

BRIDGING THE GAP: INTERNATIONAL RISK MANAGEMENT

EXPLORING THE USE OF INTERNATIONAL RISK MANAGEMENT TECHNIQUES TO BRIDGE THE GAP BETWEEN RICH AND DEVELOPING COUNTRIES IN THE HOPE OF SMOOTHING INTERNATIONAL FINANCIAL MARKET VOLATILITY IN AN ERA OF GLOBALIZATION, GROWTH, AND POVERTY

“The idea of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from an intellectual influences, are usually the slaves of some defunct economists. Madmen in authority, who later hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.”

*JOHN MAYNARD KEYNES, 1936
THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY*

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ABSTRACT

This project is a bold attempt to synthesize recent literature on the promotion of growth and poverty reduction in an era of globalization with literature on strategies of risk management.

First, it will provide a historical context by outlining the ad hoc manner in which the world economy has evolved through the forces of globalization. It will examine two of the most central dilemmas facing policymakers today – trends that promote growth and explaining global inequality.

It will then explore the major impairment to sustaining growth and poverty reduction – financial market volatility. It will highlight the role speculative activity and monetary expansion play in financial crises, drawing attention to the ongoing debate between Monetarists and Keynesians. Following a lucid model of financial instability, the project will explore the ways the official and the private sector have sought to ease financial volatility.

Finally, the project will argue that the underlying cause for the volatility associated with developing countries is due to the combination of incomplete markets coexisting with liberal reforms. Specifically, speculation and monetary expansion coexists in incomplete markets where the participants in developing countries do not have access to adequate risk management products that OECD countries have developed. As a result, attempts to promote growth and reduce poverty have been undermined by price volatility. The project proposes that the international community address this issue by developing appropriate policies to in order to effectively smooth inevitable financial market volatility.

INTRODUCTION

All year long they have wanted to destroy Argentina. This time they are not going to walk away with our money. They are not going to defeat us.²

*- Domingo Cavallo, Dec. 2, 2001
Referring to speculators*

The “vultures” have done it again. Another financial crisis. This time in Argentina.

Former Economic Minister, Domingo Cavallo, had promised Argentines that foreign currency speculators, or “vultures,” would not ruin their country as they had so many others. By imposing strict financial restrictions, Mr. Cavallo hoped to avoid what many considered inevitable. However, like many other politicians in his position before, the measures were too little, too late.

On December 20, 2001, Fernando de la Rúa stepped down as president of Argentina following a week of public unrest that claimed 25 lives, resulted in hundreds of injuries, and thousands of arrests. To halt the political crisis, Argentina defaulted on \$155 billion dollars of public debt and was desperately working to avoid a currency devaluation and the possibility of hyperinflation. After four consecutive years of recession, the new administration has its hands full.

The current Argentine crisis stresses the significance for the discussion of globalization, growth, poverty, and the inherent volatility within the evolution of the world economy. Specifically, this project will look at the possibility of implementing advanced financial products to achieve sustainable growth and reduce poverty while smoothing financial market volatility that is often associated with liberalization.

² Norman, Laurence, (Dec. 4, 2001), “Argentina Caps Cash Withdrawals at \$250 a Week to Stem Run on Banks,” *The Independent*.

GLOBALIZATION, GROWTH, AND POVERTY

Having a financial system that does a good job of delivering essential services can make a huge difference to a country's economic development. Ensuring robust financial sector development with the minimum of crisis is essential for growth and poverty reduction.

Globalization further challenges the whole design of the financial sector, potentially replacing domestic with international providers of some of these services, and limiting the role that government can play – while making their remaining tasks that much more difficult.³

- *The World Bank, 2001*
Finance for Development: Policy Choices in a Volatile World

The crisis in Argentina was not Argentine in nature, but rather was a reflection of the inherent volatility of the world economy. The 1990s witnessed several severe global financial crises. The 1990s was also a period of unprecedented reform. Many beg to question, are the two related? So as to place contemporary events in better perspective, the central question is to ask how did we get here.

THE EVOLUTION OF THE WORLD ECONOMY: HISTORICAL CONTEXT

The world economy has evolved in an ad hoc manner, supported by the international monetary system and driven by globalization. Solomon defines the international monetary system as the set of arrangements, rules, practices, and institutions under which payments are made and received for transactions carried out across national boundaries.⁴ Definitions of globalization abound, but for this project globalization will be defined as the growing integration of economies and societies around the world as a result of flows of goods and services.⁵

³ World Bank, (2001), *Finance for Growth: Policy Choices in a Volatile World*, p.1.

⁴ Solomon, Robert, (1999), *Money on the Move: The Revolution in International Finance Since 1980*, Princeton University Press, p. ix.

⁵ Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p.2.

Globalization has been an ongoing process, proceeding in waves. As Wolf states, globalization is, in effect, an ongoing process that is not new, has not progressed very far, and is far from irreversible.⁶ While the number of waves is open to debate, this project will focus upon the timeline depicted in the World Bank's most recent project.

PRE-GLOBALIZATION: 1492 TO 1820

The Voyage of Discovery generated an unprecedented transfer of technology and knowledge. The period of 1492 to 1820 can be seen as the first period of pre-modern globalization. However, by definition, for globalization to have an impact on absolute living standards, and GDP per capita, trade-creating forces must alter domestic commodity prices. There is no such evidence of price convergence during this period, implying that discoveries and transport productivity improvement were offset by activities which choked off trade, such as trading monopoly markups, tariffs, non-tariff restrictions, wars, and pirates.⁷

THE SPARK: 1820 TO 1870

Modern globalization was touched off by a host of events which simultaneously occurred in the 1820s. The 1820s can be viewed as a watershed in the development of the world economy as international commodity prices began to converge. In addition, countries began a move towards a liberal policy beginning with the dismantling of the mercantilist system. The 1820s also coincided with the peacetime recovery following the Napoleonic Wars and an agricultural depression in England.⁸

⁶ Wolf, Martin, (Jan. 25, 2001), "An Opportunity Rather Than a Threat," Survey: 2001 and Beyond, *Financial Times*.

⁷ Lindert, Peter and John Williamson, (Apr. 2001), "Globalization and Inequality: A Long History," *World Bank*, p.2

⁸ *Ibid.*, p.4.

FIRST WAVE: 1870 TO 1913

Advances in transportation, such as the switch from sail to steamships, fueled the spark that led to the first wave of globalization. The combined advances in transportation and the negotiated reduction in trade barriers pioneered by an Anglo-French agreement opened up the possibility for some countries to take advantage of their abundant land and cheaper labor more efficiently. Flows of trade, capital, and labor all increased (See, Figure 1). What had been many separate national economies started to integrate as the world economy globalized, and convergence in income per capita began among globalizing countries. However, there was a widening gap between the globalizers and the countries left behind, leading to increased world inequality.⁹ As a result of these events, European investors came to believe in strong growth prospects overseas, global capital markets became steadily more integrated, reaching levels in 1913 that may not have been regained even today.¹⁰

WAVE OF ANTI-GLOBALIZATION: 1913 TO 1950

The globalized world fell apart after 1913, and was not rebuilt during the interwar years, but was rather systematically dismantled by short-sighted public policy. While the productivity gains that were made during 1820 to 1913 did not disappear, new policy barriers were imposed that choked off the gains made from trade, referred to as beggar-thy-neighbor policies. These policies included high tariffs, other non-tariff barriers, and restricted access to immigration (See, Figure 1).

⁹ World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy.

¹⁰ Lindert, Peter and John Williamson, (Apr. 2001), "Globalization and Inequality: A Long History," *World Bank*, p.4.

SECOND WAVE: 1950 TO 1980

The second wave resulted in unprecedented integration among rich countries, while most developing countries chose to restrict their involvement in foreign trade and investment. Europe, North America, and Japan concentrated on restoring trade relations through a series of multilateral trade agreements under the auspices of the General Agreement on Tariffs and Trade (GATT). As a group, the Organization of Economic Cooperation and Development (OECD) countries surged ahead with unprecedented growth rates. Within the OECD countries, convergence occurred as integration proceeded. Industrial countries within the OECD group that were relatively poorer grew the fastest. In addition, within the OECD countries, there was a modest trend towards greater equality in income distribution, aided by social welfare policies and programs.

Meanwhile, most developing countries remained largely isolated due to their own inward-focused policies, stuck in primary commodity exporting and largely isolated from capital flows.¹¹

THIRD WAVE: 1980 TILL

The most recent wave – spurred by further advances in transportation and communication technologies and by the choice of large developing countries to improve their investment climates and open up to foreign trade and investment – has resulted in further dramatic increases in international capital flows.

There has also been an increase in trade and capital flows between OECD countries and developing countries as many developing countries became increasingly disillusioned with the public sector as the engine of growth. Krugman notes that by the mid-1980s many Latin American economists had abandoned the old statist views of the

1950s and 1960s in favor of the Washington consensus.¹² Williamson notes that while widely misunderstood and often misinterpreted, the Washington consensus greatly contributed to the belief that the traditional elements of comparative advantage – a fixed amount of land, labor, and capital – had become obsolete and what really mattered was the set of economic policies that were pursued.¹³ Naim concurs, stating that the timing of the Washington consensus coincided with the sudden collapse of the Soviet system, filling the sudden and urgent need for an alternative set of ideas about how to organize economic and political life.¹⁴

Developing countries that increased their participation in global trade and investment were well rewarded. For the first time, many were able to harness the potential of their abundant labor and break into global markets for manufactured goods and services. As a result, there developed a widening gap between the post-1980 globalizers, those developing countries that opened up to globalization, and non-globalizers, those developing countries that were left behind. In fact, some 24 developing countries – with 3 billion people – have doubled their ratio of trade to income over the past two decades. The rest of the developing world trades less today than it did 20 years ago (See, Figure 2). While the new post-1980 globalizers are beginning to catch up, much of the rest of the developing world – with nearly 2 billion people – is becoming marginalized.¹⁵

¹¹ World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy.

¹² Krugman, Paul, (1999), The Return of Depression Economics, p.42.

¹³ Williamson, John, (July 1999), “What Should the Bank Think About the Washington Consensus?,” *Institute for International Economics*.

¹⁴ Naim, Moises, (Oct 26, 1999), “Fads and Fashion in Economic Reforms: Washington Consensus or Washington Confusion?,” Working Draft of a Paper Prepared for the IMF Conference on Second Generation Reforms.

¹⁵ World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy, p.5.

TRENDS WHICH PROMOTE GROWTH

To keep track of the wide range of explanation that are offered for persistent poverty in developing nations, it helps to keep to extreme views in mind. The first is based on an object gap: nations are poor because they lack valuable objects like factories, roads, and raw materials. The second view invokes an idea gap: nations are poor because their citizens do not have access to ideas that are used in industrial nations to generate economic value.

Each gap imparts a distinctive thrust to the analysis of development policy. The notion of an idea gap directs attention to the patterns of interaction and communication between a developing country and the rest of the world.¹⁶

- Paul Romer,
Idea Gaps and Object Gaps in Economic Development

As Dollar states, economists since Adam Smith have argued that a large market, specialization, and a finer division of labor are likely to have dynamic benefits through encouraging innovation and learning by doing. Work by Paul Romer further supports this argument by stressing that openness accelerates the growth rate of a backward economy because of opportunities to specialize and to adapt more advanced technologies from developed countries.¹⁷

After having outlined how the world economy got to where it is today, the project next explores what policies and institutions promote growth and aid in the reduction of poverty.

BETWEEN COUNTRIES: TRADE, FINANCE, & MIGRATION

Much ink has been spilled over the need for the reform of the international financial architecture. For this project, it is suffice to say that more is needed in improve the international architecture in order to support the integration between rich and poor

¹⁶ Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p.6

¹⁷ *Ibid.*, p.7.

countries. The key to sustained growth and poverty reduction is the transfer of resources from North to South, or rather OECD countries to developing countries. The policies that are key to this development are those that effect trade, finance, and migration flows.

TRADE

Trade liberalization in developing countries has been progressing steadily since 1980 (See, Figure 3). As a result of this trade liberalization, developing countries have witnessed a large increase in imports and exports. In this more open environment, developing countries are increasingly exporting labor-intensive manufacturers. The change in composition of exports during the third wave of globalization is dramatic: as recently as 1980 manufactured goods accounted for only 25 percent of exports from developing countries. By 1998, that share had increased to more than 80 percent.

However, the dramatic increase in exports of manufactures from developing countries has contributed to renewed protectionist measures in rich and developing countries alike. At the same time, developing countries have increased their presence in multilateral institutions such as the WTO. The prospect of a new round of trade negotiations is no longer a hope but rather a reality, and will address both of these developments. In particular, the “development round” of negotiations will focus on improving market access for developing countries. The round will focus on three major areas: developing countries need better access to rich country markets for manufactured goods; developing countries need better access to rich-country markets for agricultural products; and developing countries need better access to each others’ markets. Figure 4 highlights the potential annual gains from improving market access in a new development round.¹⁸

¹⁸ World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy, pp.55-59.

FINANCE

Financial flows have increased dramatically to developing countries during the third wave of globalization, and have shifted from aid, which actually has decreased during this period, to private capital flows. The change in the form of capital flows also has affected where capital flows go. Private capital flows go predominately to large and middle-income globalizing economies (i.e., China, Mexico, Brazil, Malaysia, etc.), further widening the gap between the post-1980 globalizers and the non-globalizers.

As a result of diminishing aid, “targeting aid” to complement private flows has become a bigger concern. Low-income, non-globalizing countries have difficulty attracting private capital flows. Aid can play a helpful complementary role in assisting countries that reform their policies in the hope of becoming new globalizers. Aid reinforces the favorable effect of good policies on investment. Conversely, large volumes of aid going to into a poor policy environment produce little in the way of sustained growth or poverty reduction. Therefore, many argue that aid should be shifted away from middle income countries that can attract private capital flows and countries with poor policy environments where aid is likely to be ineffective. The targeting of aid will help the most marginalized non-globalizers that aim to participate in the world economy.¹⁹

Increased private capital flows to globalized developing countries has resulted in increased financial globalization, which has resulted in unprecedented growth, but also has been associated in recent years with financial crises that have resulted in devastating costs to reforming globalizers.

