

The Global Economic Crisis:

Systemic Failures and
Multilateral Remedies



UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

The Global Economic Crisis: Systemic Failures and Multilateral Remedies

Report by the UNCTAD Secretariat Task Force on
Systemic Issues and Economic Cooperation



UNITED NATIONS

New York and Geneva, 2009

Note

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Material in this publication may be freely quoted or reprinted, but acknowledgement is requested, together with a reference to the document number. A copy of the publication containing the quotation or reprint should be sent to the UNCTAD secretariat.

| |
|------------------------------|
| UNCTAD/GDS/2009/1 |
| UNITED NATIONS PUBLICATION |
| <i>Sales no. E.09.II.D.4</i> |
| ISBN 978-92-1-112765-2 |

Copyright © United Nations, 2009
All rights reserved

Key messages

UNCTAD's longstanding call for stronger international monetary and financial governance rings true in today's crisis, which is global and systemic in nature. The crisis dynamics reflect failures in national and international financial deregulation, persistent global imbalances, absence of an international monetary system and deep inconsistencies among global trading, financial and monetary policies.

National and multilateral remedies

- **Market fundamentalist *laissez-faire* of the last 20 years has dramatically failed the test. Financial deregulation created the build-up of huge risky positions whose unwinding has pushed the global economy into a debt deflation that can only be countered by government debt inflation:**
 - *The most important task is to break the spiral of falling asset prices and falling demand and to revive the financial sector's ability to provide credit for productive investment, to stimulate economic growth and to avoid deflation of prices. The key objective of regulatory reform has to be the systematic weeding out of financial sophistication with no social return.*
- **Blind faith in the efficiency of deregulated financial markets and the absence of a cooperative financial and monetary system created an illusion of risk-free profits and licensed profligacy through speculative finance in many areas:**
 - *This systemic failure can only be remedied through comprehensive reform and re-regulation with a vigorous role by Governments working in unison. Contrary to traditional views, Governments are well positioned to judge price movements in those markets that are driven by financial speculation and should not hesitate to intervene whenever major disequilibria loom.*
- **The growing role and weight of large-scale financial investors on commodities futures markets have affected commodity prices and their volatility. Speculative bubbles have emerged for some commodities during the boom and have burst after the sub-prime shock:**
 - *Regulators need access to more comprehensive trading data in order to be able to understand what is moving prices and intervene if certain trades look problematic, while key loopholes in regulation need to be closed to ensure that positions on currently unregulated over-the-counter markets do not lead to "excessive speculation".*
- **The absence of a cooperative international system to manage exchange rate fluctuations has facilitated rampant currency speculation and increased the global imbalances. As in Asia 10 years ago, currency speculation and currency crisis has brought a number of countries to the verge of default and dramatically fuelled the crisis:**
 - *Developing countries should not be subject to a "crisis rating" by the same financial markets which have created their trouble. Multilateral or even global exchange rate arrangements are urgently needed to maintain global stability, to avoid the collapse of the international trading system and to pre-empt pro-cyclical policies by crisis-stricken countries.*

Global economic decision-making

- **The crisis has made it all too clear that globalization of trade and finance calls for global cooperation and global regulation. But resolving this crisis and avoiding its recurrence has implications beyond the realm of banking and financial regulation, going to the heart of the question of how to revive and extend multilateralism in a globalizing world.**
- **The United Nations must play a central role in guiding this reform process. It is the only institution which has the universality of membership and credibility to ensure the legitimacy and viability of a reformed governance system. It has proven capacity to provide impartial analysis and pragmatic policy recommendations in this area.**

Contents

| | |
|--|-----|
| Key messages | iii |
| Foreword by the Secretary-General of UNCTAD | ix |
| Executive summary | xi |
| Chapter I – A crisis foretold | 1 |
| A. Introduction | 1 |
| B. What went wrong: blind faith in the efficiency of financial markets | 1 |
| C. What made it worse: global imbalances and the absent international monetary system | 4 |
| D. What should have been anticipated: the illusion of risk-free greed and profligacy | 8 |
| Chapter II – Financial regulation: fighting today’s crisis today | 11 |
| A. It was not supposed to end like this | 11 |
| 1. Financial efficiency and gambling | 12 |
| 2. Avoiding regulatory arbitrage and the role of securitization | 13 |
| 3. Micro and macro prudential bank regulation | 16 |
| 4. The need for international coordination | 17 |
| 5. Financial regulation and incentives | 17 |
| B. Lessons for developing countries | 18 |
| 1. Financial development requires more and better regulation | 19 |
| 2. There is no one-size-fits-all financial system | 20 |
| C. Conclusion: closing down the casino | 20 |
| Chapter III – Managing the financialization of commodity futures trading | 23 |
| A. Introduction: commodity markets and the financial crisis | 23 |
| B. The growing presence of financial investors in commodity markets | 25 |
| C. The financialization of commodity futures trading | 26 |
| D. Financialization and commodity price developments | 32 |
| E. The implications of increased financial investor activities for commercial users of commodity futures exchanges | 35 |
| F. Policy implications | 36 |
| 1. Regulation of commodity futures exchanges | 36 |
| 2. International policy measures | 37 |
| G. Conclusions | 38 |
| Chapter IV – Exchange rate regimes and monetary cooperation | 41 |
| A. Introduction: currency speculation and financial bubbles | 41 |
| B. The history of different exchange rate regimes is of a series of failures | 44 |
| C. Global exchange rate management, trade and investment | 47 |
| D. Currency crisis prevention and resolution | 50 |
| E. A multilateral approach to global exchange rate management | 51 |
| F. Conclusion | 54 |
| Chapter V – Towards a coherent effort to overcome the systemic crisis | 55 |
| A. More and better coordinated countercyclical action is needed | 55 |
| B. The State is back but national action is not sufficient | 57 |
| 1. Preventing the competition of nations | 57 |
| 2. Intervention in financial markets is indispensable | 58 |
| C. No “crisis solution” by markets | 59 |
| References | 61 |

List of figures, tables and boxes

| | |
|--------------------|---|
| Box 1.1 | Is Greenspan's monetary policy to blame? |
| Figure 1.1 | Household savings, 1980–2009 |
| Figure 1.2 | Global current-account balance, 1990–2008 |
| Box 1.2 | Is the savings glut responsible? |
| Figure 2.1 | Leverage of top 10 United States financial firms by sector |
| Figure 2.2 | The shadow banking system, 2007, Q2 |
| Figure 2.3 | Outstanding credit default swaps, gross and net notional amount |
| Figure 2.4 | Equity market dollar returns, 2008 |
| Figure 2.5 | Emerging market spread, January 2007–December 2008 |
| Figure 3.1 | Commodity price changes, 2002–2008 |
| Figure 3.2 | Futures and options contracts outstanding on commodity exchanges, December 1993–December 2008 |
| Figure 3.3 | Notional amount of outstanding over-the-counter commodity derivatives, December 1998–June 2008 |
| Figure 3.4 | Correlations between the exchange rates of selected countries and equity and commodity price indices, June 2008–December 2008 |
| Table 3.1 | Commodity futures trading behaviour: traditional speculators, managed funds and index traders |
| Table 3.2 | Futures and options market positions, by trader group, selected agricultural commodities, January 2006–December 2008 |
| Figure 3.5 | Commodity futures prices and financial positions, selected commodities, January 2002–December 2008 |
| Figure 4.1 | Yen-carry trade on Icelandic krona and the Brazilian real since 2005, overlapping quarterly returns |
| Box 4.1 | Fixed exchange rate regimes and the overvaluation trap |
| Box 4.1 figure B.1 | Experiences with fixed exchange rate regimes, selected economies, 1994–2006 |
| Box 4.2 figure B.2 | Overvaluation trap and current account effects in Argentina |
| Figure 4.2 | Volatility of REER, PEER and NEER changes, selected country groups, simple averages, 1993–2008 |
| Figure 4.3 | Interest rates, selected countries, January 2007–December 2008 |
| Figure 4.4 | Example of a currency system with “planets” and “satellites” |

Abbreviations

| | |
|----------|--|
| BIS | Bank for International Settlements |
| CBOT | Chicago Board of Trade |
| CDO | collateralized debt obligations |
| CDS | Credit Default Swaps |
| CEA | Commodity Exchange Act |
| CEBS | Committee of European Banking Supervisors |
| CESR | Committee of European Securities Regulators |
| CITs | commodity index traders |
| CFTC | Commodity Futures Trading Commission |
| COT | Commitments of Traders |
| DJ-AIGCI | Dow Jones-American International Group Commodity Index |
| ECB | European Central Bank |
| FED | Federal Reserve System |
| FSA | Financial Services Authority |
| GDP | gross domestic product |
| ICE | Intercontinental Exchange |
| IMF | International Monetary Fund |
| LTCM | Long-term Capital Management |
| OTC | over-the-counter |
| NEER | nominal effective exchange rate |
| PEER | price component of REER (PEER=NEER/REER) |
| PPP | purchasing power parity |
| REER | real effective exchange rate |
| RMBS | residential mortgage-backed securities |
| SIVs | Structured Investment Vehicles |
| S&P GSCI | Standard & Poor's Goldman Sachs Commodity Index |

Foreword by the Secretary-General of UNCTAD

The global deleveraging that first hit the world economy in mid-2007 and that accelerated in autumn 2008 could not have been possible without the rare coincidence of a number of market failures and triggers, some reflecting fundamental imbalances in the global economy and others specific to the functioning of sophisticated financial markets. Chief among these “systemic” factors were the full-fledged deregulation of financial markets and the increased sophistication of speculation techniques and financial engineering. Other determinants were also at play, particularly the systemic incoherence among the international trading, financial and monetary systems, not to mention the failure to reform the global financial architecture. Most recently, the emergence of new and powerful economic actors, especially from the developing countries, without the accompanying reform needed in the framework governing the world economy, accentuated that incoherence.

For many years, even when the global economic outlook was much more positive than today, UNCTAD stressed the need for systemic coherence. It has regularly highlighted the shortcomings of the international economic system and has defied mainstream economic theory in its justification of financial liberalization without a clear global regulatory framework. UNCTAD has drawn attention to the fact that the world economy was overshadowed by serious trade imbalances and has questioned how they could be corrected without disrupting development. We have warned that, in the absence of international macroeconomic policy coordination, the correction could take the form of a hard landing and sharp recession. In recent years, we noted the growing risk that the real economy could become hostage to the whims and volatility of financial markets. Against this background, UNCTAD has always argued in favour of stronger international monetary and financial governance.

A better understanding is required of how lack of proper financial regulation set the scene for increasingly risky speculative operations in commodities and currency markets and of how across-the-board financial deregulation and liberalization have contributed to global imbalances. In doing so, a clearer vision may emerge of how these and other systemic shortcomings can only be remedied by vigorous reform of the international monetary and financial systems through broad-based multilateral cooperative processes and mechanisms that strengthen the role of developing countries in global governance.

Against this backdrop, I established in October 2008 an UNCTAD interdivisional Task Force on Systemic Issues and Economic Cooperation, chaired by the Director of the Division on Globalization and Development Strategies. This group of UNCTAD economists was tasked with examining the systemic dimensions of the crisis and with formulating proposals for policy action nationally and multilaterally. Needless to say, the development dimension and the appropriate responses are at the forefront of UNCTAD’s concerns and the issues addressed in this report were identified with that in mind.

There can be no doubt that, apart from the need to strengthen financial regulation at the national level, the current problems of the global economy require global solutions. The United Nations must play a central role in this reform process, not only because it is the only institution which has the universality of membership and credibility to ensure the legitimacy and viability of a reformed governance system, but also because it has proven capacity to provide impartial analysis and pragmatic policy recommendations in this area.



Supachai Panitchpakdi
Secretary-General of UNCTAD

Executive summary

The global economic crisis has yet to bottom out. The major industrial economies are in a deep recession, and growth in the developing world is slowing dramatically. The danger of falling into a deflationary trap cannot be dismissed for many important economies. Firefighting remains the order of the day, but it is equally urgent to recognize the root causes for the crisis and to embark on a profound reform of the global economic governance system.

To be sure, the drivers of this crisis are more complex than some simplistic explanations pointing to alleged government failure suggest. Neither “too much liquidity” as the result of “expansionary monetary policy in the United States”, nor a “global savings glut” serves to explain the quasi-breakdown of the financial system. Nor does individual misbehaviour. No doubt, without greed of too many agents trying to squeeze double-digit returns out of an economic system that grows only in the lower single-digit range, the crisis would not have erupted with such force. But good policies should have anticipated that human beings can be greedy and short-sighted. The sudden unwinding of speculative positions in practically all segments of the financial market was triggered by the bursting of the United States housing price bubble, but all these bubbles were unsustainable and had to burst sooner or later. For policymakers who should have known better to now assert that greed ran amok or that regulators were “asleep at the wheel” is simply not credible.

Financial deregulation driven by an ideological belief in the virtues of the market has allowed “innovation” of financial instruments that are completely detached from productive activities in the real sector of the economy. Such instruments favour speculative activities that build on apparently convincing information, which in reality is nothing other than an extrapolation of trends into the future. This way, speculation on excessively high returns can support itself – for a while. Many agents disposing of large amounts of (frequently borrowed) money bet on the same “plausible” outcome (such as steadily rising prices of real estate, oil, stocks or currencies). As expectations are confirmed by the media, so-called analysts and policymakers, betting on ever rising prices appears rather risk-free, not reckless.

Contrary to the mainstream view in the theoretical literature in economics, speculation of this kind is not stabilizing; on the contrary, it destabilizes prices. As the “true” price cannot possibly be known in a world characterized by objective uncertainty, the key condition for stabilizing speculation is not fulfilled. Uniform, but wrong, expectations about long-term price trends must sooner or later hit the wall of reality, because funds have not been invested in the productive capacity of the real economy, where they could have generated increases in real income. When the enthusiasm of financial markets meets the reality of the – relatively slow-growing – real economy, an adjustment of exaggerated expectations of actors in financial markets becomes inevitable.

In this situation, the performance of the real economy is largely determined by the amount of outstanding debt: the more economic agents have been directly involved in speculative activities leveraged with borrowed funds, the greater the pain of deleveraging, i.e. the process of adjusting the level of borrowing to diminished revenues. As debtors try to improve their financial situation by selling assets and cutting expenditures, they drive asset prices further down, cutting deeply into profits of companies and forcing new “debt-deflation” elsewhere. This can lead to deflation of prices of goods and services as it constrains the ability to consume and to invest in the economy as a whole. Thus, *the attempts of some actors to service their debts make it more difficult for others to service their debts*. The only way out is government intervention to stabilize the system by “government debt inflation”.

* * *

It is instructive to recall the end of the Bretton Woods system, under which the world had enjoyed two decades of prosperity and monetary stability. Since then, the frequency and size of

imbalances and of financial crises in the world economy have dramatically increased, culminating in the present one. Since current-account imbalances are mirrored by capital account imbalances, they serve to spread quickly the financial crisis across countries. Countries with a current-account surplus have to credit the difference between their export revenue and their import expenditure to deficit countries, in one form or another. The dramatic increase of debtor–creditor relations between countries also has to do with the way in which developing economies emerging from financial crises since the mid-1990s tried to shelter against the cold winds of global capital markets.

Financial losses in the deficit countries or the inability to repay borrowed funds then directly feed back to the surplus countries and imperil their financial system. This channel of contagion has particularly great potency in today’s world, with its glaring lack of governance of international monetary and financial relations. Another important reason for growing imbalances is movements of relative prices in traded goods as a result of speculation in currency and financial markets, which leads to considerable misalignments of exchange rates. Speculation in currency markets due to interest rate differentials has led to overspending in the capital-receiving countries that is now unwinding. With inward capital flows searching for high yield, the currencies of capital-receiving countries (with higher inflation and interest rates) appreciated in nominal and in real terms, leading to large movements in the absolute advantages or the level of overall competitiveness of countries vis-à-vis other countries.

The growing disconnection of the movements of nominal exchange rates with the “fundamentals” (mainly the inflation differential between countries) has been a main cause of the growing global imbalances. For rising economic welfare to be sustainable, it has to be shared without altering the relative competitive positions of countries. Companies gaining market shares at the expense of other companies are an essential ingredient of the market system. But if nations gain at the expense of other nations because of their superior competitive positions, dilemmas can hardly be avoided. If the “winning” nations are not willing to allow a full rebalancing of competitive positions over the long run, they force the “loser” nations into default. This is a phenomenon that J. M. Keynes some 80 years ago called the “transfer problem”; its logic is still valid.

In addition to all these factors, overshooting of commodity prices led to the emergence of – partly very large – current-account surpluses in commodity-exporting countries over the past five years. When the “correction” came, however, the situation of many commodity producers in the poorer and smaller developing countries rapidly deteriorated. There is growing evidence that financialization of commodities futures markets played an important role in the scale and degree of market volatility. Prices in many physical markets for commodities can be driven up by the mere fact that everybody expects higher prices, an expectation that may itself be the result of futures prices that are driven up by shifts of speculative power between financial markets, commodity futures and currency markets.

* * *

The global financial crisis arose amidst the failure of the international community to give the globalized economy credible global rules, especially with regard to international financial relations and macroeconomic policies. The speculative bubbles, starting with the United States housing price bubble, were made possible by an active policy of deregulating financial markets on a global scale, widely endorsed by Governments around the world. The spreading of risk and the severing of risk – and the information about it – were promoted by the use of “securitization” through instruments such as residential mortgages-backed securities that seemed to satisfy investors’ hunger for double-digit profits. It is only at this point that greed and profligacy enter the stage. In the presence of more appropriate regulation, expectations on returns of purely financial instruments in the double-digit range would not have been possible.

With real economic growth in most developed countries at under 5 per cent, such expectations are misguided from the beginning. It may be human nature to suppress frustrations of the past, but

experts, credit rating agencies, regulators and policy advisors know that everybody cannot gain above average and that the capacity of the real economy to cope with incomes earned from exaggerated real estate and commodity prices or misaligned exchange rates is strictly limited. The experience with the stock market booms of the “new economy” should have delivered that lesson, but instead a large number of financial market actors began to invest their funds in hedge funds and “innovative financial instruments”. These funds needed to ever increase their risk exposure for the sake of higher yields, with more sophisticated computer models searching for the best bets, which actually added to the opaqueness of many instruments. It is only now, through the experience of the crisis, that the relevance of real economic growth and its necessary link to the possible return on capital is slowly coming to be understood by many actors and policymakers.

The crisis has made it all too clear that globalization of trade and finance calls for global cooperation and global regulation. But resolving this crisis and avoiding similar events in the future has implications beyond the realm of banking and financial regulation, going to the heart of the question of how to revive and extend multilateralism in a globalizing world.

* * *

In financial markets, the similarity of the behaviour of many financial market participants and the limited amount of information that guides their behaviour justify considerably greater government intervention. Contrary to atomistic goods and services markets and the colossal quantity of independent data that help form prices, most of the information that determines the behaviour of speculators and hedgers is publicly accessible and the interpretation of these data follows some rather simple explanatory patterns. Neither market participants nor Governments can know equilibrium prices in financial markets. But this is not a valid argument against intervention, as we have learnt now that financial market participants not only have no idea about the equilibrium, but their behaviour tends to drive financial prices systematically away from equilibrium. Governments do not know the equilibrium either, but at some point they are the best positioned to judge when the market is in disequilibrium, especially if functional/social efficiency is to be the overriding criterion of regulation.

If the failure of financial markets has shattered the naïve belief that unfettered financial liberalization and deliberate non-intervention of Governments will maximize welfare, the crisis offers an opportunity to be seized. Governments, supervisory bodies and international institutions have a vital role, allowing society at large to reap the potential benefits of a market system with decentralized decision-making. To ensure that atomistic markets for goods and for services can function efficiently, consistent and forceful intervention in financial markets is necessary by institutions with knowledge about systemic risk that requires quite a different perspective than the assessment of an individual investor’s risk. Market fundamentalist *laissez-faire* of the last 20 years has dramatically failed the test. A new start in financial market regulation needs to recognize inescapable lessons from the crisis, such as:

- Financial efficiency should be defined as the sector’s ability to stimulate long-term economic growth and provide consumption smoothing services. A key objective of regulatory reform is to devise a system that allows weeding out financial instruments which do not contribute to functional, or social, efficiency;
- Regulatory arbitrage can only be avoided if regulators are able to cover the whole financial system and ensure oversight of all financial transactions on the basis of the risk they produce;
- Micro-prudential regulation must be complemented with macro-prudential policies aimed at building up cushions during good times to avoid draining liquidity during periods of crisis;
- In the absence of a truly cooperative international financial system, developing countries can increase their resilience to external shocks by maintaining a competitive exchange rate and limiting currency and maturity mismatches in both private and public balance sheets. If

everything else fails, back-up policies, such as market-friendly capital controls, can limit risk accumulation in good times;

- Developing countries regulators should develop their financial sectors gradually in order to avoid the boom-and-bust cycle;
- Regulators based in different countries should share information, aim at setting similar standards and avoid races to the bottom in financial regulation.

As for the growing presence of financial investors on commodity futures exchanges, several immediate areas are suggested for improved regulation and global cooperation:

- Comprehensive trading data reporting is needed in order to monitor information about sizeable transactions in look-alike contracts that could impact regulated markets, so that regulators can understand what is moving prices and intervene if certain trades look problematic;
- Effective regulatory reform should also close the swap dealer loophole to enable regulators to counter unwarranted impacts from over-the-counter markets on commodity exchanges. Therefore, regulators should be enabled to intervene when swap dealer positions exceed speculative position limits and may represent “excessive speculation”;
- Another key regulatory aspect entails extending the product coverage of detailed position reports of United States-based commodity exchanges and requiring non-United States exchanges that trade look-alike contracts to collect similar data. Stepped-up authority would allow regulators to prevent bubble-creating trading behaviour from having adverse consequences for the functioning of commodity futures trading;
- Renewed efforts are needed to design a global institutional arrangement supported by all concerned nations, consisting of a minimum physical grain reserve (to stabilize markets and to respond to emergency cases and humanitarian crises) as well as an intervention mechanism. Intervention in the futures markets should be envisaged when a competent global institution considers market prices to differ significantly from an estimated dynamic price band based on market fundamentals. The global mechanism should be able to bet against the positions of hedge funds and other big market participants, and would assume the role of “market maker”.

In a globalized economy, interventions in financial markets call for cooperation and coordination of national institutions, and for specialized institutions with a multilateral mandate to oversee national action. In the midst of the crisis, this is even more important than in normal times. The tendency of many Governments to entrust to financial markets again the role of judge or jury in the reform process – and, indeed, over the fate of whole nations – would seem inappropriate. It is indispensable to stabilize exchange rates by direct and coordinated government intervention, supported by multilateral oversight, instead of letting the market find the bottom line and trying to “convince” financial market participants of the “credibility of policies” in the depreciating country, which typically involves pro-cyclical policies such as public expenditure cuts or interest rate hikes.

The problems of excessive speculative financial activity have to be tackled in an integrated fashion. For example, dealing only with the national aspects of re-regulation to prevent a recurrence of housing bubbles and the creation of related risky financial instruments assets would only intensify speculation in other areas such as stock markets. Preventing currency speculation through a new global monetary system with automatically adjusted exchange rates might redirect the speculation searching for quick gains towards commodities futures markets and increase volatility there. The same is true for regional success in fighting speculation, which might put other regions in the spotlight of speculators. Nothing short of closing down the big casino will provide a lasting solution.

Chapter I

A crisis foretold

A. Introduction

The global economic crisis, which first emerged as a financial crisis in one country, has now fully installed itself with no bottom yet in sight. The world economy is in a deep recession, and the danger of falling into a deflationary trap cannot be dismissed for many important countries. Firefighting remains the order of the day, but the urgent search for means to prevent the global economy from falling over the precipice must not be at the expense of a sober analysis of the reasons for the crisis, even in the short term.

The following chapters highlight three specific areas in which the global economy experienced systemic failure. While there are many more facets to the crisis, UNCTAD examines here some of those that it considers to be the core areas to be tackled immediately by international economic policy-makers because they can only be addressed through recognition of their multilateral dimensions. This report investigates three interrelated issues of importance to developed and developing countries alike, and proposes measures to address the systemic failures they have entailed:

- (a) how the ideology of financial deregulation within and across nations allowed the build-up of pressures whose unwinding has damaged the credibility and functioning of the market-based models that have underpinned financial development throughout the world;
- (b) how the growing role of large-scale financial investors on commodities futures markets has affected commodity price volatility and fed speculative bubbles; and
- (c) the role of widespread currency speculation in exacerbating global imbalances and fuelling the current crisis in the absence of a cooperative international system to manage exchange rate fluctuations to the benefit of all nations.

B. What went wrong: blind faith in the efficiency of financial markets

To be sure, the causes of the crisis are more complex than some simplistic explanations based on government failure suggest. For example, if it were true that “too much liquidity” as the result of “expansionary monetary policy in the United States” was responsible for the crisis, the attempt to fight the short-term crisis with a new wave of cheap liquidity would amount to throwing oil on the fire (see box 1.1). The same is true for individual misbehaviour. No doubt, without greed, without the attempt of too many agents to squeeze double-digit returns out of an economic system that grows only in the lower single-digit range, the crisis would not have erupted with such force. But good policies should have anticipated that human beings can be greedy and short-sighted. Many people, if promised 25 per cent return on equity (or a paradise on earth) tend to believe it possible without posing critical questions about individual risk and much less about the risk of systemic failure. Such behaviour has been evident time and again in modern history and it always ended in economic downturn and crash. The problem is much more that policy makers forget the lessons of the past and are easily seduced by the idea that the economic system could care for itself.

Mainstream economic theory of the past decades even suggested that efficient financial markets would smoothly and automatically solve the most complex and enduring economic problem, namely the transformation of today’s savings into tomorrow’s investment. It assumed that efficient financial markets were sufficient to convince some people to put money aside and others to invest it into the future despite the fact that in the real world the investor is faced by “objective uncertainty”

(Keynes, 1930) concerning the returns he can expect and despite the fact that the more people save the lower would be the actual returns (UNCTAD, *TDR 2006*, annex 2 to chapter I).

Box 1.1

Is Greenspan's monetary policy to blame?

Among the different analyses of the causes of the crisis is the assertion that too much liquidity or excessively cheap liquidity fuelled the United States housing market boom and the subsequent speculation with newly created financial products based on residential mortgage-backed securities (RMBS).

It is certainly true that over the last decade or so the Federal Reserve System (FED) widely ignored warnings about inflating stock markets and house prices at the end of a long boom, and more appropriate macroeconomic policies might have prevented the crisis from fully unfolding. However, with its approach of ignoring specific prices the FED followed the almost globally accepted rule that monetary policy can and should only control the price level of a basket of goods.

