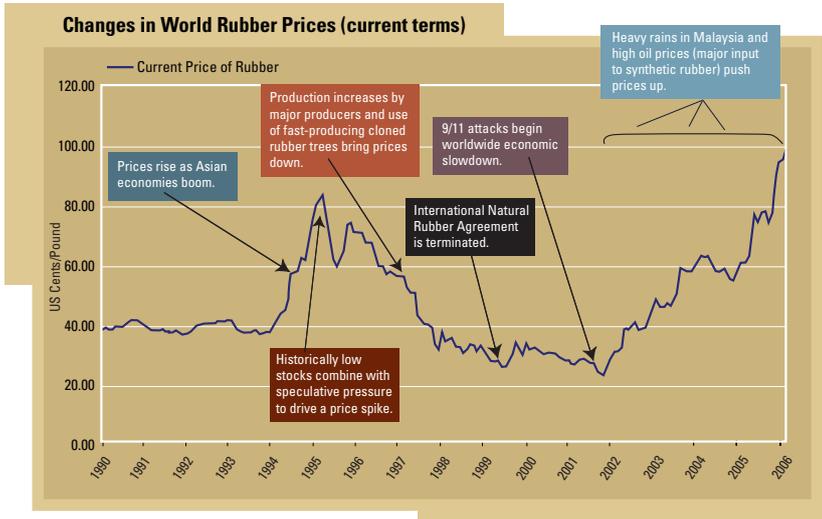
for 20–50 per cent of futures contracts for several agricultural commodities, including wheat, live hogs, cattle and corn. These funds, which are not allowed to trade in physical commodities, must “roll over” expiring contracts and re-balance their portfolios each month, creating changes in demand for futures contracts that are unrelated to physical demand for the actual goods.²³

- *Export dumping* – Farm subsidies in the US and the EU have encouraged excess production that brings down world prices when subsidized commodities are exported overseas and sold below the cost of production. However, developing countries have rarely had the capacity to pursue successful anti-dumping actions against these activities.

- *Food aid* – Some US food aid is donated directly to NGOs, which are allowed to turn around and sell the food (e.g., cereal grains) in local markets to finance their development programs. Since US agriculture is heavily subsidized this practice can undercut the prices of locally-produced foods.

I've heard that prices of commodities are going up, but now, when we could take advantage of it, we are blocked by a war that is none of our business.

– Salifou Kabore, 2002, Cocoa producer, Côte d'Ivoire²²



3

Problems of unpredictability

*There is a clear link between dependence on exports of primary commodities and the incidence of extreme poverty... The commitment to reducing extreme poverty by half by the year 2015 necessarily implies attention to the primary commodity problem.*²⁵ - UNCTAD, 2002

Two billion people, many in the least-developed countries (LDCs), depend on commodities for their livelihoods. Clearly, low commodity prices will result in lower income for farmers and fewer jobs for workers. But **volatile** prices also have a negative effect on livelihoods. The uncertainty inherent in unstable prices for commodity-dependent countries and producers complicates financial planning and environmental management, can deepen commodity dependence and widen existing inequalities.²⁶



THE PLANNING PROBLEM

Volatile prices mean that producing commodities is a real gamble. Economic growth in commodity-dependent countries and the wealth of individual producers are effectively tied directly to international markets over which they hold little influence—and the “invisible hand” of these markets has treated many of its dependants very roughly in the past.

It means that governments have trouble accurately forecasting their future revenues. This, in turn, makes it extremely difficult to plan sustainable social and economic development programs. Many countries—Algeria, Nigeria and Venezuela, to name a few—have fallen prey to over-optimistic spending habits during commodity booms, using current and expected profits to finance social and/or politically-motivated projects. Such programs can quickly become unsustainable when commodity prices drop, but are typically very tricky for politicians to cut, and so tend to get funded out of borrowed money, adding to a country's debt burden.

Likewise, price volatility forces individual commodity producers to make sub-optimal production and investment decisions. When the price of a household's cash crop drops suddenly, household members may also be forced to spend less on education, healthcare and inputs for the next year's crop(s). These responses clearly have immediate welfare effects, but can also have future consequences (e.g., increased likelihood of health problems among household members and the increased likelihood of crop infestation due to lack of maintenance).²⁷



While low commodity prices create obvious problems, even high prices can create a trap of sorts, forcing countries and producers to choose between immediate profits and future sustainability. When nations and external investors pump money into a booming sector, they risk inadvertently creating real exchange rate appreciation that can make other sectors of the national economy uncompetitive (a phenomenon known as “Dutch Disease”). Price volatility also contributes to the difficulties faced on a daily basis by developing countries and struggling commodity producers, such as: poor infrastructure; corruption; weak or unstable governments; and limited credit access.

POOR ENVIRONMENTAL MANAGEMENT

The planning problem extends to environmental management. When prices are high, extractive industries, such as oil and mining, have a strong incentive to increase production quickly. Likewise, booming agricultural prices create incentives for farmers to intensify production by clearing new land for cultivation, allowing fewer fallow periods, or simply planting more crops on existing farm land. On the other hand, low commodity prices can have the same effect as producers attempt to cover their fixed costs on lower profit margins. Greater production intensity may be profitable in the short-run, but can exhaust the land (or mineral/oil supply) more quickly. Even if environmental remediation plans are in place, a prolonged price slump can drive producers out of business before the clean-up stage. As this has occurred in developed countries with strong oversight mechanisms, developing countries with weaker institutions are even more likely to encounter similar problems.



Environmental remediation in mining: who bears the cost?

As prices for mineral resources rise, prospective mining ventures become more lucrative. Companies have greater incentives to increase production at existing mines and to open up new mines that may not have been profitable prior to the price boom. But what happens when mineral prices drop?

The American Smelting and Refining Company (Asarco), once one of the largest mining concerns in the US, provides a case in point. The company controlled 27 mines in 13 states when copper prices began to fall steadily in the late 1990s, causing the company to lose millions. In 1999 Asarco was sold to Grupo Mexico S.A. de C.V., which promptly began to sell off Asarco’s profitable Peruvian operations. The US Justice Department intervened, forcing Grupo Mexico to place US\$100 million from the asset sales into an environmental remediation trust fund.²⁸ When Asarco filed for bankruptcy protection in 2005 however, it became clear that the remediation fund would not cover the clean-up of all of Asarco’s US mines, now estimated at US\$500 million. Instead, it is very likely that the federal government, and by extension US taxpayers, will have to foot much of the clean-up bill.²⁹

If these environmental abuses can occur in the United States, countries with weaker regulatory systems are likely to suffer far worse problems. Not only do developing countries have less ability to pay the environmental clean-up costs, impoverished rural communities dependent on local resources often do not have the clout or the luxury of imposing environmental requirements on mining projects.