¹⁹ *Ibid.*, p.67.

MIGRATION

Of the three global flows, migration is the least researched. As a result, it is hard to make conclusions about the effect of migration. However, while economic pressures for migration are rising, legal migration is highly restricted. In fact, compared to 100 years ago, the world is less open to migration flows. Because of the economic and social reasons, labor migration is a highly controversial topic in OECD countries.

Current migration policies are inflicted with flaws. OECD countries are highly discriminate in refusing unskilled laborers from the South while accepting educated immigrants, leading to the so-called “brain-drain” from the South. Increasingly, because there is an economic need and it is highly restricted, there is growing illegal immigration and the trafficking in human begins. In fact, it has become big business, with estimated revenues of \$10 – 12 billion a year. Due to demographic factors, the pressures for migration will only mount over time. Each year, roughly 83 million people are added to the world, with 82 million in developing countries. Population pressures will affect wages and hence migration, in the intuitive direction.²⁰

WITHIN COUNTRIES: DOMESTIC POLICIES AND INSTITUTIONS

While undoubtedly the successful integration into the world economy is dependent upon open trade and investment policies, it is also dependent upon domestic policies and institutions. As the World Bank states, good policy is about identifying and supporting the driving forces for poverty reduction, while at the same time identifying and meeting the risks that arise. What policies developing countries choose and purse will determine

²⁰ *Ibid.*, pp.76-82.

the extent to which a developing economy integrates into the world economy and the benefits it is able to reap from this integration.²¹

DOMESTIC POLICIES

This is consistent with Krugman's argument that a country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker. He explains that for domestic economic policy makers, productivity, income distribution, and unemployment are the most important trends of the economy, with all other issues merely components of these big trends.²² The following four general consequences of domestic policies that foster openness in trade and investment contribute positively to increased productivity, income distribution, and unemployment.

First, open economies tend to have more competition and firm turnover, or "churning." For developing countries this is significant because numerous studies find that developing countries often have large productivity dispersion across firms making similar products. Openness leads to lower productivity dispersion, as high-cost producers exit the market as prices fall. As these firms exit and firms with higher productivity replace them, productivity rates for the industry as a whole rise as output per worker increases.

Secondly, openness can undermine local conditions that foster both explicit and implicit barriers to entry. The opening of domestic markets to foreign direct investment (FDI) or imports can help to break local abuses of market power that can create monopolies. Openness can have the following three related effects on market structure and prices. The market structure itself can change as more firms can produce goods if

²¹ *Ibid.*, p.85.

local monopolies are broken up and the barriers to entry are substantially reduced or eliminated. If barriers to entry are lower, resources tend to move to the most productive areas and greater innovation generally occur. Finally, prices will likely fall as competition increases.

Policymakers are eager to seek out FDI and its potential for technology transfer and spillovers. This “linkage-effect” highlights the importance of intangible benefits from FDI. FDI is usually associated with multinational corporations (MNCs). MNCs play a dominant role in research and development, which results in further spillover effects for the host economy. The demand for educated workers increases productivity, increases the overall education of the host economy, and leads to infinite possibilities of spillover effects. Domestic entrepreneurs increase as domestic workers leave MNCs with their gained experience and start-up their own firms. Demand for domestically produced goods and services increases as MNCs seek out local inputs. Demand for increased hospitality, housing, and infrastructure also effects the host economy.

Finally, it is argued that removing barriers to export is the most beneficial to domestic firms. Firms that export generally are: able to better exploit their economies of scale and further develop their economies of scale with more capital allocation; more exposed to new technologies and innovative means of production; face steeper competition forcing them to be as efficient as possible; more productive on average than firms that serve only domestic markets.²³

²² Krugman, Paul, (1999), The Age of Diminished Expectations: U.S. Economic Policy in the 1990s, MIT Press, p.9.

²³ World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy, pp.87-94.

DOMESTIC INSTITUTIONS

Good domestic policies that exploit the openness to trade and investment provide the potential for productivity growth. However, for firms to reap the potential benefits of domestic policies will depend upon the condition of the investment climate of the country. Investment climate refers to the regulatory framework, infrastructure, and overall economic governance of the country. The regulatory framework supports the environment that allows firms to start up and expand production. The quality of supporting infrastructure includes the health and strength of financial services, power, transport, and communications. Economic governance includes such issues as contract enforcement, fair taxation, and control of corruption. Investment climate at the local level is critical to productivity growth. A location that is open to the global economy, yet hampered by a poor investment climate, will not benefit much from the effects of globalization.²⁴

Integration into the world economy affects employment and wages. As a result, the welfare of workers and the need for good labor market and education policies is paramount. Social protection programs that ensure workers benefit from openness must exist alongside other domestic policies and institutions. While globalization results in the creation and destruction of jobs, the timing of the two may not be synchronized. As a result, globalization will result in both winners and losers within a country, as will be further discussed in the next section. The diffuse nature of the potential losers highlights the need for an active and extensive system of social protection. Various government interventions, either to help workers cope with losing their jobs, limit the effects of globalization on certain groups, or provide retraining skills, must be in place. Otherwise,

big losers from globalization – i.e., workers earning large rents from protection – will be vocal and concentrated opponents to reform. This backlash has the potential to fester and prevent governments from successfully implementing necessary reforms.

EXPLAINING GLOBAL INEQUALITY

Globalization probably mitigated rising inequality between nations: the nations that gained the most from globalization are those poor ones that changed their policies to exploit it.²⁵

- Lindert and Williamson, 2001

While globalization has historically been a powerful force for poverty reduction and an conduit for world growth and poverty reduction, it has also led to anxiety among many that growing integration is leading to heightened inequalities between and within countries, leading credence to the cliché the rich get richer while the poor get poorer.

BETWEEN COUNTRIES: THE RICH, POST-1980 GLOBALIZERS, & NON-GLOBALIZERS

As Dollar notes, among countries there has been a complex pattern of both divergence and convergence in terms of equality over the past 200 years. In general, the countries that have integrated with the global economy have done well, while those that have not integrated have fallen behind.²⁶ According to Pritchett, in 1913, the difference in per capita income between rich countries and the poorest countries was roughly 16-fold. Since 1913 the countries that were richer have grown faster, so that the gap today is 64-fold.²⁷ Thus, there is a larger divergence today between the richest countries at the top and the poorest countries at the bottom. At the same time, since 1980 absolute world inequality has stopped increasing. Participation in the world economy raises incomes,

²⁴ *Ibid.*, pp.95-97.

²⁵ Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty Since 1980," *World Bank*, p.5.

²⁶ *Ibid.*, p.5.

²⁷ Pritchett, Lant, (Summer 1997), "Divergence, Big Time," *Journal of Economic Perspectives*, pp.3-18.

but for over a century only one-third of the world participated. The third wave of globalization may mark the turning point at which participation has widened sufficiently for it to promote growth and further reduce both poverty and global inequality.²⁸

RICH

The growing convergence can partially be explained by examining the growing convergence occurring between the rich and post-1980 globalizers countries. Historical evidence suggests that when backward regions integrate with more advanced ones, their growth rates accelerate and their income levels gradually converge on the leader. This can be seen within rich countries where there has been convergence. The relatively poorer countries within the OECD have grown the fastest, such that inequality has declined within the OECD world. Similarly, there is growing evidence of convergence of per capita income among U.S. states and among regions and states within European countries, such as Germany, Spain, and Ireland.²⁹

POST-1980 GLOBALIZERS

The growing divergence can partially be explained by examining the growing divergence occurring between developing countries. Dollar argues that a strong correlation exists between globalization and growth such that developing countries can be divided into two groups, post-1980 globalizers and non-globalizers. Post-1980 globalizers, such as China, Mexico, Malaysia, Hungary, and India, have experienced an increase in the change of trade to GDP, while non-globalizers, such as Pakistan, Honduras, Nigeria, and Egypt, have experienced a decline in the change of trade to GDP (See, Figure 5). Figures 6, 7, and 8 depict the per capita GDP growth rates for the three

²⁸ World Bank, (2002), *Globalization, Growth, and Poverty: Building an Inclusive World Economy*, p.7.

²⁹ Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p.5.

major blocks: rich, post-1980 globalizers, and non-globalizers. The trend over the past four decades clearly shows that post-1980 globalizers' per capita GDP growth rates have increased, rich countries' per capita GDP growth rates have decreased, and non-globalizers' per capita GDP growth rates have shown minimal growth.

NON-GLOBALIZERS

For the non-globalizers, about 2 billion people live in countries that are not participating strongly in globalization. The majority live in the Former Soviet Union and in Africa. Because their primary exports are usually confined to a range of primary commodities, they are highly prone to terms of trade shocks that retard growth and exacerbate poverty conditions. While it is critical for these states to diversify their exports and break into the global market for manufactured goods and services, there are numerous reasons put forth for why this has not happened. One school of thought argues that countries have become marginalized as a result of poor policies and infrastructure, weak institutions, and corrupt governance. Another view contends that the marginalized countries suffer from intrinsic disadvantages of adverse geography and climate. A third school combines the first two arguments. It argues that as a result of poor policies, some countries have permanently missed the opportunity to industrialize because agglomerations have been located elsewhere in the developing world.³⁰

WITHIN COUNTRIES: WINNERS & LOSERS FROM GLOBALIZATION

While there is a complex pattern of divergence and convergence between countries because of globalization, there are also winners and losers from globalization within countries. As Dollar states, while globalization is not associated with higher inequality within countries, it does redistribute income among groups. In fact, winners and losers

will be found both among rich countries and developing countries. The fact that integration produces winners and losers is one reason why it is so controversial.

EDUCATION

In an integrated world economy, education is the key to helping people prosper in this more dynamic environment. Promoting education improves health standards and enhances productivity growth, the main engine of poverty reduction. This is especially true for developing countries where poverty is high. Social programs that complement government policies must focus on indiscriminate education attainment, especially gender and class under-representation. Increasingly, those that are denied or refuse to invest in education will be marginalized, leading to a wider inequality gap within countries due to education attainment.

SKILLED VS. UNSKILLED LABOR

Also within countries, skilled and unskilled labor will disparately feel the consequences of integration. Developing countries generally have an abundant supply of labor and land, and as a result are categorized as labor-intensive with a predominantly unskilled labor force. Being labor-intensive implies that labor is abundant and the competition for jobs will keep wages lower. Rich countries generally have an abundance of capital, and as a result are categorized as capital-intensive with a predominantly skilled labor force. With an integrated world economy, developing countries will have an advantage over rich countries with their cheaper unskilled labor. In an integrated world economy, labor-intensive industries will have an incentive to outsource their labor-intensive production to developing countries. As a result, in rich countries, unskilled laborers will be the losers as they will have to compete with unskilled workers in

³⁰ *Ibid.*

developing countries that are willing to work for much lower wages. Again, social programs that complement government policies must focus on this reality and prepare and retrain unskilled workers in capital-intensive countries. Otherwise, integration will lead to further inequality between skilled and unskilled workers within countries.

RURAL VS. URBAN AREAS

The impact of integration will also affect urban and rural areas differently which could also lead to a widening inequality gap. Rural labor markets are expected to tighten as the rural non-farm expands with increasing agricultural productivity gains. This will be true for both rich and developing countries. Currently, the agricultural industry in rich countries is highly protected both with direct and indirect trade barriers. The commitment to continued trade negotiations will undoubtedly challenge these barriers, thus increasing the rural non-farm sector will unskilled laborers. In developing countries, reforms have predominated targeted at urban areas, thus potentially exacerbating the inequality between rural and urban areas as integration lifts the urban areas out of poverty and leaves the rural areas behind. Once again, social programs that complement government policies must focus on this reality, and prepare rural areas for integration. Otherwise, integration will lead to further inequality between rural and urban areas, potentially leading to social tension and mass migration pressures.

ECONOMIC GEOGRAPHY

Dollar argues that global production is remarkably concentrated geographically. In fact, the vast majority of world GDP is produced in temperate regions within 100 kilometers of the sea or of a major navigable river. As a result, although the notion that poor countries can benefit from integration into the world economy is an encouraging

one, geographic realities will undoubtedly prevent this optimistic hope. Transportation costs, disease, and infrastructure are challenges that impede development in certain areas. In addition, another issue arises from agglomeration economies. It is often observed that related firms cluster together. Agglomeration economies make it more difficult for a backward region to attract production. As a result, remote regions will increasingly be marginalized and the pressure for labor migration will undoubtedly increase as geographically blessed areas further integrated into the world economy.³¹

³¹ Ibid., pp.20-22.

**THE MAJOR IMPAIRMENT TO SUSTAINING GROWTH AND POVERTY
REDUCTION: FINANCIAL MARKET VOLATILITY**

To suppose that there exists some smoothly functioning automatic mechanism of adjustment which preserves equilibrium if we only trust to methods of laissez-faire is a doctrine delusion which disregards the lessons of historical experience without having behind it the support of sound theory.³²

- John Maynard Keynes

Within a period of less than ten years, Argentina managed to fall from perceived darling of developing countries, to one of economic laggard. The sudden fall from grace highlights the severity resulting from the volatility of the world economy. While globalization has brought developing countries increased trade and capital necessary to promote growth and reduce poverty, sudden reversals in trade and capital flows has led to numerous financial crises in developing countries throughout the 1990s. It has also led many to wonder if there is a crisis in global capitalism.

In an effort to address this issue, this section will explore the embedded source of financial market volatility and the response from the official and private sector to this volatility.

EMBEDDED SOURCES OF FINANCIAL MARKET VOLATILITY

Nowhere does history indulge in repetitions so often or so uniformly as in Wall Street. When you read contemporary accounts of booms or panics, the one thing that strikes you most forcibly is how little either stock speculation or stock speculators today differ from yesterday. The game does not change and neither does human nature.