It is also true that very low interest rates after the collapse of the dot.com bubble in 2001 fuelled the prolongation of the housing boom. Increasing home ownership at affordable prices was laid down as a political target as in the "National Homeownership Strategy" (Whalen, 2008). Low interest rates were an important instrument to favour investment in fixed capital, including housing, over purely financial investment. Housing bubbles by themselves have been a regular by-product of expansionary economic policy and lasting boom phases, but this doesn't explain the speculative excesses in their financing which occurred in the build-up to this financial crisis.

Moreover, it is difficult to understand how the willingness to take on more risk by using the lever of low equity ratios for a given investment might have been driven by low policy interest rates. Under normal circumstances the opposite is more likely: low rates reduce the need for excessive risk-taking. An investor trying to squeeze a certain return over equity (say 25 per cent) out of an investment that yields only 5 per cent can use a smaller lever, i.e. a less risky strategy when policy and lending rates are low. More risk-taking is called for in a situation where policy rates and the rates to be paid for additional longer-term debt are high. In the same vein, low interest rates do exactly the opposite of fuelling financial investment: they normally reduce the attraction of purely financial investment and increase the attractiveness of real investment. That is why the – now obsolete – monetarist school of monetary theory assumed that "too much money chasing too few goods" would lead to overinvestment and inflation in the goods market. Obviously, recent experience and evidence has shown that the real world economy is not functioning on such simple terms. But the opposite proposition, namely that too much money will lead to too much financial investment, is not convincing at all.

Last but not least, low interest rates or too much liquidity in the United States cannot explain the infection of large parts of the rest of the world. With floating exchange rates, liquidity does not flow between countries and cannot spill over into regions where the dollar is not legal tender. Other economies, whose financial sector has been directly infected by the crisis, such as euro area and the United Kingdom, had a fully independent monetary policy after 2001, without dollar inflows and with much higher interest rates. Japan has had a zero interest rate policy for many years now to fight deflation, but this has not stimulated speculative bubbles such as those in the United States.

Efficient financial markets are expected to overcome the uncertainty about the future and the frequency of crisis in these markets may be the result of the "mission impossible" that is expected from them. Or is their vulnerability mainly due to their scale (which nominally dwarfs the real economy) and their vital role for all other markets at the national and international level? Or do financial markets function in a different way than goods markets, perhaps in a way that systematically encourages the emergence of asset-price bubbles through a herding effect induced by the activity of large-scale investors? Obviously, there are strong arguments for all these hypotheses. However, a brief comparison of the logic of investment in fixed capital in a dynamic evolutionary setting (through traditional banking, i.e. lending money as an intermediary between central banks and savers on the one side and borrowers on the other) and investment in financial markets (through the now-crippled investment banks, for example) explains why capital markets seem bound to fail the more

“sophisticated” they are, whereas for the markets for goods and services efficiency can never be too much.

Investment in fixed capital is profitable for the individual investor and society at large if it increases the future availability of goods and services. No doubt, replacing an old machine by a new and more productive one, or replacing an old product by a new one with higher quality or additional features, is risky because the investor cannot be sure that the new machine or the new product will meet the needs of the potential clients. If it does, the entrepreneur gains a temporary monopoly rent until others are in a position to copy his invention. Even if an innovation finds imitators very quickly, this doesn't create a systemic problem: it may deprive the original innovator more rapidly of parts of his entrepreneurial rent, but for the economy as a whole the quick diffusion of an innovation is always positive as it increases overall welfare and income. The more efficient the market is regarding the diffusion of knowledge, the higher is the increase in productivity and the permanent rise in the standard of living - at least if institutions allow for an equitable distribution of the income gains and the demand that is needed to market smoothly the rising supply of products.

However, the accrual of rents through “innovation” in a financial market is of a fundamentally different character. Financial markets are about the effective use of existing information margins concerning existing assets and not about technological advances into hitherto unknown territory. The temporary monopoly over certain information or the better guess of a certain outcome in the market of a certain asset class allows gaining a monopoly rent based on simple arbitrage. The more agents sense the arbitrage possibility and the quicker they are to make their disposals, the quicker the potential gain disappears. In this case, too society is better off, but in a one-off, static sense. Financial efficiency may have maximized the gains of the existing combination of factors of production and of its resources, but it has not reached into the future through an innovation that shifts the productivity curve upwards and that produces a new stream of income.

The fatal flaw in financial innovation that leads to crises and collapse of the whole system is demonstrated whenever herds of agents on the financial markets “discover” that rather stable price trends in different markets (which are originally driven by events and developments in the real sector) allow for “dynamic arbitrage”, which entails investing in the probability of a continuation of the existing trend. As many agents disposing of large amounts of (frequently borrowed) money bet on the same “plausible” outcome (such as steadily rising prices of real estate, oil, stocks or currencies) they acquire the market power to move these prices far beyond sustainable levels. In other words, as seemingly irrefutable evidence, such as “rising Chinese and Indian demand for primary commodities”, is factored into the decisions of the market participants and confirmed by analysts presumed to be experts, the media and politicians, betting on ever rising prices seems to be rather riskless.

Contrary to the mainstream view in the theoretical literature in economics, speculation of this kind is not stabilizing, but rather destabilizes prices on the targeted markets. As the equilibrium price or the “true” price simply cannot be known in an environment characterized by objective uncertainty, that main condition for stabilizing speculation is not realized. Hence, the majority of the market participants just extrapolate the actual price trend as long as “convincing” information that justifies the hike allows for a certain degree of self-delusion.

The bandwagon created by uniform, but wrong, expectations about price trends inevitably hit the wall of reality because funds have not been invested in the productive base of the real economy where they could have generated higher real income. Rather, it has only created the short-term illusion of continuously high returns and a “money-for-nothing mentality”. Sooner or later consumers, producers or Governments and central banks will no longer be able to perform at the level of exaggerated expectations because hiking oil and food prices cut deeply into the budgets of consumers, appreciating currencies send current account balances into unsustainable deficit, or stock prices lose touch with any reasonable profit expectation. Whatever the specific reasons or shocks that trigger the turnaround, at a certain point of time market participants begin to understand that “if something

cannot go on forever, it will stop”, as it was once put by United States presidential advisor Herbert Stein.

At this point, the harsh reality of a slowly growing real economy catches up with the insistent enthusiasm of financial markets such that an adjustment of expectations becomes inevitable. Hence, the short-term development of the economy is largely hostage to the amount of outstanding debt. The more households, businesses, banks, and other economic agents are directly involved in speculative activities with borrowed funds, the greater the pain of deleveraging, i.e. the process of adjusting the level of borrowing to diminished revenues. A “debt deflation” (Fisher, 1933) sets in that fuels further painful adjustment because debtors try to improve their financial situation by selling assets and cutting expenditure, thereby driving asset prices further down, cutting deep into profits of companies and forcing new debt deflation elsewhere. The result of debt deflation if not stopped early on will be deflation of prices of goods and services as it constrains the ability to consume and to invest for the economy as a whole. Thus, in a debt deflation, the attempts of some to service their debts makes it more difficult for others to service their debts.¹ Only Governments can step in and stabilize the system by “government debt inflation”.

“Investment banking”, which became synonymous with “financial modernization”, is only a new term for an old phenomenon. The contribution of investment banks to real economic growth was mostly of the zero sum game type and not productive at all for society at large. Much of “investment banking” was unrelated to investment in real productive capacity; rather, it masked the true, speculative character of the activity and presented what appeared to be an innovation in finance. In fact, there was nothing new in the build-up or the unwinding of markets for the financial instruments that investment banks created. What was new, however, was the dimension through which private households, companies and banks have collectively engaged in what amounts to gambling. This can only be explained by the effects of massive deregulation, driven by the conviction that the freedom of capital flows and the efficient allocation of “savings” is the most important ingredient of successful economies.

C. What made it worse: global imbalances and the absent international monetary system

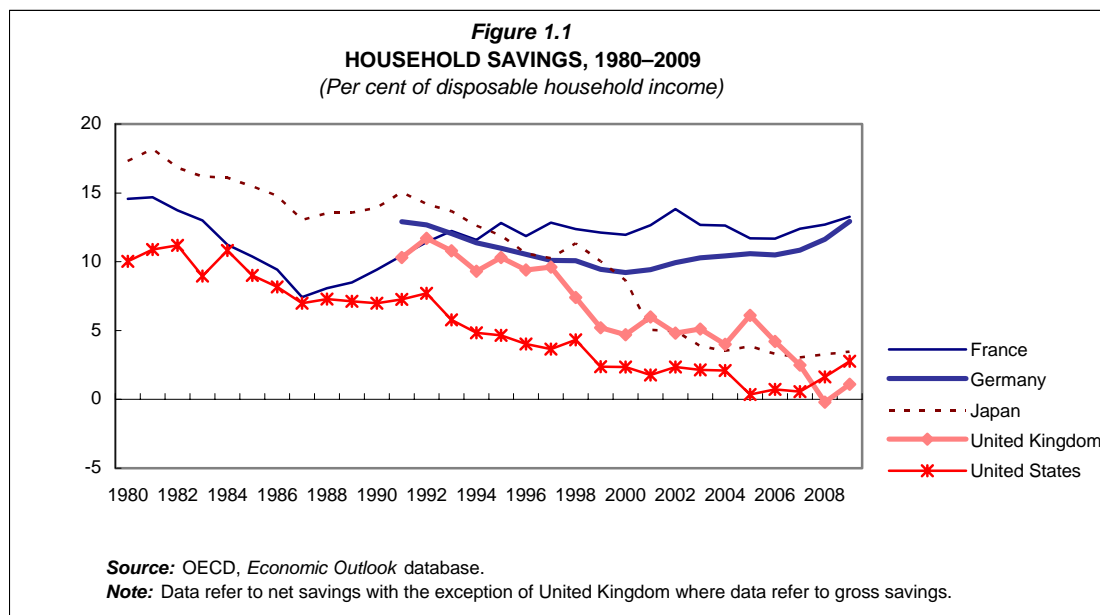
Analysis of the economic crisis which first erupted in the developed economies has to begin by recalling the end of the global system of “Bretton Woods”, which had rendered possible two decades of rather consistent global prosperity and monetary stability. Since then it has become possible to identify an “Anglo-Saxon” part of the global economy on the one hand, where economic policy since the beginning of the 1980s was comparatively successful in stimulating growth and job-creations, and a Euro-Japanese component, where growth remained sluggish and economic policy wavered with no clear or consistent view on how to use the greater monetary autonomy that the end of the global monetary system had made possible.

That the crisis originated in the Anglo-Saxon part of the developed countries was the logical outcome of the full swing towards unrestricted capital flows and unlimited freedom to exploit any opportunity to realize short-term profits. The financial crisis has demonstrated the damaging impact of this “short-termism” on long-term growth. But at the same time it has been the major driving force of the world economy in the last three decades. Without the high level of consumption in the United States, today most of the developed world and many emerging-market economies would have much lower standards of living, and unemployment would be much higher.

Indeed, the consumption boom in the United States since the beginning of the 1990s was not well funded from real domestic sources. To a significant degree it was fuelled by the speculative bubbles that inflated housing and stock markets. The “wealth effect” of higher prices for housing or

¹ Paul de Grauwe, *Financial Times*, 23 February 2009.

stocks led households in the United States and in the United Kingdom to borrow and consume far beyond the real incomes that they could realistically expect, given the productivity growth of the real economy and the dismal trends in personal income distribution. With overall household saving rates to close to zero (figure 1.1) consumer demand in both countries expanded rapidly but at the same time the growth process became increasingly fragile because it meant that many households could only sustain their level of consumption by further new borrowing. With open markets and increasing international competition in the markets for manufactures the spending spree eventually boosted borrowing on international markets and led to large current account deficits.

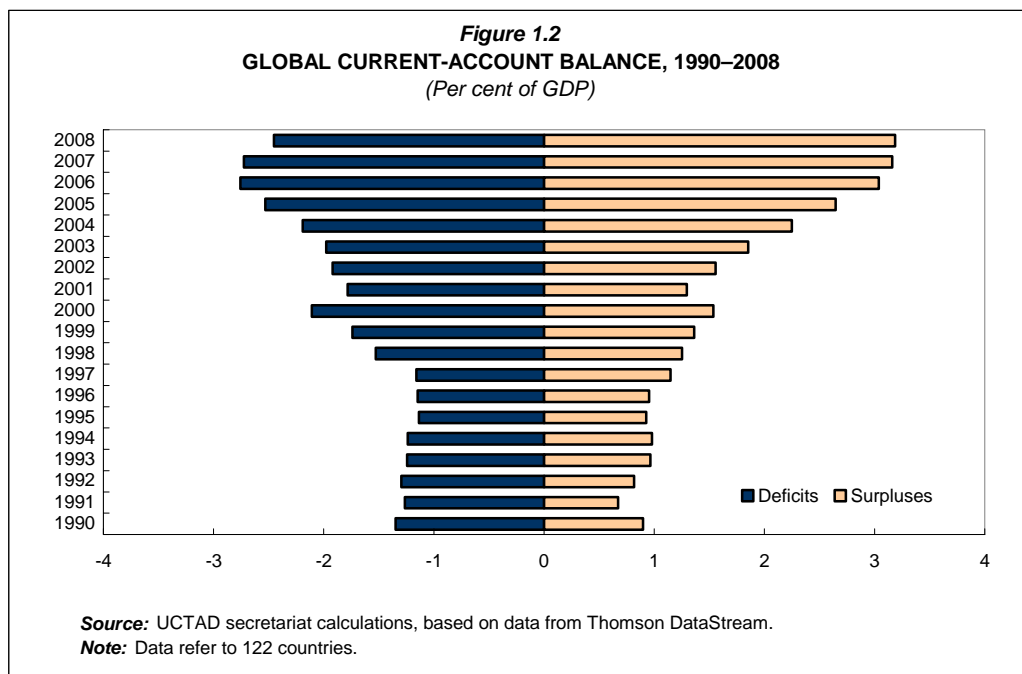


Juxtaposed against the current account deficits and overspending in the Anglo-Saxon economies was thrift elsewhere. Parts of continental Europe, in particular Germany, and Japan engaged in belt-tightening exercises that resulted in slow or no wage growth and sluggish consumption. But, since this policy stance also implied increased cost competitiveness, it yielded excessive export growth and ballooning surpluses in current accounts, thereby piling up huge net asset positions vis-à-vis the overspending nations. In both cases international competitiveness was additionally tuned by temporary exchange rate depreciations fuelled by speculative capital flows triggered by interest rate differentials.

These global imbalances served to spread quickly the financial crisis that originated in the United States to many other countries, because current-account imbalances are mirrored by capital account imbalances: the country with a current-account surplus has to credit the difference between its export revenue and its import expenditure to deficit countries. Financial losses in the deficit countries or the inability to repay borrowed funds then directly feed back to the surplus countries and imperil their financial system.

This channel of contagion has even greater potency owing to the lack of governance in financial relations between countries trading with one another in the globalized economy. The dramatic increase of debtor-creditor relations between countries (figure 1.2) goes far beyond the fallout from the Anglo-Saxon spending spree and has to do with a phenomenon that is sometimes called “Bretton Woods II” (Folkerts-Landau et al., 2004; and UNCTAD, *TDR 2004*). Bretton Woods II refers to how developing economies emerging from financial crises since the mid-1990s tried to shelter against the cold winds of global capital markets. For these economies, the only way to combine sufficient stability of the exchange rate with domestic capacity to handle trade and financial shocks and with successful trade performance was to unilaterally stabilize the exchange rate at an undervalued level. This applies to most of the Asian countries that were directly involved in the Asian

financial crisis and a number of Latin American countries, but also to China and, to a certain extent, India. The latter two experienced financial crises at the beginning of the 1990s and devalued their currencies significantly before fixing it to the dollar – in the case of China – or engaging in managed floating – in the case of India. Increasing unilateralism around the world in dealing with the implications of global imbalances at the national level further aggravated the crisis (see box 1.2).



Box 1.2**Is the savings glut responsible?**

Many observers have pointed to the willingness of the world and some developing countries, in particular China, to finance American profligacy at very low interest rates, due to their abundant “savings” (Krugman, *New York Times*, 1 March 2009). In other words, the huge deficit of the United States is interpreted as being the result of the decision of American households to consume more than they could afford and the decision of the Chinese households to save much more than the country could invest domestically. However, this explanation is rooted in a brand of macroeconomic theory (where savings lead the process of investment and growth and not the other way round) that has been refuted by evidence in many cases in the past.

If current account disequilibria are approached mainly from the side of trade flows instead of the capital flows, the observation that since the beginning of this century capital has been flowing “uphill”, becomes much less mysterious. If capital flows from poor to rich countries, while at the same time an increasing number of developing countries that are net capital exporters have achieved high growth rates, the traditional theory on which the “Chinese savings” culpability hypothesis is based loses all its persuasive power (UNCTAD, *TDR 2008*).

By contrast, explanations of the relationship between savings and investment based on the work of Schumpeter and Keynes focus on the role of profits in the adjustment of savings and investment. An implication is that most of the adjustment to new price signals or changed spending behaviour is primarily reflected in profit swings, which influence the investment behaviour of firms. Improvements of the current account are possible which are due to price changes in favour of domestic producers. By increasing domestic profits, higher net exports will trigger additional domestic investment, and the income effects of higher exports and higher investment will generate higher savings.

In this view, an increase in savings is no longer a prerequisite for either higher investment or a current-account improvement and vice versa. Neither the American deficit nor the Chinese surplus in the current account is the result of voluntary decision of households and companies but the result of a complex interplay of prices, quantities and political decisions. For many reasons it is wrong to assume that a complex economy, with millions of agents with diverging interests, functions in a way that would be found in a Robinson Crusoe world. Hence, to blame “countries” for their “willingness” to provide “too much savings” compounds the neoclassical error of analysing the world economy based on the expected rational behaviour of “one representative agent”. Such an approach cannot do justice to the complexity and the historical uniqueness of events that may lead to phenomena like those that have come to be known as the global imbalances.

Another important reason for growing imbalances is movements of relative prices in traded goods as a result of speculation in currency and financial markets (“carry trade”). The growing disconnection of the movements of exchange rates with their “fundamentals” (mainly the inflation differential between countries) has produced widespread and big movements in the absolute advantage or the level of overall competitiveness of countries vis-à-vis other countries. These changes in the real exchange rates are clearly associated with the growing global imbalances (UNCTAD, *TDR 2008*).

Speculation in currency markets due to interest rate differentials has produced a specific form of overspending that is now unwinding. In many countries, especially in Eastern Europe, but also in Iceland, New Zealand and Australia, it was profitable for private households and companies to borrow in foreign currencies with low interest rates, such as the Swiss Franc and the yen. With inward capital flows searching for high yield, the currencies of capital-importing countries (which were high-inflation countries at the same time) appreciated in nominal and in real terms, and this led to a deterioration of these countries’ competitiveness. With losses of market shares and rising current account deficits their external position became more and more unsustainable. The outbreak of the global financial crisis triggered the unwinding of these speculative positions, depreciated the currencies formerly targeted by carry trade, and forced companies and private households in the affected countries to deleverage their foreign currency positions or to default, which poses a direct

threat to the (mainly foreign) banks in these countries. A case in point is the situation that has recently emerged between East European debtors and their Austrian lenders.

In addition to all these factors, overshooting of commodity prices led to the emergence of – partly very large – current account surpluses in commodity exporting countries over the past five years. When the “correction” came, however, the situation of many commodity producers in the poorer and smaller developing countries rapidly deteriorated. In addition to reduced export revenues, this correction devalues investment in equipment and infrastructure that was directly induced by the demand boom and mushrooming revenues of the last years.

D. What should have been anticipated: the illusion of risk-free greed and profligacy

The global financial crisis arose amidst the neglect of international governance – the failure of the international community to give the globalized economy credible global rules. The sudden unwinding of speculative positions in the different segments of the financial market was triggered by the bursting of the house price bubble in the United States. But all these bubbles were unsustainable and would have burst sooner or later. For policy makers who should have known better than to continuously bet on “beating the bank” to now assert (with the benefit of hindsight) that greed ran amok, or that regulators were “asleep at the wheel”, is simply not credible.

The housing price bubble itself was the result of the deregulation of financial markets on a global scale, widely endorsed by Governments around the world. The spreading of risk and the severing of risk and the information about it was promoted by the use of “securitization” through instruments like residential mortgage-backed securities (RMBS) that seemed to satisfy investors’ hunger for double-digit profits. It is only at this point that greed and profligacy enter the stage. Without the economic “lifestyle” of deregulation of the last decades, and in the presence of more appropriate regulation, expectations on returns of purely financial instruments in the double-digit range would simply not have been possible (Kuttner, 2007; Davidson, 2008).

In real economies with single-digit growth rates those expectations are misguided from the beginning. However, human beings tend to believe that in their generation things may happen that never happened before, ignoring, at least temporarily, the lessons of the past. This happened in most recent memory during the stock market booms of the “new economy”. Despite the dot.com crash of 2000 a wide range of investors began to invest their funds into hedge funds and “innovative financial instruments”. These funds needed to ever increase their risk exposure for the sake of higher yields with more sophisticated computer models searching for the best bets, which actually added to the opaqueness of many instruments. It should have been clear from the outset that *everybody can't be above average* (Kuttner, 2007: 21) and that the capacity of the real economy to cope with exaggerated real estate and commodity prices or misaligned exchange rates is strictly limited, but it is only now, through the experience of the crisis, that this is coming to be understood by many actors and policymakers.

A more important driver of this kind of “financial innovation”, however, was the naive belief in efficient market theories that did not recognize objective uncertainty but mistakenly assumed well-informed buyers and sellers and hence promised minimal risk (Davidson, 2008). But “securitization” of investment vehicles led to further risk concentration because it converted debtor-creditor relations (or insurer-insured relation) into capital flow transactions by packing different types of debt for onward sale to investors in form of bonds all around the world (Fabozzi et al., 2007), whose interest and return of principal are based on the value of the underlying assets. Due to the opaqueness of these complex bundled “products”, many “securitized” assets found their way into instruments qualified as low-risk. A global clientele invested in these bonds because the global imbalances had intensified the global financial relations and had created the need for financial institutions located in the countries with current account surpluses to hold much of the toxic paper. In the first flush of financial liberalization, the global distribution of these papers was seen as an indication of successful risk

diversification. But eventually the opposite happened: financial “innovation” resulted in a concentration of risk since most of the “vehicles” were “securitized” by using assets that had similar default risks (Kuttner, 2007: 21–22).

Needless to mention, that credit-rating agencies totally failed. But it is mainly due to the microeconomic approach they usually take and their ignorance concerning macroeconomic and systemic factors on a global scale that they misunderstood the risk of so many participants playing on the same fragile bridge between the small real economy and a bloated financial sector.

Chapter II

Financial regulation: fighting today's crisis today

A. It was not supposed to end like this

For the past two decades, financial innovation was promoted and protected with scant regard for the downside risks. The most serious financial crisis since the Great Depression, the *de facto* nationalization of a large fraction of the United States financial system, and the deepest global recession since World War II are now casting doubts on the assumptions that led former Chairman of the Fed, Alan Greenspan, to state: "Although the benefits and costs of derivatives remain the subject of spirited debate, the performance of the economy and the financial system in recent years suggests that those benefits have materially exceeded the costs".²

There are certainly some elements in which the current crisis differs from previous ones. These new elements were exactly those supposed to increase the resilience of the financial system. They include the "originate and distribute" bank business model, financial derivatives like credit default swaps, and the creation of a "shadow banking system". There are, however, many elements that are not new. As in previous crises, the roots of the current turmoil lie in a self-reinforcing mechanism in which high growth and low volatility lead to a decrease in risk aversion. This, in turn, leads to higher liquidity and asset prices, which eventually feedback into higher profits and growth and even higher risk-taking. The final outcome of this process is the build-up of risk and large imbalances that, at some point, must unwind. The proximate cause for the crisis may then appear to be some idiosyncratic shock (in the current case, defaults on subprime mortgage loans), but in many markets, the true harbinger of the crisis was the unchecked build-up of risk during the boom.

Arguing that the current crisis has many common elements with previous ones has important implications for financial regulation today. Because of their faith in the self-discipline of the marketplace, policymakers made avoidable mistakes. For example, they disregarded the basic fact that market-based risk indicators (such as high-yield spreads or implicit volatility measures) tend to be low at the peak of the credit cycle, exactly when risk is high (Borio, 2008).

The financial sector acts as the central nervous system of modern market economies. It distributes liquidity and mobilizes the capital necessary to finance large investment projects; it allocates funds to the most dynamic sectors of the economy; it provides households with the necessary funds to smooth consumption over time; and, through its payment system, it allows managing the complex web of economic relationships that are necessary for economies characterized by a high degree of division and specialization of labour.

Finance is intrinsic to successful economic development, but like most powerful tools, it can also cause great damage. The presence of informational asymmetries and maturity mismatches that ensue from high-powered leverage make financial systems inherently unstable and prone to boom and bust cycles. As a consequence, almost every country has hundreds of pages of legislation aimed at regulating the domestic financial sector.

There are, however, several misconceptions regarding modern financial regulation. The most fundamental of these is the assumption that "markets know best" and that regulators should take a back seat and not try to second guess them. As is argued here, Governments and regulators can and

² Remarks by Chairman Alan Greenspan at the 2003 Conference on Bank Structure and Competition, Chicago, Illinois, 8 May 2003 (<http://www.federalreserve.gov/boarddocs/speeches/2003/20030508/default.htm>).

should play an active role in monitoring and controlling markets. They are able to do so because they are privy to the same information available to market participants, but only they are in a position to detect and avoid systemic risk by understanding better than market participants the limits to and the dangers of “irrational exuberance”.

1. Financial efficiency and gambling

Financial markets can provide many different products, and they can do a decent job at evaluating all available information. However, if they do not contribute to long-run economic growth, they do not provide any social return. From a regulator’s point of view, social (or functional) efficiency should be the only relevant definition of financial efficiency. Inefficiencies in information arbitrage or fundamental valuation, such as those, which contributed to the current crisis, are of concern to regulators to the extent that they create social inefficiency. In discussing the status of the United States financial system in the early 1980s, Tobin (1984) concluded that markets were becoming more efficient in processing a large number of transactions at low cost but less efficient in terms of their contribution to growth. In his view, the United States financial market was becoming more and more similar to a casino, where gambling dominated activities with true social returns. Tobin’s early assessment is corroborated by the fact that the US financial system has had to be bailed out three times in three decades and has now managed to completely recapitalize itself.