Open-pit copper mine in Zambia

4 Time to break the trend

As a result of recent and expected developments in demand for commodities, now is the best opportunity in many decades for improving the economies of commodity-dependent developing countries. This requires action by developing-country governments and by the international community.³⁰ – UNCTAD, 2005



HALF-HEARTED EFFORTS

Commodity price volatility is certainly not a new problem. Many different policies have tried in the past to tackle it. However, few have been successful for long and some have failed spectacularly.

Prior to the 1990s, international attempts to stabilize prices revolved around international commodity agreements (ICAs) and compensatory financing funds (which provide bridging payments to help countries ride out price slumps).³¹ Although the coffee and tin ICAs were relatively successful for two decades, most of the ICAs with active supply management objectives eventually succumbed to common flaws: insufficient financing and unrealistic price targets in extended periods of low world prices; and increasing supplies from free riders. Meanwhile the compensatory finance facilities run by the EU and IMF have languished behind their onerous application requirements, erratic (and sometimes pro-cyclical) disbursements and, in the case of the IMF, perceptions of excessive conditionality.

At the national level, interventions have focused on supply management through commodity marketing boards, buffer stocks and export quotas, as well as national revenue management programs. Many national marketing boards grew out of colonial institutions implemented to keep commodity incomes stable and head off rural unrest. But those marketing boards grew to be bloated and inefficient, and in most cases, were dissolved to satisfy structural adjustment conditions on loans by the World Bank or the IMF.

SILENCE, INACTION

Since the end of the Cold War, market interventions on behalf of commodity producers have fallen increasingly out of favour. The US made it a condition that the International Coffee Organization never again discuss supply management prior to rejoining the organization in 2005, the EU has placed strict limitations on its compensatory finance fund, and developed countries have effectively forced the dissolution of the national marketing boards they had helped create during the colonial period.

This trend has crystallized in recent years as a culture of silence and inaction on the part of international policy-makers. Perhaps the lack of acknowledgement is due to failures of the past or a result of free market ideology and the stigma surrounding market interventions. Some mechanisms certainly were inefficient and, in some cases, damaging to producers and commodity-dependent economies. However, there were some successes, and newer ideas, like national revenue funds and market-based risk hedging tools, show promise.

WHAT CAN BE DONE?

Commodity price volatility is a serious problem, but it is not a problem without solutions. Although there are some innovative variations, the basic economic tools necessary to help stabilize commodity producers' incomes are well-known and better-understood than ever before. The following sections look at the experience, problems and promise of five different types of economic tools in turn: supply management, national revenue management, market-based price risk management, compensatory finance and alternative trade initiatives.



5 Policy options



A. SUPPLY MANAGEMENT

WHAT IS IT AND HOW DOES IT WORK?

The purpose of supply management is to control the supply of a commodity relative to demand, in order to influence its price.

Supply management can influence domestic or international markets. Although one of the most well-known examples of international supply management is OPEC (the Organization of the Petroleum Exporting Countries), in which the major oil producers attempt to achieve a target world price through national export quotas, other forms of international cooperation (ICAs for instance) have included producer **and** consumer countries.

In addition to production/export quotas, when broadly defined, supply management can take other forms, including: buffer stock systems, where a central body is created to buy up a specific product in periods of low prices and release stocks during periods of high prices; import tariffs/quotas, which can be used to directly limit the supply of imports or to ensure that they do not undercut a minimum price level; and minimum purchase price systems, where a government sets the minimum purchase price of a commodity and acts as the buyer of last resort. Of these other tools, only import controls (e.g., tariffs and quotas) solely affect domestic markets.

A key aspect of supply management is the controlling agent, who is responsible for implementing the mechanism(s). The agent can be any entity that has the ability to influence the supply of a specific product: companies (individually or in cooperation with others), farmer organizations or cooperatives, government ministries, or international bodies acting on behalf of several producing and/or consuming nations.

IMPORTANT REQUIREMENTS – Although the technical structure of a supply management system will vary depending on the commodity, the market to be influenced (domestic market versus world market) and the implementing agent(s), experience indicates a few guidelines for a successful system:

- 1) The market for the commodity must be well-defined and without easily-substitutable products (e.g., synthetic rubber can be substituted for natural rubber in nearly all products);
- 2) The agent administering the supply management mechanism must be technically competent and credible (i.e., the agent must have: the ability to enforce the agreement; the storage capacity to withhold supply; and the financial resources to sustain operations long enough to bring about the desired price effects);
- 3) The mechanism must be flexible enough to respond to changes in the market over the long term; and
- 4) Most important, all parties to the system must agree on its underlying goals. Without effective control mechanisms, parties may also free ride, that is, produce goods in excess of the supply management agreement.

Supply management schemes have had a mixed record, but have not been unmitigated failures as they are sometimes portrayed (see Box 2). The challenge for policy-makers is to identify market situations where supply management can be successful given the current market and political realities.





SUPPLY MANAGEMENT

Benefits

- ◆ **Supply management can dilute corporate control over commodity supplies in buyer-driven supply chains, restoring some balance and building up the countervailing power of producers and poor producing countries.**
- ◆ Technological advancements, such as cheaper satellite imaging, improved geographic information system (GIS) capabilities, and developments in electronic certificates and product tracing capabilities are creating new possibilities for enforcing production agreements.
- ◆ New instruments in supply management, such as tradable quotas and virtual buffer stocks, are cheaper to implement, which may make them more palatable to consumer countries.

Drawbacks

- **Supply management deals primarily with price management and not the other social, economic and environmental risks faced by producers.**
- The coherent action and agreement among stakeholders required in most supply management systems can be difficult to sustain. In the past, countries have had trouble agreeing on the goals of international supply management agreements. Without high barriers to entry and viable monitoring mechanisms, free riders can undermine supply management arrangements.
- At the international level, developed countries, especially the United States, are unlikely to support conventional supply management proposals.



Cocoa: contrasting experiences with supply management

On one hand, Côte d'Ivoire loses the "Cocoa War"³²

To counter falling cocoa prices in the 1980s, Côte d'Ivoire flirted with unilateral supply management, withholding its cocoa supply from the world market for several months at a time, culminating in the so-called "Cocoa War" of 1987. For 27 months, beginning in July, the country took the extreme, and ultimately disastrous, step of completely withholding its cocoa production from the world market.

Although Côte d'Ivoire had built up its storage capacity in the preceding years, it did not control a sufficient production share (approximately 20–30 per cent at the time) to affect world prices. Nor did the country truly constitute a credible threat: its economy depended upon cocoa exports too much to outlast existing stocks.

In the end, Côte d'Ivoire was forced to release its pent-up cocoa stocks onto the market, further depressing prices. The Ivorian economy was so weakened that its minimum cocoa price system imploded and the country was forced to submit to a donor-imposed program of economic liberalization.