- Edwin Lefèvre, 1923

³² Eichengreen, Barry, (1996), Globalizing Capital: A History of the International Monetary System, Princeton University Press, p.93.

Volatility in the world economy existed prior to the emergence of any “self-regulating” gold standard. As Figure 9 shows, “modern” financial crises have existed since the fifteenth century. A closer examination of Figure 9 reveals a particular trend. Financial crises are often the culmination of speculative activity and monetary expansion.

SPECULATION

Speculation is an effort, probably unsuccessful, to turn a little more into a lot. Investment is an effort, which should be successful, to prevent a lot of money becoming a little.³³

- *Fred Schwed, 1940*

The financial speculator still resembles the alchemist in that he is constantly constructing abstruse theories to turn paper into gold, normally with little success.³⁴

- *Geroge Soros, 1987*

Fairly or not, politicians have often made speculators scapegoats for failed policies. On December 2, 2001, Domingo Cavallo, Economic Minister for Argentina, was the latest to join the growing list of politicians who have lashed out at the role of speculators. Referring to them as nothing more than “vultures” in a televised address to his people Cavallo said that these vultures would not push Argentina into a financial crises like they had with Russia and Ecuador.³⁵ In 1997, following the Asian financial crisis, Malaysia’ prime minister, Mahathir Mahamad, often spoke belligerently about the role of speculators. In his opinion, speculation is an “immoral” activity and should be made illegal. In the late 1980s, European and American officials complained about the speculation of Asian central banks. Early in the decade, German officials complained about “the red man,” or the Foreign Trade Bank of the Soviet Union, for speculating

³³ Chancellor, Edward, (2000), Devil Take the Hindmost, Plume Publishing, p.xi.

³⁴ *Ibid.*, p.xii.

³⁵ Norman, Laurence, (Dec. 4, 2001), “Argentina Caps Cash Withdrawals at \$250 a Week to Stem Run on Banks,” *The Independent*.

against the German mark in favor of the dollar. In 1967, the British prime minister criticized the “gnomes of Zurich” for speculating against the pound.³⁶

As Chancellor illustrates, behind much of contemporary financial and economic news lurks the speculator. The role of speculators is a divisive topic. On one hand, the speculator is perceived as nothing more than a parasite, driven by greed and fear, who creates and thrives on financial crises. Those who maintain this belief feel that in the interests of the wealth of nations, this wild beast must be caged. On the other hand, there are those that believe that speculation is an essential component of the capitalist system. According to this view, the speculator acts as a catalyst for disseminating new information in the price discovery process by bringing the latest information to market and preventing bottlenecks by hastening the inevitable.³⁷

Conventionally, speculation is defined as an attempt to profit from changes in market price. By forgoing current income for prospective capital gains in a particular stock, one is deemed speculative. Speculation, like investing and gambling, is concerned with uncertainty, or risk. A fine line separates speculation and investing. It has been said that speculation is the name given to a failed investment, while investment is the name given to a successful speculation. Securities analyst Benjamin Graham contends that an uninformed or spontaneous investment is more speculative, than one in which the investor has taken the time to investigate and assess its potential risks and returns.³⁸

A fine line also separates speculation from gambling. Economist differentiate gambling and speculation on the grounds that gambling involves the deliberate creation of new risks for the sake of diversion, while speculation involves the assumption of the

³⁶ Pardee, Scott, (Oct. 1, 1997), “Speculator Hunt Begins at Home,” *Journal of Commerce*.

³⁷ Chancellor, Edward, (2000), Devil Take the Hindmost, Plume Publishing, pp.i-xiii.

inevitable risks of the capitalist process. When the capitalist is confronted with a broad spectrum of risk, prudent investment lies at one end, gambling at the other, and speculation lies somewhere in between the two.³⁹

Thereby, speculation is a mix of political, economic, and social affairs where a rational agent, intent on optimizing their wealth, take on risks. For policymakers, the issue becomes what to do to protect the public good when “irrational exuberance” occurs, and the actions of many rationale agents threaten the stability of the financial markets. Barriers may be raised, as has often in the past. However, in a era of high capital mobility, it is becoming increasingly harder to distinguish what is speculative, what is investment, and what is gambling.

MONETARY EXPANSION: FUELING THE FLAMES

Men of business in England do not like the currency question. They are perplexed to define accurately what money is: *how* to count they know, but *what* to count they do not know.⁴⁰

- Walter Bagehot, Feb. 7, 1857
The Economist

The inability to define money, measure money, and determine how much money there should be in deflationary or inflationary times leads policymakers to contribute to financial volatility. Increasing the money supply has been the a part of a larger debate about monetary theory that has been raging since at least the sixteenth century. In its most simplest form, the argument is about the role money plays in economic disruptions. Economic disruptions stem from not only too little money – depressions – but from too much money – inflation. The debate has produced two distinct sides – the Monetarists

³⁸ *Ibid.*, p.xiii.

³⁹ *Ibid.*, pp.x-xiii.

versus the Keynesians – over resolving the central dilemmas over money: how to define what money is, determining how to measure it, and how much there should be.

WHAT IS MONEY

Functionally, money is a means of payment, a medium of exchange, and a standard of value (or a unit of account). What constitutes money is much harder to define. What we call money is not fixed, rather is to a great extent a matter of judgement. What constitutes money includes a range of liquid assets – something you can turn into a generally acceptable medium of exchange quickly without taking a loss. Liquidity is a continuum ranging from currency at the top of the scale, to a variety of frozen assets at the bottom. Because there are several definitions of money, there are several different ways to measure money, each of which drops one notch lower on the liquidity scale in drawing the line between “money” and “all other assets” (i.e., M_1 , M_2 , M_3 , etc.). A money supply needs to be large enough to generate just the right amount of spending to give a country a GNP that represents full employment at stable prices. More money than that would mean more spending and inflation, and less money would mean less spending and recession or depression.⁴¹

MONEY VELOCITY

Furthermore, when the money supply increases, the recipients probably spend the money on real goods and services – such as cars, televisions, etc. – and some on financial assets – such as stocks and bonds. Increased spending leads to higher GNP. Moreover, the funds move from the recipients to the holders of these various products and assets – who too turn and spend their funds on assets and goods. Whether the

⁴⁰ Kindleberger, Charles, (1996), Manias, Panics, and Crashes: A History of Financial Crises, 4th Ed., John Wiley and Sons, p.53.

expansion of GNP corresponds to the money supply increase depends on how much of the new money is respent on real goods and services and how quickly the respending takes place. The relationship between the increase in GNP over a period of time and the change in the money supply that brought it about is referred to as the velocity of money.⁴²

MONETARISTS VERSUS KEYNESIANS

Monetarists, also known as the Currency School, or Quantity Theorists, have a long lineage that dates back the sixteenth century and includes John Locke, David Hume, David Ricardo, and Milton Friedman. According to Monetarists, in the short run, money is the crucial determinant of overall economic activity and there is a direct and reliable link between the money supply and GNP. That link is the predictability of monetary velocity. Because of it, a change in the money supply will change aggregate spending and GNP by a predictable amount. Furthermore, Monetarist maintain that people want money as a medium of exchange for day-to-day transactions purposes, or to hold for a short period before making purchases. Finding themselves with some extra money, they proceed to spend it on real assets and real goods and services, thereby driving up GNP. As a result, the ideal situation for the central bank is a stable money velocity, or one that is at least changing slowly and predictably over a period of time.⁴³

On the other hand, Keynesians contend that the channels through which the money supply affects GNP are less direct and less reliable, primarily because money velocity is not viewed as very stable or predictable in either the short or long run. Following an increase in the money supply, the public hoards it. Though the money supply has increased, GNP remains unaffected as velocity has fallen. The public holds this increase

⁴¹ Ritter, Lawrence, and William Silber, (1984), *Money*, 5th Ed., Basic Books Inc. Publishers, pp.7-11.

⁴² *Ibid.*, pp.26-28.

in liquidity not only for day-to-day transactions purposes but also as idle balances or as a pool of liquidity for possible speculation in the stock and bond markets.⁴⁴

CREDIT EXPANSION

As Kindleberger argues, the conflicting views of policymakers that are either Monetarists and Keynesians leads to financial instability. While Monetarist long for some smoothly functioning automatic mechanism of adjustment so to limit the money supply, Keynesians often are seen wanting or acting to expand the money supply because the channels through which the money supply affects GNP are less direct and less reliable, and the public will more likely hoard it. The inability to address the money dilemma, by either Monetarists or Keynesians, can lead to rapid credit expansion.⁴⁵

LIQUIDITY CYCLE

Pettis, concurring with Kindleberger, returns to a related argument brought forth by Irving Fischer. They claim that changes in underlying liquidity is a more important factor in explaining booms and busts than aspects of the tradition business cycle, such as over-production, over-consumption, and over-capacity. Credit expansion and liquidity factors – “debt-disease” or “dollar-disease” – can lead to a sharp reduction in risk aversion and risk premiums, so that riskier assets tend to perform best. Of course, during reversals, these assets are more likely to suffer.⁴⁶

A liquidity expansion does not necessary result from a traditional Monetarists and Keynesians inspired credit expansion. Rather, an asset boom – when a large pool of

⁴³ *Ibid.*, pp.34-37.

⁴⁴ *Ibid.*, pp.38-39.

⁴⁵ Kindleberger, Charles, (2000), *Manias, Panics, and Crashes: A History of Financial Crises*, 4th Ed., John Wiley and Sons, pp.53-55.

⁴⁶ Pettis, Michael, (2001), *The Volatility Machine: Emerging Economies and the Threat of Financial Collapse*, Oxford University Press, p.39.

assets becomes near-money, such as real estate – can draw further investment activities from excited investors and increase asset turnover, which in turn can have a self-reinforcing effect by making an even larger amount of assets more money-like. This increase in “money-ness” is supported by Mundell, who argues that the addition of very large, highly-traded securities can cause a market’s liquidity to increase just as if there had been an increase in the money supply.⁴⁷

Petisis contends that an increase in liquidity – changes in base money, changes in financial structure, explicitly or implicitly banking deregulation, increases in the “money-ness” of some asset – can affect the cost of capital, by affecting the subsequent return on assets, and can increase the risk appetite and/or reduce required risk premiums. As this happens, assets prices rise and the expected return on safe assets decline, investors begin to widen their horizons in search of higher returns.⁴⁸ By becoming “yield-hogs,” investors move along the spectrum of capitalism from investment closer to speculation and even gambling.

The fragility of the monetary system and its propensity to disaster was emphasized by the late monetary economist, Hyman Minsky. His emphasis on the instability of the credit system follows the works of a host of classical economists including John Stuart Mill and Irving Fisher. Like Fischer, Minsky attached great importance to the role of debt structures in causing financial difficulties, and especially debt contracted to leverage the acquisition of speculative assets for subsequent resale.

⁴⁷ *Ibid.*, pp.39-41.

⁴⁸ *Ibid.*, p.42.

FINANCIAL INSTABILITY HYPOTHESIS

Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes a bubble on a whirlpool of speculation. When capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill done.⁴⁹

- John Maynard Keynes, 1936
The General Theory of Employment, Interest and Money

Combine speculative manias with “dollar-disease” and you have a financial crisis. While not quite that easy, Kindleberger reiteration of Minsky’s insights provides a lucid model of financial instability which underscores the vital components of speculation and easy money.⁵⁰

DISPLACEMENT

Events leading up to a crisis starts with “displacement,” some exogenous shock to the macroeconomic system. As Figure 9 shows, the nature of this displacement varies from one speculative boom to another – it may be the outbreak or end of war, an abundant harvest or crop failure, some political event, a surprising financial success, or the widespread adoption of an innovative production with perceived pervasive effects – canals, railroads, automobiles, the internet. It may also stem from some policy switch or policy mistake, leading to an unanticipated change of monetary policy that was not priced into the market.

PROFIT OPPORTUNITIES LEAD TO A BOOM

Whatever the source of displacement, it will alter the economic outlook by changing profit opportunities in at least one important sector of the economy, often spilling into

⁴⁹ Chancellor, Edward, (2000), Devil Take the Hindmost, Plume Publishing, p.222.

other sectors such as real estate. Displacement brings opportunities for profit in some new or existing lines of production, and closes others out. As a result, business firms and individuals with savings or credit seek to take advantage of the former and retreat from the latter. If new opportunities dominate those that lose, investment and production picks up. A boom is under way.

EXPANSION OF THE MONEY SUPPLY

The boom is fed by credit expansion and liquidity factors that Fischer, Mundell, and Pettis emphasized. The increased liquidity fuels the flames of the boom and allows the boom to expand throughout the domestic economy and into other international economies.

EUPHORIA

Increasingly, the urge to speculate is present and is transmuted into effective demand for goods or financial assets. This is consistent with Chancellor, as the capitalist moves down the risk spectrum away from investment towards speculation and gambling because of the perceived “no-brainer.” It is also consistent with Pettis, as the boom creates appetites for higher risk. Finally, this is consistent with velocity of money component of monetary theory. After a time, increased demand presses against the capacity to produce goods or the supply of existing financial assets. Prices increased, giving rise to new profit opportunities and attracting still more firms and investors. “Positive feedback” develops, as new investment leads to increases in income, which stimulate further investment and further income increases. The market is infected with euphoria.

⁵⁰ Kindleberger, Charles, (2000), Manias, Panics, and Crashes: A History of Financial Crises, 4th Ed., John Wiley and Sons, pp.14-18.

OVERTRADING

Speculation for price increase is added to investment for production and sale. Overtrading may involve pure speculation for a price rise, an overestimate of prospective returns, or excessive “gearing.” In this sense, pure speculation refers to buying for resale rather than consumption in the case of commodities or for resale rather than income in the case of financial assets. Excessive gearing refers to buying on margin, or by installments, under circumstance in which one can sell the asset and transfer with it the obligation to make future payments.

MANIA OR BUBBLE

As firms and households see others making profits from speculative purchases and resales, they tend to follow. When the number of firms and households indulging in these practices grows large, bringing in segments of the population that are normally aloof from such ventures, speculation for profit leads away from normal rational behavior to that of a mania – irrationality and bubble – or a deviation from the fundamentals.