A standard assumption underlying most regulatory systems is that all financial products can potentially increase social welfare and that the only problem to be dealt with is that some products may increase risk and reduce transparency. If these issues could be addressed, the argument goes, more financial innovation would always be beneficial from society’s point of view. This argument is wrong. Some financial instruments can generate high private returns but have no social utility whatsoever. They are purely gambling instruments that increase risk without providing any real benefit to society. They can be efficient in the narrow sense of transactional efficiency but they are not functionally efficient.

Policymakers should not prevent and stunt financial innovation as a rule. However, they should be aware that some types of financial instruments are created with the sole objective of eluding regulation, increasing leverage and maximizing investor’s profits and bankers’ bonuses. Financial regulation should aim at limiting the proliferation of such dubious instruments. A step in this direction could be achieved with the creation of a Financial Products Safety Commission aimed at evaluating whether new financial products can be traded or held by regulated financial institutions (Stiglitz, 2009). Such an agency may also provide incentives to create standardized financial products, which are more easily understood by market participants, thus increasing the overall transparency of the financial market.

In some cases it will be easy to identify products, which provide no real service besides the ability to gamble and increase leverage. For instance, credit default swaps (CDS) are supposed to provide hedging services. But when the issuance of CDS reaches ten times the risk to be hedged (see following section), it becomes clear that 90 per cent of these CDS do not provide any hedging service. Clearly, regulatory limits are needed for the issuance of CDS to reflect the amount of underlying risk. Such regulation would not be too different from laws that do not allow home-owners to over insure their houses or that prevent individuals from buying insurance contracts that make payments when an unrelated person dies.

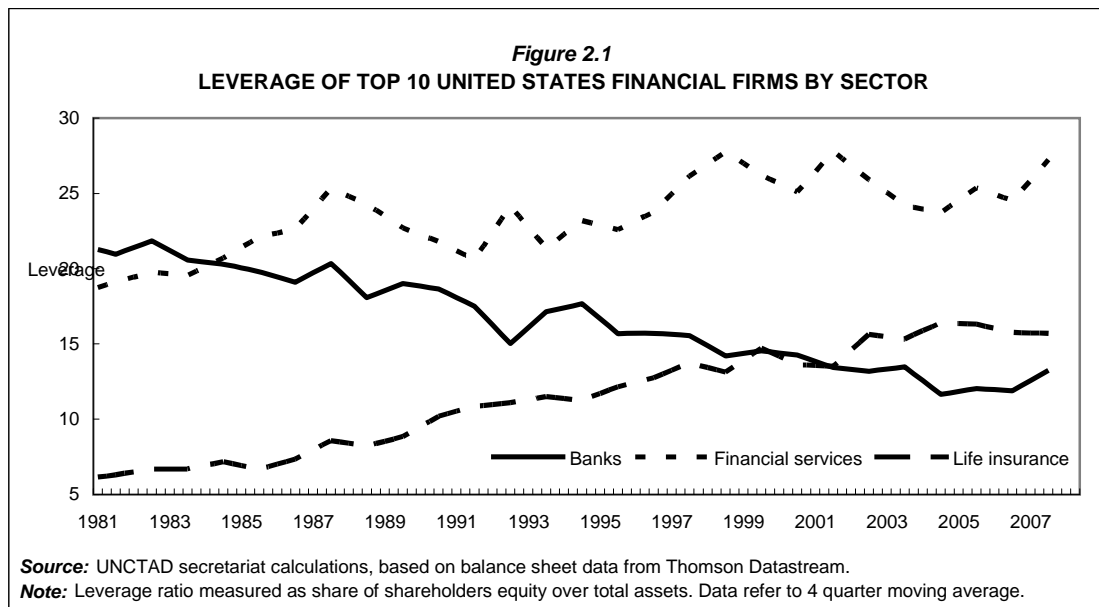
Likewise, there are instances where weeding out these (socially) inefficient forms of finance will be more difficult. For instruments that provide both real and gambling services, regulators will need to evaluate the costs and benefits of each product and only allow instruments for which the benefits outweigh the costs. Others may have high potential social returns yet increase risk and opaqueness. Therefore, they should be properly regulated and monitored. Choices will not be easy. They will require value judgments and the risk to overshoot with regulatory measures. However, this is the case for any policy decision. The decision of not taking any action is a regulatory action in itself

and uncertainty cannot be used as an excuse for avoiding regulation. The current crisis shows that erring on the other side may be the most costly outcome.

2. Avoiding regulatory arbitrage and the role of securitization

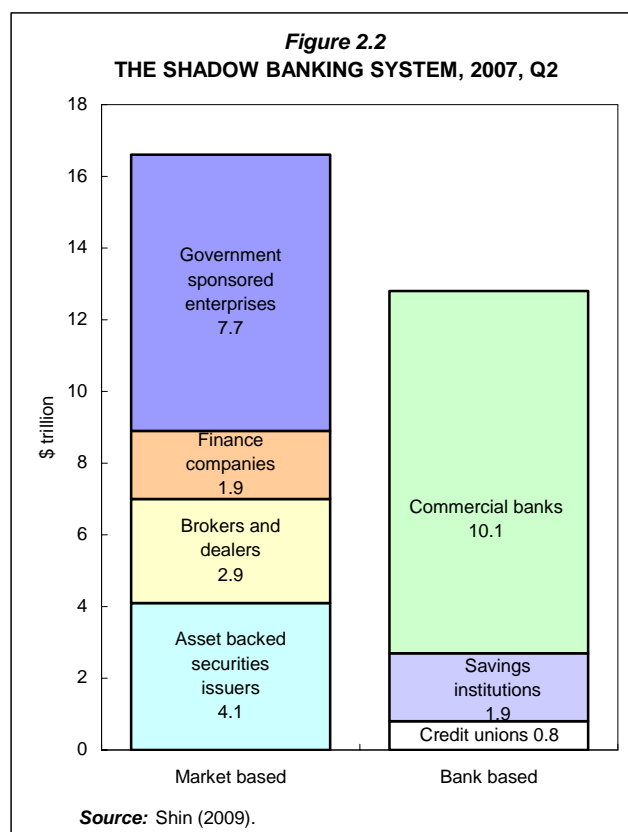
Poorly designed regulation can backfire and lead to regulatory arbitrage. This is what happened with banking regulation. Usually, banks take more risk by increasing leverage and modern prudential regulation revolves around the Basel Accords, which require banks with an international presence to hold a first-tier capital equal to 8 per cent of risk-weighted assets. Regulation has been effective in increasing the *measured* capital ratio of commercial banks. Over the last twenty-five years, the ten largest United States banks substantially decreased their leverage (figure 2.1), going from a non-risk adjusted first-tier capital ratio of approximately 4.5 per cent (which corresponds to a leverage of 22) to a non-risk adjusted first-tier capital ratio of approximately 8 per cent (which corresponds to a leverage of 12.5).³

Since capital is costly, bank managers try to circumvent regulation by either hiding risk⁴ or by moving some leverage outside the bank. In fact, the decrease in the leverage ratio of commercial banks was accompanied by an increase in the leverage ratios of non-bank financial institutions (the dotted and dashed lines in figure 2.1). This shift of leverage created a “Shadow Banking System” consisting of over-the-counter derivatives, off-balance sheet entities, and other non-bank financial institutions such as insurance companies, hedge funds, and private equity funds. Thanks to credit derivatives, these new players can replicate the maturity transformation role of banks, while escaping normal bank regulation. At its peak, the shadow banking system in the United States held assets of more than \$16 trillion, about \$4 trillion more than regulated deposit-taking banks (figure 2.2).



³ The capital ratio plotted in figure 2.1 is not risk adjusted. United States banks try to maintain risk-adjusted capital ratios of approximately 10 per cent, as this is considered a safe level of capital by United States regulators.

⁴ It has been argued that AAA rated tranches of collateralized debt obligations (CDO) were in high demand because, by providing high return while demanding low capital charges, they exploited a regulatory loophole built into the Basel Accords (Kashyap, Rajan and Stein, 2008).



Regulators did not seem to be too worried by this shift in leverage because they assumed that, unlike deposit taking banks, the collapse of large non-bank institutions would not have systemic implications.⁵ The working hypothesis was that securitization had contributed to both diversifying and allocating risk to sophisticated economic agents who could bear such risk. As a consequence, the system could now take a higher level of total risk. The experience with Structured Investment Vehicles (SIVs) shows the flaws with this line of reasoning (UNCTAD, 2007a). While regulation focused on banks, it was the collapse of the shadow banking system which kick-started the current crisis.

In order to avoid regulatory arbitrage, banks and the capital markets need to be regulated jointly and financial institutions should be supervised on a fully consolidated basis (Issing et al., 2008). The build up of hidden systemic risk can be limited by designing an objective-based regulatory system (Lukken, 2008). All markets and providers of financial products should be overseen on the basis of the risk they produce. If an investment bank issues insurance contracts like CDS, this activity should be subject to the same regulation that applies to insurance companies. If an insurance company is involved into maturity transformation, it should be regulated like a bank (Congressional Oversight Panel, 2009).

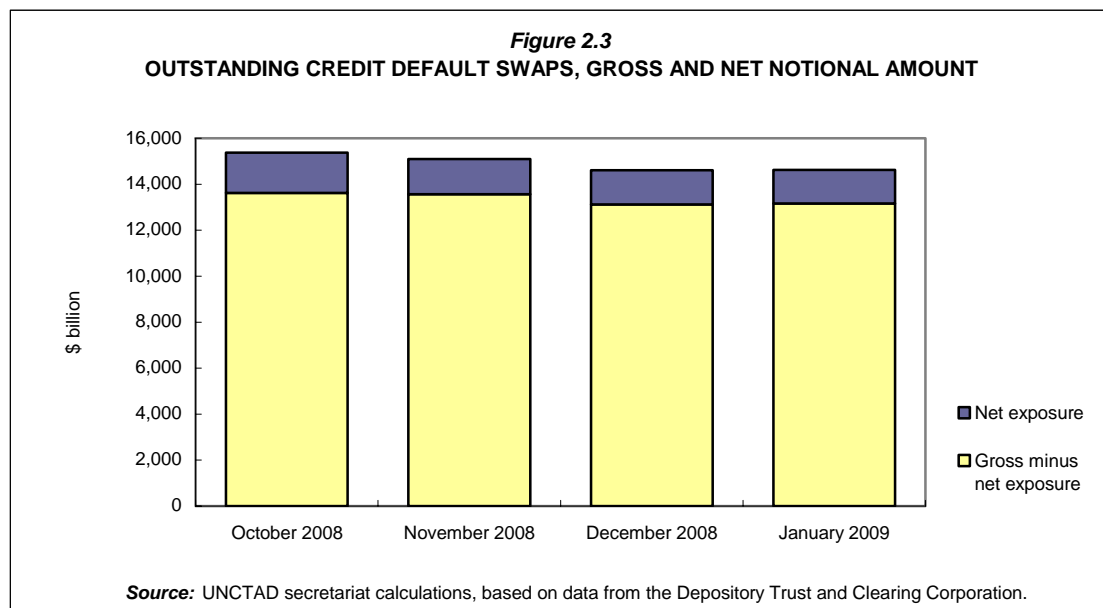
In 2006, the IMF (2006: 51) found that “there is growing recognition that the dispersion of credit risk by banks to a broader and more diverse group of investors ... has helped make the banking and overall financial system more resilient ... commercial banks may be less vulnerable today to credit or economic shocks”. It clearly did not work that way. UNCTAD (2007a) discusses several reasons why securitization did not deliver. The key point is that securitization offered the law of large numbers as a compensation mechanism for the loss of soft information built into traditional lending.

⁵ In fact, in 2000, the United States Congress ruled out the possibility of regulating Credit Default Swaps (CDSs) and in 2004, the United States Securities and Exchange Commission allowed large investment banks to increase their leverage (Congleton, 2009).

However, the statistical models used by the financial industry failed miserably. Some of the assumptions at the basis of these models were plainly wrong (some models assumed that real estate prices could only increase; Coval et al., 2008). Others were more subtly incorrect, but even more dangerous.

Among the latter was the assumption that the risk associated with each debt contract packaged in a collateralized Debt Obligation (CDO) is *uncorrelated* with the risks of the other debt contracts included in the same CDO. At first glance, that of uncorrelated (or idiosyncratic) risk appears to be a reasonable assumption, and it is probably so in normal times. However, in bad times things work differently because asset prices tend to collapse at the same time. In the presence of correlated risk, small mistakes in measuring the joint distribution of asset returns may lead to large errors in evaluating the risk of a CDO. These problems are compounded by the fact that all models used in the financial industry use historical data to assess risk. But, by definition, historical data do not contain information on the behaviour of new financial instruments.

Another problem with standard models of risk is that they do not control for *network and counterparty risk*. Several financial institutions are both buyers and sellers of risk and gross exposure to risk is often much higher than the real underlying risk. Brunnermeier (2008) shows that even in a situation in which all parties are fully hedged, the presence of counterparty risk amplifies uncertainty. This is not just a hypothetical example. UNCTAD secretariat estimates confirm that the gross exposure from CDS in the United States market is about 10 times the net exposure (figure 2.3), demonstrating that counterparty risk played a key role in the panic that followed Lehman Brothers’ bankruptcy in September 2008. This is another example of instruments, which were supposed to diffuse risk but have increased systemic fragility (Brunnermeier, 2009).



Creating a clearinghouse that would net out the various positions could increase transparency (Segoviano and Singh, 2008). Even better, prohibiting excessive use of CDS by preventing the gross national value of CDS contracts to exceed their net notional value would allow hedging but limit gambling (Soros, 2009).⁶

⁶ For a defence of CDS, see Wallison (2009).

3. Micro and macro prudential bank regulation

The current regulatory framework assumes that policies aimed at guaranteeing the soundness of individual banks can also guarantee the soundness of the whole banking system (Nugée and Persaud, 2006). It is micro-prudential but not macro-prudential. This is problematic because there are instances in which what is prudent for an individual institution has negative systemic implications. Consider the case of a bank that suffers large losses on some of its loans. The prudent choice for this bank is to reduce its lending activities and cut its assets to a level which is in line with its smaller capital base. If the bank in question is small, the system will have no problem in absorbing this reduction in lending. If, however, the bank in question is large, or the losses affect several banks at the same time, the individual bank's attempt to rebuild its capital base will drain liquidity from the system. Less lending by some banks will translate into less funding to other banks, which, if other sources of liquidity are not found, might be forced to cut lending and thus amplify the deleveraging process and affect investment in fixed capital. This seems to be the rut in which large parts of the global credit system remain stuck through the early part of 2009.

Another channel through which the current micro-regulatory system may have negative systemic implications relates to "mark-to-market" accounting, according to which banks need to value some assets by using their current market price. A large bank realizing losses needs to reduce its risk exposure. Presumably, this bank will sell some of its assets and thus depress their price. This will lead to "mark-to-market" losses for banks that hold the same type of assets. If these losses are large enough to make capital requirements binding, the affected banks will also need to reduce their exposure. If they start selling assets, they will amplify the deleveraging process and the debt deflation. As the opposite happens in boom periods, this mechanism leads to leverage cycles.

In light of this, some of the assumptions at the basis of the Basel Accords do not make much sense. Risk weighted capital ratios impose high capital charges on high-risk assets and low capital charges on low-risk assets. This can increase systemic risk and amplify the leverage cycle because during good times certain assets are considered to be less risky than they actually are, and during bad times the same assets might be viewed as riskier than they actually are. Required capital ratios will end up being too low in good times and too high in bad times.

Moreover, relatively safe assets can have very high systemic risk. In a continuum of debt securities, going from super-safe assets (e.g., AAA German bunds) to high-risk junk bonds, the assets that are more likely to be downgraded if a systemic crisis come about, are not the super safe (because of flight to quality), nor the high risk (because they cannot be downgraded by much). The assets that are most likely to be downgraded are those on the safe side of the spectrum, but not super-safe (e.g. AAA-rated tranches of CDOs). But these are the assets that were required by low regulatory capital during the boom period and, because of the downgrade, need a higher regulatory capital in the crisis period (Brunnermeier et al., 2009).

Consequently, micro-prudential regulation has to be complemented by *macro-prudential* regulation, which, rather than protecting depositors, has the objective of guaranteeing the stability of the system and avoid large output losses. Regulators should internalize regulatory arbitrage and be aware that both banks and non-bank financial institutions can be a source of systemic risk. The key consideration for macro-prudential regulation is each institution's contribution to systemic risk. Other things equal, larger institutions should be subject to a heavier regulatory burden than smaller institutions. However, size is not a sufficient indicator because small institutions, which are subject to correlated risk, may have the same systemic importance as a large institution. Regulators should also be concerned about leverage, maturity transformation, provision of essential services (such as payment or market-making) and interconnectedness.⁷ The time dimension of risk can be assessed by

⁷ New research aimed at developing CoVaR models (i.e., models that measure the value at risk of financial institutions conditional on other financial institutions being under distress, Adrian and Brunnermeier, 2008) can

building early warning systems and by the recognition that booms (and the subsequent crashes) are fuelled by imprudent lending and high leverage, both built on the misperception that risk has permanently lowered.

4. The need for international coordination

Regulatory arbitrage does encompass institutions within a jurisdiction, but it also extends across jurisdictions. It is therefore necessary to add an international dimension to financial regulation. At the least, regulators based in different countries should communicate and share information. At this stage, it is impossible to implement a global early warning system because there are no data on cross-border exposure among banks and on derivative products (Issing and Krahn, 2009). Regulators should work together towards developing joint systems for the evaluation of cross-border systemic risk and should share information on liquidity and currency mismatches in the various national markets. Regulators should also coordinate the oversight of large international banking organizations and add clarity to the responsibilities of home and host countries, especially for crisis management (Group of 30, 2009; Issing et al., 2008).

But international cooperation needs to go further. It needs to focus on regulatory standards and avoid races to the bottom in financial regulation. Without international coordination, the impression may arise that a country can become an international financial centre if only its financial markets are deregulated. In some countries there has also been reluctance to share data on cross-border exposure in the belief that an increase in transparency may have a negative effect on the competitiveness of the domestic financial sector (Issing and Krahn, 2009). This position is wrong. Investors want transparency and proper regulation; a race to the bottom may end up being a negative sum game and reduce the efficiency and size of the world's financial system (Stiglitz, 2009). Cooperation among regulators should converge towards a homogenous application and enforcement of regulatory standards (Group of 30, 2009) and should focus on closing regulatory gaps, especially in offshore centres.

However, there is no one size that fits all. Regulatory systems, just like policies, have to be adapted to the different institutional conditions prevailing in different countries. Allowing countries to pursue alternative regulatory approaches can also provide regulators with a better understanding of the trade-offs implied by different regulatory models (Pistor, 2009). A better appreciation for these different needs and approaches could be achieved by increasing the participation of developing countries in the various standard setting bodies and international agencies in charge of guaranteeing international financial stability.

5. Financial regulation and incentives

In many countries financial deregulation rested on the idea that bank managers would not do anything that would prejudice the long-term value of their firms (e.g., Greenspan, 2008). It is now clear that this idea is fundamentally flawed. Economists and policymakers have always been aware that managers' incentives are not aligned with those of shareholders, but they operated under the assumption that, because of their reputation capital, long-lived institutions can be trusted to monitor themselves. However, large corporations are composed of individuals who always respond to their own private incentives, and those who are in charge of risk control are often subject to the same type of incentives that dictate the behaviour of investment officers (Acemoglu, 2009).

In fact, even self-interested individuals who spot potential profit opportunities driven by an episode of collective market irrationality may find it difficult to swim against the tide. If an episode of "irrational exuberance" lasts too long, any investment manager who goes against the trend will

help regulators in measuring risk spillovers and thus assessing the systemic importance of individual institutions.

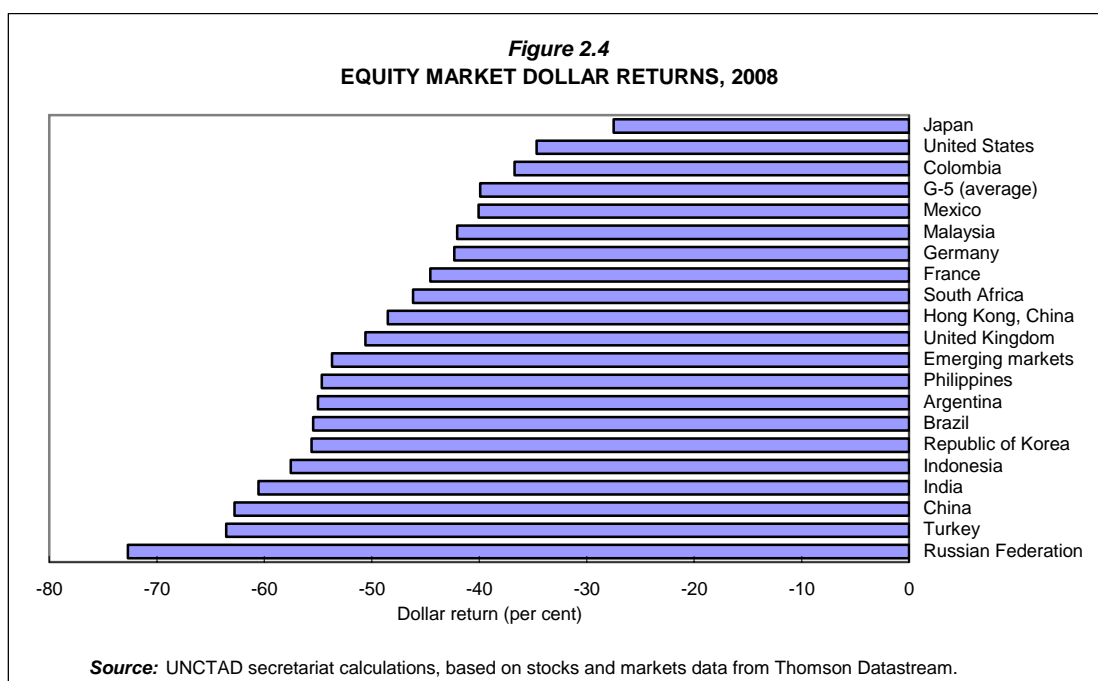
underperform and be likely to lose his clients and job. Lamont and Thaler (2003) have shown that the presence of long-lasting deviations from fundamental asset values is made possible by the fact that very few investors try to fight the trend. It is not surprising that one of the mottos of the financial industry is: “the trend is your friend”.

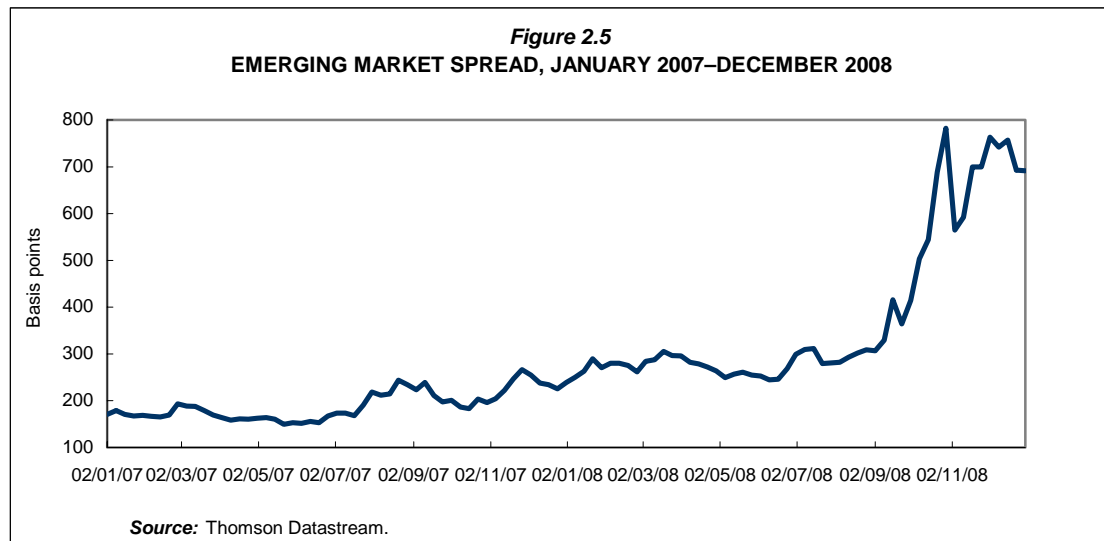
The list of distorted incentives at the basis of the current crisis is long, but executive remuneration in the financial industry and the regulatory role of credit rating agencies are paramount. With respect to executive pay, regulatory reform should aim at promoting remuneration structures that reduce incentives for excessive risk-taking. Greater transparency and the design of remuneration structures that do not focus on yearly returns may be a positive step in this direction. Problems related to credit rating inflation could instead be addressed by subjecting rating agencies to regulatory oversight (UNCTAD, 2007a; Congressional Oversight Panel, 2009) and by regularly publishing rating performance (Issing et al., 2008).

B. Lessons for developing countries

Developing countries are paying a steep economic price for a crisis that originated at the centre of the world’s financial system. They need to consider how they can protect themselves from external financial shocks. Moreover, most developing countries are rightly trying to build deeper and more (functionally) efficient financial systems, and this crisis should be seized as an opportunity to expose the hidden risks of financial development and how more sophisticated financial systems require more, and not less, regulation.

During 2008, the United States stock market lost about 35 per cent of its value. Compared with other industrial countries and with the largest emerging markets, it did relatively well. All large emerging markets had dollar returns which were well below those of the United States (figure 2.4). Sovereign spreads tripled in the second half of 2008 (figure 2.5) and private capital flows to emerging economies collapsed by 80 per cent with respect to 2007. At the same time, interest rates on United States Treasuries are at historically low levels. There seems to be a flight to quality in the country at the centre of the crisis. So much for decoupling! Contagion is not purely financial. The most recent estimates show a sudden drop of GDP growth in both transition and developing economies.





1. Financial development requires more and better regulation

Developing countries tend to have financial systems that are less functionally efficient than those of the advanced economies. Given the importance of finance for investment in fixed capital and growth, several developing countries adopted ambitious structural reform programs aimed at modernizing and improving their own financial systems. However, there are serious doubts as to whether these pro-market policies were successful in their aim of increasing the social efficiency of their financial sectors (UNCTAD, *TDR 2008*, chapter IV).