On the other, Ghana maintains quality with the help of the national cocoa board³³

Resisting the calls for immediate economic liberalization in the 1980s and 1990s, Ghana, the world's second largest cocoa producer, defended the value of its cocoa marketing board (COCOBOD). Rather than completely privatizing cocoa buying, quality control and export functions, as all other major cocoa producing countries have done, Ghana liberalized small portions of the national cocoa supply chain while streamlining COCOBOD's operations. This reduced its bloated "marketing costs" and other implied taxes usually endemic to national marketing organizations.

Since the mid-1980s, COCOBOD has reduced its workforce from over 100,000 to 10,500, spun off non-core activities to more appropriate government ministries, and significantly increased the share of export prices that goes to the cocoa producers. Although market realities forced COCOBOD to give up on year-over-year price stabilization in 1983, the board has continued to utilize forward contracts to offer stable inter-year prices to producers. At the same time, the organization's rigorous quality-control procedures have ensured that Ghanaian cocoa continues to earn a premium on the world market. In contrast, producer prices in Cameroon, Côte d'Ivoire and Nigeria have grown more volatile since these countries dismantled their cocoa marketing boards, while the quality of their cocoa exports has dropped dramatically.^{34, 35}

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Policy options (continued)



B. NATIONAL REVENUE MANAGEMENT

WHAT IS IT AND HOW DOES IT WORK?

National revenue management is a general term for fiscal management laws and institutions set up to smooth national spending and insulate a nation's economy from the negative effects of volatile revenues.

Revenue management often takes the form of national revenue funds (NRFs), commonly referred to as “rainy day funds” or “stabilization funds.” Typically, the revenue management legislation specifies a baseline revenue level that (hopefully) represents the average commodity revenue stream at a sustainable production level. During commodity booms (periods of high prices) profits in excess of the baseline are funnelled into the NRF, which should exist outside of the national budget so that windfalls do not tempt short-term politically motivated spending. Depending on the parameters of the NRF, the country can then draw on the fund when low commodity prices drop national revenues (e.g., from taxes and royalties) below the pre-determined baseline.

It is important to note that national revenue management mechanisms do not stabilize commodity prices. Instead, they try to sever the link between volatile commodity revenues and government expenditures by stabilizing the amount of money a government is legally allowed to use. This helps governments avoid the temptation to treat booming commodity revenues as if they are permanent and subsidizes government spending when prices are low.

NRFs can help commodity-dependent countries avoid a number of pitfalls. Often, such funds hold investments outside of the country (in US Treasury Bills, for example) to protect against real exchange rate appreciation and an increasing reliance on revenues from a single sector of the economy.³⁶ Isolating booming commodity revenues from the politically-determined budget process can help avoid over-optimistic spending that is difficult to maintain once prices fall.

NRFs are most often associated with oil-producing countries. Norway, for example, established its stabilization fund, called the Government Pension Fund – Global, in 1990. The fund is currently worth approximately €215 billion and is used to cover the country's non-oil budget deficit.³⁷ Similar funds have proven useful to some mineral-dependent countries, such as Chile and Botswana, and may be a good idea for countries dependent on agricultural commodities as well.

IMPORTANT REQUIREMENTS – One hallmark of successful national revenue management plans is a set of strong legislative restrictions on how the government can use the NRF. Less successful NRFs, such as the Venezuela fund, have been subject to changing goals and lack any strong legislation restricting government access to the funds. Yet even if a revenue management fund is perfectly designed, its success will depend on strict adherence to the fund's enabling legislation. In other words, political will and capable institutions are critical.

Another key to success is focusing the national revenue management system on stabilizing *expenditures*. Even though the mechanism may deposit excess revenues in the bank for future use, an NRF will not have the desired stabilizing effect if the country turns around and uses its “savings” as collateral to finance new expenditures through debt.



NATIONAL REVENUE MANAGEMENT

Benefits

- ◆ **NRFs can be used to channel windfall profits into economic transition/diversification efforts or toward specific social causes.**
- ◆ If properly designed and executed, NRFs can create a situation of “well-managed” commodity dependence—ensuring inter-generational equity, strengthening the social contract between the government and its citizens, and insulating the economy from macroeconomic problems.
- ◆ Even in poor policy environments, national revenue management laws can provide established rules against which a government’s performance can be measured. Once the framework is set up, future governments may be more likely to utilize the mechanism.

Drawbacks

- **NRFs cannot create fiscal discipline from scratch in countries that do not otherwise practise prudent fiscal policies.**
- Many developing countries lack the institutional strength and political will to implement NRFs successfully.
- NRFs are, in some cases, created to benefit a country’s external image rather than from a sincere wish to provide revenue stability.



Revenue management funds can be used for a variety of purposes, from broad expenditure stabilization to targeted competitiveness/diversification initiatives. Chile provides a good example of a relatively successful revenue management program. Chile, the world's leading copper producer, has been enjoying huge windfall gains for the past several years due to rising copper prices. Between 1999 and 2004 Chile's annual revenue from copper production increased from US\$442 million to US\$5.5 billion.³⁸

Chile established a stabilization fund in 1987 to cover budget shortfalls in times of low copper prices. Each quarter,

Codelco, the state-owned copper company, contributes any profits in excess of a pre-defined reference price to the stabilization fund. The government can then only draw on the fund when quarterly average copper prices fall more than four cents below the reference price.

More recently, Chile created a Competitiveness and Innovation Fund (*Fondo de Innovación para la Competitividad* – FIC), which is supported by copper royalties. This fund entered the budget process in 2006 and started with a base allocation of US\$80 million. The goal of the fund is to promote six strategic interests: entrepreneurial innovation; human capital formation; science and technology promotion; internationalization of innovative efforts; public awareness on innovation; and innovation in the public interest. Further, the fund focuses on mining regions, in order to develop human capital in those areas and reduce their reliance on mining.

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Policy options (continued)



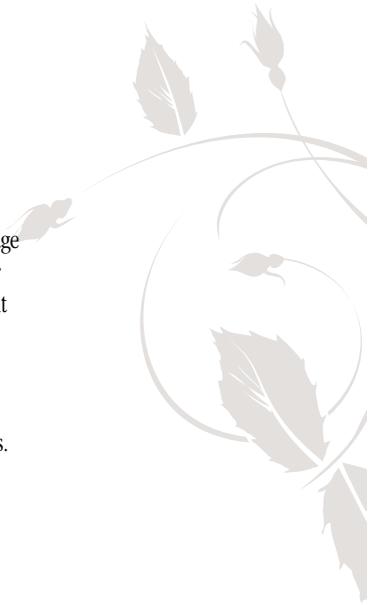
C. MARKET-BASED PRICE RISK MANAGEMENT

WHAT IS IT AND HOW DOES IT WORK?

Market-based price risk management refers to any strategy that uses financial products to help producers reduce the uncertainty surrounding the prices they can get for their product.