SWINDLERS

At a later stage, speculation tends to detach itself from really valuable objects and turn to delusive ones, A larger and larger group of people seeks to become rich without a real understanding of the process involved – *i.e.*, day-traders. Not surprisingly, this leads to numerous “used-car salesmen” that look to sell a lemon, as swindlers and other charlatans’ schemes flourish.

CONTAGION

Overtrading has historically tended to spread from one country to another. Internationally traded commodities and assets that go up in price in one market will rise

in others due to arbitrage. The foreign-trade multiplier communications income changes in a given country to other through increased or decreased imports. Capital flows are a third link, while money flows of gold, silver, or foreign exchange are a fourth. Finally, pure psychological behavior, or herd behavior is a fifth.

FINANCIAL DISTRESS

Kindleberger argues that it is necessary to point out that there are two types of speculators, the insider and the outsider. Aiming to address Friedman's argument that irrational bubbles are impossible with rational agents, Kindleberger contends that it is the professional insiders that initially destabilize by exaggerating the upswings and the falls, while the outsider amateurs who buy high and sell low are less price manipulators than the victims of the euphoria, which inflicts them late in the day.⁵¹

As the speculative boom continues, interest rates, velocity of money, and prices all continue to mount. At some stage, a few insiders decide to take their profits and sell out. At the top of the market there is hesitation, as new recruits to speculation are balanced by insiders who withdraw. Prices begin to level off. There may then ensue an uneasy period of "financial distress," or awareness on the part of a considerable segment of the speculating community that a rush for liquidity may develop, with disastrous consequences for the prices of goods and securities, and leaving some speculative borrowers unable to pay off their loans. As the distress persists, speculators realize that the market cannot go any higher. It is time to withdraw. The race out of real or long-term financial assets and into money may turn into a stampede.

⁵¹ *Ibid.*, pp.29-30.

REVULSION

The *causa remota* of the crisis is speculation and extended credit. The *causa proxima* is some incident, some trigger, that snaps the confidence in the system, makes people think of the dangers of failure, and leads them to move from commodities, stocks, real estate, bills of exchange, promissory notes, and foreign exchange back into cash.⁵² In any case, the rush is on. Prices decline and bankruptcies increase. Liquidation may be orderly, but may degenerate into panic as the realization spreads that there is only so much money, not enough to enable everyone to sell out at the top. Revulsion has set in.

PANIC

Revulsion and discredit may go so far to lead to panic, with people trying to “rush for the exits” as fast as possible, before the liquidity door shuts. The panic feeds on itself, just as the speculation did, until one or more of three things happen: 1) prices fall so low that investors are tempted to move back into less liquid assets; 2) trade is cut off by setting limits on price declines, shutting down exchanges, or otherwise closing trading – known as a “circuit breaker;” or a lender of last resort succeeds in convincing the market that money will be made available in sufficient volume to meet the demand for cash.

The financial instability hypothesis is a powerful explanation of the role of speculation and money in a market economy. The last section sought to address the concern that there was a crisis in global capitalism by depicting the inherent volatility of the market economy. While this project argues that there isn't a crisis in global capitalism, there admittedly is more volatility. As Kahler argues, this can be explained

⁵² *Ibid.*, p.100.

by the integration of developing countries into the global financial system.⁵³ As more developing countries liberalize their economies, the financial instability hypothesis is occurring more frequently. This trend, combined with the increase in capital flows and increased economic interdependence, and has left many wondering if there is a crisis in global capital.

As a result of these three trends, the official and the private sector have been searching for the proper responses to smoothing financial market volatility, each with its own degree of success and failure.

THE OFFICIAL SECTOR RESPONSE TO FINANCIAL MARKET VOLATILITY

As Eichengreen states, international economic policymakers are currently confronted by two urgent problems. One is to contain and resolve the macroeconomic and financial crisis threatening much of the world. The other is to reform the institutions, structures, and polices – the international financial architecture – through which crises are predicted, prevented, and dispatched.⁵⁴ With such an ambitious agenda, this project will not attempt to review each and every proposal for change. Rather, it will highlight some of the main points in order to demonstrate the challenges the official sector faces because of international financial market volatility.

CRISIS PREVENTION

One of the main obstacles for international economic policymakers is the vast spectrum of international financial standards. In a world of high international capital mobility, international financial stability is impossible without domestic financial stability. Stabilizing the domestic system requires both institutional reform as well as

⁵³ Kahler, Miles, (1998), Capital Flows and Financial Crises, Cornell University Press, p.20.

rigorous disclosure requirements and effective supervision of banks and corporation borrowing from international financial markets. As Eichengreen contends, this extends beyond just increased transparency and prudent supervision. Rather, it extends to the use of internationally recognized auditing and accounting practices so that lenders can accurately assess the financial conditions of the banks and corporation to which they lend. It extends to effective creditor rights. It extends to investor protection laws. And it extends to fair and expeditious corporate bankruptcy laws.⁵⁵

In addition to prudent regulation and supervision, strengthening domestic financial systems is paramount for domestic financial stability. The Working Group on International Financial Crisis of the U.S. Treasury identified a number of policies that could contribute to crisis prevention. The first would be limiting government guarantees to the private sector. Implicit or explicit access to government resources on subsidized terms distorts market incentives and may encourage private debtors and creditors to take excessive risks, knowing that the government resources makes the issue too big to fail. Another policy would be the existence of various insurance facilities, such as ample foreign currency reserves during period of market volatility, contingent credit lines, and deposit insurance systems for the domestic bank system. Another policy proposal stresses the importance of liquid domestic bond markets. Many countries that have recently experienced crises were characterized by their weak and underdeveloped local bond markets, which induces excessive reliance on bank credit and international borrowing. The availability of a deep and local market for domestic obligations allows a government and private firms to raise long-term financing in the local currency and can

⁵⁴ Eichengreen, Barry, (1999), Toward a New Financial Architecture: A Practical Post-Asia Agenda, Institute for International Economics.

help limit the risks of financial crises. One final and complex issue, over which much ink has been spilt, involves the appropriate exchange rate regime. A country's exchange rate regime can influence the volume and pricing of private capital flows and has strong implications for other macroeconomic and microeconomic policies.⁵⁶ Recently there has been a growing consensus that small, open economies should peg their currencies to that of a larger, influential neighbor. In a post-Bretton Woods system, the dollar, the euro, and the yen have increasingly evolved into the rare islands of monetary stability.

A third area involves the relationship between banks and capital flows. As Eichengreen argues, badly managed bank and open international capital markets are a combustible mix, as recent experience has demonstrated all too well. To reduce this danger, banks' risk management practices and supervisors' oversight and realization of those practices must be strengthened. Most agree on the need for banks to better manage credit and currency risk. On the dangers of connected lending. On the need to insulate supervisory authorities from political influence. However, the difficulty arises when these policies must actually be implemented.⁵⁷

CRISIS PREDICTION

No matter how much energy is put into crisis prevention, crises will undoubtedly occur, just as the financial instability hypothesis illustrates. With this admission, the official community has invested in early-warning indicators of currency and banking crisis in the hope that they will see what is coming. However, like weather and earthquake predictions, financial crises are part of a nonlinear system whose parts interact in unpredictable ways. While they will remain unpredictable, further work on the causes

⁵⁵ *Ibid.*, p.10.

⁵⁶ U.S. Treasury, (Oct. 1998), "Report of the Working Group on International Financial Crises."

and consequences of financial crises will further our understanding of these complex phenomena.⁵⁸

CRISIS MANAGEMENT

Presently, the international community is deficient in its role to handle the clean-up of financial crises. The two existing ways to respond – running to the rescue of the country in crisis and bail them out, or stand aside and let nature run its course – are increasingly becoming unacceptable. As Eichengreen point out, to avoid both routine rescues – thus fueling moral hazard – and devastating defaults will require creating a more orderly way of restructuring sovereign debt. This will require more coordination between the official community, governments, and the private sector.

Private sector involvement in sovereign debt restructuring has recently become hot topic. Eichengreen explores both *ex ante* and *ex poste* measures in his bailing-in the private sector argument. Proposals include discouraging short-term borrowing, negotiating standby lines of credit, and providing new provision in loan contracts and bank credit.⁵⁹ Eichengreen and Portes also provide a useful primer on the possible arrangements for orderly workouts for sovereign debtors as they discuss the role of bankruptcy and other options for reform.⁶⁰

Another topic rife with debate is that of the need for a lender of last resort. As Kindleberger states, the lender of last resort stands ready to halt a run out of real and illiquid financial assets into money by making more money available. However, the proper role of the lender of last resort is divided between Monetarists and Keynesians.

⁵⁷ *Ibid.*, p.11.

⁵⁸ *Ibid.*, pp.13-14.

⁵⁹ *Ibid.*, pp.59-71.

Monetarists believe that there is no need to have a lender of last resort so long as the money supply is maintained constant. Monetarists opposition is eloquently captured by Herbert Spencer who once stated, “the ultimate result of shielding man from the effects of folly is to people the world with fools.”⁶¹

Most recently Krueger revived the debate for the need for an international bankruptcy procedure. Addressing what she referred to as a “gaping hole in the international financial system,” the formal sovereign debt-restructuring mechanism would be modeled on corporate bankruptcy law. It would allow countries to seek legal protection from creditors that stand in the way of restructuring, and in exchange debtors would have to negotiate with their creditors in good faith.⁶²

THE PRIVATE SECTOR RESPONSE TO FINANCIAL MARKET VOLATILITY

There must certainly be a vast Fund of Stupidity in Human Nature, else Men would not be caught as they are, a thousand times over, by the same Snare; and while they yet remember their past Misfortunes, go on to court and encourage the Causes to which they were owing, and which will again produce them.⁶³

*- Cato's Letters, January 1721
following the collapse of the South Sea Scheme*

While the official community waits for another Keynes to step forward and make sense of the post-Bretton Woods international financial markets environment, the private sector has greatly benefited from the innovative minds of Myron Scholes and Robert Merton. Innovative minds, combined with technological advances, has led to a revolution in risk management. On the demand side, the collapse of the Bretton Woods

⁶⁰ Eichengreen, Barry, and Richard Portes et al., (Sept 1995), Crisis? What Crisis? Orderly Workouts for Sovereign Debtors, Centre for Economic Policy Research, p3-67.

⁶¹ Kindleberger, Charles, (2000), Manias, Panics, and Crashes: A History of Financial Crises, 4th Ed., John Wiley and Sons, pp.161-178.

⁶² International Monetary Fund, (Dec. 10, 2001), “Resolving Debt Crises: Krueger Floats International Workout Mechanism,” *IMF Survey*.

⁶³ Chancellor, Edward, (2000), Devil Take the Hindmost, Plume Publishing, p.58.

system has led to increased volatility of exchange rates, interest rates, and commodity prices, which have increased the demand for ways to manage risk.

WHAT IS RISK?

The mere mention of the word risk is sufficient to send managers scurrying for the nearest exit and those who advise them to reach for their indemnity policies. However, the very essence of the board's role is to create tomorrow's company out of today's. Directors have a legal obligation to protect company assets and must prevent failure and ensure survival by succeeding in a rapidly changing world.⁶⁴

- Andrew Sparrow, May 1997

What follows is a brief introduction into the evolving field of financial risk management. Much of the following on risk and risk management will be drawn from Merton, a 1997 Nobel Prize winner in Economics who is said to be the Isaac Newton of modern finance theory.⁶⁵

A good discussion on risk management begins with distinguishing between risk and uncertainty. Uncertainty exists whenever someone does not know the outcome of some event in the future. Risk is uncertainty that affects people's welfare. Every risky situation is uncertain, but there can be uncertainty without risk.

Risk aversion is a characteristic of an individual's preferences in risk-taking situations. It is the measurement of willingness to pay to reduce one's exposure to risk. A risk averse individual will choose the alternative with the lowest risk. Risk exposure is a particular type of risk you face because of your job, the nature of your business, or your pattern of consumption. In risk transactions, there are two major players. Speculators are those investors who take positions that increase their exposure to certain risks in the hope

⁶⁴ Taylor, Francesca, (2000), Mastering Derivatives Markets: A Step-by-Step Guide to the Products, Applications, and Risks, 2nd Ed., Prentice Hall, p.288.

⁶⁵ Bodie, Zvi, and Robert Merton, (2000), Finance, Prentice Hall.

of increasing their wealth. In contrast, hedgers are those who take position to reduce their exposures because they are risk averse.

Risk management is the process of formulating the benefit-cost trade-offs of risk reduction and deciding on the course of action to take, including the decision to take no action at all. Risk management decisions are made under conditions of uncertainty, and therefore, multiple outcomes are possible.⁶⁶

RISKS AND ECONOMIC DECISIONS

The ultimate function of a mature financial market system is to help implement optimal consumption and resource allocation of households. In that light, it is necessary to investigate how risk influences financial decisions facing households and firms.

For households, there are five major categories of risk exposure. The risks of sickness, disability, and death can impose large and unseen costs on people because of the need for treatment and care and the loss of income because of the inability to work. Unemployment risk is self-explanatory. A third category is consumer-durable asset risk, which is a risk of loss arising from ownership of a house, car, or other consumer-durable good. Losses can occur due to hazards such as fire, theft, or repair. Another category is liability risk, which is the risk that others will have a financial claim against you because they suffer a loss for which you can be held responsible. A final category is financial-asset risk, which arises from holding different kinds of financial assets.

For firms, there are three major categories. Production risk is the risk that machine will break down, that deliveries of raw materials will not arrive on time, that workers will not show up for work, or that new technology will make the firm's existing equipment obsolete. A second category is price risk of outputs. This is the risk that the demand for

the item the firm produces will unpredictably change because of an unanticipated shift in consumer preferences, or that competition becomes more intense and the firm may be forced to lower prices. A final category of risk is that of price risk of inputs. This is the risk that the prices of some of the inputs of the firm will change unpredictably, including foreign-exchange risk, interest rate risk, and commodity risk.⁶⁷

RISK MANAGEMENT PROCESS

The risk management process is the systematic attempt to analyze and deal with risk. The process can best be broken down into five steps.