Developing countries are often characterized by a non-competitive financial system in which banks make good profits by paying low interest on deposits and charging high interest rates on loans, which they only extend to super-safe borrowers. Shareholders and bank managers are content with rents arising from limited competition, but the financial system is hardly conducive to investment in fixed capital and to economic development. Credit will be limited and unlikely to flow to potentially high-return investment projects in the productive sector. If the country decides to reform its financial system and if policymakers are well aware that the reform process should target functional efficiency, the task is not an easy one. Even if policymakers know that financial instruments that may have high social returns in a more developed country may not be appropriate for their less developed economy and try to target the reform process to the real needs of their country, financial regulators will soon start facing new problems. By reducing bank margins, the reform process leads to a whole new set of incentive problems.

The old system was inefficient but relatively easy to control. A more competitive environment alters the incentive structure of bank managers in two ways (Rajan, 2005). First, as their compensation now depends on returns to investment, bank managers will face more upside risk-taking. This is problematic if bank officers are used to operating under the “3-6-3 risk management rule” (borrow at 3 per cent, lend at 6 per cent, and be on the golf course by 3 PM) and end up assuming risk that they do not understand. Along similar lines, regulators used to an inefficient but stable banking system may not understand the new risks and vulnerabilities. Second, since bank managers know that they are evaluated against their peers, they have incentives to herd and take hidden tail risk. Detecting this behaviour, which has the potential for generating large systemic shocks, requires sophisticated regulators.

On the investment bank side, the loss of stable income from brokerage activities may provide incentives for increasing leverage and entering into activities that involve maturity transformation; in other words, for the creation of a shadow banking system. But, again, regulators may not be ready for

this new structure of the financial system and still work under the assumption that only commercial banks have systemic importance.

This example shows that one perverse outcome of otherwise successful financial reforms is that, by reducing margins, they may induce bankers to take more risk than they are prepared to absorb or than regulators are able to understand. This does not mean that developing countries should not try to improve the functional efficiency of their financial system. However, the process needs to be gradual and accompanied by a stronger and more comprehensive regulatory apparatus.

2. There is no one-size-fits-all financial system

Developing countries face a difficult trade-off regarding the design and regulation of their financial systems. On the one hand, access to finance is necessary for economic development. On the other hand, as seen above, a more sophisticated financial sector is also likely to lead to an increase in total risk. If the second effect dominates the first, financial development may lead to an increase of systemic risk. Until recently it was believed that good financial regulation could be a solution to this trade-off and most countries could build financial systems that are both sophisticated and stable. The current crisis suggests that this objective may not be within the reach of most developing countries, at least in the near future. In choosing where to position themselves in the continuum between financial sophistication and stability, developing countries should recognize that there is no model that is right for all countries or at all times. Each country needs to find the model, which is most appropriate for its current level of development, needs, and institutional capacity.

Countries with stronger regulatory and institutional capacity may want to adopt a more aggressive process of financial liberalization and embrace a more market-based financial system. Other countries may want to be more cautious and stick to traditional banking. Some countries may find that their regulatory capacities do not even allow the proper working of private banks and may decide to rely more on State-owned banks. If they decide to do so, they should not be discouraged by the claim that “State ownership tends to stunt financial sector development, thereby contributing to slower growth” (World Bank, 2001). Many examples in developed economies have shown that the prejudice against State-owned banking is not justified and that “sophisticated” financial systems may badly fail. After all, the current crisis shows that once the chips are down and all bets are off, all banks are public.

C. Conclusion: closing down the casino

It is often argued that financial regulators should not fight the last crisis. And yet, this is exactly what agencies in charge of air traffic safety do with considerable success. Some argue that things are different for finance, as the principles of physics that keep airplanes in the air do not respond to regulatory changes, but financial markets, designed and operated by human beings, do. Financial innovation, the argument goes, is viral and reacts to regulation by producing more complex and opaque financial instruments. Hence, the argument continues, each financial crisis is different from the previous and is thus unpredictable. According to this view, nothing can be learned and new regulation can only do more harm. This line of reasoning is certainly true for the particular instruments, which are the *proximate* cause of any financial crisis. In 1637 it was tulip bulbs, in 1720 it was stocks of the South Sea Company, and in the current crisis it is mortgage-backed securities. Nobody knows which financial instrument will be at the centre of the next crisis, most likely *not* mortgage-backed securities. Probably this instrument has not yet been invented.

However, the *mechanism* that leads to the crisis is always the same: a positive shock generates a wave of optimism which feeds into lower risk aversion, greater leverage and higher asset prices which then feed back into even more optimism, leverage and higher asset prices. Sceptics will claim that asset prices cannot grow forever at such a high rate but the enthusiasts will answer that this time it is different. If the boom lasts long enough, even some of the sceptics will end up believing that

this time, it is indeed different. Those who remain sceptical will be marginalized. Of course, things are never that different. At some point the asset bubble will burst, the deleveraging process, the debt deflation and economic crisis will begin. A regulatory framework that takes this mechanism into account could have prevented some of the excesses that led to the current crisis.

The problem is that after a crisis there is widespread political support for regulation, and this may lead to overregulation. However, after a long period of stability, characterized by small non-systemic crises, policymakers forget the lessons of the previous crisis and no longer understand the rationale for the existing regulatory apparatus. This is when the deregulatory process starts and it may be fuelled, as it was this time, by the general belief in free markets and unfettered competition and it tends to overshoot. A possible solution to this regulatory cycle is to follow the example of air safety regulators who, besides learning from relatively rare airplane crashes, also put a great deal of attention on near misses. For instance, there was much to be learned from the Long-term Capital Management (LTCM) collapse of 1998, from the Asian crisis in the second half of the 1990s and the Argentinean crisis at the beginning of the century. A proper regulatory response at the national and international level would have played an important role in limiting the built-up and the consequences of the current crisis.

Regulators around the world must be chastened by what has befallen global finance, but equally determined to draw the lessons and be up to the reform tasks that lay ahead. A Herculean effort will be called for not only as penance for what has already occurred but as proof that the system can be fixed and can deliver the functional/social efficiency expected of it. Therefore, the most important task is to ensure that financial efficiency is defined as the sector's ability to stimulate long-run economic growth. Transaction costs, the number of available instruments, or the overall size of the financial system are only relevant if they contribute to increasing social welfare, they should not be objectives per se.

Financial markets in many advanced economies have come to function like giant casinos, where the house almost always wins (or gets bailed out) and everybody else loses. Twenty-five years ago, Tobin (1984) argued that there may be something wrong with an incentive structure, which leads the brightest and most talented graduates to engage into financial activities "remote from the production of goods and services", and that the private rewards of financial intermediation might be much higher than its social reward. More recently, Rodrik (2008) asked, without finding a convincing answer, "What are some of the ways in which financial innovation has made our lives measurably and unambiguously better". The key objective of financial regulatory reform must be to devise a system that allows weeding out of financial instruments whose functional/social efficiency is dubious - effectively taking the wagering (betting on uncertain outcomes) out of modern finance.

In concluding, the collapse in the market for subprime mortgages in the United State was the spark that ignited the crisis, but it is *not* the fundamental cause. At the root of the current crisis are the global imbalances and the underestimation of risk that led to excessive leverage in the years *before* the crisis. The build-up of risk could have been avoided if financial policies had been guided by a sense of pragmatism rather than by market fundamentalist ideology.

However, it would be far-fetched to interpret the crisis as challenging the basic functioning of all capitalist markets. It was the combination of financial and technological innovation in banking and credit markets, unaccompanied by adequate regulation and supervision that led to today's predicament. Certainly, policymakers were remiss in not accounting for human greed in evaluating the risks of financial deregulation or new instruments as they were invented. In 1983, the financial sector generated 5 per cent of the United States' GDP and accounted for 7.5 per cent of total corporate profits. In 2007, the United States financial sector generated 8 per cent of GDP and accounted for

40 per cent of total corporate profits.⁸ Policymakers should have wondered about an industry that constantly expects to generate double digit returns in an economy that grows at a much slower rate (UNCTAD, 2007a), especially if there are strong indications that this “industry” does not contribute much to overall productivity and needs to be bailed out every decade or so. Given the paramount influence of asymmetric information on economic decision-making, financial markets are different from goods market, and therefore need to be subject to stricter regulation. This is not a failure of the market system. It is a failure of financial deregulation.

More finance and more financial products are not always better. Financial markets may be efficient in the sense that they produce many different instruments and have low transaction costs, but their contribution to social welfare is nil in good times and negative in bad times. Social efficiency is the only definition of financial efficiency that should be relevant for policymakers. Financial regulation should be aimed at reducing the proliferation of such instruments, which seem to be more efficient at masking the risk to investors than in minimizing it. International coordination along this dimension is of utmost importance.

Finally, there is a fundamental flaw with a regulatory apparatus based on the assumption that protecting individual institutions will automatically protect the whole system. This is partially a reflection of the same theoretical mindset that assumes that the rational behaviour of one economic agent can be an accurate model or guide for the expected behaviour of a free, perfect financial system grouping countless agents. There are cases in which actions that are good and prudent for individual financial institutions have negative implications for the system as a whole. It is thus necessary to develop a macro-prudential regulatory system based on countercyclical capital provisioning and to develop institutions for the supervision of all the different financial markets that are focusing systemic risk and nothing else.

⁸ The data for 1983 are from Tobin (1984) and the data for 2007 are from Wolf (2009) and the United States Bureau of Economic Analysis.

Chapter III

Managing the financialization of commodity futures trading

A. Introduction: commodity markets and the financial crisis

The build-up and eruption of crisis in the financial system was paralleled by an unusually sharp increase and subsequent strong reversal of the prices of internationally traded primary commodities. The recent development of commodity prices has been exceptional in many ways. The price boom between 2002 and mid-2008 was the most pronounced in several decades in its magnitude, duration and breadth. The price decline since mid-2008 stands out for its sharpness and number of commodity groups affected. The price hike for a number of commodities put a heavy burden on many developing countries relying on imports of food and energy commodities, and contributed to food crises in a number of countries in 2007–2008, while the slump of commodity prices in the second half of 2008 was one of the main channels through which the dramatic slowdown of economic and financial activity in the major industrialized countries was transmitted to the developing world.

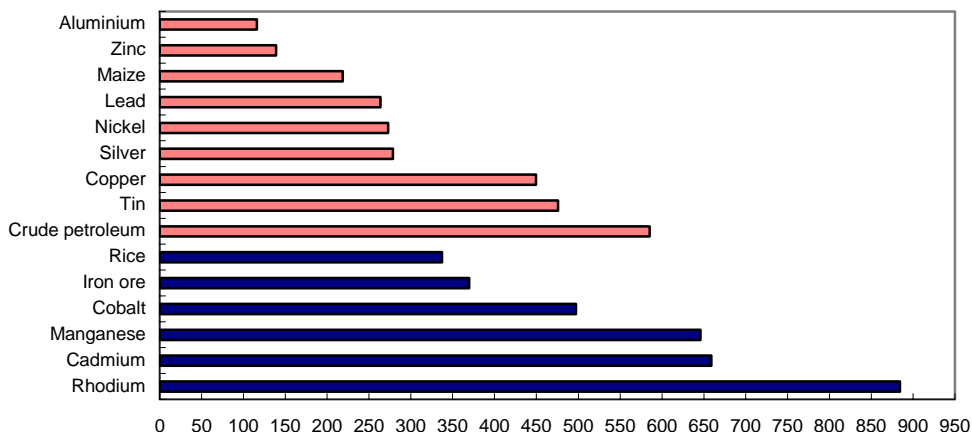
The strong and sustained increase in primary commodity prices between 2002 and mid-2008 was accompanied by a growing presence of financial investors on commodity futures exchanges. This “financialization” of commodity markets has raised concern that much of the recent commodity price developments – and especially the steep increase in 2007–2008 and the subsequent strong reversal – was largely driven by financial investors’ use of commodities as an asset class.

Over the 78 months from early-2002 to mid-2008 the IMF’s overall commodity price index rose steadily and nominal prices more than quadrupled. During the same period, UNCTAD’s non-fuel commodity index tripled in nominal terms and increased by about 50 per cent in real terms. Since peaking in July 2008, oil prices have dropped by about 70 per cent, while non-fuel prices have declined by about 35 per cent from their peak in April 2008. This reversal is considerable; however, it corresponds only to about one seventh of the previous 6-year increase, so that commodity prices remain well above their levels of the first half of this decade. While the timing differed from commodity to commodity, both the surge in prices and their subsequent sharp correction affected all major commodity categories, and they affected both exchange-traded commodities and those that are either not traded on commodity exchanges or not included in the major commodity indices (figure 3.1). It is this latter category that many financial investors use for their investment in commodities.

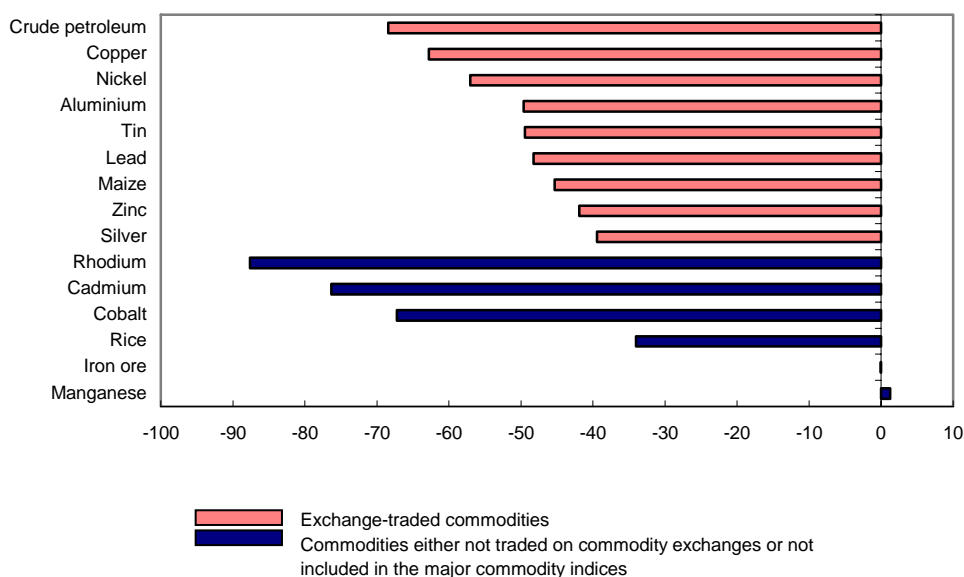
Figure 3.1

COMMODITY PRICE CHANGES, 2002–2008

A. JUNE 2008 VS. JANUARY 2002
(Percentage change)



B. DECEMBER 2008 VS. JUNE 2008
(Percentage change)



Source: UNCTAD secretariat calculations, based on *Metal Bulletin*; and *UNCTAD Commodity Price Bulletin*.

The sometimes extreme scale of changes in recent commodity price developments and the fact that prices had increased and subsequently declined across all major categories commodities suggests that, beyond the specific functioning of commodity markets, broader macroeconomic and financial factors which operate across a large number of markets need to be considered to fully understand recent commodity price developments. The depreciation of the dollar clearly was one such general cause for the surge in commodity prices. But a major new element in commodity trading over the past few years is the greater weight on commodity futures exchanges of financial investors that consider commodities as an asset class. Their possible role in exacerbating price movements away from fundamentals at certain moments and for certain commodities is the focus of the following sections.

B. The growing presence of financial investors in commodity markets

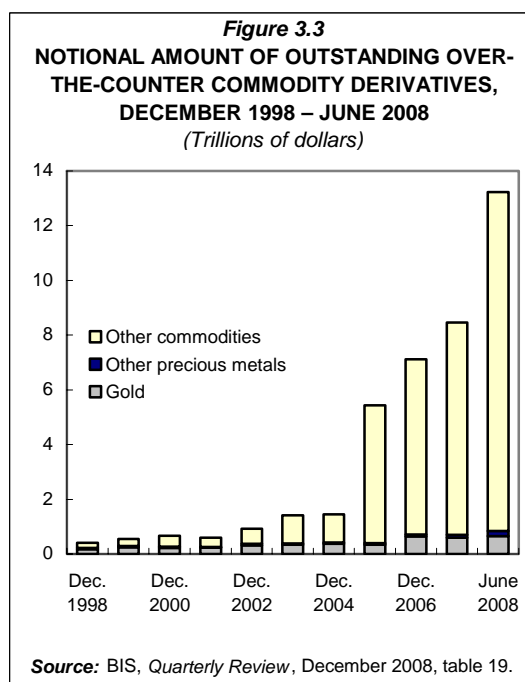
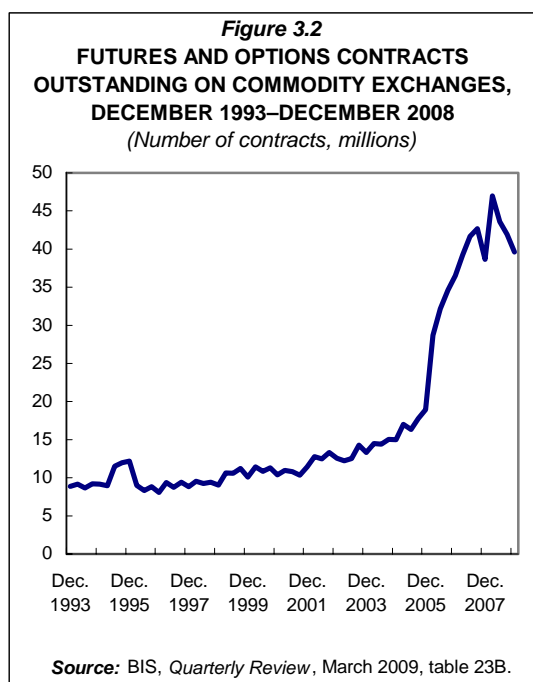
Financial investors have been active in commodities since the early 1990s. Initially, they mainly comprised hedge funds that have short-term investment horizons and often rely on technical analysis. The involvement of financial investors took on new proportions in the aftermath of the dot-com crash in 2000 and started a meteoric rise in early 2005. Most of this financial investment in commodities uses swap agreements to take long-term positions in commodity indexes. Two common indexes are the Standard & Poor's Goldman Sachs Commodity Index (S&P GSCI) and the Dow Jones-American International Group Commodity Index (DJ-AIGCI), which are composites of weighted prices of a broad range of commodities, including energy products, agricultural products, and metals.⁹

Investors in commodity indexes aim at diversifying portfolios through exposure to commodities as an asset class. Index investors gain exposure in commodities by entering into a swap agreement with a bank which, in turn, hedges its swap exposure through an offsetting futures contract on a commodity exchange. All index fund transactions relate to forward positions – no physical ownership of commodities is involved. Index funds buy forward positions, which they sell as expiry approaches and use the proceeds from this sale to buy forward again. This process – known as “rolling” – is profitable when the prices of futures contracts with a long maturity are below the prevailing price of the futures contract with a remaining maturity of one month (i.e. in a “backwardated” market) and negative when the prices of futures contracts with longer maturities are higher (i.e. in a “contango” market).

Trading volumes on commodity exchanges strongly increased during the recent period of substantial commodity price increases. The number of futures and options contracts outstanding on commodity exchanges worldwide increased more than fivefold between 2002 and mid-2008 and, during the same period, the notional value of over-the-counter (OTC) commodity derivatives has increased more than 20-fold, to \$13 trillion (figures 3.2 and 3.3).¹⁰ But financial investment sharply declined starting in mid-2008. This parallel development of commodity prices and financial investment on commodity futures markets is a first indicator for the role of large-scale speculative activity in driving commodity prices first up and then down.

⁹ In the DJ-AIGCI, weights are limited to 15 per cent for individual commodities and to one third for entire sectors, while in the S&P GSCI weights depend on relative world production quantities, with energy products currently accounting for about two thirds of the total index.

¹⁰ The Bank for International Settlements (BIS) is the only source that provides publicly available information about OTC commodity markets. However, these data do not allow for commodity-specific disaggregation. Notional amount refers to the value of the underlying commodity. However, traders in derivatives markets do not own or purchase the underlying commodity. Hence, notional value is merely a reference point based on underlying prices.



C. The financialization of commodity futures trading

Among economists there is, however, scepticism with regard to the link between speculation and commodity price developments. This scepticism is based on the efficient market hypothesis. According to this view, prices in a freely operating market perfectly and instantaneously incorporate all relevant information available. Thus, if speculators were driving market prices above fundamental levels, consumers would demand less than producers are supplying. The resulting excess supply must appear in inventories. For example, Krugman (2008) argues that no inventory accumulation could be observed during the sharp increase in oil prices in 2007–2008 so that speculation cannot have played a role in the oil price run-up.

However, the short-term price elasticity of many physical markets for commodities like oil and food is low. Prices can be driven up by the mere fact that everybody expects higher prices, which in itself may be driven by rising futures prices following rising demand for futures by financial speculators. If producers increase prices consumers do not have many means to hold up. If no substitutes are quickly available they have to accept for a time higher prices. No inventories appear, the market is cleared but prices are much higher than without speculative activity. The efficient market hypothesis fails on commodity markets because the number of counterparties (especially those with an interest in physical commodities) and the size of their positions are less than perfectly elastic. Hence, large orders may face short-term liquidity constraints and cause significant price shifts. This implies the possibility of a “weight-of-money” effect: position changes that are large relative to the size of the total market have a temporary, or even a persistent, price impact.

There is at least one other reason why the efficient market hypothesis may fail on commodity markets. Changes in market positions may result from the behaviour of a certain group of market participants who respond to factors other than information about market fundamentals. Huge amounts of uninformed traders may misinterpret certain pieces of information as a genuine price signal and, by incorporating this signal into their trading strategy, perpetuate the “informational” value of this signal across the market. Given that uninformed traders often use similar trend extraction techniques, they run the risk that collectively they will generate the trends that they then individually identify and follow.

In addition, available inventory data are incomplete. For example, market participants may want to accumulate inventories but do not succeed because of tight supply. In such a situation, mere attempts to accumulate inventories may push up prices without any actual increase in physical inventories. Moreover, a large part of inventories is not included in published data. In the case of some non-ferrous metals for instance, official inventories have strongly increased since mid-2008 despite declining prices. This is likely to reflect a massive de-stocking of private inventories by market participants who had accumulated commodities when prices were rising and the ready availability of physical commodities could provide significant extra benefits and are now depositing their products in official warehouses in exchange for cash. Thus, developments of official inventory data are not reliable indicators in the debate on the relative impact on commodity prices of financial investors and of fundamentals.

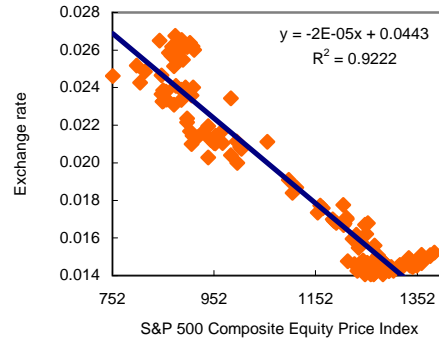
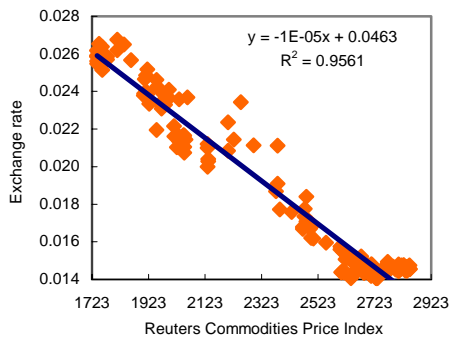
Uninformed trading combined with herd behaviour relates to those managed funds that use technical-analysis tools (trend identification and extrapolation, algorithmic trading) for position taking. This can result in increased short-term price volatility, as well as the overshooting of price peaks and troughs. Moreover, if traders react to changes in non-commodity markets and the price changes stemming from their position changes feed into the trading strategies of uninformed traders, commodity markets will become exposed to spillover effects from other asset markets. Uninformed trading on commodity markets is not a new phenomenon. However, the sustained trend towards greater financialization of commodity trading is likely to have increased the number and relative size of price changes that *per se* are unrelated to fundamental conditions.

A strong indication for the role of uninformed trading in price setting on commodity markets is the strong correlation between the unwinding of speculation in different markets that should be uncorrelated. Figure 3.4 shows that there are phases of speculative activity where currencies, even those of small countries like Iceland, and commodity prices are clearly driven by factors beyond fundamentals because the fundamentals underlying the different prices cannot go into the same direction. Obviously, all participants react to the same kind of information, to the same “news” by winding or unwinding their exposure to risky assets.

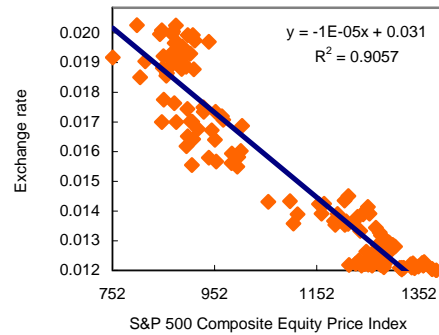
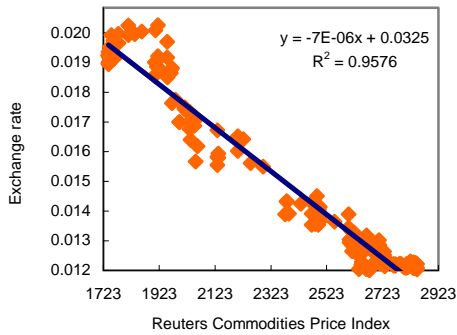
Figure 3.4

CORRELATIONS BETWEEN THE EXCHANGE RATES OF SELECTED COUNTRIES AND EQUITY AND COMMODITY PRICE INDICES, JUNE 2008–DECEMBER 2008

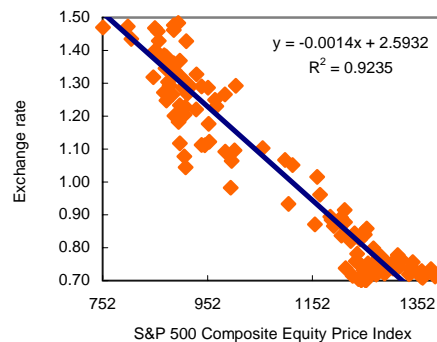
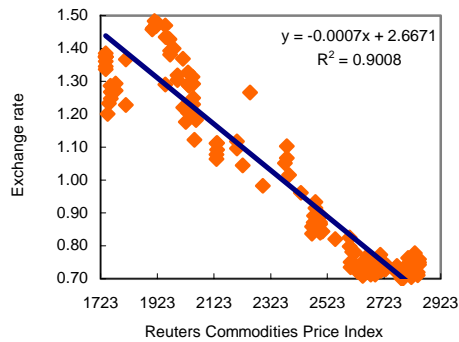
A. BRAZILIAN REAL TO JAPANESE YEN



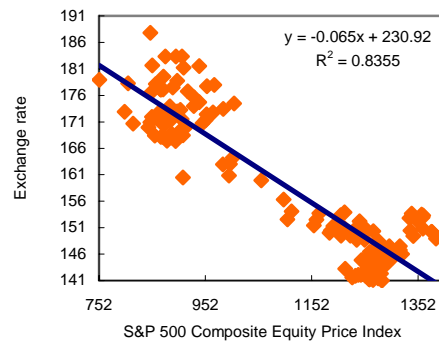
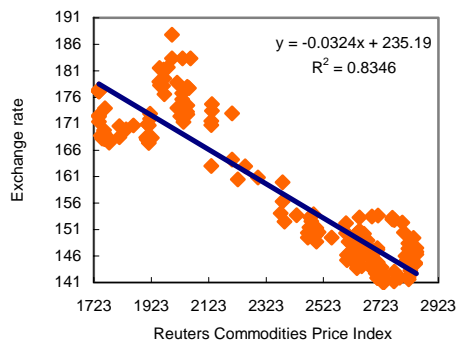
B. NEW ZEALAND DOLLAR TO JAPANESE YEN



C. ICELANDIC KRONA TO JAPANESE YEN



D. HUNGARIAN FORINT TO JAPANESE YEN



Source: Thomson Datastream database.