In effect, these tools help producers and governments transfer some of the risk they face to investors in commodity markets. It is important to note that market-based tools offer income *predictability*, not necessarily income stability, and they become prohibitively expensive beyond one to two years in duration. However, greater revenue predictability makes it possible for producers to make better decisions and to obtain better credit terms.⁴⁰

Traditionally, risk management tools are based on forward contracts between commodity sellers and buyers, as well as futures and options contracts available through international and regional commodity exchanges. Futures contracts offer producers the opportunity to lock in a price for a given commodity, while options can either protect producers from downside risk (put option) or allow them to benefit from price increases (call option). However, individual producers can find it difficult or even impossible to directly access organized futures and options markets. As such, risk hedging requires that a large entity with the appropriate resources and technical expertise serve as an intermediary between the market and individual producers or producer groups.



Alternatively, some over-the-counter risk hedging tools, created by banks and trading companies, can benefit individual producers and cooperatives without requiring direct market access. For instance, an “Asian option,” also called an average price option, ensures a price based on the average of recent prices and costs less than exchange-traded options.⁴¹ Another instrument, the zero cost option, allows producers to lock in a minimum price for “free” by giving up the right to benefit from price increases above a certain level.⁴²

Multinational buyers and local banks are in positions to offer even more accessible risk hedging tools. One innovative example is the integration of risk management into contracts for fertilizers and other inputs, which farmers must buy anyway. In the United States, the agricultural multinational Cargill offers 19 different types of contracts to cereal growers. The contracts can include stipulations like price guarantees and price increase sharing agreements, which Cargill manages through risk hedging tools.⁴³ In theory, risk management could be integrated with bank credits, but most developing country banks would need technical training to develop effective products.

IMPORTANT REQUIREMENTS – The biggest obstacle to the widespread use of market-based risk hedging instruments continues to be a lack of access for producers. Few intermediaries have been able to provide broad access to markets and, until recently, over-the-counter tools were only accessible to large producers and well-organized cooperatives. Cooperatives have not filled the institutional space left by the decline of many national commodity boards; more emphasis must therefore be placed on developing risk management tools that are easy for individual producers to access.

Bridging the information gap is also important, although many producers are already more connected to world markets than one might expect. Some training may be necessary to help producers understand the full range of available choices, but most farmers are already aware of world prices and easily understand the concept of risk management instruments.⁴⁴ However, along with this awareness comes a preference for choice: within a cooperative or region, the programs that work best are the ones that offer an array of solutions.⁴⁵

MARKET-BASED PRICE RISK MANAGEMENT

Benefits

- ◆ **Market-based tools do not affect commodity prices, but help shift risk from producers to investors and make incomes more predictable over the short-run (six months to a year or two).**
- ◆ Market-based tools can take many forms, allowing producers to choose the tool that best fits their individual needs and risk aversion.
- ◆ Connecting producers to commodity markets through user-friendly products represents a lucrative business opportunity that may provide an incentive for private intermediaries—a rare chance for a true win-win situation. Producers have shown the willingness to pay market rates to hedge against price risk; given the number of commodity producers a widely-accessible risk hedging tool could generate strong profits even at very low margins. There are already several innovative ideas regarding ways to package risk management tools as over-the-counter products and add-ons to existing contracts that producers use to procure fertilizer and other necessary inputs.⁴⁶
- ◆ Many of the entities that already work with producers, such as multi-national buyers, governments and banks, have the theoretical capability to offer producers access to market-based tools.
- ◆ Market-based mechanisms are popular in developed countries, since they are, by definition, based on market forces rather than market intervention.
- ◆ All things being equal, market-based risk management tools decrease volatility in cash markets by sensitizing individual producers to intra- and inter-seasonal smoothing strategies (e.g., staggered sales and crop switching).

Drawbacks

- **Most programs intended to provide access to risk management tools focus on producer groups and cooperatives, leaving out the many producers who are not affiliated with such groups.**
- Organized exchanges do not exist for all commodities.
- Providing broad access to market-based tools has proven difficult due to the massive training and infrastructure development necessary to make risk management tools feasible on a large scale.
- Risk management tools represent an additional cost which producers must bear.
- Standard options and futures contracts can be difficult for single producers to use since options require the payment of an up-front premium and futures have a “contingent cash requirement,” meaning that one must have ready access to cash in order to use them.⁴⁷

Box 4



Recognizing the access challenges presented by the major international commodity exchanges, national and regional exchanges have begun to develop in commodity-dependent areas.

Futures markets for coffee have sprung up in Brazil, India and Indonesia, for example. In India 25 recognized commodity exchanges exist of which three are national, multi-commodity exchanges.

However, simply creating a market does not automatically mean it will be used. Among the coffee markets, only the Brazilian exchange has experienced high trading volumes, highlighting the fact that even regional markets face knowledge and access problems. However, efforts in India, Indonesia, West Africa and elsewhere to make market-based risk management tools more accessible to commodity producers are a very positive development.

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Policy options (continued)



D. COMPENSATORY FINANCE

WHAT IS IT AND HOW DOES IT WORK?

Compensatory finance (CF) mechanisms attempt to smooth out revenue flows by providing relief payments to countries when unforeseen events cause export revenues to fall.

To date most CF mechanisms have focused on national balance of payments stability. As currently implemented, grants or loans are directed to governments rather than individual producers, although some of the funding may trickle down to producers in the form of diversification programs or development projects. Prominent examples of compensatory finance mechanisms include the International Monetary Fund's (IMF) Compensatory Finance Facility (CFF) and the EU's STABEX and FLEX schemes.

Initiated in 1963, the IMF's CFF suffered from strict eligibility requirements, onerous application procedures and costly financial terms. Countries were often able to secure better loan terms with fewer conditions elsewhere, and as such the CFF has gone largely unused since 2000.⁵⁰

STABEX was introduced in 1975 by the EU as part of the first Lomé agreement, and was available to any African, Caribbean and Pacific (ACP) country. Eligibility for compensation was based on a drop of 6.5 per cent—compared to the four-year average—in export revenues from trade with the EU in any eligible sector.⁵¹ Such a drop would trigger an automatic compensation payment to the affected government to use for diversification

efforts and to benefit producers in the affected sector.⁵² With the signing of the Cotonou agreement in 2000, STABEX was replaced by the FLEX program, which had more stringent eligibility requirements that took into account a broader range of economic indicators.⁵³

Both the IMF and EU programs were hampered by severe limitations. Although the CFF still exists, in practical terms it has been redundant for several years. The EU's FLEX scheme continues to be used but does not focus solely on commodity shocks. Over time, STABEX became a mechanism for disbursing aid, creating dependency in recipient countries such as the Solomon Islands.⁵⁴ Both the CFF and STABEX funds suffered from erratic disbursements, which in some cases made the funds pro-cyclical, providing support after commodity prices had gone up again. An extended period of low prices for many commodities in the late 1980s and early 1990s caused a severe financial crisis for STABEX; between 1990 and 1992, the fund was only able to cover 40 per cent of eligible claims.⁵⁵