RISK IDENTIFICATION consists of figuring out what the most important risk exposures are for the unit of analysis. Households or firms are sometimes not aware of all the risk to which they are exposed, and therefore must brain-storm of all of the possible risks which they may be subjected.

RISK ASSESSMENT is the quantification of the costs associated with the risks that have been identified in the first step of risk management.

SELECTION OF RISK MANAGEMENT TECHNIQUES has four options. Risk avoidance is a conscious decision not to be exposed to a particular risk. Loss prevention and control are actions that can be taken to reduce the likelihood or the severity of losses. Risk retention is absorbing the risk and covering losses out of one's own resources. Risk transfer is transferring the risk to others.

IMPLEMENTATION consists of implementing the techniques selected after a decision about how to handle the risks identified. The underlying principle in this step of the risk-management process is to minimize the cost of implementation.

⁶⁶ *Ibid.*, pp.256-258.

⁶⁷ *Ibid.*, pp.258-261

REVIEW and revise the decision periodically as part of the dynamic feedback process in risk management. As time passes and circumstances change, new exposures may arise, information about the likelihood and severity of risks may become more readily available, and techniques for managing them may become less costly.⁶⁸

METHODS AVAILABLE TO TRANSFER RISK

Among the four techniques of risk management, transferring some or all of the risk to others is where the financial system plays the greatest role. There are three primary methods for transferring risk: hedging, insuring, and diversifying.

One is said to hedge a risk when one eliminated the risk of loss by giving up the potential for gain. One is said to insure when one pays a premium to eliminate the risk of loss and retain the potential for gain. One is said to diversify when one holds similar amounts of many risky assets instead of concentrating all of one's investment in only one asset.⁶⁹

RISK TRANSFER AND ECONOMIC EFFICIENCY

Institutional arrangements for the transfer of risk contribute to economic efficiency in two fundamental ways. First, they allocate existing risks to those most willing to bear them. Secondly, they cause a reallocation of resources to production and consumption in accordance with the new distribution of risk bearing. By allowing people to reduce their exposure to the risk of undertaking certain business ventures, they may encourage entrepreneurial behavior that can have a benefit to society. In addition, the ability to pool

⁶⁸ *Ibid.*, pp.261-264.

⁶⁹ *Ibid.*, pp.264-266,

and share risks can also lead to an increase in inventive activity and the development of new products.⁷⁰

THE DEVELOPMENT OF INSTITUTIONS FOR RISK MANAGEMENT

Over the centuries, various economic organization and contractual arrangements have evolved to facilitate a more efficient allocation of risk bearing both by expanding the scope of diversification and by permitting greater specialization in the management of risk.⁷¹

The Chicago Board of Trade provides a insightful overview of the development of the institutions that would transform the theory of risk management into practical instruments for hedgers and speculators alike.⁷² Futures and option markets were built upon the market foundations laid by centuries of commodity merchants, traders and producers worldwide.

The development of modern financial futures trading began in the Midwestern frontier in the early 1800s and was closely tied to the development of commerce in Chicago and the Midwestern grain trade. Chaotic market situations, resulting largely from problems of supply and demand, transportation, and storage, led to the development of future markets.

For both commodity producers and processors in the 1800s, supply and demand imbalances were commonplace. Farmers, bringing livestock and grain to the market during seasonal peaks, often found that supply exceeded the immediate need and often had to settle for the lowest price because of the short-term glut of commodities. While gluts were a seasonal problem, there was also years of crop failure and extreme shortages.

⁷⁰ *Ibid.*, pp.268-269.

⁷¹ *Ibid.*, pp.269-272.

As a result, processors faced bankruptcies because they lacked raw materials to keep their operations going.

Transportation difficulties exacerbated the problems of seasonal supply and consistent demand. The infrastructure in the Chicago area at the time was underdeveloped, and seasonal storms made roads to Chicago impassable. As a result, transportation was often expensive.

In addition to the poor transportation infrastructure, Chicago also lacked adequate storage space. Underdeveloped harbor facilities impeded the shipment of grain to eastern markets and impeded manufactured goods going to the Midwest.

In response to these inadequate market conditions, farmers and merchants began to contract for forward delivery. Forward contracting is the obligation to buy (sell) a specified quantity of a specified asset at a specified location at a specified price at a specified time in the future. Forward contracts in corn were first used by river merchants with the earliest recording of a forward contract in corn made on March 13, 1851.⁷³

The following is a classical example of a farmer and processor hedging their associated risk exposure in a forward contract. The farmer need to plant corn in the spring, when the spot price (current price) is \$3 per bushel, in order to harvest in October when the spot price is not known. In order to avoid the risk exposure of a price decrease, the farmer could enter into a forward contract to sell 50,000 bushels of corn to the local grain dealer in October at a price of \$3.15 a bushel. The farmer would thereby hedge his price risk (he knows for certainty he will get \$3.15 whether or not the price changes between now and then) to the grain dealer. The grain dealer can either hold the price

⁷² Chicago Board of Trade, (1997), Commodity Trading Manual, Fitzroy Dearborn Publishers, pp.1-13.

⁷³ Ibid., p.5

exposure and be speculative in the belief that the price will rise above \$3.15, or shift the risk by entering into another forward contract with either a speculator or an entity such as a food processor that wants to hedge its price exposure to possible future price increases.⁷⁴

In 1848, as the grain trade expanded in the Midwest, the Chicago Board of Trade (CBOT) was formed with the purpose to promote the commerce of the city and provide a centralized marketplace where buyers and sellers could meet to exchange commodities. As forwards contracts increased in practice, the CBOT moved to give structure to an evolving trade. Addressing the major drawbacks of forward contracts – they were not standardized according to quality or delivery time, and merchants and traders often did not fulfill their commitments – the CBOT introduced standardized future contracts in 1865. Along with standardized quality, quantity, and time and place of delivery, future contracts came with a margining system that eliminated the problem of buyers and sellers failing to fulfill their contracts. The new system required traders to deposit funds with the exchange as a form of collateral.⁷⁵

Trading also became more efficient as speculators entered the picture. By hoping to make a profit, lawyers, doctors, and others not connected with the grain trade made the markets more liquid and helped to minimize price fluctuations.

In addition to risk transfer, futures trading also provided price discovery. While the grain markets suffered from supply and demand imbalances, they also lacked timely, accurate, and public information about price. Processors had no established way to learn what other processors might be paying or what the market deemed a fair price. Farmers

⁷⁴ Derivatives Study Center, (2001), “Special Policy Brief: Primer on Derivatives Instruments.”

⁷⁵ Chicago Board of Trade, (1997), Commodity Trading Manual, Fitzroy Dearborn Publishers, pp.5-6.

had no idea what buyers had offered other sellers. As a result, grain pricing remained opaque for both sides, and price risk multiplied. However, with centralized marketplaces like the CBOT, futures markets piece the price information that the world looks to as a benchmark in determining the value of a particular commodity or financial instrument at any given time. By requiring open market bids and offers and disseminating price information to all interested parties, futures and option exchanges give everyone a better handle on business and eliminate the risk that comes from not knowing.⁷⁶

Growth in futures trading increased in the late nineteenth and early twentieth centuries as new exchanges formed and more commodities traded, such as cotton, butter, coffee, and cocoa. As the U.S. moved away from being an agrarian economy, the number and variety of futures contracts grew, as trading extended to precious metals, manufactured products, and non-storable commodities. The most dramatic growth in futures trading occurred following the breakup of the Bretton Woods system as financial futures flourished.⁷⁷

With the collapse of the Bretton Woods system in the early 1970s, exchange rates fluctuated widely as the system of fixed exchange rates ended. For firms, exchange rate volatility meant that no future price of imports or exports could be certain. In addition, U.S. monetary policy underwent a fundamental reorientation, from targeting interest rates to targeting the money supply. As a result, interest rates fluctuated dramatically and investors faced previously unseen interest rate volatility. Volatility in exchange and interest rates found its way into commodity inputs in all sectors, and was exacerbated by the OPEC price shocks of 1973-1974 and 1978-1979. As a result, the management of

⁷⁶*Ibid.*, p.16.

⁷⁷*Ibid.*, p.7

these financial risks became a critical factor in any firm's success. No longer was the world a stable environment, protected by government controls of exchange rates and interest rates. Rather, these risks were going to have to be mitigated at the micro-level, by individual firms themselves through innovative financial products and regular adherence to risk management techniques.⁷⁸

Dramatic increased levels of interest rate and exchange rate risk drew a quick response from innovators in Chicago, with the CBOT tackling interest rate risk and the Chicago Mercantile Exchange (CME) addressing exchange rate risk. With the absence of the Federal Reserve's pursuit of interest rate stability, financial institutions became reluctant to make long-term fixed rate loans and instead passed on the interest rate risk to the borrower. The borrower, however, could use U.S. Treasury futures to lock in lending or financing rates. Treasury bond futures have become one of the most highly traded and most liquid markets in the world.

Meanwhile, the CME began trading futures on currencies, providing access to fixed quantities of foreign currency at specific delivery dates. Foreign currency futures gave companies exposed to exchange rate risk a powerful tool.

With the introduction of financial futures, the floodgates have been opened. The nature of risk management continues to evolve. One of the most remarkable developments in finance over the past twenty years has been the dramatic growth of futures and options and other so-called "derivative" instruments, specially over-the-counter (OTC) risk management tools such as swaps, OTC forwards, and OTC options. While it took a century for agricultural futures to develop, financial futures have sprang up and surpassed agricultural markets in many ways.

⁷⁸ *Ibid.*, pp.8-9.

The irony to me is to observe the enormous energy and political capital dedicated in recent years to reducing already low tariffs to minimal levels, only to see the potential gains in efficiency and trade overwhelmed by the volatility of exchange markets.⁷⁹

- Paul Volcker November, 1995

“The Quest for Exchange Rate Stability: Realistic of Quixotic?”

It is clear that Eduardo Duhalde, the present head of Argentina’s third government in two weeks, will face pressures to move away from the market-orientated reforms that Argentina committed to 1991 when Domingo Cavallo saved the country from hyperinflation. The rumors of price controls on basic goods and services was strengthened on January 6, 2002, when by Duhalde called for “unrestricted defense of national interests.”⁸⁰

As Hale warns, the Argentine Crisis will not produce widespread financial contagion because default was widely discounted in the markets. Rather, it could produce intellectual contagion in the form of reaction against the market-orientated policies in all developing countries. Undoubtedly, anti-globalization groups will hold up Argentina as an example of how market-orientated reforms can self destruct. Because Argentina was a star pupil of the Washington consensus during much of the 1990s, supporters of liberal economics must now explain why the experiment failed.⁸¹

This last section will attempt to draw conclusions based upon the previous two sections. First, it will argue that an underlying cause for the volatility associated with developing countries is due to the combination of incomplete markets coexisting with

⁷⁹ Volcker, Paul, (Nov. 1995), “The Quest for Exchange Rate Stability: Realistic of Quixotic?”, *The Stamp 50th Anniversary Lecture*, p.10.

liberal reforms. Specifically, the financial instability model coexists in incomplete markets where the participants do not have access to adequate risk management products that OECD countries have developed. As a result, attempts to promote growth and reduce poverty have been undermined by price volatility that adversely affects developing countries. The international community must develop appropriate policy to address this issue in order to effectively smooth inevitable financial market volatility.

PRICE VOLATILITY AND DEVELOPING COUNTRIES

For developing countries, price volatility has increased. This is due to the fact that developing countries are more heavily dependent upon the production and exportation of commodity products for income and export revenues. In addition, the elimination of government barriers to trade as a result of liberalization has exposed developing countries to the financial instability hypothesis Minsky iterates. As a result, the efforts to promote growth and reduce poverty often fall on deaf ears as the realities of price volatility alienate many from embracing the potential benefits of globalization.

COMMODITIES: VULNERABILITY TO PRICE VOLATILITY

Developing countries are heavily dependent upon primary commodities for earnings and expenses. Export earnings are often concentrated in a few primary commodities. As Figure 10 shows, for 36 developing countries the share of primary commodities to total exports exceeds 50 percent – with Congo, Gabon, Nigeria, Burkina Faso, and Zambia dependent on three or fewer commodities for 99 percent of their exports. That is nearly 1.1 billion people. As Varangis and Larson state, primary commodities accounted for 68

⁸⁰ Catán, Thomas and Mark Mulligan, (Jan.5/6 2002), “Argentina Set for 30-40% Devaluation,” *Financial Times*.

⁸¹ Hale, David, (Jan. 7, 2002), “The Fall of a Star Pupil,” *Financial Times*.

percent of exports of low-income developing countries and 44 percent of high-income developing countries.⁸²

Many developing countries also heavily import basic consumer goods, including foodstuffs such as oil and food grains. For low-income developing countries, foodstuffs account for a large share of the import bill. The issue of managing commodity price uncertainty involving the crucial role of food stuffs has led to numerous government intervention projects in the hopes of maintaining consumer welfare and even political stability.

As Claessens and Duncan – among others – maintain, the prices of primary commodities have long been volatile. Volatility in agricultural food products originates mainly in supply disturbances – particularly from weather – whereas for industrial raw materials volatility originates in demand disturbances. In conjunction with low short-run supply and demand elasticities, these disturbances give rise to sharp price variations.⁸³ In fact, during 1983-1998, prices of many commodities fluctuated from below 50 percent to above 150 percent of their average prices.⁸⁴

For developing countries, dependency and volatility are a combustible mix for developing countries. Governments in developing country are often critically dependent upon primary commodity exports for revenue. In addition to supporting the government's fiscal revenue and public expenditures, exports affect a country's terms of trade, foreign reserves, and creditworthiness. Fluctuating swings in exports from year to

⁸² Varangis, Panos and Don Larson, (Oct. 1996), "Dealing with Commodity Price Uncertainty," *World Bank WP/1667*, p.5.