The weight-of-money effect relates primarily to index-based investment, which allocates positions across many commodities in proportions that depend on the weighting formula of the particular index. As a result, index-based investment generates price pressure in the same direction across a broad range of commodities. Moreover, index-based investment positions can be large relative to the size of the entire markets, as shown below.

Making this analytical distinction between informed, uninformed and noise traders is straightforward in principle (table 3.1), but in practice making this separation is not easy. The Commodity Futures Trading Commission (CFTC) – the institution mandated to regulate and oversee commodity futures trading in the United States – publishes trading positions in anonymous and summary form in the weekly Commitments of Traders (COT) report. The CFTC classifies market participants as “commercial” if they are hedging an existing exposure and “non-commercial” if they are not. It is widely perceived that, as a consequence of the increased diversity of futures markets participants and the increased complexity of their activities, the COT data may fail to fully represent futures market activity (CFTC, 2006a). Many institutions reporting positions as hedges, and which therefore are classified as commercial, are held by commodity swap dealers to offset financial positions which, if held directly as commodity futures, would be counted as non-commercial. Responding to these concerns, the CFTC started in 2007 to issue supplementary data on positions of commodity index traders (CITs) for selected agricultural commodities (CFTC, 2006b). According to the CFTC (2009), CITs generally replicate a commodity index but may come from either the commercial or non-commercial categories.

Table 3.1

Commodity futures trading behaviour: traditional speculators, managed funds and index traders

| | <i>Traditional speculators</i> | <i>Managed funds</i> | <i>Index traders</i> |
|--|--|--|---|
| General market position | Active positions on both sides of market; able to benefit in both rising and declining markets | Active, often large positions on both sides of market; able to benefit in both rising and declining markets; relatively opaque positions | Passive, large and long-only positions in swap agreements with banks which, in turn, hold futures contracts to offset their short positions; able to benefit only in rising or backwardated (spot price > forward price) markets; transparent positions |
| Position taking behaviour | React to changes in commodity market fundamentals (supply, demand, inventories); mostly trade in one or two commodities on which they have intimate knowledge; leveraged positions | Some (e.g. hedge funds) conduct some fundamentals research and thus react to changes in commodity market fundamentals. Others (e.g. commodity trading advisors) mostly use technical analyses (trend identification and extrapolation, algorithmic trading), which extract information from price movements, thereby risking to misinterpret noise trader position taking for genuine price information, to engage in herding behaviour and to cause snowball effects; leveraged positions | Not interested in fundamentals of specific commodity markets but may take views on commodities as a whole; relative size of positions in individual commodity determined by index weighting formula; idiosyncratic position taking such as rolling at predetermined dates; position changes relatively easy to predict; fully collateralized positions |
| Impact on liquidity | Improve liquidity | Active, large positions can improve liquidity and make hedging easier for large commercial users. In periods of rapid and sharp price changes, large positions are a "liquidity sponge", making it difficult for hedgers with commercial interests to place orders | Passive, large positions act as "liquidity sponge" |
| Reaction to sharp price changes | May be taken by surprise if price changes are unrelated to fundamentals; can be forced out of market if insufficient liquidity to meet margin calls triggered by sharp price increases | Taking and closing positions often automatically triggered by computer programmes; risk of causing snowball effect | Different price developments for individual commodities require recomposition of relative investment positions to preserve predetermined index weight pattern; sharp price declines may cause disinvestment |
| Reaction to changes on other markets | Operate only in commodity markets; normally concentrate on one or a few commodities and, thus, react little to developments in other markets | Operate across different asset classes. Commodities tend to have a fixed weight in managed fund portfolios so that price movements in other markets can lead to position changes in commodity markets | Operate across different asset classes. Potentially strong links between commodity futures market activity and development on equity and bond markets, in two dimensions: (i) risk-return combinations in other asset classes can become more attractive, causing a withdrawal from commodity markets; (ii) margin calls on other investments can trigger closing of positions in commodities and accelerate contagion across asset classes |
| Classification in CFTC Commitment of Traders Reports | Non-commercial user category | Mostly in non-commercial user category | Mostly in commercial user category |

Source: UNCTAD secretariat.

A primary concern often expressed with respect to the financialization of commodity trading relates to the magnitude of index trader activity combined with the fact that they tend to take only long positions. Table 3.2 provides evidence on the relative share of both long and short positions held by different trader categories in those agricultural markets for which the CFTC has published disaggregated data starting in January 2006. The data clearly show that index funds are present almost exclusively in long positions and that they account for a large portion of the open interest in some food commodity markets. Indeed, over the period 2006–2008, the net long positions of index traders in cotton, live cattle, feeder cattle, lean hogs and wheat were significantly larger than the respective positions of commercial traders, while they were roughly of equal size for maize, soybeans and soybean oil.

While the number of index traders is relatively small, their average long position is very large (middle panel of table 3.2), sometimes more than ten times the size of an average long position held by either commercial or non-commercial traders. Positions of this order are likely to have sufficiently high financial power to drive prices (Capuano, 2006). As a result, speculative bubbles may form and price changes can no longer be interpreted as reflecting fundamental supply and demand signals. All of this can have an extremely detrimental effect on normal trading activities and the efficiency of the market, despite the existence of speculative position limits.

In fact index traders actually exceeded speculative position limits in wheat contracts on the Chicago Board of Trade (CBOT) and for other commodities they came much closer to these limits than did the other trader categories (right-hand panel of table 3.2). This is legal as index traders are mostly classified as commercial traders and, therefore, are not subject to speculative position limits. But as noted by Sanders, Irwin and Merrin (2008: 8) “it does provide some indirect evidence that speculators or investors are able to use ... [existing] instruments and commercial hedge exemptions to surpass speculative limits”.

Table 3.2
Futures and options market positions, by trader group,
selected agricultural commodities, January 2006–December 2008

(Per cent and number of contracts)

| Long positions | | | | | | | | |
|-----------------------|--|-------------------|--------------|----------------------|------------------------------|-------------------|--------------|---------------------------|
| <i>Commodity</i> | Percentage share in total positions | | | | Average position size | | | Speculative limits |
| | <i>Non-Commercial</i> | <i>Commercial</i> | <i>Index</i> | <i>Non-reporting</i> | <i>Non-Commercial</i> | <i>Commercial</i> | <i>Index</i> | |
| | Maize | 42.4 | 23.4 | 22.8 | 11.3 | 1134 | 1499 | |
| Soybeans | 42.1 | 20.4 | 25.2 | 12.2 | 590 | 1052 | 6024 | 10000 |
| Soybean oil | 38.0 | 28.4 | 23.8 | 9.8 | 790 | 1719 | 4418 | 6500 |
| Wheat CBOT | 39.0 | 12.3 | 41.1 | 7.5 | 553 | 964 | 8326 | 6500 |
| Wheat KCBOT | 38.1 | 23.4 | 21.0 | 17.5 | 680 | 632 | 1816 | 6500 |
| Cotton | 41.0 | 20.1 | 30.7 | 8.3 | 363 | 1010 | 4095 | 5000 |
| Live cattle | 39.3 | 12.0 | 39.7 | 9.0 | 580 | 409 | 4743 | 5150 |
| Feeder cattle | 42.5 | 15.7 | 24.6 | 17.2 | 258 | 162 | 469 | 1000 |
| Lean hogs | 36.3 | 8.7 | 43.8 | 11.3 | 419 | 712 | 3983 | 4100 |

| Short positions | | | | | | | | |
|------------------------|--|-------------------|--------------|----------------------|------------------------------|-------------------|--------------|---------------------------|
| <i>Commodity</i> | Percentage share in total positions | | | | Average position size | | | Speculative limits |
| | <i>Non-Commercial</i> | <i>Commercial</i> | <i>Index</i> | <i>Non-reporting</i> | <i>Non-Commercial</i> | <i>Commercial</i> | <i>Index</i> | |
| | Maize | 34.7 | 47.2 | 1.2 | 16.9 | 618 | 2469 | |
| Soybeans | 36.4 | 44.6 | 1.2 | 17.8 | 365 | 1696 | 736 | 10000 |
| Soybean oil | 29.1 | 63.2 | 0.9 | 6.7 | 512 | 3385 | 720 | 6500 |
| Wheat CBOT | 41.7 | 42.3 | 3.0 | 12.9 | 554 | 2124 | 1218 | 6500 |
| Wheat KCBOT | 20.4 | 56.0 | 0.5 | 23.1 | 378 | 1123 | 221 | 6500 |
| Cotton | 39.8 | 54.1 | 1.0 | 5.1 | 380 | 2706 | 496 | 5000 |
| Live cattle | 34.5 | 43.8 | 0.7 | 21.0 | 456 | 879 | 487 | 5150 |
| Feeder cattle | 34.0 | 20.9 | 1.0 | 44.2 | 166 | 150 | 213 | 1000 |
| Lean hogs | 38.3 | 43.1 | 0.8 | 17.9 | 405 | 1952 | 353 | 4100 |

Source: UNCTAD secretariat calculations, based on data from CFTC; speculative limits from Sanders, Irwin and Merrin (2008: 25).

Note: Following the methodology applied by Sanders, Irwin and Merrin (2008), spread positions were added to both long and short positions for the percentage shares in total positions. Average size of spread position is not reported here.

D. Financialization and commodity price developments

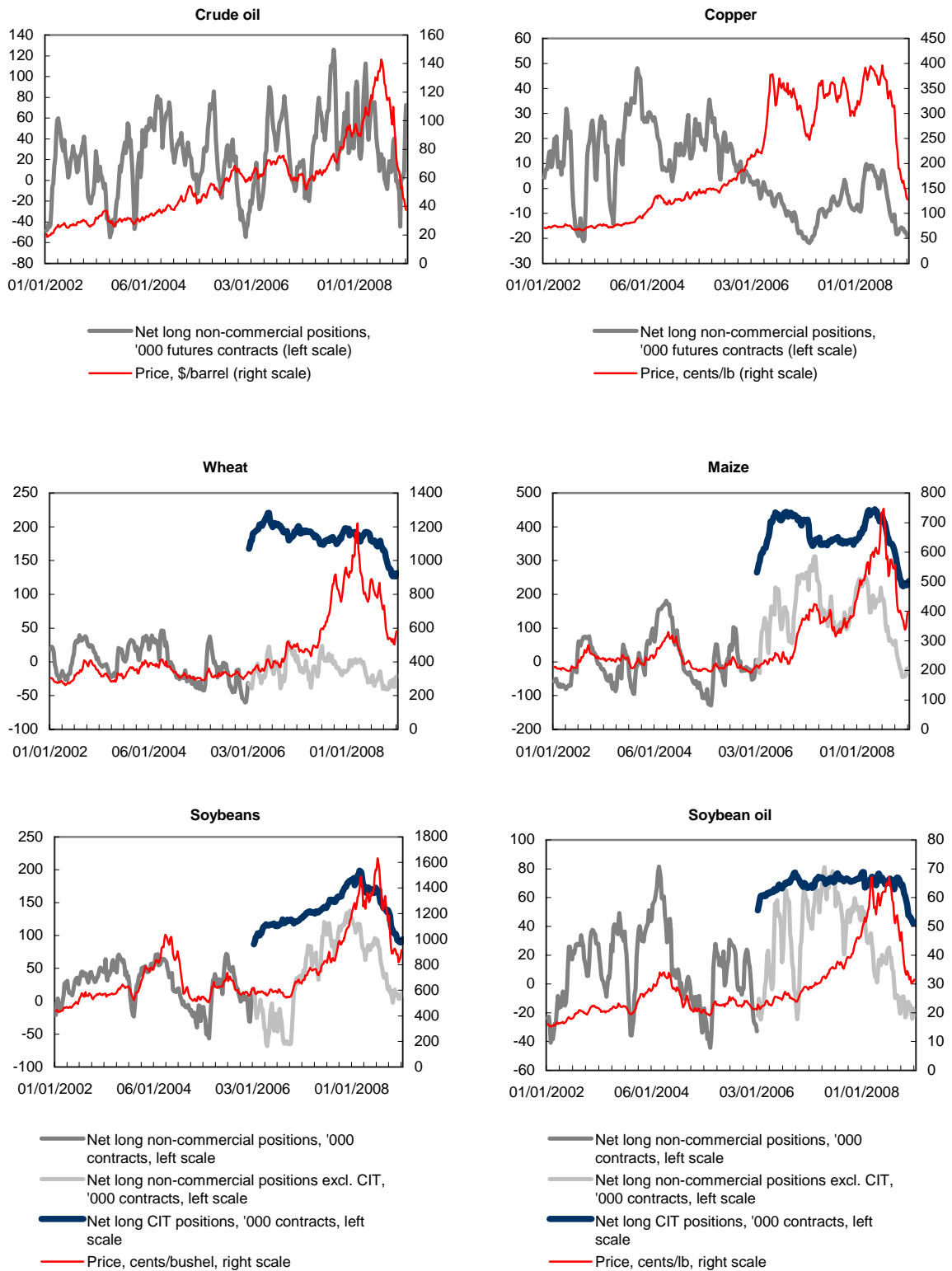
To gauge the link between changes in trading positions and price changes figure 3.5 shows for the period 2002–2008 net long non-commercial positions for crude oil, copper, wheat, maize, soybeans and soybean oil, as well as the net long index-trader positions for those commodities (wheat, maize, soybean and soybean oil) for which the CFTC has published data separately starting in 2006. A first finding from this figure is that index trader positions are overwhelmingly taken by market participants included in the commercial category, as already indicated in the evidence presented in table 3.2.

However, figure 3.5 provides only scant evidence for a correlation between speculative-position and price developments. While there clearly are periods and commodities where positions and prices move together, especially during the recent downturn and occasionally during the previous price upturn, there are other times when positions were not rising during periods of rapid price

appreciation. For example, in the wheat market there was no increase in either non-commercial positions or index trader positions during the steep price increase from mid-2007 through the first quarter of 2008. By contrast, during the same period there appears to be a weak correlation between market positions and prices in the maize and soybean markets, while the evidence is mixed for the soybean oil market. For oil and copper, where separate data on index trader positions are not available, non-commercial positions were declining along prices in the second half of 2008. By contrast, evidence for the earlier price increase does not suggest a correlation between non-commercial positions and prices: non-commercial copper positions were declining during the period of the sharpest price increases, roughly from the beginning of 2004 through mid-2006. For oil non-commercial positions exhibited strong volatility, even as oil prices rose almost continuously from the beginning of 2007 through the second quarter of 2008, by which time net oil positions had dropped roughly to zero.

Figure 3.5

COMMODITY FUTURES PRICES AND FINANCIAL POSITIONS, SELECTED COMMODITIES, JANUARY 2002–DECEMBER 2008



Source: UNCTAD secretariat calculations, based on data from Thomson Datastream and CFTC.

Short-term price effects resulting from index traders' position changes may be misinterpreted by other traders as incorporating new market information. More importantly, in the presence of uninformed traders that use technical analyses such as trend extrapolation to determine their position taking, such short-run effects may well give rise to "explosive extrapolative behaviour" that causes speculative bubbles (Gilbert, 2008a, b).¹¹

Such behaviour has been found for the market of non-ferrous metals prices over the period February 2003 to August 2008, during which ten months with explosive behaviour were detected (Gilbert, 2008a). Similar results were obtained for Chicago grain markets and the period 2006–2008, including numerous instances of explosive behaviour of soybean oil (Gilbert, 2008b). The finding of explosive behaviour of soybean and soybean oil prices is of particular importance because of the pivotal role of soybeans, which are substitutes of wheat and maize in production, of other vegetable oils and animal feedstuffs in consumption, and of crude oil in energy. Taken together these results indicate that explosive extrapolative behaviour is widespread in commodity futures markets, and that this may have contributed to price volatility over recent years. The evidence also suggests "that the efficient markets view that uninformed speculation has no effect on market prices and volatility should be rejected" (Gilbert, 2008a: 21).

E. The implications of increased financial investor activities for commercial users of commodity futures exchanges

If the financialization of commodity trading causes futures market quotations to be driven more by the speculative activities of financial investors and less by fundamental supply and demand factors, hedging against commodity price risk becomes more complex and long-term hedging by commercial users may be discouraged.

To the extent that financial investors increase price volatility, hedging becomes more expensive, and perhaps unaffordable to developing country users, as they may no longer be able to finance margin calls. For example, during the period January 2003–December 2008 margin levels as a percent of contract value increased by 142 per cent in maize, 79 per cent in wheat and 175 per cent in soybean on the Chicago Board of Trade (CME, 2008: 17–18). In early 2007, the LME raised its margin requirement by 500 percent over the space of a few months (Doyle, Hill and Jack, 2007). Larger, well-capitalized firms can afford these increases, but smaller participants may need to reduce the number of contracts they hold. This could itself reduce liquidity, add to volatility and discourage more conservative investors. Hedging food commodity exposure may become particularly risky because of the typically long-term nature of such hedges, corresponding to harvest cycles. Evidence reported by the Kansas City Board of Trade (2008) indeed points to a reduction in long-term hedging by commercial users at the beginning of 2008, caused by higher market volatility.

Moreover, since 2006, there have been numerous instances of a lack of price convergence between spot markets and futures contracts during delivery for maize, soybean and wheat. The price of a futures contract that calls for delivery may differ from the current cash price of the underlying commodity, but these prices should very closely match when the futures contract expires. The difference between the futures and the cash price (also called "basis") will tend to widen when storage facilities are scarce and shrink when physical supply becomes tight. If, in an otherwise balanced market, prices diverge by more than the cost of storage and delivery, arbitrageurs would usually act to

¹¹ Gilbert (2008a, b) argues that commodity prices are subject to explosive extrapolative behaviour if the current price is related to the past price through an auto-regressive relationship with an auto-regressive factor slightly in excess of unity and if this slight excess prevails only for short periods of time. More formally, tests for explosive extrapolative behaviour are based on the following equation: $\ln f_t = \alpha + \beta \ln f_{t-1} + \varepsilon_t$, where f_t and f_{t-1} are the current and past prices, respectively, β is the autoregressive factor, and ε is an error term.

make the prices converge eventually. Failure to do so causes increased uncertainty about the reliability of signals emanating from the commodity exchanges with respect to making storage decisions and managing the risk of market positions. This could eventually result in decreased hedging, as commercial users seek alternative mechanisms for transferring and managing price risk (Irwin et al., 2008). The use of commodity exchanges by commercial users could also decline because, in addition to increased uncertainty, the non-convergence of futures and spot prices increase the cost of hedging (Conceição and Marone, 2008: 56–57).

F. Policy implications

Open-market price discovery and price risk management have traditionally been seen as the main benefits that commodity futures exchanges would provide to developing country users. By reducing price risk, hedging on commodity futures exchanges was also seen by some as an alternative to supply management under international commodity agreements. Meanwhile, commodity exchanges have come to assume a broader developmental role as their utility for developing countries has increasingly been seen as removing or reducing the high transaction costs faced by entities along the commodity supply chains (UNCTAD, 2007b). Given that the financialization of commodity futures trading has made the functioning of commodity exchanges increasingly controversial, the question that the current financial crisis poses is how the functioning of commodity futures exchanges can be improved in such a way that they can fulfil their developmental role. In trying to answer this question, it is useful to look at regulatory issues regarding commodity futures exchanges *per se*, before addressing broader international policy measures.

1. Regulation of commodity futures exchanges

Most commodity futures trading is executed on exchanges located in the United States, the regulation of which is mandated to the CFTC. Commodity exchange regulation has to find a reasonable compromise between overly restrictive limitations on speculative position holdings, which could impair market liquidity and reduce the hedging and price discovery functions of commodity exchanges, and overly lax surveillance and regulation, which would allow prices to move away from levels warranted by fundamental supply and demand conditions and, thus, equally impair the hedging and price discovery functions of the exchanges. Abuse of futures trading by speculators is addressed through the concept of “excessive speculation” defined as trading that results in “sudden or unreasonable fluctuations or unwarranted changes in the price” of commodities underlying futures transactions (section 4a of the Commodity Exchange Act (CEA)). To limit the amount of speculative trading, the CFTC has set speculative position limits, which define the maximum position, either net long or net short, in one commodity futures (or options) contract, or in all futures (or options) contracts of one commodity combined, that may be held or controlled by one person other than a person eligible for a hedge exemption.

While it is often held that commodity exchanges have generally functioned well, the recent very sizeable price changes, occurring sometimes within a single trading day, have given rise to greater controversy regarding the appropriateness of regulation. This controversy relates to concerns of both the adequacy of information that the CFTC is mandated to collect and the restrictiveness of regulation regarding financial investors relative to that imposed on participants with genuine commercial interests. The need for tighter regulation has been discussed mainly under the “swap dealer loophole”.

The “swap dealer loophole” has played a particularly important role in the current debate on regulatory changes of the CFTC’s regulatory mandates. This is because the greater involvement of financial investors in commodity futures trading has significantly increased the positions that swap dealers hold in commodity futures contracts. Swap dealers typically sell over-the-counter swaps to their customers (such as pension funds buying commodity index funds) and hedge their price exposures with long futures positions in commodities. Swap dealers are generally included in the

category “commercial traders” as they use commodity exchanges for hedging purposes. This has allowed them to be exempted from regulation regarding speculative position limits. But contrary to traditional commercial traders, who hedge physical positions, swap dealers hedge financial positions.

Several proposals have been advanced on how to close the swap dealer loophole. For example, the Kansas City Board of Trade (2008) proposes addressing the index fund hedge exemptions by limiting their total direct or indirect futures hedge position to a percentage maximum in the contracts with a remaining maturity of one or two months, thus creating an incentive to spread the total position across several months and ease position concentration. It also suggested changes to the definition of a *bona fide* hedger and a related bifurcation in margin requirements between those that have true commercial hedge positions and those that hedge financial positions, as well as to alleviate strains to finance margins by accepting commercial agricultural collateral (warehouse receipts, etc). Particularly these last two changes would tend to improve the functioning of commodity exchanges with respect to participants with truly commercial interest.

Given the global character of commodity futures trading and the fact that through trading arbitrage some contracts involve the jurisdiction of regulatory authorities in more than one country, international collaboration of regulatory agencies is required. Such collaboration would involve not only the sharing and publishing of information, some of which is already in place, but also more enhanced cooperation and greater harmonization in trading supervision.¹² It would appear particularly urgent that exchanges whose legal basis is London provide data on positions by trader categories similarly to those that the CFTC has made publicly available for some agricultural products through its COT supplementary reports. Moreover, the product coverage of these supplementary reports would need to be enlarged. Product coverage has remained limited because for many commodities traded on US-exchanges look-alike contracts can be traded in London. As a result, data on positions on US-exchanges provide only a partial picture of the total positions of traders that are active on both the United States and London exchanges. Moreover, it would appear that in the absence of such data for energy products, legislation enacted in the United States to address the London loophole will fail to be effective unless similar data on positions taken on (Intercontinental Exchange) ICE will be available.

2. International policy measures

In addition to regulatory issues, the financialization of commodity futures trading confronts the international community with the question as to how supply-side measures can address excessive commodity price volatility. This issue is of particular importance for food commodities because current grain and oilseed stocks are at historic lows so that any sudden increase in demand, or a major shortfall in production, or both, will rapidly cause significant price increase. Hence, physical stocks in food commodities need to be rebuilt urgently and adequately sized to moderate temporary shortages and to buffer sharp price movements and to make speculation much more risky and expensive. Holding large inventories around the world has often been judged economically inefficient. In the light of the crisis and the role of financial “investors” this position is no longer convincing.

¹² The Financial Services Authority (FSA), which monitors commodity markets in the United Kingdom, has looked at commodity markets as specialised markets which are dominated by professional participants and hence require less regulatory attention than equity and bond markets. It supervises firms active in commodity markets with a view to ensuring financial stability of market participants such that contract settlement can take place on time and without default of any party, and it mandates commodity exchanges to regulate their own markets with a view to providing clearly defined contract terms and ensuring freedom of manipulation. In their advice on the European Commission’s review of commodity business, the Committee of European Securities Regulators (CESR) and the Committee of European Banking Supervisors (CEBS) (CESR, 2008) pointed to potential concerns regarding low levels of transparency in OTC commodity derivatives markets, as well as regarding the current client categorisation rules and transaction reporting requirements, but concluded that there was not much benefit to be gained by mandating through legislation greater pre- and post-trade transparency in commodity derivatives markets and that the current practice of how regulated markets report trading was sufficient.

Obviously, the world needs a new global institutional arrangement consisting of a minimum physical grain reserve to stabilize markets, to respond effectively to emergency cases and humanitarian crisis and an intervention mechanism. Intervention in the futures markets should be envisaged as soon as an existing global institution or a “global intelligence unit” (von Braun and Torero, 2008) considers market prices to differ significantly from an estimated dynamic price band based on market fundamentals. The global mechanism should be able to bet against the positions of hedge funds and other big market participants and would assume the role of “market maker” (Davidson, 2008). Needless to say, adopting such a mechanism would commit a public agency to second-guess market developments and as the agency would need to bet against the positions of hedge funds it could itself become a target for speculators, considerations which would have to be addressed in its eventual design.

If a virtual reserve and intervention mechanism could be made to work satisfactorily it would not make more physical commodities available on markets, except for emergency situations. Given that the historically low level of inventories was one determinant of the abrupt price hike of food commodities in early 2008, the question remains how incentives to increase production and productivity could be fostered in developing countries, particularly in food commodities, including through a reduction in trade barriers and domestic support measures in developed countries.