Few governments have expressed interest in supporting compensatory finance in the future, but UNCTAD continues to argue that, with the right design, CF can be helpful to commodity-dependent countries and producers as well as self-sustaining.⁵⁶ This could be a good time to seriously explore CF options as many commodity prices are relatively high so a fund would have time to develop before being called upon.⁵⁷

IMPORTANT REQUIREMENTS – In order to be politically viable and practically helpful, future compensatory finance instruments need to be more accessible than past programs, providing support for diversification activities rather than being seen as props for declining or uncompetitive economic sectors. Less onerous disbursement criteria and fewer conditions would make utilizing CF funds a realistic option for commodity-dependent countries and would reduce the danger of pro-cyclical disbursements. Disbursing funds in the form of loans rather than grants would help avoid the dependency problem experienced by STABEX recipients and could make the fund self-sustaining. If targeted at diversification programs, CF disbursements can benefit actual producers in the declining commodity sector, giving producers an opportunity to reduce their own susceptibility to future price shocks.⁵⁸

COMPENSATORY FINANCE

Benefits

- ◆ **In theory, compensatory finance mechanisms based on loans can be self-financing after the initial set-up and can reduce the likelihood of aid dependence among recipient countries.**
- ◆ UNCTAD has already done much of the work and has put forward recommendations for a self-sustaining compensatory finance mechanism.
- ◆ Compensatory finance schemes have been around for decades, giving policy-makers the benefit of experience.

Drawbacks

- **If not well-designed, compensatory finance mechanisms create market distortions, perverse incentives and aid dependency.** For instance, previous compensatory mechanisms were slow in disbursing payments; at times funding arrived after commodity prices had recovered. These “pro-cyclical” payments actually increased the upward spike in government revenues rather than stabilizing them.
- In the past, CF mechanisms entrusted payments to governments, assuming the government would pass funds or benefits on to producers. However, in many cases, the funds were used for government consumption and unsustainable spending, rarely reaching the producers for whom they were intended.⁵⁹
- Past CF mechanisms have required that applicants show that negative price shocks were exogenous (i.e., that the shocks were not caused by domestic policies). This can be a difficult thing to prove, which has made CF programs either slow or inaccessible to many (deserving) countries.

iStockphoto



The tobacco paradox^{60, 61}

Under the auspices of its STABEX mechanism, the European Union disbursed millions of Euros in aid to Malawi to help it deal with low earnings from its primary export—tobacco. These payments coincided with an EU-wide anti-smoking campaign, creating a “catch-22” of sorts. Recipient countries were allowed to use STABEX assistance however they chose, with few constraints. In many cases, disbursements went toward general budget support. If Malawi did not use the STABEX disbursements to diversify away from tobacco production, the EU was essentially working at cross purposes, further depressing tobacco prices on the one hand while simultaneously increasing demand for STABEX assistance on the other.

Thanks for your help... STABEX crisis contributes to structural adjustment pain^{62, 63}

Between 1975 and 2000, the European Union disbursed approximately US\$4.4 billion in compensatory finance funds through STABEX. Several countries, including Côte d'Ivoire, became regular recipients. But when commodity prices hit sustained lows in the late 1980s and early 1990s, STABEX suffered from a severe financial crunch, and was only able to cover 40 per cent of eligible claims between 1990 and 1992. The countries that had come to depend on STABEX disbursements were hit hardest. Côte d'Ivoire, a significant producer of two slumping commodities—coffee and cocoa—found itself in particularly dire straits; from 1990 to 1994, the value of Ivorian exports dropped 22 per cent, from US\$4.1 billion to US\$3.2 billion.⁶⁴

In response to the STABEX crisis, the EU began to press Côte d'Ivoire (and other ACP countries) to liberalize its economy. Fresh off the “Cocoa War” debacle (see Box 2), the Ivorian government needed aid to sustain its minimum cocoa price scheme. The World Bank offered Côte d'Ivoire financial assistance, but also demanded the country liberalize its commodity trade. Having no leverage and no alternatives, Côte d'Ivoire acceded to the EU and World Bank demands, embarking on a sweeping program of economic structural adjustment. By 1999, the country had completely disbanded its state commodity structures. In the years that have followed, Ivorian cocoa quality has dropped and the prices received by its cocoa producers has decreased by nearly 10 per cent relative to prices received by producers in Ghana, which resisted the pressure to completely liberalize.⁶⁵

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Policy options (continued)



E. ALTERNATIVE TRADE INITIATIVES

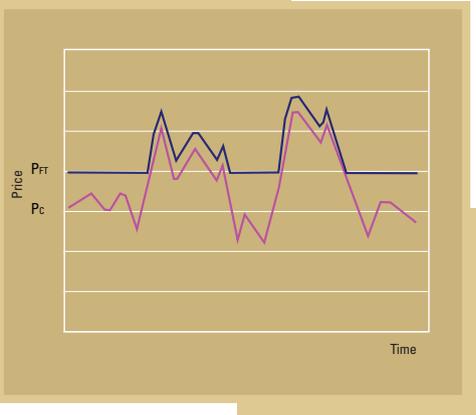
WHAT ARE THEY AND HOW DO THEY WORK?

Standards-based, alternative trade initiatives are programs that allow agricultural producers who meet certain requirements to differentiate their products through a certification mechanism (such as the fair trade or organic labels).

These programs are defined by the specification, monitoring and enforcement of sustainable production and trade practices, and are typically identified by some sort of logo, label or certificate. Labelling helps differentiate the certified product from conventional supply. Ostensibly, each program's conditions will help counter the economic, social and environmental risks faced by producers, and offer them a price premium for the certified products. Some of the best-known initiatives, such as Fair Trade, Organic Certification, Rainforest Alliance and Utz Kapeh, started in the coffee sector, but there are now sustainability standards and/or labelling initiatives operating in most major agricultural commodities.⁶⁶

Alternative trade initiatives have developed in response to the perceived failure of supply management and risk-hedging tools to address the income and social risks borne by agricultural commodity producers. Although these initiatives address risk factors in a variety of ways, one of their most important elements is their stabilizing impact on prices. Depending on the criteria associated with a particular label, the price stabilizing effect can manifest itself in different ways.

The Fair Trade Price Effect



PFT represents the fair trade price vs PC: the conventional market price.

the last decade.⁶⁷ The overriding question however, is how long such growth will last and at what point supply chain initiatives begin to hurt conventional producers by promoting production increases or relegating conventional products to an inferior status. Unfortunately, not much data exist regarding the effects of supply chain initiatives on economic, social and environmental risk factors.

IMPORTANT REQUIREMENTS – A major benefit of standards-based alternative trade initiatives is the product differentiation created through recognized labelling or certifications. For this reason, it is absolutely critical that supply chain initiatives be connected to trusted, independent certification and oversight bodies.