⁸³ Claessens, Stijn and Ronald Duncan, eds., (1993), Managing Commodity Price Risk in Developing Countries, World Bank, pp.6-7, 20-31.

⁸⁴ International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), "Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach," *World Bank*, p.1.

year creates uncertainty over a governments': ability to maintain macroeconomic stability; ability to maintain conducive and stable business environments; and ability to implement policies to promote growth and poverty reduction.

For agricultural producers, the inability to manage uncertainty makes it difficult for farmers to plant their crops, allocate resources, obtain credit for inputs and even simply recover costs. For industrial firms, often operating under tight margins, sudden and unexpected price changes create significant difficulties. Through an example, Varangis and Larson highlight the many different effects price volatility has on the private sector. An exporter or trader that has purchased coffee from a local producer and has not yet sold it faces enormous risk if coffee prices collapse. In the absence of ways to manage price uncertainty, traders require large margins to avoid these negative consequences. For students of finance, this entails a large cost of carry. Uncertainty in commodity prices also has negative implications for commodity financing. Banks and other lending institutions are reluctant to finance commodity trade or commodity related projects because the repayment of loans often depends on future commodity prices. A fall in commodity prices may affect the borrower's ability to repay the loan, and the cost of lending will be high.⁸⁵

LIMITATION OF PRICE STABILIZATION SCHEMES

As the International Task Force on Commodity Risk Management in Developing Countries (ITF) contends, concerns about commodity price fluctuations have led to pervasive commodity policy intervention by national governments. The goal has been either to replace the price discovery process by markets with a planned and regulated

⁸⁵ Varangis, Panos and Don Larson, (Oct. 1996), "Dealing with Commodity Price Uncertainty," *World Bank WP/1667*, p.5.

system of prices, or to insulate producers and consumers from market price fluctuations through price controls or subsidies. Many countries have unilaterally pursued price stabilization, specially in agriculture. Programs that have attempted to separate domestic commodity prices from international prices over time often proved financially unsustainable.⁸⁶ Varangis and Larson point out that compensatory financing schemes objective – of providing resource to compensate for short-term declines – tend to react to *ex-post* developments in commodity markets rather than provide an instrument for *ex-ante* price risk management.⁸⁷

Varangis and Larson also contend that domestic commodity price schemes most often involve the creation of a buffer stock that purchases commodities when prices fall below a predetermined threshold and sells when prices recover. Another domestic commodity price scheme is a stabilization fund that compensates producers when prices fall and accumulates reserves when prices increase. However, most domestic price stabilization schemes have not performed well in practice as they end up misallocating resources. Typically, funds reserved for such schemes are often used for social objectives unrelated to price stabilization, experience severe liquidity problems, and are often subject to mismanagement and corruption.⁸⁸

In addition to unilateral domestic attempts at commodity price stabilization, developing countries also tried international cooperation. As Morgan states, in a rational response on the part of producers to the commodity price slump of the 1930s, various

⁸⁶ International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), “Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach,” *World Bank*, p.3.

⁸⁷ Varangis, Panos and Don Larson, (Oct. 1996), “Dealing with Commodity Price Uncertainty,” *World Bank WP/1667*, p.2

⁸⁸ *Ibid.*, p.6.

buffer stock schemes were coordination through various International Commodity Agreements (ICAs).⁸⁹ The political climate of the 1950s was receptive to interventionist policies. Under the auspices of the United Nations, five international commodity agreements were signed by producing and consuming countries. As Table 11 shows, by 1996 all of these agreements had ceased to exist, victims of politics and economics. Other large-scale international financing schemes include the Fund's Compensatory Finance Fund and the European Union's STABEX program. All three of these program are outside the scope of this project, but the ICAs schemes can be found in Gilbert (1995), and the other two in Herrmann et al (1993).

Given the very limited success of domestic and international attempts for *ex-post* commodity price stabilization, many countries that once relied on these instruments have been abandoning them, leaving a policy vacuum in its place.

LIBERALIZATION: THE MARKET IS INHERENTLY VOLATILE

While 1.1 billion people are dependent upon the export of three leading commodities for 50 percent of their country's export revenues and are thus vulnerable to price uncertainty, developing countries are also vulnerable to increased market volatility that comes with liberalization. Volatility associated with liberalization arises in three stages.

As Minsky argues, financial liberalization is a form of displacement, or exogenous shock to the macroeconomic system. With displacement, the economic outlook is altered and important sectors of the economy begin to attract funds. Usually, this is followed by a boom, which often results in lower interest rates and an increase in credit and liquidity.

⁸⁹ Morgan, C.W. (2000), "Commodity Futures Markets in LDCs: A Review and Prospects," CREDIT School of Economics at the University of Nottingham, p.3.

As Petitis contends, an increase in liquidity – “dollar-disease” – can lead to a sharp reduction in risk aversion and risk premiums, so that riskier assets tend to perform best. The search for higher returns with “easy money” often produces “yield-hogs,” as investors move along the spectrum of risk from safer investments to riskier, speculative projects.

Within this environment, developing countries have been liberalizing their political and economic institutions, including monetary policy, trade barriers, and banking systems. Radelet and Sachs maintain that partial liberalization reforms makes developing countries vulnerable to rapid capital outflows. The partial reforms led to increasingly fragile financial systems characterized by growing short-term foreign debt, rapidly expanding bank credit, and inadequate regulation and supervision of financial institutions.⁹⁰ These weaknesses, in turn, leave entire economies vulnerable to rapid capital outflows that usually occur following a boom. As the financial instability model maintains, following a boom, overtrading leads to a mania or bubble, which eventually leads to financial distress, revulsion, and panic. Developing countries fragile institutions structure often comes tumbling down in these circumstances, as experience in the the 1990s and 2000s have repeatedly shown.

LESS FUEL FOR THE FIRE

Following this reasoning, this project maintains that central banks need to increase international monetary cooperation. Foreign investors have played pivotal roles in developing countries financial crises, initially providing the funds that, once revoked – because of poor policy or a change in the economic outlook – lead to financial

⁹⁰ Radelet, Steven and Jeffrey Sachs, (Apr. 1998), “The East Asian Financial Crisis: Diagnosis, Remedies, Prospects,” *Brookings Papers on Economic Activity*, p.2.

catastrophe. Increased liquidity in major financial centers provides the “easy money” that investors may then “dabble” in developing countries.

Because monetary policy is concerned with delivering stable growth and low inflation, the debate between Monetarists and Keynesians enters the picture again. The challenge of measuring money and money velocity makes it incredibly hard for central banks to ensure monetary stability. As trends illustrate, the Federal Reserve and the European Central Bank (ECB) have taken divergent approaches to monetary policy. The Fed is increasingly motivated by maintaining productivity growth, keeping inflation low, and stimulating consumer spending.⁹¹ However, it has been criticized for paying too much attention to the financial system, i.e., the wellbeing of Wall Street.⁹²

The ECB has often been criticized for being too tight and limiting growth. However, its conservative outlook and forward-looking monetary policy has minimized interest rate changes. While the Europeans have been arguing whether the ECB should target the money supply or whether it should pursue a policy of direct inflation targeting, the Fed appears to have been targeting the Nasdaq.⁹³ The divergent approaches are further underscored by Ernst Welteke, the Bundesbank president, who pointed out that the ECB, unlike the Fed, does not have an obligation to promote economic growth and employment. Its primary duty is to ensure price stability, not fine tune economic performance by means of its monetary stance.⁹⁴

This project agrees, specially in light that the international community is striving to integrate developing countries into the world economy. For developing countries,

⁹¹ Wolf, Martin, (June 27, 2001), “The Fed’s Race Against Time,” *Financial Times*.

⁹² Munchau, Wolfgang, (Mar. 26, 2001), “Europe Got Its Monetary Policy Right After All,” *Financial Times*

⁹³ *Ibid.*

already prone to commodity price uncertainty, price stability in the OECD countries would be extremely beneficial and would prevent “yield hogs” from exacerbating fragile partially liberalized financial systems.

DEMAND FOR RISK MANAGEMENT PRODUCTS IN DEVELOPING COUNTRIES

Western corporations already hedge out their commodity market exposures. They know that shareholders equate earnings volatility with management negligence and they have well developed risk management strategies. Producer in poor countries could use the same tools but lack the cash and the credit lines to access the market.⁹⁵

- *Benedict Roth, August 8, 2001*
Financial Times

As Varangis and Larson state, reforms aimed at liberalizing agricultural markets, reducing government interventions, and removing capital, foreign exchange, and legal controls and barriers are inducing the private sector and governments alike to hedge their price risks.⁹⁶ In another words, increased integration has forced the principles of Merton to the small-scale producer. But do they know it?

WHY THE DEMAND

Commodity futures and options exchanges (CFOEs) exist in relatively few developing countries, such as Argentina (grains and livestock), Brazil (livestock, coffee, cotton, and gold), China (various metals and agricultural commodities), Hungary (grains and hogs) India (pepper), Malaysia (palm oil, tin and cocoa), the Philippines (sugar, coffee, and soybeans), Russia (metals) and Zimbabwe (corn and beans). The demand for CFOEs has increased, as there are other developing countries that do not have CFOEs yet

⁹⁴ Barber, Tony, (Aug. 30, 2001), “Cut and Thrust,” *Financial Times*.

⁹⁵ Roth, Bendict, (Aug. 9, 2001), “A Future for Coffee Producers,” *Financial Times*.

⁹⁶ Varangis, Panos and Don Larson, (Oct. 1996), “Dealing with Commodity Price Uncertainty,” *World Bank WP/1667*, p.3.

have large markets for several commodities such as coffee (Columbia and Central America) grains (Mexico) metals (Chile, Peru), and oil – both exports (Columbia, Ecuador, Mexico, Venezuela) and imports (Chile). Secondly, as Larson, Varangis, and Yabuki state, market deregulation, privatization, trade reforms, and reforms in commodity markets have been deeper and longer-lived resulting in reduced government intervention in commodity markets and increased private sector participation. Commodity price risks that were born by either the private or public sectors are now increasingly placed on external markets. They also contend that capital market reforms – the lifting of foreign exchange controls and greater macroeconomic stability – had spill over effects on commodity markets contributing to the use of commodity risk management instruments.⁹⁷

THE OBJECTIVE

As Varangis and Larson maintain, the objectives of commodity risk management as opposed to government intervention has several advantages, yet are not exactly the same. Commodity derivative instruments: rely on market-determined prices instead of administratively-determined prices; they shift risk to entities better able and willing to assume risks; they can be linked to financing instruments, and in some cases making financing feasible at a lower cost; and, in most cases, they cost less than government price intervention program. They can combine with traditional financial tools to enhance financing – this is especially important for recently liberalized commodity sub-sectors, where the quick establishment of credit flows is crucial to the success of reform.

⁹⁷ Larson, Donald, Panos Varangis and Nanae Yabuki, (Aug. 1998), “Commodity Risk Management and Development, *World Bank*, WP/1963, p.15.

It should be noted that they do not have the same objectives. Rather, they are designed to reduce commodity price uncertainty and revenue uncertainty; provide some price stability, but for relatively short period of time (usually less than one year); are not effective in stabilizing prices for longer periods; and they cannot maintain higher prices – for sellers – or lower prices – for buyers – than market prices.⁹⁸

THE ADVANTAGES

Varangis and Larson contend that commodity derivative markets have four general advantages over price stabilization schemes. First, they reduce the uncertainty regarding future revenues or expenditures. Derivative markets increase the probability that anticipated future revenues or expenditures will be realized. This certainty enables exporters to lock in a price that will cover their costs or minimize their losses, thus locking in their profit margins. This certainty also allows importers and users of imported raw materials to lock in their commodity-related costs.

Secondly, they rely on market price rather than administrative prices. Derivative instruments expose market participants to market prices and to market expectations of future prices, and thus reduce the need for governments to use subjective price forecasts to set prices. With market prices instead of government intervention, resources will more likely flow to sectors where market prices are expected to be more favorable.

They also shift the risk outside the country. Derivative instruments can shift the risk from developing countries to consumers, producers, traders, or speculators in OECD countries, who are better able and/or more willing to take the price risk because they have the opposite risk exposure.

⁹⁸ Varangis, Panos and Don Larson, (Oct. 1996), “Dealing with Commodity Price Uncertainty,” *World Bank WP/1667*, p.2.

Finally, they can reduce the cost of commodity financing. Financing commodity trade and commodity-related projects in developing countries exposes the lender to price risks, since the borrower's ability to repay the loan largely depends on future commodity prices. Commodity derivative instruments can be used to lock in future revenues and assure the lender that these revenues will cover repayment of the loan. Thus, they can increase the creditworthiness of the borrower.⁹⁹ Figure 12 summarizes the advantages of commodities derivative markets versus government price stabilization schemes.

WHO BENEFITS

Varangis and Larson also identify three major players that could benefit from using commodity derivatives markets. The private sector stands the most to gain. One consequence of agricultural market liberalization is the shift of part or all of commodity price risks from the government to the private sector. In return, private traders, processors, and producers will need instruments that will enable them to protect their profit margins against commodity price fluctuations.

Because commodity derivative markets are based on large volumes, small-scale producers lack the necessary volume to sell a futures contract, lack the infrastructure necessary to access derivative markets, and lack the capital required for such transactions. These shortfalls raise the need for an intermediary, a body that could act as a conduit to adequate lines of credit, know-how, infrastructures, and market information for the small-scale producer.