G. Conclusions

Commodity futures exchanges do not function in accordance with the efficient market view. There are an increasing number of market participants with sometimes very large positions that do not trade on the basis of fundamental supply and demand relationships in commodity markets. The evidence to support the view that the recent wide fluctuations of commodity prices have been driven by the financialization of commodity markets far beyond the equilibrium prices is credible. Various studies find that financial investors have accelerated and amplified price movements at least for some commodities and some periods of time. Some of these effects may have been substantial and some persistent, but the non-transparency of existing data and lack of a comprehensive breakdown of data by trader categories make it difficult to examine the link between speculation and commodity price developments directly. The strongest evidence is found in the high correlation between commodity prices and the prices on other markets that are clearly dominated by speculative activity.

These effects of the financialization of commodity futures trading have made the functioning of commodity exchanges increasingly contentious. They tend to reduce the participation of commercial users, including from developing countries, because commodity price risk hedging becomes more complex and because there is greater uncertainty about the reliability of signals emanating from the commodity exchanges with respect to making storage decisions and managing the price risk of market positions.

It is unclear whether financial investors will continue considering commodities as an attractive asset class. The trading strategy of index investors has proven to be strongly dependent on specific conditions (rising or *backwardated* markets) to be profitable, and it has been fairly predictable so that other market participants may make sizeable profits by trading against index investors. Hence, financial investors are likely to move away from investing passively in indexes towards a more active trading behaviour either by more flexibly determining how and when to roll forward positions or by concentrating on other investment vehicles, such as commodity exchange traded funds.¹³ This implies that the distinction between short-term oriented managed funds and other financial investors will become less clear. How this affects commodity prices will mainly depend on the extent to which such a shift in financial investors’ trading strategy will imply a greater

¹³ Commodity exchange traded funds are listed securities backed by a physical commodity or a commodity futures contract.

concentration on specific commodities, instead of commodities as an aggregate asset class. But such a potential shift in financial investors' trading behaviour is unlikely to reduce the relative size of their positions which will continue to be able to amplify price movements at least for short periods of time, especially if investors concentrate on individual commodities.

Better regulation of these markets and direct intervention in case of destabilizing speculation is needed more than ever before.

However, the ability of any regulator to understand what is moving prices and to intervene effectively depends upon its ability to understand the market and to collect the required data. Such data is currently not available. Trading on regulated commodity exchanges and off-exchange derivatives trading have become increasingly interdependent. This calls for comprehensive OTC reporting and record keeping in order to examine trading information about sizeable transactions in look-alike contracts that could impact regulated markets.

Enhanced regulation of commodity futures markets also entails closing the swap dealer loophole to enable regulators to counter unwarranted impacts from OTC-markets on commodity exchanges. At present, banks that hold futures contracts on commodity exchanges to offset their short positions in OTC swap agreements vis-à-vis index traders fall under the hedge exemption and thus are not subject to speculative position limits. Therefore, regulators are currently unable to intervene effectively even though swap dealer positions frequently exceed such limits and may represent "excessive speculation".

Another key regulatory aspect regards extending the product coverage of the CFTC's COT supplementary reports and requiring non-United States, particularly London-based, exchanges that trade look-alike contracts to collect similar data. The availability of such data would provide regulators with early warning signals and allow them to recognize emerging commodity price bubbles. Related stepped-up regulatory authority would allow them to prevent bubble-creating trading behaviour from having adverse consequences for the functioning of commodity futures trading.

To the extent relevant in each case, developing country commodity exchanges may consider taking similar measures, though their trading tends to be determined more by local commercial conditions than be subject to sizeable involvement of internationally operating financial investors.

Chapter IV

Exchange rate regimes and monetary cooperation

A. Introduction: currency speculation and financial bubbles

The fact that the global financial crisis originated in a relatively obscure corner of the United States housing credit system means that it cannot be analysed adequately by just looking at this segment of the market while ignoring the huge asset-price bubbles that arose elsewhere seemingly independently. These burst almost simultaneously because the subprime credit collapse was the kind of idiosyncratic shock that highlighted the exposure to risk in many areas and triggered the sudden unwinding of speculative positions in the stock markets, the commodities market and in the market for currencies.

In an environment of generally weak national financial regulation and in the absence of a rule-based international monetary system, the crisis quickly spread. In this way the uncertainty associated with the subprime crisis generated an initial speculative unwinding of open currency positions in summer 2007 already resulting in a strong appreciation of the Japanese yen. Since August 2008 the unwinding of speculative currency positions has led to large depreciations of former high-yielding currencies of developed economies (Australia, Iceland, New Zealand), a few emerging market economies (Brazil, Turkey, South Africa, Republic of Korea) as well as several transition economies (Hungary, Ukraine, Romania) and has put those countries into the spotlight of financial markets where currencies are fixed (Bulgaria and the Baltic States). As a result, in November and December two economies with formerly fast appreciating currencies and large external imbalances, Hungary and Iceland, called for IMF stand-by loans in face of their mounting currency and banking crises (IMF, 2008a, b). Likewise, Latvia, whose currency is pegged to the Euro, faced increasing interest-rate spreads due to uncertainty about its current account deficit and the mounting foreign-currency indebtedness, asked for an IMF stand-by arrangement at the end of December 2008 (IMF, 2008c). Several other countries reached similar agreements, among them Ukraine and Pakistan, and many others are expected to come.

While these currency movements are the result of the unwinding of speculative positions and deleveraging of the financial sector at large, currency speculation contributed independently to the build-up of the financial crisis. It was encouraged by short-sighted domestic policies as well as by an unregulated international financial system that attracts financial investors to leverage the short-term opportunities provided by divergent monetary policies in different countries. Indeed, the typical configuration of interaction between incoherent global economic policies and private investors has been the blueprint for most recent financial crises and financial fragility in emerging market economies.

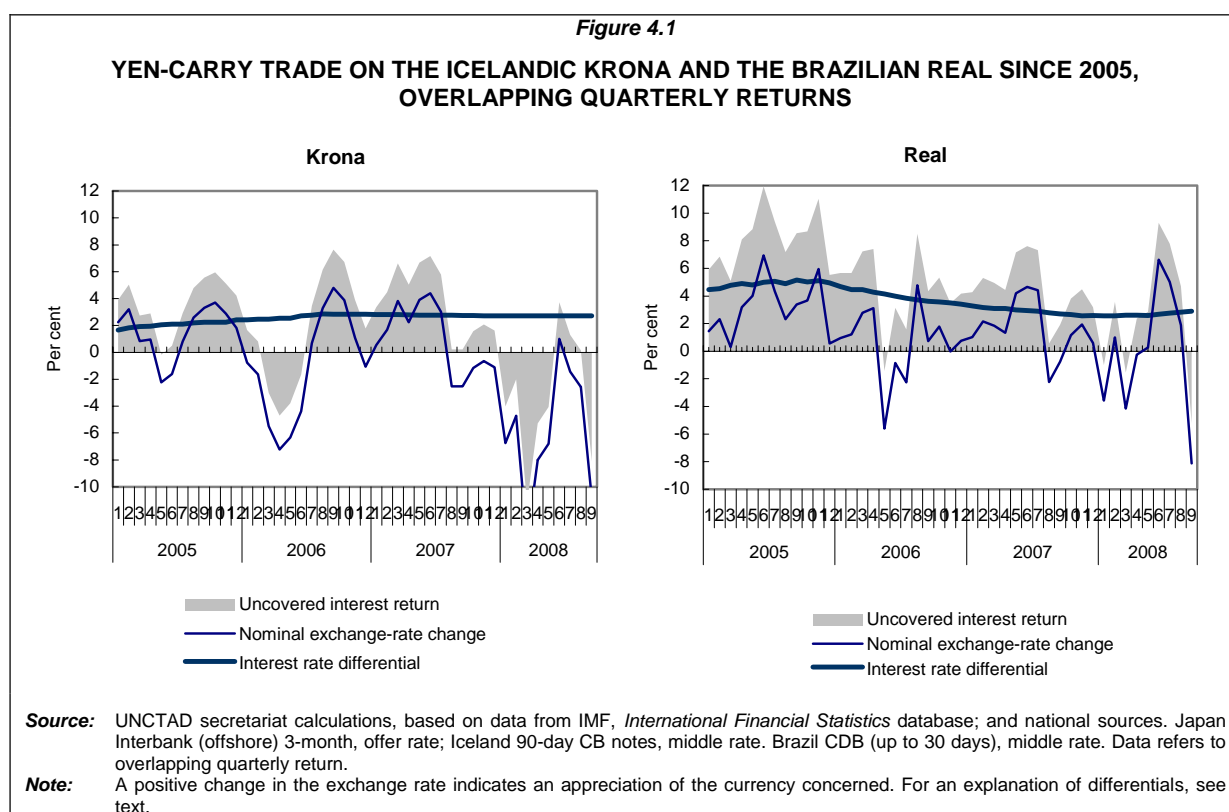
In this way, large interest rate differentials, typically associated with large inflation differentials, create the expectation of high nominal returns for financial investors. The latter are not concerned about inflation rates and other real fundamentals as long as they do not constitute a perceivable threat to currency stability and therefore to their expected profits over a short period of time. The interest rate differential is a plausible starting point for this kind of interest arbitrage because short-term interest rates are rather stable as central banks in both countries determine them according to actual national inflation and national inflation targets. Moreover, the capital inflows induced by nominal interest rates spreads, coupled with an exchange rate that is perceived either as being stable or as appreciating on average (even the expectation of depreciation may allow for sufficient returns), can have a cumulative effect on the currency market. This effect drives exchange rates away from what is traditionally considered by the Purchasing Power and Interest Rate Parity

theories as market equilibrium and a real exchange rate (the most comprehensive measure of competitiveness between countries) that is rather stable.

Whereas, under a fixed exchange rate or crawling peg regime, hot money inflows may boost money creation and credit expansion, a regime of floating exchange rates may induce nominal appreciation as well as reserve increases to the extent that the central bank, openly or implicitly, acts to contain exchange rate volatility. A *nominal* appreciation may restrain inflation by reducing import prices of intermediate and final goods. But an appreciated *real* exchange rate penalizes exports, deteriorates competitiveness and fosters import growth.

In the same vein, speculative flows induced by differentials in returns on assets denominated in different currencies, generate unsustainable currency mismatches in the balance sheets of firms, banks and even households. While foreign speculators enjoy the larger returns by borrowing in a low yielding currency and lending in a high-yielding currency, domestic players access cheap credit in foreign low-yielding currencies and invest in higher-return financial, real estate and other speculative assets. This may work for a while to the benefit of all players. But those capital inflows lead to real appreciation of domestic currencies either via nominal appreciation, price inflation or both and seed the sows of the collapse by destroying the competitiveness of enterprises in the capital receiving country. Once the loss of competitiveness shows up in huge and rising current account deficits or large losses of market shares, devaluation is unavoidable but extremely costly given the widespread currency mismatch and the mushrooming debt burden for domestic companies and households (see UNCTAD, 2007c; UNCTAD, *TDR 2007*; and UNCTAD, *TDR 2008*).

The left panel of figure 4.1 shows the historical carry trade potentials driven by the nominal exchange-rate dynamics and the interest rate differentials between the Japanese yen and the Icelandic krona. The thick line represents a 3-month interest rate differential between a krona- and a yen-denominated asset; the thin line is the exchange-rate change of the krona vis-à-vis the yen for the same period. Their sum (the shaded area) is the return on a 3-month (uncovered) lending in the Icelandic market by borrowing in Japan in local currencies. Since this return carries the risk of exchange-rate changes, it is called “uncovered interest return”. The same logic applies to some emerging market economies that have experienced steady appreciations of their currencies despite fairly high inflation rates. For instance, the right panel of figure 4.1 makes the case of the Brazilian real where real appreciation induced by large interest rate differentials vis-à-vis the Japanese yen allowed large speculative gains between 2005 and 2008 (the shaded area).



In the last two decades, currency speculation of the carry trade type has been a recurrent phenomenon often associated with banking and financial crises at country and regional levels. The Argentinean and Chilean crisis in the 1980s, Mexico in 1994, East Asia in 1997–1998, the Russian Federation in 1998, Brazil in 1999, and Argentina in 2001–2002, all culminated in currency attacks and found their origins in the build up of financially fragile positions via currency speculation and/or widening external imbalances due to unsustainable pegs. Despite some political rhetoric about creating a “new international financial architecture”, carry trade has substantially contributed to the widening of the global imbalances since the end of the Latin American crisis. For instance, between 2004 and 2008 the Icelandic krona, the Australian and New Zealand dollars, the Brazilian real, the Turkish lira, the South African rand and the Korean won as well as the currencies of some transition economies such as Hungary or Romania have experienced persistent trends of appreciation despite relatively high inflation rates.¹⁴ The carry trade funding currencies, such as the Japanese yen, the Swiss franc and the United States dollar, were driven in the opposite direction, depreciation, despite very low inflation rates or even deflation as in the case of Japan.

The unwinding of carry trade positions has been typically triggered by changes in “conventional focal points” such as the external balance or expected GDP growth, or by the fear of an interest rate correction and an exchange rate jump caused, for example, by changing inflation prospects of the funding currency. The heightened uncertainty and risk of the new global financial climate and the increased fragility of many speculative positions sparked off the most recent period of unwinding of carry trade operations. The growing importance of speculation in the process of appreciation of exchange rates in countries with relatively “bad” fundamentals reflects the general trend of building up of risky leveraged positions in the “search for double digit yields of financial investment”. The subsequent “flight to quality” and “the deleveraging fever” is, in the same way as

¹⁴ In fact what these economies needed was currency devaluation to compensate for the loss of competitiveness associated with the inferior inflation performance.

for stocks or commodities, just the result of the recognition that the system as a whole could not deliver what too many players expected.

B. The history of different exchange rate regimes is of a series of failures

The dismal experience with floating rates or managed *but* floating rates in the current financial crisis shows, once again, one of the striking inconsistencies of global economic governance. On the one hand, a *stable exchange rate at an appropriate level* is crucial for a successful trade performance, growth, employment and the catching-up of developing countries. Sharp exchange rate fluctuations have a significant distorting impact on relative output prices, affecting directly trade performance. Unforeseen and volatile exchange rate changes represent shifts in the external value of money and disrupt the functioning of the global goods markets in the same way as do unforeseen and volatile national inflation rates (changes in the internal value of money). On the other hand, most attempts to stabilize exchange rates unilaterally have also failed.

In fact, the adoption of pegged exchange rate regimes is considered to be one of the core causes of financial crisis in emerging countries during the 1990s. During the last decade, Argentina, Brazil, Indonesia, Mexico, the Republic of Korea, the Russian Federation and Thailand pegged unilaterally their exchange rate to an anchor currency, the United States dollar. The goal of the unilateral anchoring was to stabilize the external value of money and to force domestic inflation down through the channel of competitive pressure on domestic producers through cheap imports. However, the latter part of the strategy implied an overvaluation of the home currency even if the country succeeded in bringing inflation down (see box 4.1). This overvaluation normally resulted in a loss of international market shares and a deterioration of the current account balances.

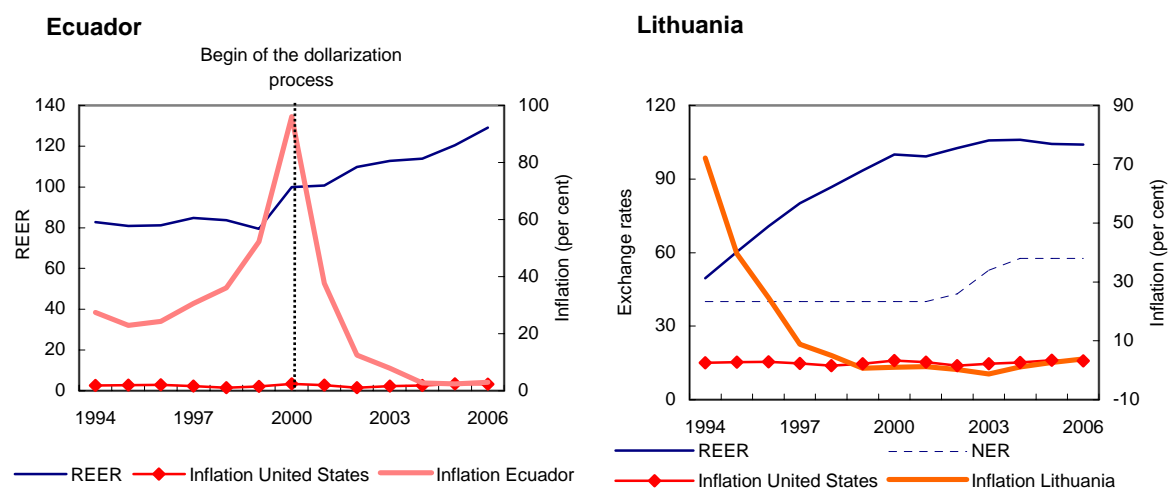
Box 4.1 Fixed exchange rate regimes and the overvaluation trap

Regimes of fixed exchange rates or “anchoring” have often been used to stabilize domestic inflation rates. While the reduction of domestic inflation has been achieved in many cases, the solution has not proved to be sustainable and has ended in crisis very often. Why? This is mainly due to accumulated losses in competitiveness or an appreciation (increase) of the real exchange rate. In fact, since the real exchange rate is defined as the nominal exchange rate adjusted for the inflation rates in the anchoring and in the anchor economy, fixing the nominal exchange rate leads to a situation where the real exchange rate is only driven by changes in the price differences. Therefore, even if the country succeeds in reducing its inflation rate gradually, the convergence process implies for most of the time positive inflation differentials between the anchoring country and the anchor country. This imbalance between the internal and external value of money is reflected in a continuous appreciation of the real exchange rate.

Figure B.1 shows the examples of Ecuador and Lithuania. In both cases, since the beginning of the peg (in the case of Lithuania in 1994) and the dollarization (in the case of Ecuador in 2000), the real exchange rate continuously appreciates while the inflation rate steadily decreases. The decrease in the inflation rate of the anchoring country looks like a domestic success but its price is an external overvaluation.

Figure B.1

Experiences with fixed exchange rate regimes, selected economies, 1994–2006



Source: UNCTAD secretariat calculations, based on UNCTAD Handbook of Statistics database; and IMF, International Financial Statistics database.

Note: REER is the real effective exchange rate (Index numbers, 2000 = 100). NER is the bilateral nominal exchange rate, calculated as foreign currency per national currency. The value is scaled, using 0.25 = 40 for Lithuania. In 1994, Lithuania established an exchange rate of 0.25 litas per US\$1 and switched from the dollar to the euro on February 2002.

As time passes by, the effects of the overvaluation trap on the anchoring economy become more and more visible. The real appreciation leads to an unsustainable situation because the prices of large amounts of goods of the anchoring country are higher in international currency than the goods of the anchor country and the former constantly loses market shares.¹⁵ The unavoidable reduction of exports and the increase in imports eventually affects the trade balance and current account. Sooner or later the rising current account deficit accompanied by a real appreciation will be interpreted by the capital markets as an indicator for non-sustainability (UNCTAD,

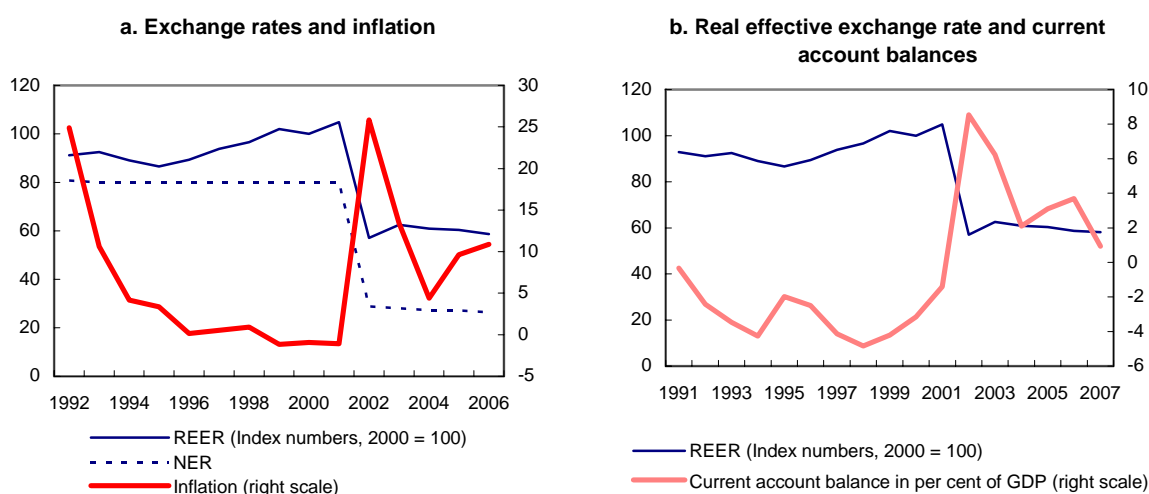
¹⁵ The concept of price elasticity of the demand is important to determinate businesses and consumers respond to exchange rate fluctuations.

TDR 2007: 14) and may trigger speculative flows. Therefore, mostly episodes of real exchange rate appreciation are followed by abrupt nominal (and eventually real) exchange rate devaluation and the consequent abandoning of the peg.

Argentina has been the classical case (figure B.2). In April 1991, Argentina's currency board established a fixed pegging of one-to-one parity between the peso and the U.S. dollar. Its main achievement was to bring inflation down from more than 3,000 per cent in 1989 to 3.4 per cent in 1995. However, the real appreciation, which in the last stage was fuelled additionally by depreciations of important trading partners like Brazil, had severe consequences for the Argentinean economy and its export performance. The system led the economy to a point where the peg was no longer sustainable and the national currency had to be depreciated. However, the final correction is very costly in terms of output and employment (UNCTAD, *TDR 2007: XV*).

Figure B.2

Overvaluation trap and current account effects in Argentina



Source: UNCTAD secretariat calculations, based on UNCTAD Handbook of Statistics database and IMF, International Financial Statistics database.
Note: NER is the bilateral nominal exchange rate, calculated as foreign currency per national currency. The value is scaled, using 1 = 80.

Any external or political shock could trigger a loss of confidence in the regime and set off an avalanche of speculative capital outflows in such a situation. The flight of short-term capital would sooner or later mark the collapse of the exchange rate regime, as the monetary authorities trying to fend off the attack on the currency have to use precious foreign exchange to buy their own currency. However, the reserves of foreign exchange are limited and experienced market participants anticipate the depletion of reserves and the final surrender of the Government in the country with the currency under pressure to depreciate. That is why the accumulation of foreign exchange reserves is rarely sufficient for Governments and central banks to prevail over speculative attacks, even if the amount of reserves is huge like in the Russian Federation.

The global imbalances that have plagued the world for so many years reflect vital systemic deficiencies, especially the lack of a viable multilateral financial system that balances the symmetric obligations of surplus and deficit countries. These deficiencies in the global economic order did not led to deflation earlier owing mainly to the flexibility and pragmatism of United States macroeconomic management. Meanwhile, more and more developing countries have followed a similar path of adjustment by stabilizing their exchange rate at a relatively low level, running sizeable current-account surpluses and accumulating huge dollar reserves.

While this practice is widely suspected to be sub-optimal, in many respects it represents the only feasible way in which developing countries can successfully adapt to the absence of symmetric

obligations of surplus and deficit countries. It is no surprise that the “undervaluation-*cum*-intervention strategy” (UNCTAD, *TDR 2006*, chapter I: 10) is especially prevalent among developing countries that have gone through currency crises in the wake of liberalization of their financial systems and capital accounts. Having learned the hard way that reliance on supposedly benign capital inflows rarely pays off as a sustainable development strategy, a growing number of developing countries have shifted to an alternative approach that relies on trade surpluses as their engine for investment and growth. This strategy presupposes that at least one country in the global economy can afford to run the corresponding trade deficit.

The problem is that the United States became overburdened by having played the lead role as global growth engine for so long. It could largely ignore its external imbalance because it created no serious conflict with sustaining full employment and price stability. Now the turning point has to be found under extremely difficult circumstances, with the world facing a deep recession and the threat of global deflation. However, the main reason for the increasingly unmanageable global burden of the United States was not the rising numbers of developing countries running current-account surpluses *per se*. Rather, the failure of other key industrial countries, such as Japan and Germany, to do more to contribute to the reduction of the global imbalances lies at the heart of the matter. Their huge external surpluses, based on improved competitive positions, suggest that the required competitiveness gains of the United States needed to reduce global imbalances should mainly come at their expense. This recovery process would be greatly eased if it were to occur in the context of buoyant domestic demand in these economies.

In conclusion, the exchange rate must be flexible enough to prevent persistent misalignments that would harm the competitiveness of domestic producers and their trade performance. At the same time, excessive volatility of the exchange rate must be avoided, as this heightens the risks for long-term investment, increases domestic inflation and encourages financial speculation. The idea that the “corners” of absolute fixing or free floating offer a simple way out is flawed. Both corners are based on purely hypothetical and unrealistic assumptions. In the case of free floating, it is assumed that international financial markets smoothly adjust exchange rates to their “equilibrium” level. In the case of a hard peg the product, financial and labour markets would always smoothly and rapidly adjust to a new equilibrium at the predetermined exchange rate. In reality, however, exchange rates under a floating regime have proved to be highly unstable, leading to long spells of misalignment, with dire consequences for real economic activity. The experience with hard pegs has not been satisfactory either: as the exchange rate cannot be corrected in cases of external shocks or the failure of domestic adjustment, corrections can be extremely costly in terms of lost output, and the setbacks to the real sectors of the domestic economy.

C. Global exchange rate management, trade and investment

A long run solution for the international financial system has to start with the recognition that the exchange rate of any country is, by definition, a multilateral phenomenon, since any rate change in open economies produces externalities and multilateral repercussions. Similar to multilateral trade rules, a rule-based global financial system would create equal conditions to all parties involved and help avoid unfair competition. Avoiding competitive depreciations and other monetary distortions that have negative effects on the functioning of the international trading system is gaining more and more importance, as the world economy is getting more and more interdependent.

The existing global economic governance system lacks the institutional arrangements to exercise multilateral discipline on exchange rates. Until the early 1970s under the Bretton Woods system, the power of markets to generate unexpected and erratic movements in exchange rates was constrained by capital controls and the obligation of central banks to intervene in foreign-exchange markets in order to maintain exchange-rate stability in normal times. This systematically limited the influence of short-term capital flows that were motivated by interest arbitrage. By defining narrow exchange-rate bands, the system also limited the ability of Governments to manipulate the exchange

rates of their currencies. This was intended to prevent beggar-thy-neighbour policies based on competitive depreciation, which had been one of the big and eventually damaging policy failures of the interwar period of the last century. The Bretton Woods system tried to ensure a balance between national policy autonomy on the one hand and multilateral disciplines on the other. To a certain extent, formal monetary autonomy was sacrificed for some stability in the financial markets and a balanced international trade (UNCTAD, 2007c: 47–48).