Furthermore, consumer awareness and, by extension, marketing are critical since each new certification program is essentially creating a new market niche for a product. In terms of implementation, to the extent that any initiative specifies pricing targets or minimums, it is critical to build flexibility into the price-setting mechanism; the failure of many national and international supply management schemes have demonstrated the dangers of supporting unrealistic minimum prices.⁶⁸ Finally, appropriate technical assistance and financing will need to be made available on a large scale to smaller disadvantaged producers to prevent their exclusion as sustainable market initiatives become increasingly popular alongside mainstream supply chains.

Fair Trade, for instance, stipulates that buyers pay a minimum price or a social premium if the market price exceeds the minimum. In return, Fair Trade producers and cooperatives are required to invest a portion of the price premium in community development projects. Eco-labels like Organic Certifications and Utz Kapeh, on the other hand, require producers to meet ILO labour standards and the reduction/elimination of chemical inputs (e.g., fertilizers and pesticides). Another eco-label, Rainforest Alliance, also has very specific requirements regarding the density and composition of shade trees. While these eco-label programs do not set minimum prices, their specification of unique production requirements allows them to function as “differentiated” markets which, due to their higher price elasticity, have reduced price volatility. Recommended production practices under many of the alternative trade systems currently in operation, such as shade grown coffee, have also been cited as improving quality and productivity which have the potential to reduce exposure to price volatility more generally.

Despite low overall market shares, sales of certified Fair Trade, Organic and Rainforest Alliance products have maintained annual growth rates of 30–50 per cent over much of

ALTERNATIVE TRADE INITIATIVES

Benefits

- ◆ **Alternative trade initiatives can address a whole range of livelihood risks, not just price risk** (e.g., weather-related risk and threats to production sustainability). These broad impacts help improve farmers' livelihoods as a whole.⁶⁹
- ◆ Fair trade, organic and eco-label initiatives help soften income movements through a combination of minimum prices, price premiums and changing supply/demand dynamics in a given commodity market.⁷⁰
- ◆ Alternative supply chain initiatives can lead to differentiation within a sector, which reduces downstream power in today's buyer-dominated value chains. Further, the more differentiation that occurs, the greater the dampening effect on price movements.
- ◆ Private sector companies are beginning to support the idea of sustainable production and trade relationships. Companies like Starbucks and the Ahold supermarket chain are beginning to support existing supply chain initiatives or start their own programs with producers. Ahold created Utz Kapeh while Starbucks has developed the Starbucks Café Practices initiative, which sets out sustainability criteria for its coffee growers.⁷¹
- ◆ Alternative trade initiatives can improve production quality and supply chain efficiency as well as producer participation in supply chain governance and decision-making.

Drawbacks

- **Standards-based alternative trade initiatives constitute a very small portion of total commodity sales** (i.e., they currently represent only two per cent of global sales of coffee, the most established product in the realm of alternative supply chain programs). Paradoxically, any niche program that goes mainstream will likely cease to be effective at income stabilization.
- Complex and varying certification requirements (e.g., USDA versus EU requirements for organic certification) and the proliferation of competing initiatives can be difficult for developing country producers to navigate effectively.
- Costs related to transitioning production practices, becoming certified and maintaining certification in alternative supply chain initiatives can be quite high and may not be covered by consumer "willingness to pay." Additional costs can lead to an implicit preference for larger, better capitalized production systems.
- The mechanism for setting minimum prices in the fair trade system is currently inflexible; the minimum price and social premium for fair trade cocoa remained constant between 1995 and 2003.
- The proliferation of fair trade systems that offer minimum prices and price premiums as a matter of policy can hurt conventional producers by causing overall production of a given commodity to increase.



Differentiation in the Ugandan coffee sector

Nearly one-quarter of Uganda's population is involved directly or indirectly in coffee production. Between 1996 and 2004, Uganda increased its exports of coffee through alternative supply chain initiatives more than six-fold, from 1,200 to 7,692 60kg bags. A recent survey showed that the premiums earned for coffee exported through these alternative arrangements are significant—between 25 and 35 per cent over prices paid for conventional coffee. However, despite these gains, 2004 exports of alternative coffee only accounted for 0.3 per cent of Uganda's total coffee exports.⁷²

Following in the footsteps of Ethiopia, which recently signed a distribution and licensing deal with Starbucks to recognize Ethiopia's right to control the branding of its high-quality regional coffee, Uganda has also begun the process of branding its coffee by geographical region of production. In May 2007, Starbucks executives met with Ugandan officials to discuss possible sourcing arrangements, such as quality levels. This could be a boon for Ugandan coffee producers, since Starbucks paid an average of 36 per cent over the industry average in 2006 for regionally-branded coffee beans from other African countries.⁷³ Differentiating products through geographic branding has the potential to provide the same dampening effect on price fluctuations as alternative supply chain programs.

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Policy options summary

SUMMARY OF SUPPLY MANAGEMENT

Supply management mechanisms attempt to reduce income risk by directly influencing world prices for a particular commodity. Some supply agreements or authorities may touch on social or environmental risk,⁷⁴ but these are not generally the defining characteristics of supply management. Scalability depends on the goals of the program (e.g., stimulating regional production vs. stabilizing world prices), but most supply management programs require large-scale participation to be successful.

Supply Management

Addresses income risk	Affects price levels	Addresses social risk	Addresses environmental risk	Easily scales up
✓	✓	✗	✗	✓

SUMMARY OF REVENUE MANAGEMENT

Revenue management can help offset income risk at the national level. Similar systems could work for individuals or cooperatives as well. Revenue management mechanisms, such as NRFs, do not affect actual product prices. Nor do they affect social or environmental risk, beyond the indirect impact of more stable incomes.

National Revenue Management

Addresses income risk	Affects price levels	Addresses social risk	Addresses environmental risk	Easily scales up
✓	✗	✗	✗	✓

SUMMARY OF MARKET-BASED RISK MANAGEMENT

Market-based risk management tools can be used to transfer commodity price risk to outside investors. At this point, markets do not exist for mitigating social or environmental risk. However, given intermediaries and products that can overcome the access gap between commodity producers and markets, market-based tools and programs can be highly scalable.

SUMMARY OF COMPENSATORY FINANCE

Compensatory finance mechanisms are externally-funded and attempt to address income stability with reactive loans that help countries ride out periods of low commodity prices. As such, the loans do not directly affect prices or the social and environmental risks faced by commodity producers. In the past, compensatory finance mechanisms have been run by international organizations and focused primarily on national revenue stability.

SUMMARY OF ALTERNATIVE TRADE INITIATIVES

In nearly all cases, alternative trade networks and eco-label certification programs have a stabilizing effect on commodity prices. Fair trade products benefit from an explicit price floor. Many of these programs require specific production practices and labour standards. Some also specify that a portion of profits be used for social programs. Unfortunately, the stabilizing effect only holds while these alternative trade products remain small niches, making these alternative outlets inaccessible to most producers.