Governments also stand to benefit from commodity derivative markets. Pressured to examine new approaches to providing income and price support to producers of agricultural commodities, governments are being driven to rein in government expenses,

⁹⁹ *Ibid.*, p.13.

are being requested to have friendlier and more flexible support mechanisms by domestic producers, and are being required to comply with international trade agreements that are limiting trade barriers.¹⁰⁰

FAILURE TO MEET THE DEMAND AT THE MICRO-LEVEL

While in theory the demand for commodity risk management products for developing countries exists, they have not been utilized in practice. As the ITF maintains, based on current estimates by industry experts, less than 2 percent of the volume of derivative instruments can be attributed to developing countries. Even in oil contracts, developing countries are estimated to account for only 5 percent of the open interest.¹⁰¹ Larson, Varangis, and Yabuki note that for the most part, the use of commodity derivatives markets by developing countries is confined to relatively large organizations – MNCs – with very little participation on the part of small-scale producers or producer groups.¹⁰²

Market experts therefore consider that there exists significant potential for growth in developing countries participating in risk management markets.

ADDRESSING THE IDEA GAP

Earlier in this project, Romer stressed the importance of addressing the idea gap: nations are poor because their citizens do not have access to ideas that are used in industrial nations to generate – and protect – economic value. As developing countries open up their economies to foreign trade and investment, both the private sector and the government need to close the idea gap that exists between OECD and developing countries.

¹⁰⁰ *Ibid.*, pp.15-21.

¹⁰¹ International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), “Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach,” *World Bank*, p.4.

The private sector in developing countries needs to recall the principles of Merton and the experiences of Chicago. Without government intervention and protection from exchange rate and interest volatility, risk management has been lowered to the micro-level – the individual. For the individual to make proper decision to the benefit-cost trade-offs that risk management requires, the principles of risk management must be disseminated to the individual. In 2000, the *Financial Times* ran a ten week series, entitled “Mastering Risk,” which provided the business community with a comprehensive overview of the important concepts of risk management. However, because not everyone reads the *Financial Times* in the developing world, information distribution similar to this series is critical at the individual level in the developing world.

In addition, the evolution of the CBOT provides a useful paradigm for leaders in the developing world. Developing urban centers, thriving on commerce due to geographical factors, likely face similar chaotic market situations – problems of supply and demand, transportation, and storage – similar to what Chicago faced back in the 19th century. The development of forward and futures contracts would aid these growing commercial centers through price discovery and risk transfer, thus allowing for a more efficient allocation of scarce resources and the development of the necessary infrastructure.

For the government, the idea gap is also hindered by the government realities. As Daniel states, one of the most important constraints on government hedging is political. For an individual finance minister, the political costs of hedging may outweigh the benefits, even if the economic case is clear. In the case of the fall in the spot price, any financial gains made from a hedging program may come to be seen as speculative. If the

¹⁰² Larson, Donald, Panos Varangis and Nanae Yabuki, (Aug. 1998), “Commodity Risk Management and Development, *World Bank*, WP/1963, p.15.

minister had not hedged, it would be easier to blame OPEC for any budgetary problems. In the case of the rise in the spot price, a hedging program may well result in the government from missing out on high revenue, which would be politically costly.

If the government were to use a pure insurance hedging strategy using options, it may be politically difficult to use scarce resources to pay an option premium rather than for some other social service. This is best seen in an example with Ecuador in early 1993. There, the authorities bought a combination of options and swap, amounting to almost \$12 million. When the future prices turned out different than what was forecasted, the government had to let the options expire and pay about \$6 million on the swap arrangement. Member of the government harshly criticized the hedging strategy, and Congress appointed a special committee to investigate “allegations of corruption.”¹⁰³

In another example, in late 1990 and early 1991, Mexico used financial risk management tools – put options – to protect its earnings from crude oil exports against a price drop. The price floor worked, as price fell. Thereby, Mexico gained certainty *ex ante* about its oil earnings, and profited *ex post* as the gains from the price floor exceeded the initial premium for the put options. A senior Mexican official was quoted as saying,

We said, listen, given the uncertainty and given the volatility, it can go to US\$40 (a barrel) or it can drop to US\$10. We have a budget here, a budget that we have to cover. We didn't do it to be ahead. The government does not speculate in that sense. Doing nothing is speculative. It does look good now that we are ahead compared to doing nothing. Some days we do not do as well. But we sleep well.¹⁰⁴

The two examples highlight the importance of overcoming political constraints. Some steps possible would be to have the intentional community – international agencies and

¹⁰³ Daniel, James, (Nov. 2001), “Hedging Government Oil Price Risk,” *International Monetary Fund* WP/01/185, pp.13-14.

research organization – to promote more awareness and understanding of hedging opportunities. These political realities also underscore the need for an intermediary.

In addition to overcoming the scrutiny of many who do not understand hedging opportunities, there is another political reality. Although OECD countries have had futures markets established for decades, only a small percentage of farmers – perhaps 10 percent – directly hedge their production. As the ITF points out, one reason for a historical lack of willingness to pay for price risk management in OECD countries is the prevalence of governmental price support programs. Levels of support continue to vary widely across OECD countries, ranging from less than US\$1,000 to over US\$35,000 per farmer. With subsidies this large – and varying inversely with commodity prices – the willingness of farmers to pay for insurance against low price has been undermined.

However, while individual farmers receive large subsidies and thus are uninterested in commodities risk management, large processors and marketing enterprises are long-standing users of futures and other price risk management arrangements. In addition, continued trade negotiations – such as the Uruguay Round – have reduced barriers in OECD countries and has linked farmers' income more closely with market forces.¹⁰⁵

NATURE OF THE MARKET GAP

In addition to the ideological barriers to overcome, there are physical and policy barriers to overcome. ITF argues that several studies have identified the main obstacles

¹⁰⁴ Lippman, Thomas, (Mar. 27, 1991), "Mexico Locks in Price of \$17 a Barrel on Oil: Unusual Trading Strategy Guarantees Income," *Washington Post*.

¹⁰⁵ International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), "Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach," *World Bank*, pp.49-51.

of enabling providers of risk management instruments to offer such tools to potential users in developing countries.¹⁰⁶

LACK OF LOCAL MARKET INFRASTRUCTURE

OECD providers of risk management instruments have access to timely market information, but their counterparts in developing countries do not. This lack of awareness leads to asymmetric information about market prices and hedging opportunities.

In addition, Varangis and Larson maintain that risk management activities require considerable knowledge of financial instruments and appropriate institutional framework in which to carry out hedging operations. Many developing countries lack the expertise and the institutional framework for these operations. Addressing Radelet and Sachs' concern, an institutional framework may be necessary to introduce adequate reporting, recording, monitoring and evaluating mechanisms, and to establish internal control procedures that can protect against speculative transactions.¹⁰⁷

LACK OF ADAPTABILITY AND TRUST

The ITF also contends that instruments available in risk management markets do not always respond to the needs of developing countries. Developing countries typically need longer maturities, smaller contract size, different quality of the commodity, or contracts for a commodity not actively traded in international markets.

¹⁰⁶ *Ibid.*, pp.4-5.

¹⁰⁷ Varangis, Panos and Don Larson, (Oct. 1996), "Dealing with Commodity Price Uncertainty," World Bank WP/1667, p.27.

In addition, there is a trust gap between vulnerable users and the providers of risk management instruments that is exacerbated by many cases of misuse and abuse of these instruments.¹⁰⁸

HIGH COSTS DUE TO RISK INVOLVED IN THE TRANSACTION

The ITF highlights four main areas of risks associated with the provision of these instruments in developing countries

COUNTRY RISK refers to the events that may lead to default of the local counterparty due to country-specific events, including weak legal infrastructure. Sovereign risk is that part of country risk relating specifically to government policy barriers such as exchange controls, expropriation, or other civil disturbances.

COMMERCIAL RISK refers to the default of the counterparty due to factors related to its own operation and business practices.

BASIS RISK is the difference between prices quoted on commodity exchanges and local prices relevant to small-scale producers. Basic risk results from unexpected changes in the relationship between international and local prices over time.

EVENTS RISK are those events that are beyond the control of the counterparties to a transaction that result in default. Examples are such natural catastrophes as flooding, drought, and earthquake.¹⁰⁹

¹⁰⁸ International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), "Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach," *World Bank*, p.5

¹⁰⁹ *Ibid.*

BRIDGING THE GAP

What we want to in this case is take it down from the very large copper producer in Chile to the small copper producer in Chile; from the large rubber plantation operator in Malaysia to the smaller-scale cooperative, even individual farmer.

I have no doubt that it is workable. The principles are long established. What's been missing is the agency that can deliver this to the small-cap end of the market.¹¹⁰

*- Roy Leighton, Sept. 6, 2001
Chairman, Futures and Options Association*

The small-cap market in developing countries has been left out of the liberalization equation. While developing countries have been busily dismantling their state interventionist economies, the small-cap market has been bearing the brunt of commodity price fluctuations and the catastrophic effects of the inherent volatility associated with liberalization.

Though the small-cap market presently does not have access to the necessary risk management instruments that OECD countries do, the international community could well play major role in to change this in the near future.

NEED FOR INTERNATIONAL INTERMEDIATION

Providing rich countries' risk management tools to poor producers will not be easy. But the difficulties are small compared with other problems of developing countries and the potential benefits are huge. Only a little cooperation and commitment is required from public bodies to make the free market work by itself and show that global capitalism can deal real benefits to poor countries.¹¹¹

*- Benedict Roth, August 8, 2001
Financial Times*

As the ITF maintains, the international community could choose to help bridge the market gap in commodity risk management by stepping up technical assistance. The

¹¹⁰ Kemble-Diaz, William, (Sept. 6, 2001), "FOA Chairman Hopeful on World Bank Plan," *Reuters*.

World Bank, UNCTAD, and other organization have spent decades providing training and policy advice to assist developing countries build their capacity for risk management. However, these efforts have not been directed towards helping entities in developing countries gain access to relevant risk management tools, and have been insufficient to bridge the market gap.¹¹²

In time, the maturation of markets in transition and developing countries will permit a significant expansion of private sector risk management access. However, as the ITF points out, it is not clear that laissez faire expansions of risk management instruments will grow at a rate needed to keep up with increased integration and exposure to world market conditions for either buyers or producers in developing countries. With the launch of the next trade round now agreed upon, further liberalization may well accelerate. It seems certain that liberalization will focus on agriculture, the area most vulnerable for small-scale producers, both in OECD and developing countries.¹¹³

In addition, the ITF argues that the lack of risk management tools might even impede further market liberalization, and some developing countries might come under pressure of renewed interest in protectionism. This possibility raises the need to accelerate the development of ways to bridge the gap in international risk management markets.¹¹⁴

HOW A TRANSACTION MIGHT WORK

To address the ways to bridge the gap in international risk management markets, the Bank has recently convened an International Task Force on Commodities Risk Management in Developing Countries to explore new, market-based approaches to help

¹¹¹ Roth, Bendict, (Aug. 9, 2001), "A Future for Coffee Producers," *Financial Times*.

¹¹² International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), "Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach," *World Bank*, p.5.

developing countries better manage their vulnerability to commodity price volatility. The ITF brings together a broad representation of international institutions, producer and consumer organizations, and private sector entities.

In an effort to allow small-scale producers in developing countries to access commodity price insurance available in financial markets, the ITF has proposed a pilot program of price insurance schemes in several different countries in several different commodities.

The following is a detailed example, as explained by the ITF.¹¹⁵ Figure 13 visually depicts the transaction.

THE PLAYERS

PRODUCERS: members of a smallholder cocoa cooperative depend on cocoa bean sales for their main source of income, and following local market liberalization have been exposed to market price volatility. Lack of price predictability severely limits access to local credit and the ability to plan production efficiently. Six months before delivering their harvested crop, the cooperative approaches their main buyer – a large international trading company – to purchase a price insurance contract.

TRADING COMPANY: the international trading company has investigated the possibility of providing price insurance for payments of a premium, but the company considers that the sovereign and credit risks associated with entering into this contract with the smallholders are too high – financial intermediation is required.

¹¹³ *Ibid.*, p.6.

¹¹⁴ *Ibid.*

¹¹⁵ *Ibid.*, pp.62-64.

EARLY INVOLVEMENT OF THE INTERMEDIARY

Prior to direct participation, the intermediary assess both counterparties to ensure that they meet specific eligibility criteria. The intermediary would also determine if a portion of the premium for the transaction to take place needs to be covered by aid resources. In some cases depending on eligibility criteria, customers of price insurance may need aid resources to help pay the premium. Otherwise they would not be able to purchase the insurance. In these instances, the intermediary would provide funds in the form of aid resources to help cover this cost.

APPROACH TO RISK SHARING

The intermediary works with the provider and customer, as well as any other party involved, to agree to the framework of the contract. They identify associated risks – including credit risk, sovereign risks, and risks associated with the corresponding sale or purchase of the physical commodity – and identify risks that each would be prepared to cover in order to make the contract a commercially viable proposition.

SHARING OF RISKS

The trading company, cooperative, and intermediary “unbundle” and reallocate the risks associated with the proposed transaction. The cooperative agrees to accept 100 percent of the risk associated with individual producers paying their share of the premium. The intermediary agrees that to cover 40 percent of the risk associated with the cooperative paying their portion of the premium to the trading company, and the trading company agrees to accept the remaining 60 percent of this risk. The trading company accepts 100 percent of the physical delivery risk.

THE TRANSACTION

The intermediary puts the proposed transaction out to competitive tender, likely through an internet bulletin board where providers bid for the transaction. The intermediary monitors this process to ensure that it is transparent and adheres to competitive market practices. All parties to the transaction, the provider of price insurance, the provider of credit, the customer, and the intermediary finalize the details of the transaction.

CONCLUSION

When the sale of the physical commodity takes place, the associated price insurance expires. If the agreed reference price is below the floor price, the insurance would be claimed by the producer. However, if the agreed reference price is above the floor price, the insurance would have zero value and a claim would not be made.

THE BENEFITS

The cooperative/producer is able to purchase price insurance and obtain a price floor, yet also benefit from upside movement in prices. With its production hedged, producers will have better access to credit, enjoy the accompanying benefits, and become a reliable counterparty.

The trading company is able to provide price insurance to its customer because of the intermediation, which will improve relationships as the customer becomes a more reliable counterparty, and will also enhance the company's longer-term business prospects.

The intermediary is able to assist small producers to purchase price insurance, which will enable them to add value to their production, have access to credit, and to acquire a track record in the financial sector.