The preceding analysis of exchange rate dynamics shows that the idea of having national monetary sovereignty in markets with open borders for goods and capital is an illusion and the exchange rate cannot be considered as a tool of domestic economic policy. There is not only, as many believe an *impossible trinity* of national monetary policy autonomy, open capital accounts and fixed exchange rates. There is an *impossible duality*: with open capital accounts national monetary policy is no longer autonomous since no exchange rate regime can isolate a country under these conditions. Therefore, multilateral or even global exchange rate arrangements are clearly necessary to achieve and maintain global monetary and financial stability and to combine such stability efficiently with an open trading system.

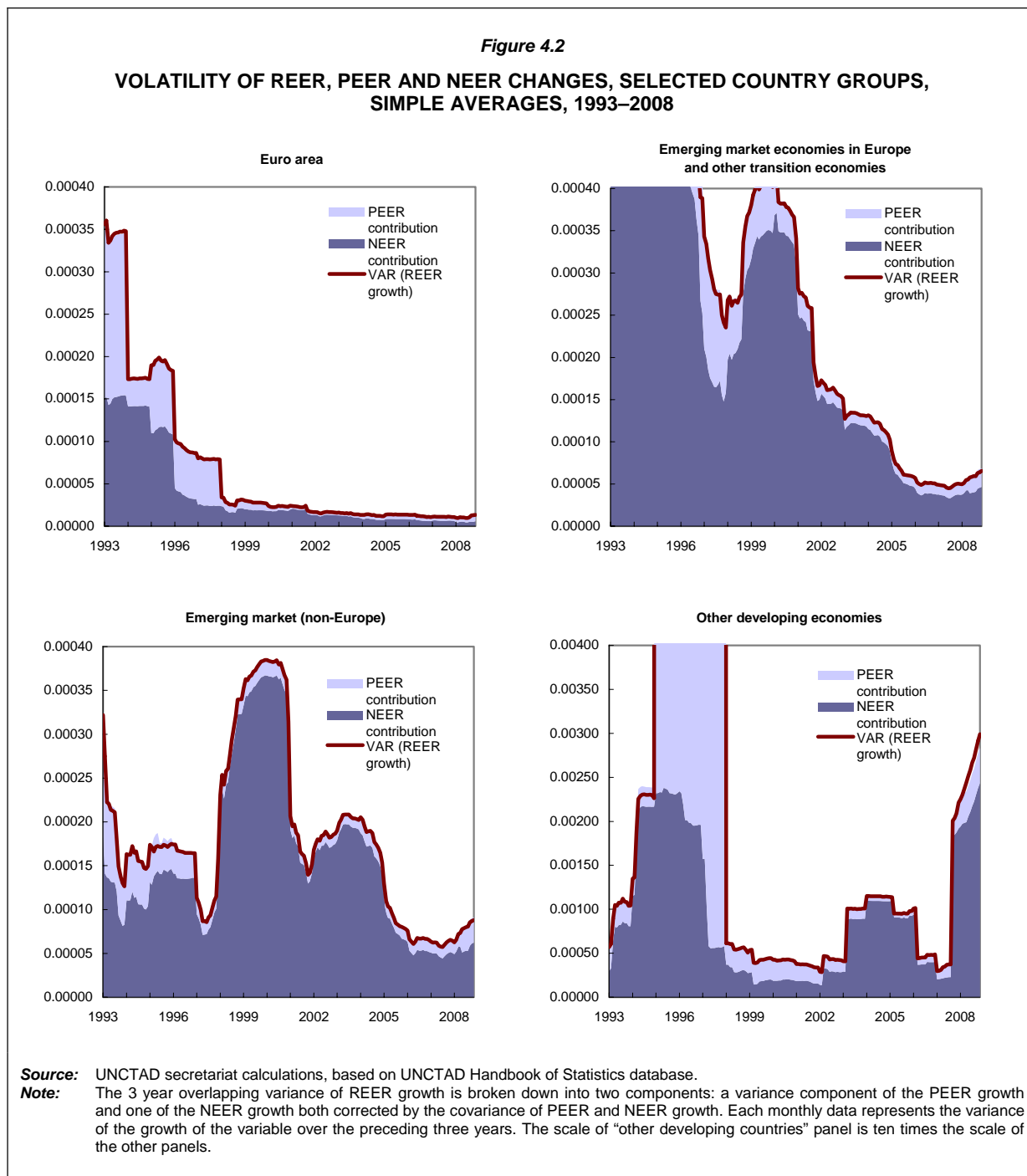
An important purpose of the founding of the IMF was to avoid competitive depreciations. In a well-designed global monetary system, the need and the advantages of currency depreciation of one country would have to be balanced against the disadvantages to the others. Such a multilateral regime would, among other things, require countries to justify real depreciations and the dimension of necessary changes. If such rules were strictly applied, the real exchange rate of all the parties involved would remain more or less constant, as strong arguments for creating competitive advantages at the national level would rarely be accepted by the parties that would lose their competitiveness (UNCTAD, *TDR 2004*, chapter V).

The strength of the case for reform of the current global non-system draws from the huge and distorting influence that the present monetary chaos exerts on the effectiveness of international trade. An exchange rate system is needed that enables companies in all countries to compete on more or less the same terms internationally as they do nationally. Schumpeter (1911) pointed to the importance of innovative investment for economic development, and Baumol (2002) argues that innovation, and the consequent rise in productivity, account for much of the extraordinary growth record that has occurred in various parts of the world since the Industrial Revolution. Both argue that market pressures force firms to integrate innovative investment into their routine decision processes and activities. In this way, markets are able to produce a stream of more efficient production processes and of products that better respond to consumer demand.

At given wages, successful innovative investment will be reflected in growing market shares, if the investor passes on the innovation rents in form of lower prices; or it may lead to (temporary) monopoly profits if the investor is able to leave sales prices unchanged and to enjoy innovation rents from the rising revenue-cost ratio until competitors succeed to catch-up. At the international level very often the link between productivity gains of a single company – based on innovation – and rising profits or rising market shares is severed by exchange rate changes. If the exchange rate of the currency of a country deviates considerably from the difference of the price level in the home country and its trading partners, the mechanism of innovative (or creative) destruction will be distorted. Companies in countries with few innovations may thrive because of an undervalued exchange rate and vice versa. Companies that display the same cost level as their competitors in other countries may lose out because the currency of their country is appreciated and forces them to squeeze their profit margins to avoid losses in market shares.

There is only one exchange rate/price adjustment rule that can restore the level playing field for all companies in international trade: nominal exchange rate changes should follow the difference in the price levels of the countries involved in international trade. However, nominal exchange rate changes appear to explain most of the real exchange rate changes; which implies that nominal exchange rate fluctuations do not adjust to relative price changes, in the short run. Figure 4.2 shows a

decomposition of the variance of real effective exchange rate (REER) changes into a component that depends on the nominal effective exchange rate, a “NEER contribution”, and a component that depends on the relative price, a “PEER contribution”.¹⁶ The nominal exchange rate contribution to the variance of the real effective exchange rate growth is large in all four major groupings of economies, confirming that the volatility of the REER has been mostly driven by changes in the NEER.



¹⁶ The real *effective* exchange rate, REER, measures the relative price levels of one country vis-à-vis all trading partners. It is calculated as the ratio of the weighted average of foreign price indices (each multiplied by the relevant exchange rates) and the domestic price index. The nominal *effective* exchange rate, NEER, is the average of one country’s nominal exchange rates vis-à-vis partner countries weighted with their trade shares. The price component of the REER is a weighted average of trade partners’ price indices over the domestic price index. We can name it PEER, and it is defined as $PEER = NEER / REER$.

D. Currency crisis prevention and resolution

There are four policy implications of the preceding analysis:

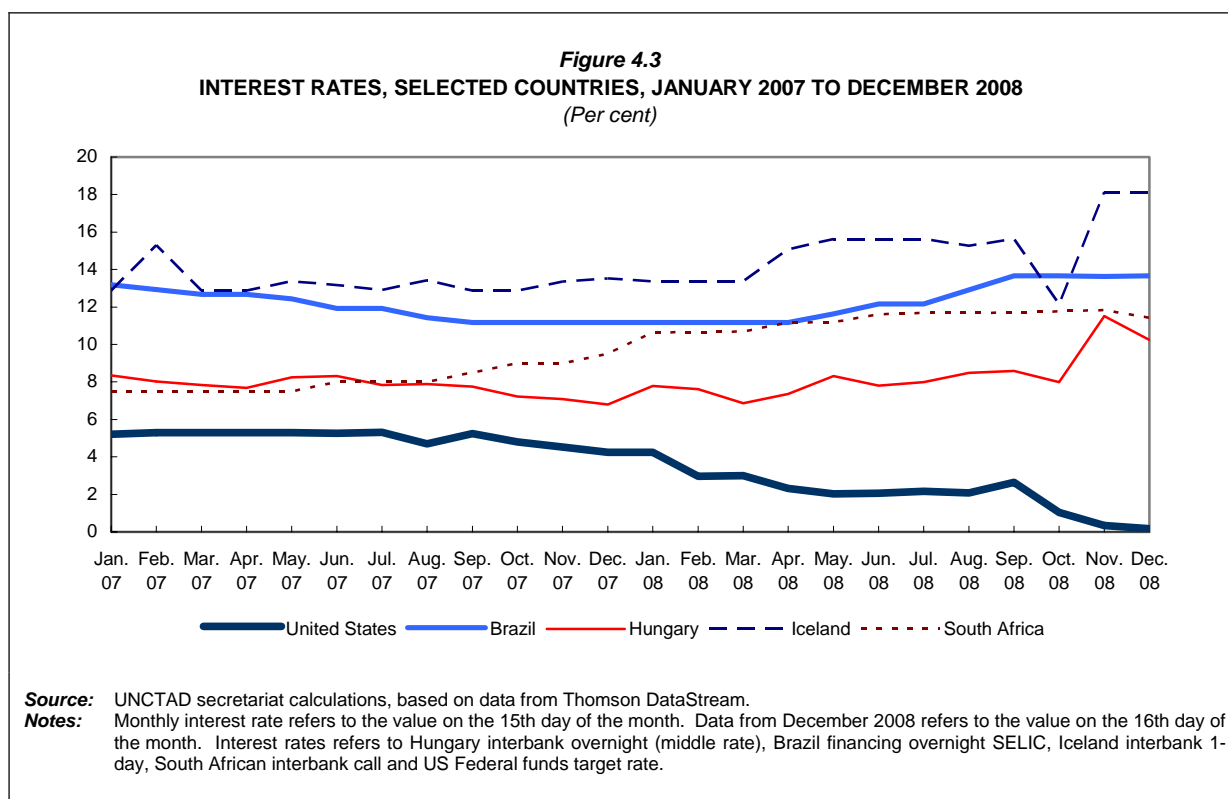
- *First*, changes in the nominal exchange rate that are caused by “autonomous” capital flows (i.e. that are unrelated to the flow of goods) can – very much like protectionist measures – fully offset competitive advantages of firms and – likewise – increase the competitiveness of otherwise non-competitive companies.
- *Second*, nominal exchange rate stability is not sufficient to achieve the level playing field if price differentials between countries still deviate.
- *Third*, as, over the medium or long-term the inflation rate is mainly determined by unit labour costs, i.e. the sum of wages that is paid to generate one unit of a product (Flassbeck and Spiecker, 2007: 66–70), fixing the exchange rate requires harmonizing labour market conditions in the countries involved.
- *Fourth*, the ideal of free competition of innovative firms can be achieved in a world with inflation differentials and different currencies. However, with the failure of floating and of unilateral fixing a multilateral exchange rate framework is needed that pursues rather constant real exchange rates among its members. All participating countries should agree that competition shall take place at the micro level only and not between nations.

As important as the trade distortion effect of real exchange rate changes is the impact that a large deviation of nominal exchange rates from the inflation difference has on the volatility of capital flows and on the ability of countries to pursue a growth oriented countercyclical monetary policy. This is highlighted by the current crisis. The countries most exposed so far are those that combine high current-account deficits with a substantial build-up of foreign liabilities by the private sector and have been the victims of carry trade. Triggered by the subprime collapse, this currency speculation unwound and caused a sharp depreciation of the nominal and real exchange rates of the affected countries.

While this exchange rate adjustment usually improves the overall international competitiveness of a country’s enterprises, which will eventually benefit their external account and help the real economy to recover, it entails major adverse balance-sheet effects for households and banks, at least in the short term. These short-term effects may cause severe stress in the domestic banking sector and a decline in household consumption, with serious consequences for growth and employment. A secondary negative impact stems from the efforts of central banks to defend the (depreciated) level of the currency through monetary and fiscal tightening at a certain point to contain the above-mentioned balance-sheet effects. But such tightening – reminiscent of the IMF-supported policy response to the Asian crisis – is jeopardizing their economic recovery and unnecessarily tightens the global policy stance now, during one of the most severe recessions of the past century.

IMF assistance – at times combined with swap agreements or direct financial assistance from the EU or, recently, the United States – has helped ease the immediate pressure on the currencies and banking systems of the troubled countries. But the origin of the problem – speculation of the carry trade type – raises doubts about the adequacy of the traditional IMF approach for tackling such a crisis. Raising interest rates to avoid further devaluation is like the tail wagging the dog (figure 4.3) because traditional assistance packages or swap agreements, combined with restrictive policy prescriptions are clearly pro-cyclical. Indeed, countries that have been exposed to carry trade speculation need a real devaluation in order to restore their international competitiveness. They also need assistance to avoid a downward overshooting of the exchange rate, which would both hamper their ability to check inflation and unnecessarily distort international trade. But they do not need belt-tightening. Rising interest rates and falling government expenditure will only reinvoke speculation and

worsen matters in the real economy. In such situations, even countries with current account deficits and weak currencies need expansionary fiscal and monetary policies to compensate for the fall in domestic demand, as long as the expansionary effects of devaluation have failed to materialize in a contracting global economy.



Stopping an overshooting devaluation – which is the rule and not the exception – is very costly if attempted unilaterally, but very inexpensive if countries under pressure to devalue are joined in their fight against speculation by countries on the other side of the fence, namely those facing revaluation of their currencies. Countries that are struggling to stem the tide of devaluation are in a weak position, as they have to intervene with foreign currency, which is available only in limited amounts. If the countries with appreciating currencies engage in a symmetrical intervention to stop the “undershooting”, international speculation would not even attempt to challenge the intervention, because the appreciating currency is available in unlimited amounts: it can be printed. Multilateral or even global exchange rate arrangements are clearly necessary to achieve and maintain global monetary and financial stability and to combine such stability efficiently with an open trading system.

E. A multilateral approach to global exchange rate management

The preceding sections, based on historical and theoretical considerations, laid out the guiding principles for a global multilateral financial framework. A set of basic principles derived from the analysis above would make a practical implementation of the core ideas feasible and could provide monetary and financial stability to all participating countries while restoring the conditions for Schumpeterian innovation. To achieve this, a multilateral monetary framework would be based on rather free movement of capital and would be governed by strong global institutions. To ensure the functioning and the efficiency of such a framework, the following principles need to be applied (Flassbeck, 1988; Clarida, 1999; Bofinger, 2000; UNCTAD, *TDR*, various issues):

Ensure level playing field – stable real exchange rates:

- The real exchange rate is kept constant among a group of countries (one region or more). Fundamental and long lasting trade imbalances are prevented since all participating countries maintain their level of competitiveness.
- Real exchange rates are normally kept constant by way of setting labour market institutions that allow steering nominal wages in a way that reflects productivity increases and the growth rate of inflation in each country.
- If nominal wages fail to adjust or if inflation targets diverge, nominal exchange rates need to be adjusted to exactly compensate the emerging gap in competitiveness.

Avoid currency speculation – interest rate parity:

- To avoid large speculation gains in currency markets, nominal exchange rates need to adjust to changes in interest rate levels of countries along the interest parity condition (relative UIP developments).
- Even if inflation rates do not converge over time, the reflection of relative PPP in exchange rates on a regular basis (monthly or quarterly) will remove most of the incentives for short-term speculation in currencies.

Enduring symmetric response:

- As unilaterally pegged exchange rate arrangements and floating are prone to speculative attacks, an international financial system designed to minimize speculative attacks needs to be built on a symmetric responsibility that commits interventions to be carried out by the central banks of both the depreciating and the appreciating currencies if an exchange rate comes under unjustified attack.
- The country with an appreciating currency has unlimited intervention potential (since the means can be printed and the result of foreign exchange market interventions on the domestic money market can normally be sterilized). In this case the need to hold foreign exchange reserves to “insure” against depreciation pressures is minimal for all individual countries.
- Symmetric response also means that cost and profits of intervention will be equally shared. For instance, the central bank of the appreciating currency will incur a valuation loss of its foreign exchange reserves in its own currency, while the central bank of the depreciating currency will make a valuation profit of its exchange reserves in its own currency. Likewise, cost of sterilization may incur on one side that need to be shared with the partner central banks.

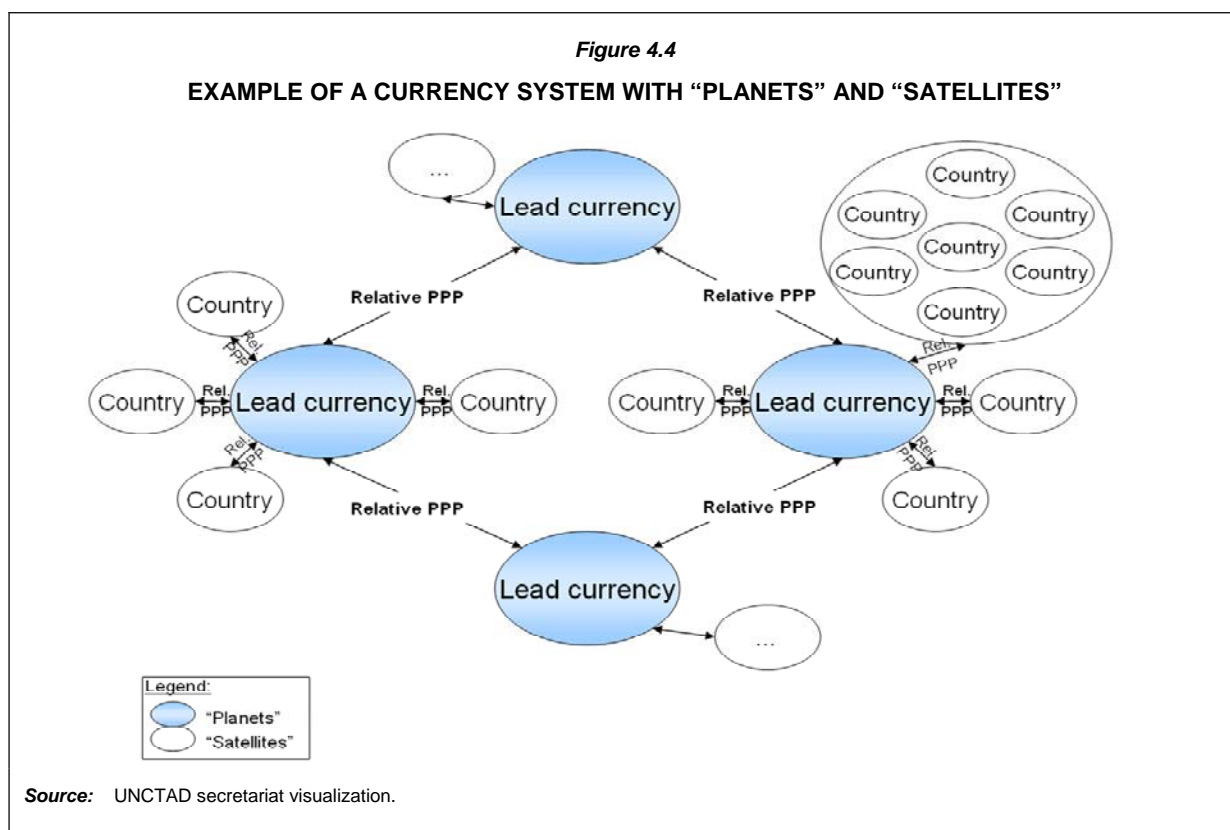
Multilateral code of conduct:

- The code of conduct needs to reflect the new spirit of multilateralism in global economic governance based on the need to balance the advantages of one country against the disadvantages of other directly or indirectly affected countries.
- The code of conduct ends the competition of nations. It is not countries that should compete with each other but companies on a level playing field.

Global organization of the system:

- The present Bretton Woods institutions have to be fundamentally redesigned or a new global institution with supervisory and advisory powers has to be created and has to practically manage the new financial system.
- Lead currencies have to be found (“planets”); given the economic power shift away from a singular economic leader in the post-war financial system, several lead currencies (existing or artificial) should be envisaged in today’s multi-polar economic system (figure 4.4).

- The lead currencies will be linked with each other through symmetric managed floating systems with exchange rates automatically adjusted by relative price differentials (relative PPP).
- Regional blocks can be formed (“satellites”) to be linked to one of the “planets” or a group of them. Alternatively, individual countries may choose to be associated as “satellites” with one or more of the “planets”.
- Entry and exit criteria will need to be defined *a priori* and include provisions on domestic monetary and fiscal policy.



The authority managing a multilateral exchange rate system needs to assume a series of fundamental responsibilities to ensure its efficient functioning through rules that keep the real exchange rate stable. An international monetary authority would need a mandate to enforce such regulations, including through adjustments to members' nominal exchange rates. The surveillance function needs to be complemented by an enforcement capacity so as to be able to implement binding commitments for necessary adjustments within the system. The authority also has to assume the role of a lender of last resort so as to supply liquidity to the system's members in case of crisis. A common currency unit could be envisaged under its surveillance, the seignorage of which would be shared among all members. To efficiently face stress in the financial and exchange rate system the managing authority will have to assign tasks and responsibilities in a symmetric fashion, i.e. through the involvement of the depreciating and the appreciating currencies. At the same time, the institution will ensure that costs and profits of symmetric interventions are shared among all parties concerned. Finally, the governing institution of the new exchange rate system would act as the highest authority for the establishment and monitoring of a true global financial multilateralism.

F. Conclusion

In the second half of 2008 the sharp devaluation of the Icelandic krona (51 per cent against the United States dollar) has been followed by a larger wave of currency depreciations, such as of the Hungarian forint (34 per cent), the South African rand (38 per cent), the Brazilian real (34 per cent), the Turkish lira (33 per cent), the Mexican peso (29 per cent) and the Chilean peso (28 per cent). Many others are likely to follow in 2009, for instance in Eastern Europe, where the pressure on currency markets has been ever-increasing over recent months. Countries like Estonia, Lithuania, Rumania and Bulgaria are under rising distress and the region as a whole is now under serious danger of economic meltdown.

But the combination of huge current-account and budget deficits, devaluation pressures, sometimes pegged exchange rates and diminishing foreign exchange reserves lead to the same old policy prescriptions of austerity again and again. It is high time to act and break this vicious cycle. Countercyclical macroeconomic policies – enabled and supported by a global multilateral financial framework – are urgently needed.

The bold departure proposed here is needed not only to counter the adverse effects of the current global financial crisis, but also to prevent similar crises in the future. It is clear that vulnerable countries in crisis do not need assistance packages that oblige them to fiscal austerity and restrictive monetary policy measures. Just as the advanced economies need expansive monetary policy and fiscal stimulus to break the negative feedback of the financial crisis on economic activity, so do developing countries, transition economies and emerging markets. They all need a combination of financial stabilization with expansive monetary and fiscal policies. In the absence of such a policy mix more and more countries will quickly end up on the verge of collapse.

Chapter V

Towards a coherent effort to overcome the systemic crisis

A. More and better coordinated countercyclical action is needed

Despite the desperate attempts of a number of Governments to contain the fallout of the crisis, it has spread to many regions and sectors. In fact, the global deleveraging process cannot be easily stopped as the speculative positions of millions of independent entities in a number of important markets unwind and the brutal logic of debt deflation brings new shocks every day. In addition, the near meltdown of the United States financial system and beyond has deeply shaken the belief that business as usual will soon return to the markets. Instead, fundamentally diminished expectations have emerged concerning the yields that can be achieved without engaging in overly risky investments.

At the beginning of 2009 the world economy is in a deep recession. The uncertainty about financial conditions in the near future and about the dramatic changes in relative prices of stocks and flows all around the world has impacted on investment in fixed capital and the demand for manufactured goods in a manner not seen in living memory: indeed, the world seems to face “the crisis of a century” (UNCTAD *Policy Brief*, 2008a).

Global GDP is expected to fall in 2009. This is a dramatic setback from recent global growth rates, which were consistently above 3 per cent for several years. Although this is mainly owing to deep contractions in the developed world (-2 per cent), a considerable slowdown in growth rates in developing countries and transition economies (to 3 per cent) contributes to the dismal outcome. In Africa in particular, the consequences of the fall of commodity prices hit the real economy, whereas countries with a large manufacturing export sector like those in the populous East Asian region suffer from sluggish demand. Eastern Europe economies are trapped by their exposure to debt in foreign currencies and the devaluation of their own currencies. With inflation rates sharply down in most countries of the world and sustained downward pressure on wages, deflation, not inflation, is the main economic policy challenge for the years to come. Fears that “too much money” or rising government deficits could soon spark a new round of inflation are unjustified, misleading and could be dangerous in the current depressed economy.

The decline in economic activity is unusually strong and parallel across economies. Obviously, the world is not witnessing the kind of cyclical decline as occurs once every few years. This time the downturn is driven by an unprecedented rapid deleveraging on a global scale, which means that billions of creditors and debtors have to adjust to fundamentally changed circumstances compared to their expectations. Additionally, changes in relative prices occur at a breathtaking speed. As many markets were overvalued at the same time, the correction is sweeping. It started with house prices, stocks followed, commodity prices were next and foreign exchange markets turned around in the unwinding of carry trade operations.

In addition to the financial strain, the loss of a solid foundation for expectations and planning paralyzes investors. While from a microeconomic point of view it is useful to wait and see in such volatile markets, these individual holding strategies worsen macroeconomic situations by the day. To be sure, the deleveraging and the normalization of prices are necessary and unavoidable. In most cases prices will be better in line with the underlying fundamentals of supply and demand after the unwinding. However, the short-term effects of the gyrations in prices and exchange rates are dramatic. The exposure of households and enterprises to risky assets and liabilities in many cases is big enough to justify immediate default.