Market-based Price Risk Management

Addresses income risk	Affects price levels	Addresses social risk	Addresses environmental risk	Easily scales up
✓	✗	✗	✗	✓

Compensatory Finance

Addresses income risk	Affects price levels	Addresses social risk	Addresses environmental risk	Easily scales up
✓	✗	✗	✗	✗

Alternative Trade Initiatives

Addresses income risk	Affects price levels	Addresses social risk	Addresses environmental risk	Easily scales up
✓	✓	✓	✓	✗

6 Conclusions

Predictable incomes are critical if commodity-dependent countries and producers are to escape the cycle of commodity dependence, which is in turn integral to wider economic stability and poverty reduction. However, the causes of commodity price volatility vary from commodity to commodity and country to country. Even producers in the same sector have distinct risk profiles. Experience has shown that there is no “silver bullet”—no one policy that will address all aspects of commodity price volatility. Instead we need to start thinking about complementary policies that can help achieve the overall goal of more stable incomes.

THE BENEFIT OF EXPERIENCE

There is extensive experience to call upon as we address the problems caused by commodity price volatility. What are the most important lessons we have learned about income stabilization in the past 50 years?

- **We have options that work—under the right circumstances.** ICAs for coffee and tin producers were successful for over 20 years; national supply management has been relatively beneficial in Ghana’s cocoa sector; NRFs have increased revenue stability in Norway, Botswana and Chile; risk hedging has been widely effective in developed countries and shows promise in developing countries; and the alternative trade “market” continues to grow at double-digit rates.

- **Access to knowledge, infrastructure and skills are enduring obstacles.** Many rural commodity producers lack access to infrastructure, information and resources. In many countries, producer groups and cooperatives have not filled the gaps left by the governmental support organizations disbanded during structural adjustment programs.
- **Some things will not change.** Currency regimes will not convert from floating to fixed rates, so relative exchange rates will continue to impact producer and country revenues even if prices are stable. It is unlikely that the World Bank or IMF will support a re-institution of national commodity supply boards. And the idea of price fixing will continue to be greeted with disdain for some time to come.
- **Stabilization interventions can create their own moral hazards and market distortions.** Arguably, reducing the price risk a producer faces will free up resources and create an incentive for the farmer to increase production of the cash crop. If this occurs on a wide scale, it will lead to overproduction which will drive down prices for all producers.



TOWARD (RE-)ENGAGEMENT

Policy-makers must address the risks facing commodity-dependent countries and producers. Thoughtful, decisive action is necessary now more than ever if the international community is indeed committed to reducing poverty. Taking the following considerations into account will help ensure that future policy responses are more coherent and successful than in the past:

1. **Look for complementary policies.** The goal should be to gain incremental benefits from several different policy tools. For instance, governments or other intermediaries can conceivably combine supply management and market-based risk-hedging tools. This would allow the government or agent to offer a comprehensive system of price guarantees based on some combination of forward, futures and/or options contracts on one of the major commodities markets.
2. **Engage stakeholders at all levels.** Diversification and long-term planning is ultimately up to the individual producers, but creating the incentives and environment that allow for individual choice requires concerted action at the local, national and international levels.
3. **Do not underestimate the importance of the private sector.** Given trends toward corporate consolidation and shifting power in supply chains, private sector action will be imperative to addressing livelihood insecurities among commodity producers. Private sector companies have the ability to serve as intermediaries between producers and risk management tools, such as derivative markets and alternative supply chain programs.
4. **Keep it simple.** Experience has shown that the most effective programs are the ones that are easy to access and simple to administer. Ideas like offering risk-hedging tools as part of physical contracts for inputs that farmers must purchase anyway holds promise in this regard.
5. **Address the potential moral hazard by integrating income stabilization into a wider rural development or diversification program.** This will help ensure that increased income stability will not result in increasing production of a single commodity and lower overall welfare.
6. **Build flexibility into programs.** Policies that do not take into account changes in long-term market realities do not last. Program goals must be realistic, recognizing that the best long-term strategy may very well be diversification out of a region's traditional commodity.
7. **Ensure that the reach of the implementing agent matches the scope of a policy's goals.** Many good ideas have failed principally due to the absence of the necessary supporting institutions and credible actors.

ANNEX 1

Annex 1: Key terms

Arabica Coffee – *Coffea arabica* is considered to produce better coffee than the other major commercially grown coffee species, *Coffea canephora (robusta)*, and demands a higher price at market. It is generally grown at high altitudes in semi-tropical climates.

Asian option – An option whose payoff depends on the average price of the underlying asset over a certain period of time. These types of option contracts are attractive because they tend to cost less than regular American options.

Call option – A call option is a contract that gives the bearer the right to buy a share at a given price. Usually these options expire after a certain date.

Dutch Disease – The adverse effect on a country's other industries that occurs when one industry substantially expands its exports, causing a real appreciation of the country's currency (making the other industries less competitive). Named after the effects of natural gas discoveries in the Netherlands, and most

commonly applied to effects of exports in natural resource extractive industries on manufacturing.

Export quota – A limit on the amount of a particular item that may be exported during a given period of time, sometimes used to enforce a country's obligation under an international supply agreement.

Free rider – Actors who benefit from a resource, service or policy change without paying their fair share of the costs of providing and managing it, not necessarily illegally. In the case of supply management, free riding can become a problem when a new producer enters the market outside of a supply agreement to take advantage of favourable prices achieved through the supply agreement.

Futures – A type of derivative, a futures contract commits the user to buying or selling an asset at a specified price on a specific date in the future. Futures are traded through organized exchanges, differentiating them from forward contracts, which are not traded through exchanges.

Marketing/commodity board – A centralized organization created by a country's government to control production and export of one or more commodities.

Pro-cyclical – An action that moves in the same direction as GDP is referred to as pro-cyclical. Economic aid, such as compensatory finance grants/loans, is considered to be pro-cyclical if it arrives after the recipient economy has recovered from a shock the aid was intended to address.

Product differentiation – The distinguishing of substitute products from one another by advertising and the like. Whereas buyers of a homogeneous product regard the output of any particular seller as identical in all respects to that of all other producers of that product, the seller of a “differentiated” product enjoys a favoured position over its rivals, in that the buyers consider it a superior product and are willing to pay a “premium” price for it rather than accept the substitutes offered by those rivals.

Put option – An option contract that gives the holder the right to sell a certain quantity of an underlying security to the writer of the option, at a specified price (strike price) up to a specified date (expiration date).

Risk hedging – Deliberately taking on a new risk that offsets an existing one, such as your exposure to an adverse change in an exchange rate, interest rate or commodity price.



Diversification, use of derivatives and “natural” hedges constitute risk-hedging strategies.

Robusta Coffee – The alternative to Arabica coffee beans, Robusta beans produce are used by most large commercial roasters in low grade coffee. Robusta trees can grow in a wider range of environmental conditions than Arabica trees.

Structural adjustment – A program of policies designed to change the structure of an economy. Usually, the term refers to adjustment towards a market economy, under a program approved by the IMF and/or World Bank, which often supply structural adjustment funds to ease the pain of transition.