Current public fire-fighting thus entails the difficult balancing act of letting the fire consume what is in any case unsalvageable, while also protecting those parts of the edifice that are most vital

and that can eventually be rebuilt (UNCTAD *Policy Brief*, 2008b). Therein the task of Governments is of a threefold nature: *First*, they have to restore confidence on the national and international financial markets to ease the flow of liquidity and credit and re-ignite global demand. This is a time-consuming process. It started early on in the crisis, but neither can highly unsettled credit markets be expected to recover overnight, nor can generous liquidity alone ensure recovery. *Second*, they have to apply pragmatic and strong countercyclical macroeconomic measures to fight the resulting global downturn. *Third*, they have to undertake the most urgent regulatory measures now to stabilize relative prices in the global economy by preventing new rounds of destabilizing speculation.

In fact, in developing countries and some emerging economies, central banks have acted swiftly and in a rather coordinated fashion to tackle the crisis. From the start the FED did not only provide liquidity into the interbank market, but also slashed interest rates dramatically to provide monetary stimulus for the real economy. The Bank of England followed suit, in line with many other important central banks. Only the ECB hesitated to cut interest rates, although it provided additional liquidity to the system.

As a result, the United States have no room for further interest rate cuts with virtually zero interest rates after the latest cut on 16 December 2008 to 0.125 per cent. The same is true for Japan with an interest rate of 0.1 per cent. But Europe, both the euro area and the United Kingdom, still have some room for manoeuvre left even as interest rates nudge downwards. By contrast, China's scope for further expansionary monetary policy with a current benchmark-lending rate of 5.31 per cent is still substantial. Much more, China's monetary policy draws heavily on non-interest rate based monetary tools such as window guidance, which can be employed in addition to further interest rate cuts.

With the limits for further monetary easing approaching, massive fiscal stimuli are inescapable if global demand is to be boosted. The United States has followed up on its first fiscal stimulus of early-2008 with a package worth up to \$800 billion in 2009 and 2010 (which amounts to 2.5 to 3 per cent of GDP per year). Of this amount some two-thirds will go directly into public investment and one-third into tax cuts. Such a mixture is reasonable as tax cuts are generally less efficient than investment programs for companies because private households tend to save more in the crisis for precautionary motives.

Countries with large current account surpluses and sluggish domestic demand must act more aggressively than countries with external deficits. This is particularly true for a number of economies in Western Europe and for Japan. In the euro area Germany is in an excellent position to use fiscal policies due to low deficits, low interest rates and one of the largest current account surpluses in the world. Recently, the Government announced a second fiscal package of up to euro 50 billion for 2009 and 2010 (reaching a planned combined stimulus for 2009 of around 1 per cent of GDP). But more is needed and with a greater focus on public investment rather than tax cuts and other indirect measures that are likely to be saved and not spent. China, with the second largest current account surplus seems to be ready to capitalize on its favourable external and budgetary position by realizing a large-scale plan for fiscal stimuli. These plans could add up to 10 per cent of China's GDP during the two-year period of 2009 and 2010. At this size it would also help to support global demand (UN-DESA/UNCTAD, 2009).

The scope for counter-cyclical policies among smaller developing countries and countries in transition varies greatly. Many countries with current account deficits and a weak currency are pushed by their creditors to lean towards pro-cyclical macroeconomic policies with high interest rates and fiscal conservatism. However, a departure from the traditional policy practices and policy rules is warranted, indeed indispensable.

As the pro-cyclical policy stance is the result of concerns over the threat of further currency depreciation the international community must allow these countries the room of manoeuvre to stabilize their real economies. This can be done best by way of creating unconditioned international assistance to stabilize devaluing currencies at a certain point by direct intervention of the countries

with revaluing currencies. To enhance their scope for counter-cyclical responses further, compensatory financing, reserve swaps and additional and reliable foreign aid flows should be made available immediately. Only if all countries can cope with declining export earnings and reduced access to private capital flows the world as a whole be able to quickly overcome the global crisis.

International coordination is indispensable to fighting the onset of global depression as well as to dealing with the root causes of the slump. If some countries or regions start to “free ride” on the attempts of other Governments to lean against the winds of recession and depression by deficit spending a global depression cannot be ruled out. Any kind of competitive devaluation of currencies, wage cuts and/or protectionist measures would be disastrous at this juncture.

B. The State is back but national action is not sufficient

1. Preventing the competition of nations

The involvement of many markets and of many countries shows that blaming greed and irresponsible behaviour of individuals is a road to nowhere. The global community has erred in the belief that in a highly interdependent world with financial markets closely linked by modern computer technologies each country can go it alone and find its way despite many pitfalls and “fallacies of composition”. But not all countries can improve their competitiveness, generate a current account surplus and gain market shares: one’s advance is another’s retreat. Competitiveness in a global economy is a zero sum game.

For rising economic welfare to be sustainable, it has to be shared without altering the relative competitive positions of countries. Companies that gain market shares at the expense of other companies form an essential ingredient of the market system. If the overall efficiency of production rises in this process, workers who are negatively affected by corporate competition can find jobs elsewhere in the economy due to higher demand and higher growth. But if nations gain at the expense of other nations, dilemmas can hardly be avoided. If the “winning” nations are not willing to give up their superior position and to allow a full rebalancing of competitive positions over the long run they force the “loser” nations into default. This is the phenomenon that J. M. Keynes called the “Transfer Problem” some 80 years ago. Its logic is still valid. If it were better understood it would provide a reasonable path through the coming jungle of open protectionist tendencies and hidden attacks on “the other”, who tries to defend what he perceives as his national interest.

Globalization of trade and finance calls for global cooperation and global regulation. To hold that even in the midst of the crisis, free international trade in goods and services must be preserved and the liberalized rules-based multilateral system must be protected while denying that is the right approach for global finance is incoherent and threatens to further destabilize fragile global imbalances. It is the failure of Governments to deliver effective global governance that is to blame foremost for the current global predicament. Resolving this crisis has implications beyond the realm of banking and financial regulation, going to the heart of the question of how to revive and extend multilateralism in a globalizing world.

At the national level new concepts for economic development have to be designed that can better balance spending excesses in deficit countries and export excesses and long-lasting under-consumption in surplus countries. The most important rule to be followed is to use domestically generated productivity increases for domestic purposes through the full participation of all economic agents in the productivity gains. Moreover, all countries that want to share the potential benefits of trade and foreign direct investment have to understand that the creation of level playing fields for the competition of companies is a desirable target but that competition of nations is a useless and dangerous concept. As UNCTAD pointed out in 2007 (UNCTAD, 2007d): all countries can simultaneously raise productivity and wages and the level of trade to improve their overall economic welfare if they follow consistent rules.

To avoid the fight for market shares through manipulation of the exchange rate, wage rates, taxes or subsidies and to prevent financial markets from driving the competitive positions of nations into the wrong direction, a new *code of conduct* is needed regarding the overall competitiveness of nations. Such a code of conduct would have to balance the advantages of one country against the disadvantages of other directly or indirectly affected countries. For example, the effect of changes in the nominal exchange rate deviating from the fundamentals (inflation differentials) on trade balances is not much different from that of tariffs and export bounties. Consequently, such real exchange rate changes have to be subject of multilateral oversight, negotiations and decision-making. Only if such rules apply, can all trading parties avoid unjustified overall loss or gains of competitiveness and developing countries can systematically prevent the trap of overvaluation that has been one of the most important impediments to prosperity in the past.

2. Intervention in financial markets is indispensable

In financial markets that are in full speculative swing, nearly all participants follow the same pattern of expectations based on similar information. This uniformity creates manias and panics and huge systemic risks. In a boom phase, there are too few short sellers; and in a bust phase, too many (UNCTAD *Policy Brief*, 2008a).¹⁷ But the similarity of the behaviour of many financial market participants and the limited amount of information that steers them opens a gate for fully justified and non-distorting government intervention. Contrary to atomistic goods and services markets and the colossal quantity of independent data that help to form the market price there, financial markets are characterized by what could be called oligopolistic information sharing. Most of the information that determines the behaviour of speculators and hedgers is publicly accessible and the interpretation of these data follows some rather simple explanatory patterns.

There has long been a debate in economics concerning the “equilibrium price” in these markets and the incompetence of Governments in identifying it and guiding the market to reach it. But that argument misses the point: Even if well-informed Governments and central banks do not exactly know the equilibrium price they usually do know when prices are in disequilibrium (Williamson and Subramanian, 2009). In other words, the fact that Governments have only a very rough idea about the equilibrium price is not a convincing argument against intervention, as we have learnt now that markets do not only have no idea, in fact they are systematically driving the price away from equilibrium. Take commodity prices: If the oil price doubles in a couple of months Governments and international organizations urge the oil producers to increase supply and in this way intervene in these markets, obviously, that means they know that the price is far beyond equilibrium.

The same is true for many other markets. Take currencies and exchange rates: Some Governments criticize other Governments for intervention to keep the rate at an undervalued level; obviously they pretend to know a price that is closer to equilibrium. Moreover, if exchange rates move in the opposite direction of what is needed to restore the international competitiveness of the overall economy, alarm bells should ring and urge government action in both affected countries to stop this kind of speculation. Take housing: If for most mortgage contracts in a country to be serviceable house prices must rise for the next 20 years or so, Governments should know that something has gone wrong and will go wrong if they do not stop this speculative bubble. Take stocks: If the valuation of companies goes far beyond traditional valuation measures like the price earnings-ratio or implies exploding earnings in an environment of a cooling overall economy, Governments and central banks know that by intervention through interest rate increases they do less harm than good. Take mergers and acquisitions through private equity funds: As the business model of these funds is built on short-termism, namely the leveraging of returns through “equity debt swaps”,

¹⁷ Schumpeter (1939: 51) put the phenomenon of the necessary “friction” in the following way: “Just as the physical world would be an uninhabitable chaos if the slightest difference in temperature sufficed to transfer *all* heat instantaneously to the region of the minimum, so the economic world could not function if, for example, the slightest variation in a rate of exchange sufficed to set *all* gold flowing at once”.

Governments should know that this business model - if used on a large scale - may dramatically increase the systemic vulnerability of the economy in times of stress and downturn.

C. No “crisis solution” by markets

The events of recent months have revealed a huge misallocation of resources and a destruction of enormous values driven by financial markets. The lesson is simple: macroeconomic prices are too important to be left to the vagaries of these markets. However, if the failure has shattered the naïve belief that unfettered financial liberalization and deliberate non-intervention of Governments will maximize welfare, or functional efficiency, the crisis offers an opportunity for a new start. Governments, supervisory bodies and international institutions have a vital role to play to allow society at large to reap the potential benefits of a system of decentralized decision makers. Only consistent and forceful interventions in financial markets by institutions with knowledge about systemic risk can transform a system of atomistic markets for goods and for services into an efficiently functioning entity. Market fundamentalist *laissez faire* of the last twenty years has dramatically failed the test.

Interventions in financial markets that are part of the global economy call for cooperation and coordination of national institutions and for specialized institutions with a multilateral mandate to oversee national action. In the midst of the crisis this is even more important than in normal times. The tendency of many Governments to entrust to financial markets again the role of judge or jury over the coming process of reform and indeed over the fate of whole nations would seem inappropriate. For example, as we shown in the previous chapter, it is indispensable to stabilize exchange rates by direct and coordinated government intervention instead of letting the market find the bottom line and trying to “convince” financial markets about the credibility of the Government of the depreciating currency through pro-cyclical policies like public expenditure cuts or interest rate hikes.

Once this is done, the problem of newly issued government bonds at “penalty” rates that are demanded by the “markets” can be tackled. The paradox that the same market participants that have driven Governments of many countries into a disastrous budgetary and current account situation now ask for “risk premia” because they do not trust these Governments any more and fear government default, has to be answered by the global community of Governments in a strong and clear manner. It is very rare that the Governments of the adversely affected countries alone are responsible for financial failure, while Governments of the unaffected countries are very rarely blameless in this regard. As Keynes (1919: 142) once put it: “In the great events of man’s history, in the unwinding of the complex fates of nations, justice is not so simple”.

A global answer should follow the same principle: If everybody defaults nobody defaults. Only if some countries try to avail themselves of the opportunity to get cheaper credit at the expense of others, the “markets” have a choice and can demand a “risk premium” from the more vulnerable ones. If every country and every Government acknowledges that the global crisis is foremost a systemic crisis, i. e., due to the failure of the global community to govern the globalized economy properly, a truly global solution like a *global bond* that can be used by all countries at fixed exchange rates is less utopian than it sounds.

In the same vein, a cooperative effort is needed to address all the different sorts of predatory speculative activities that have been responsible for the distortion in national and international price relations have to be tackled at the same time to avoid speculative arbitrage. The tragedy of the modern forms of speculation is their very short half-life: the more people on the globe concentrate on speculation in certain markets and the more effective they are, the quicker the results will be contradicted by economic reality because the real economic system can no longer bear the burden of largely distorted prices and exchange rates.

That is why all the weaknesses in speculative activity have to be tackled at the same time. For example, dealing only with the national aspects of re-regulation to prevent housing bubbles and the creation of risky assets related to this area would only intensify in other areas like stocks. Preventing currency speculation through a new global monetary system with automatically adjusted exchange rates might redirect the short-term games towards commodities and increase volatility there. The same is true for regional success in fighting speculation, which might put other regions in the spotlight of speculators. Nothing short of closing down the big casino will provide a lasting solution.

It is obvious, a coherent and effective approach can only be found at the international level and with the inclusion of as many countries as possible. A broad international agreement about the distortional effects of large-scale speculation in different areas on growth and employment is absolutely crucial to create the framework for a globalization that has the potential to deliver rising living standards for all.

References

- Acemoglu D (2009). The Crisis of 2008: Structural Lessons for and from Economics, MIT. Mimeo.
- Adrian T and Brunnermeier M (2008). CoVar FRB of New York Staff Report No. 348.
- Baumol WJ (2002). The Free-Market Innovation Machine. Princeton and Oxford, Princeton University Press.
- Bofinger P (2000). A framework for stabilizing the Euro/Yen/Dollar triplet. *North American Journal of Economics and Finance*, 11/2000, 137–151.
- Borio C (2008). The financial turmoil of 2007: A preliminary assessment and some policy considerations, Bank for International Settlements, Working Paper No. 251.
- Brunnermeier M (2008). Deciphering the Liquidity and Credit Crunch 2007–2008. NBER Working Papers 14612, National Bureau of Economic Research.
- Brunnermeier M et al. (2009). The Fundamental Principles of Financial Regulation, Centre for Economic Policy Research (CEPR).
- Capuano C (2006). Strategic noise traders and liquidity pressure with a physically deliverable futures contract. *International Review of Economics and Finance*, 15(1): 1–14.
- Chicago Mercantile Exchange (CME) Group (2008). Fundamental factors affecting agricultural and other commodities. Available at http://www.cmegroup.com/trading/commodities/files/Ag_Slides_12-31-08.pdf.
- Clarida R (1999). G3 Exchange Rate Relationships: A Recap of the Record and Review of Proposals for Change. NBER Working Paper, No. 7434, Cambridge.
- Committee of European Securities Regulators (CESR) (2008). CESR/CEBS's technical advice to the European Commission on the review of commodities business. CESR/08–752; CEBS 2008 152 rev. Brussels.
- Commodities Futures Trading Commission (CFTC) (2006a). Comprehensive Review of the Commitments of Traders Reporting Program. *Federal Register*, 71(119): 35627–35632.
- Commodities Futures Trading Commission (CFTC) (2006b). Commodities Futures Trading Commission Actions in Response to the “Comprehensive Review of the Commitments of Traders Reporting Program”, 5 December. Available at <http://www.docstoc.com/docs/873643/Comprehensive-Review-of-the-Commitments-of-Traders-Reporting-Program>.
- Commodities Futures Trading Commission (CFTC) (2009). About the commitments of traders reports. Available at http://www.cftc.gov/marketreports/commitmentsoftraders/cot_about.html.
- Conceição P and Marone H (2008). Characterizing the 21st century first commodity boom: drivers and impact, UNDP/ODS Working Paper. Office of Development Studies, United Nations Development Programme. New York, October.
- Congleton R (2009). On the Political Economy of the Financial Crisis and Bailout of 2008, Georgetown Mason University (GMU). Mimeo.
- Congressional Oversight Panel (2009). Special Report on Regulatory Reform.
- Coval J et al. (2008). The Economics of Structured Finance. Harvard Business School of Finance, Working Paper No. 09–060.
- Davidson P (2008). Reforming the World's International Money. *Real-World Economics Review*, issue no. 48 : 293–305.

- Doyle E, Hill J and Jack I (2007). Growth in Commodity Investment: Risks and Challenges for Commodity Market Participants. Financial Services Authority (FSA) Markets Infrastructure Department, London.
- Fabozzi F, Bhattacharya A and Berliner W (2007). *The Handbook of Mortgage-Backed Securities*. McGraw-Hill, United States.
- Fisher I (1933). The Debt-Deflation Theory of Great Depressions. *Econometrica* 1.
- Flassbeck H (1988). Preise, Zins und Wechselkurs. Wirtschaftswissenschaftliche und wirtschaftsrechtliche Untersuchungen des Walter Eucken Instituts Freiburg i. Br.
- Flassbeck H and Spiecker F (2007). *Das Ende der Massenarbeitslosigkeit*, Westend Verlag, Frankfurt/Main.
- Folkerts-Landau D, Dooley M and Garber P (2004). The Revised Bretton Woods System. *International Journal of Finance and Economics* v9: 307–313.
- Gilbert CL (2008a). Commodity speculation and commodity investment. Forthcoming in *Journal of Commodity Markets and Risk Management*.
- Gilbert CL (2008b). How to understand high food prices. Mimeo.
- Greenspan A (2008). Transcript of Congressional hearings on the Financial Crisis and the Role of Federal Regulators. Thursday, 23 October 2008. House of Representatives, Committee on Oversight and Government Reform. Washington, DC. Available at: <http://oversight.house.gov/documents/20081024163819.pdf>.
- Group of 30 (2009). Financial Reform: A Framework for Financial Stability, Special report by the Group of thirty.
- IMF (2006). Global Financial Stability Report. International Monetary Fund.
- IMF (2008a). IMF Agrees \$15.7 Billion Loan to Bolster Hungary's Finances, IMF Survey Online. Washington, DC, 6 November.
- IMF (2008b). Iceland Gets Help to Recover From Historic Crisis, IMF Survey Online. Washington, DC, 2 December.
- IMF (2008c). IMF Executive Board Approves €1.68 Billion (US\$2.35 Billion) Stand-By Arrangement for Latvia, IMF Press Release. Washington, DC, 23 December.
- Irwin SC et al. (2008). Recent convergence performance of CBOT corn, soybean, and wheat futures contracts. *Choices*, 23(2): 16–21.
- Issing O and Krahen JP (2009). Why the regulators must have a global 'risk map'? *Financial Times*, 19 February.
- Issing O et al. (2008). New Financial Order: Recommendations by the Issuing Committee. Preparing G-20, Washington, DC, 15 November.
- Kansas City Board of Trade (2008). Agricultural markets performance. Talking points, April 2008. Available at http://www.cftc.gov/stellent/groups/public/@newsroom/documents/file/event042208_c026.pdf.
- Kashyap A, Rajan R and Stein J (2008). Rethinking Capital Regulation, University of Chicago. Mimeo.
- Keynes JM (1919). The economic consequences of the peace. In: *The Collected Writings of John Maynard Keynes II*. Published for the Royal Economic Society in 1971. Macmillan St. Martin's Press, Cambridge, United Kingdom.
- Keynes JM (1930). A Treatise on Money – The Pure Theory of Money. In: *The Collected Writings of Keynes JM*, London and Basingstoke, Macmillan Press, 1973.

- Krugman P (2008). The oil nonbubble. *New York Times*, 12 May.
- Krugman P (2009). Revenge of the Glut. *The New York Times*, 1 March.
- Kuttner R (2007). The Bubble Economy. *The American Prospect*, October.
- Lamont L and Thaler R (2003). Can the Market Add and Subtract? Mispricing in Tech Stock Carve-outs. *Journal of Political Economy*, 111(2): 227–268.
- Lukken W (2008). Keynote Address Before FIA Futures and Options Expo, Chicago, Illinois.
- Nugée J and Persaud D (2006). Redesigning Regulations of Pensions and other Financial Products. *Oxford Review of Economic Policy*, 22 (1): 66–77.
- Pistor K (2009). Reforming the Financial System: Beyond Standardization on “Best Practice” Models, VOX EU, 2 February.
- Rajan R (2005). Has Financial Development Made the Wrong Riskier? Federal Reserve Bank of Kansas City, August.
- Rodrik D (2008). Now’s the time to sing the praises of financial innovation, 22 September. Available at: Dani Rodrik’s weblog: http://rodrik.typepad.com/dani_rodriks_weblog/2008/09/nows-the-time-to-sing-the-praises-of-financial-innovation.html.
- Sanders DR, Irwin SH and Merrin RP (2008). The adequacy of speculation in agricultural futures markets: too much of a good thing? Marketing and Outlook Research Report 2008–02. Department of Agriculture and Consumer Economics. University of Illinois at Urbana-Champaign. *Forthcoming in Review of Agricultural Economics*.
- Schumpeter JA (1939). *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. McGraw-Hill, New York and London.
- Schumpeter JA (1911). *The Theory of Economic Development*. Cambridge, MA, Harvard University Press (English translation 1936).
- Segovia B and Singh M (2008). Counterparty Risk in the Over-the-Counter Derivatives Market. IMF Working Papers No. 08/258, 1–19, November.
- Shin HS (2009). Nature of Systemic Risk: Where Should Regulation be Aimed? Presentation at: The Fundamental Principles of Financial Regulation, 11th Geneva Conference on the World Economy, 24 January.
- Soros G (2009). The game changes. *Financial Times*, 29 January.
- Stiglitz J (2009). Testimony before the congressional oversight panel on regulatory reform hearing, 14 January.
- Subramanian A and Williamson J (2009). Put the puritans in charge of the punchbowl. *Financial Times*, 12 February.
- Tobin J (1984). On the Efficiency of the Financial System, *Lloyds Bank Economic Review*, vol. 153, July.
- UNCTAD (2007a). Recent developments on global financial markets, TD/B/54/CRP.2, Geneva.
- UNCTAD (2007b). The development role of commodity exchanges, TD/B/COM.1/EM.33/2, Geneva.
- UNCTAD (2007c). Global and regional approaches to trade and finance, UNCTAD/GDS/2007/1, Geneva.
- UNCTAD (2007d). Report of the Secretary-General of UNCTAD to UNCTAD XII. Globalization for development: Opportunities and challenges, TD/413. New York and Geneva, United Nations.
- UNCTAD (various issues). *Trade and Development Report*. United Nations publications, New York and Geneva.

- UNCTAD Policy Brief (2008a). The crisis of a century. UNCTAD Policy Briefs, No.3, UNCTAD/PRESS/PB/2008/3, Geneva, October.
- UNCTAD Policy Brief (2008b). Rebuilding financial multilateralism, UNCTAD Policy Briefs, No. 4, UNCTAD/PRESS/PB/2008/4), Geneva, October.
- UN-DESA/UNCTAD (2009). *World Economic Situation and Prospects*. New York, United Nations.
- Von Braun J and Torero M (2008). Physical and virtual global food reserves to protect the poor and prevent market failure. Policy Brief 4. International Food Policy Research Institute (IFPRI), Washington, DC, June.
- Wallison P (2009). Everything You Wanted to Know about Credit Default Swaps-but Were Never Told. RGE Monitor, 29 January.
- Whalen C (2008). The Subprime Crisis: causes, effects and consequences. Policy Brief No. 04, Networks Financial Institute, Indiana State University.
- Wolf M (2009). Why dealing with the huge debt overhang is so hard? *Financial Times*, 28 January.
- World Bank (2001). Finance for Growth: Policy Choices in a Volatile World, May.

Key messages

UNCTAD's longstanding call for stronger international monetary and financial governance rings true in today's crisis, which is global and systemic in nature. The crisis dynamics reflect failures in national and international financial deregulation, persistent global imbalances, absence of an international monetary system and deep inconsistencies among global trading, financial and monetary policies.

National and multilateral remedies

- Market fundamentalist laissez-faire of the last 20 years has dramatically failed the test. Financial deregulation created the build-up of huge risky positions whose unwinding has pushed the global economy into a debt deflation that can only be countered by government debt inflation:
 - *The most important task is to break the spiral of falling asset prices and falling demand and to revive the financial sector's ability to provide credit for productive investment, to stimulate economic growth and to avoid deflation of prices. The key objective of regulatory reform has to be the systematic weeding out of financial sophistication with no social return.*
- Blind faith in the efficiency of deregulated financial markets and the absence of a cooperative financial and monetary system created an illusion of risk-free profits and licensed profligacy through speculative finance in many areas:
 - *This systemic failure can only be remedied through comprehensive reform and re-regulation with a vigorous role by Governments working in unison. Contrary to traditional views, Governments are well positioned to judge price movements in those markets that are driven by financial speculation and should not hesitate to intervene whenever major disequilibria loom.*
- The growing role and weight of large-scale financial investors on commodities futures markets have affected commodity prices and their volatility. Speculative bubbles have emerged for some commodities during the boom and have burst after the sub-prime shock:
 - *Regulators need access to more comprehensive trading data in order to be able to understand what is moving prices and intervene if certain trades look problematic, while key loopholes in regulation need to be closed to ensure that positions on currently unregulated over-the-counter markets do not lead to "excessive speculation".*
- The absence of a cooperative international system to manage exchange rate fluctuations has facilitated rampant currency speculation and increased the global imbalances. As in Asia 10 years ago, currency speculation and currency crisis has brought a number of countries to the verge of default and dramatically fuelled the crisis:
 - *Developing countries should not be subject to a "crisis rating" by the same financial markets which have created their trouble. Multilateral or even global exchange rate arrangements are urgently needed to maintain global stability, to avoid the collapse of the international trading system and to pre-empt pro-cyclical policies by crisis-stricken countries.*

Global economic decision-making

- The crisis has made it all too clear that globalization of trade and finance calls for global cooperation and global regulation. But resolving this crisis and avoiding its recurrence has implications beyond the realm of banking and financial regulation, going to the heart of the question of how to revive and extend multilateralism in a globalizing world.
- The United Nations must play a central role in guiding this reform process. It is the only institution which has the universality of membership and credibility to ensure the legitimacy and viability of a reformed governance system. It has proven capacity to provide impartial analysis and pragmatic policy recommendations in this area.