Structural oversupply – A chronic mismatch between supply and demand in which high up-front costs and low operating costs create incentives for producers to increase production of a good when prices are high but not to decrease production when prices are low. For instance, a rubber farmer may plant more trees when prices are high. Planting the new trees, which do not become productive for five years, is expensive while harvesting the rubber is relatively cheap. The farmer will generally continue to harvest the rubber during periods of low prices, as long as he is covering operating costs.

Subsidy – Money paid, usually by a government, to keep prices below what they would be in a free market, or to keep alive businesses that would otherwise go bust, or to make activities happen that otherwise would not take place. Subsidies can be a form of protectionism by making domestic goods and services artificially competitive against imports. By distorting markets, they can impose large economic costs.

Terms of trade – The weighted average of a country’s export prices relative to its import prices.

Tradable quota – A system of production or export limits that could be bought and sold by producers (or producing countries). In theory, the system limits production/export to the desired overall amount while allowing the most efficient producers to buy production “rights” from less efficient producers.

Value chain – The set of activities that one or more parties completes to transform raw inputs into retail goods. The value chain typically consists of one or a few primary value (product or service) suppliers and many other suppliers that add on to the value that is ultimately presented to the buying public.

Virtual buffer stock – A buffer stock scheme is a form of intervention to try to stabilize the price of a commodity. Stocks of the commodity are kept and sold when the price is high to try to reduce it. When the price is low further stocks of the commodity are bought to decrease the supply available on the market. A “virtual” buffer stock is a new spin on the buffer stock approach in which the entity controlling the central buffer stock does not physically take control of and store the purchased inventory. Instead, individual producers would store the inventory until prices increased, at which point the producers could sell the inventory and reimburse the central buffer authority. In theory, such a system could respond more quickly to supply and demand changes while avoiding the need for expensive central storage facilities and transportation.

Zero cost option – A combination of option purchase and option writing. The price of the written option (premium) is the same as the price (premium) paid for the option that is purchased, so the net cost is zero.

ANNEX 2

Annex 2: Policy papers and case studies

The complete set of policy papers and country case studies can be accessed on IISD's Web site at the following URL:

<http://www.iisd.org/markets/policy/price.asp>

BACKGROUND PAPER

Boom or Bust: Developing countries' rough ride on the commodity price rollercoaster

– Oli Brown and Jason Gibson

POLICY PAPERS

Supply Management: Options for commodity income stabilization

– Thomas Lines

Market-based Price Risk Management: An exploration of commodity income stabilization options for coffee farmers

– Lamon Rutten and Frida Youssef

Alternative Trade Initiatives and Income Predictability: Theory and evidence from the coffee sector

– Jason Potts

National Revenue Funds: Their efficacy for fiscal stability and intergenerational equity

– Samuel G. Asfaha

Compensatory Finance: Options for tackling the commodity price problem

– Adrian Hewitt

COUNTRY CASE STUDIES

Consistently Inconsistent: Addressing income volatility among cocoa producers in Ghana and Côte d'Ivoire

– Jason Gibson

Commodity Revenue Management: Coffee and cotton in Uganda

– Moses Masiga and Alice Ruhweza

Tobacco Revenue Management: Malawi case study

– Nelson Nsiku and Willings Botha

Commodity Revenue Management: India's rapeseed/mustard oil sector

– N.C. Pahariya and Chandan Mukherjee

Commodity Income Management: Selected Southeast Asian economies

– Hank Lim and Lim Tai Wei

Commodity Revenue Management: The case of Chile's copper boom

– Alejandra Ruiz-Dana

Price Volatility in the Cotton Yarn Industry: Lessons from India

– Vijaya Switha Grandhi and Alec Crawford



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- ⁹ Bourguignon, François, Sylvie Lambert and Akiko Suwa-Eisenmann. 'Trade exposure and income volatility in cash-crop exporting developing countries' 1 September 2004. European Review of Agricultural Economics. 31:3, p. 386.
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- ¹⁴ Price difference calculated from data in Yamey, Basil S. 'The tin crisis (1985-86) and futures trading' 1992. Economic Record.
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- ¹⁶ From the London Metals Exchange, cash buyer price as of June 2007. <<http://www.lme.com>>
- ¹⁷ Cotton and tea are notable exceptions. Data from the World Bank.
- ¹⁸ Spence, John. 'Morgan Stanley Economist sounds commodity alarm' Market Watch, 18 May 2006.
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- ⁵² Ibid., p. 24.
- ⁵³ Gibbon (2005), p. 12.
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- ⁶³ See Gibson 2007.
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- ⁶⁵ This is estimated based on a lost premium of GBP 60, reported in 2002, and world price per tonne of approximately US\$1,800 in the same year. Price premium information reported in: Fold, Niels 'Lead Firms and Competition in 'Bi-polar' Commodity Chains: Grinders and Branders in the Global Cocoa-chocolate Industry' April 2002. *Journal of Agrarian Change*. 2:2. p. 231.
- ⁶⁶ For example: The Roundtable on Sustainable Palm Oil, The Roundtable on Responsible Soy; The Better Cotton Initiative; Forest Stewardship Council; Marine Stewardship Council; not to mention the various "multi-commodity" labels such as Organic, Fair Trade, EurepGap and Rainforest Alliance.

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⁶⁷ Potts, Jason. *Alternative Trade Initiatives and Income Predictability: Theory and evidence from the coffee sector* July 2007. Geneva: International Institute for Sustainable Development. p. 5
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⁶⁸ The Fair Trade labelling system as managed under Fair Trade Labelling Organizations International has also displayed some of the dangers of running a system based on rigid pricing structures. At present more than 50 per cent of all Fair Trade coffee is supplied by three countries on account of the implicit quality requirements associated with the fixed pricing mechanism for coffee.

⁶⁹ Ibid., p. 25.

⁷⁰ Ibid., p. 19.

⁷¹ Ibid., pp. 11-12.

⁷² Masiga, Moses and Alice Ruhweza. *Commodity Revenue Management: Coffee and Cotton in Uganda* 2007. Geneva: International Institute for Sustainable Development. p. 11. <<http://www.iisd.org/trade/commodities/price.asp>>

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BOOMORBUST



More than two billion people depend on the production of primary commodities like rice, copper and cotton. But the prices of these commodities are highly volatile, fluctuating by as much as 50 per cent in a single year. This instability complicates financial planning and environmental management, can deepen commodity dependence and widen existing inequalities. It's a precarious situation for commodity-dependent countries and producers.

The difficulties caused by commodity price volatility have been recognized for decades. It is a serious problem, but not a hopeless one. The basic tools necessary to help commodity producers secure more predictable incomes are better understood than ever before, and some innovative variations are being developed. This publication looks in detail at the experience, problems and promise of five different types of intervention: supply management; national revenue management; market-based price risk management; compensatory finance; and alternative trade initiatives. While there may be no easy solution, there are new approaches to deal with this enduring problem.