CONCLUSION

For the global financial system, the 1990s and early 2000s have been marked by severe financial crises that have predominately affected developing countries. The latest one has struck Argentina.

The most recent developments in Argentina have been currency devaluation of 29 percent, the freezing of dollar accounts for a year, and a limit on withdrawals of pesos until the beginning of March. As the most recent Economic Minister states, “the banks don’t have the money to meet a massive withdrawal of deposits.” The controls will be very unpopular with middle class Argentines, who have recently taken to the streets with pots and pans to protest the policies of their leaders. The Argentine situation has left many to explain why this had to happen.¹¹⁶

This project supports policy reforms which, combined with globalization, have the potential of raising millions out of poverty. Financial system development assists in delivering essential services that can make a huge difference to a countries’ economic development. However, because economic liberalization is a form of displacement, economic liberalization has been an exogenous shock to the macroeconomic system of the country embarking on the liberalization. This displacement has led to booms and overtrading, leading to a mania or bubble, which eventually leads to financial distress, revulsion, and panic. These rapid reversals of capital have shattered fragile financial systems in developing countries, leaving the poor and middle class particularly distressed.

¹¹⁶ Lapper, Richard and Mark Mulligan, (Jan.11, 2002), “Argentina to Freeze Dollar Accounts for a Year,” *Financial Times*.

This project argues that the financial instability model coexists in incomplete markets, where the participants do not have access to adequate risk management products that OECD countries have developed. Risk management tools have the potential to empower the small-scale producer and the middle class entrepreneur by removing the uncertainty that plagues financial decisions. However, a market gap exists between developing countries and OECD countries over access to the proper risk management tools. In order to bridge this gap, the international community must develop the appropriate policies to effectively smooth inevitable financial market volatility.

Otherwise, anti-globalization groups will hold up Argentina as another example of failed market-reforms, and urge for more protectionist policies. With the realization that the developing countries need additional resource transfers from OECD countries, protectionist policies will only serve to inhibit growth and poverty reduction in the countries that need these resources the most.

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APPENDIX

FIGURE 1

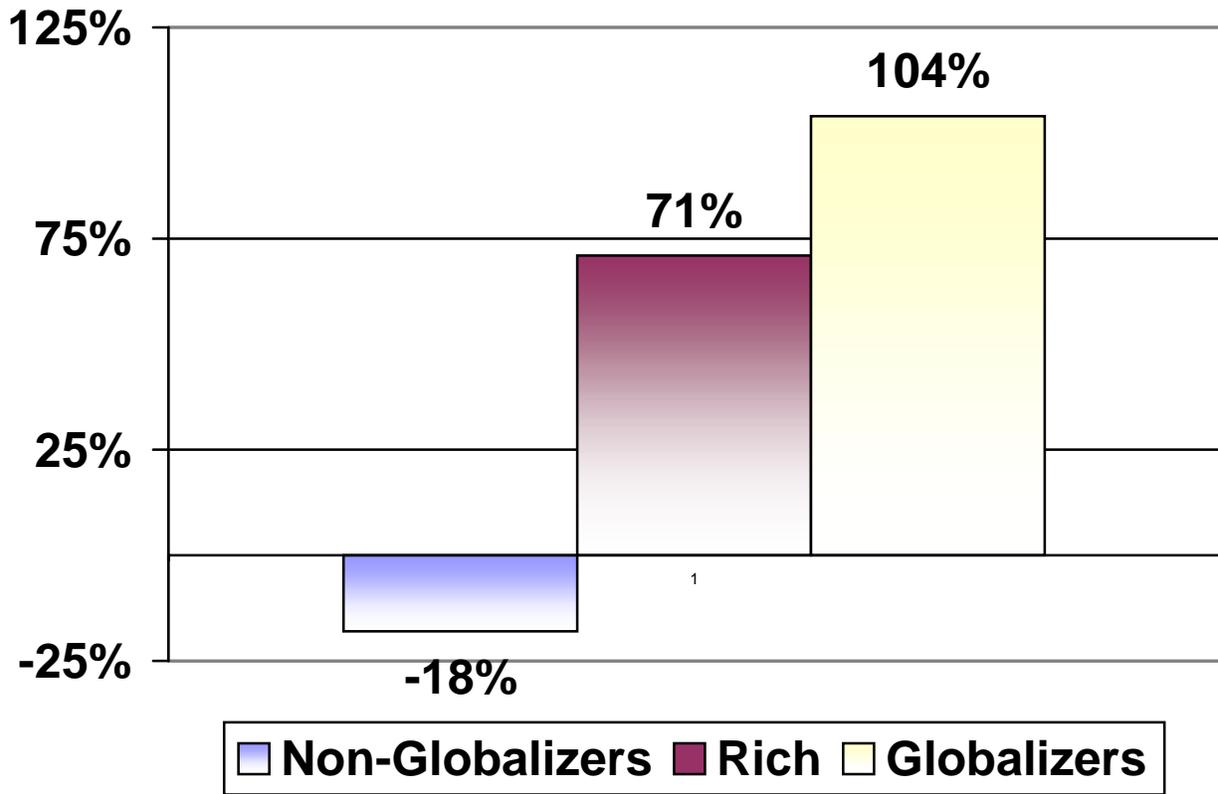
MEASURES OF GLOBAL INTEGRATION¹¹⁷

	Capital Flows	Trade Flows	Transport and Communication Costs (constant US \$)			
	Foreign assets/world GDP (in percent)	Trade/GDP (in percent)	Sea Freight (average ocean freight and port charges per ton)	Air transport (average revenue per passenger mile)	Telephone call (3min NY/London)	Computer (index 1990=100)
1820	-	2a	-	-	-	-
1870	6.9	10a	-	-	-	-
1890	-	12b	-	-	-	-
1900	18.6	-	-	-	-	-
1914	17.5	18ab	-	-	-	-
1920	-	-	95	-	-	-
1930	8.4	18a	60	0.68	245	-
1940	-	-	63	0.46	189	-
1945	4.9	-	-	-	-	-
1950	-	14a	34	0.3	53	-
1960	6.4	16b	27	0.24	46	12500
1970	-	22.4a 20b	27	0.16	32	1947
1980	17.7	-	24	0.1	5	362
1990	-	26ab	29	0.11	3	1000
1995	56.8	-	-	-	-	-
SOURCE	Crafts (2000)	a.Maddison (1995) b. Crafts (2000)	UNDP (1999)	UNDP (1999)	UNDP (1999)	UNDP (1999)

¹¹⁷ Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p.27.

FIGURE 2

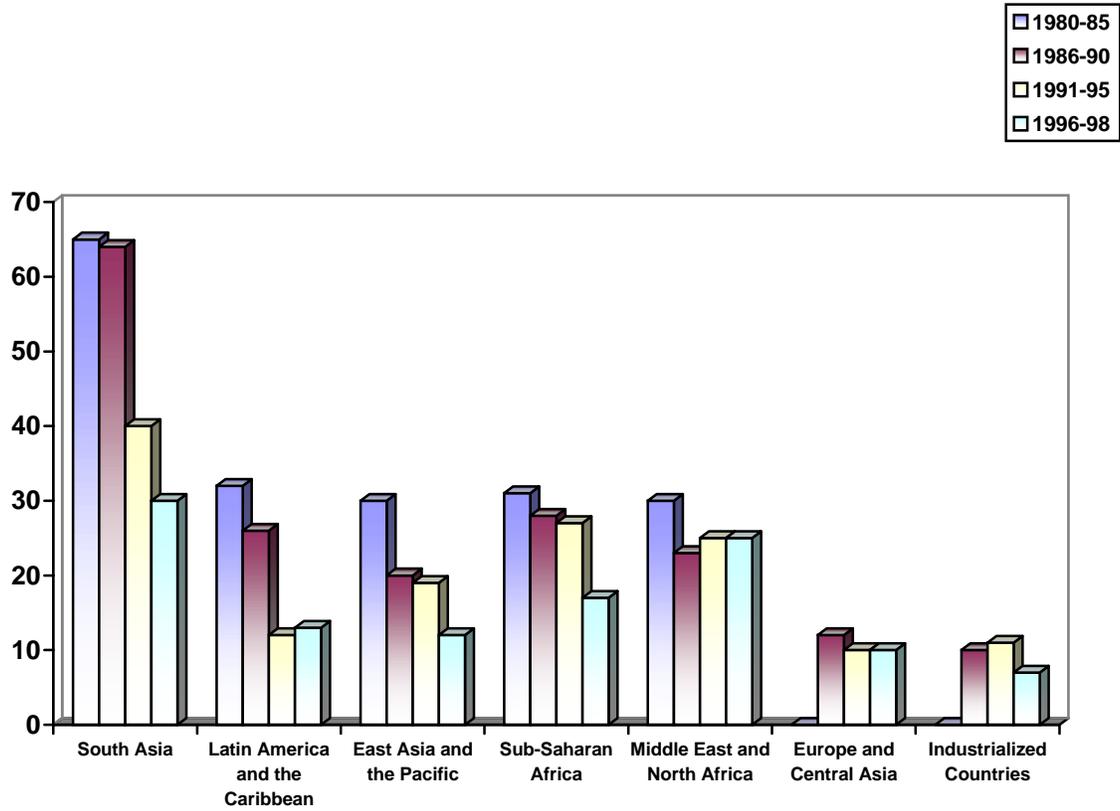
INCREASE IN TRADE/GDP: 1970S TO 1990S¹¹⁸



¹¹⁸ Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p.30

FIGURE 3

AVERAGE UNWEIGHTED TARIFF RATES BY REGION¹¹⁹



¹¹⁹ Taken from World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy, p. 55.

FIGURE 4**POTENTIAL ANNUAL GAINS FROM IMPROVING MARKET ACCESS IN A NEW DEVELOPMENT ROUND, 1995¹²⁰**

Benefiting Region	Liberalizing Region	Textiles & Clothing	Other Manufactures	Agriculture & Food	Other Primary Markets	Total
Developing Countries	Rich	9.0	22.3	11.6	0.1	43.0
	Developing	3.6	27.6	31.4	2.5	65.1
	Total	12.6	49.9	43.0	2.6	108.1
Rich	Rich	-5.7	-8.1	110.5	0.0	96.7
	Developing	10.5	27.7	11.2	0.2	49.6
	Total	4.8	19.6	121.7	0.2	146.3
All Countries	Rich	3.3	14.2	122.1	0.1	139.7
	Developing	14.1	55.3	42.6	2.7	114.7
	Total	17.4	69.5	164.7	2.8	254.4

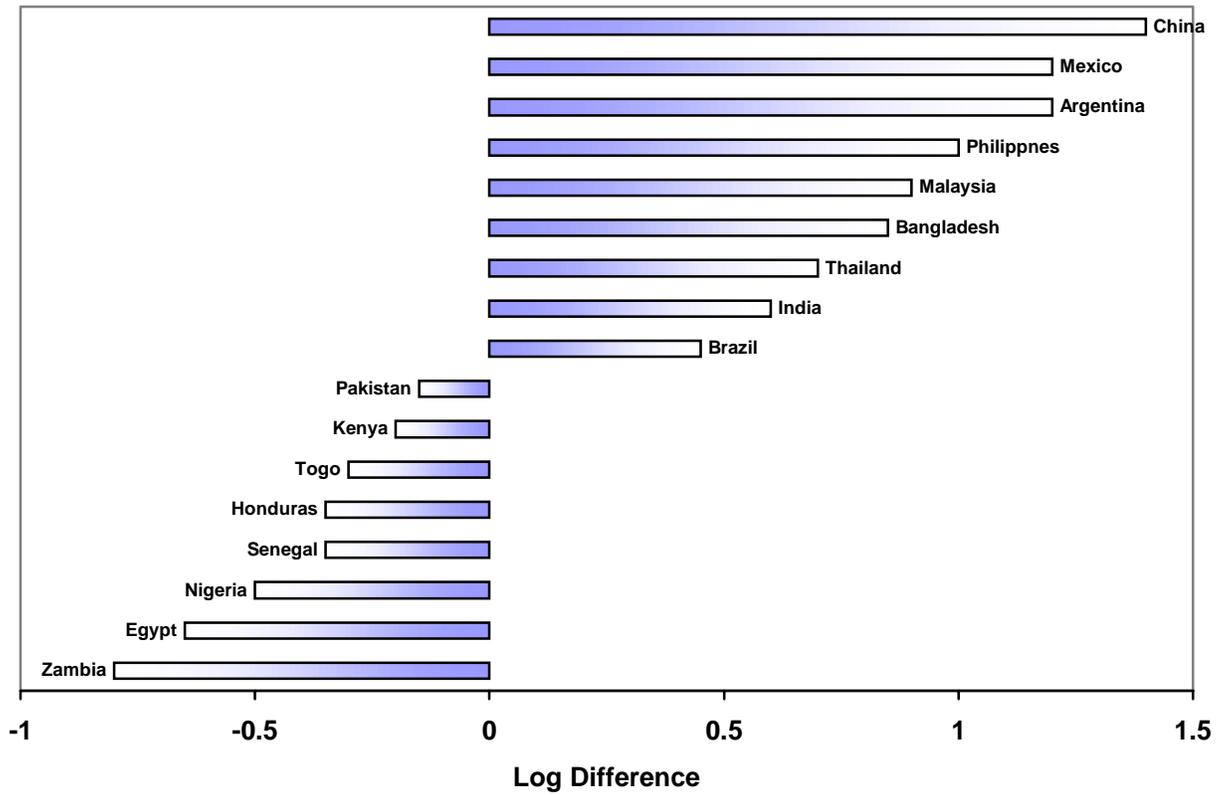
(US\$ billions)

Source: Anderson and others (2000)

¹²⁰ Taken from World Bank, (2002), Globalization, Growth, and Poverty: Building an Inclusive World Economy, p. 58.

FIGURE 5

CHANGE IN TRADE/GDP, 1977-1997 (SELECTED COUNTRIES)¹²¹

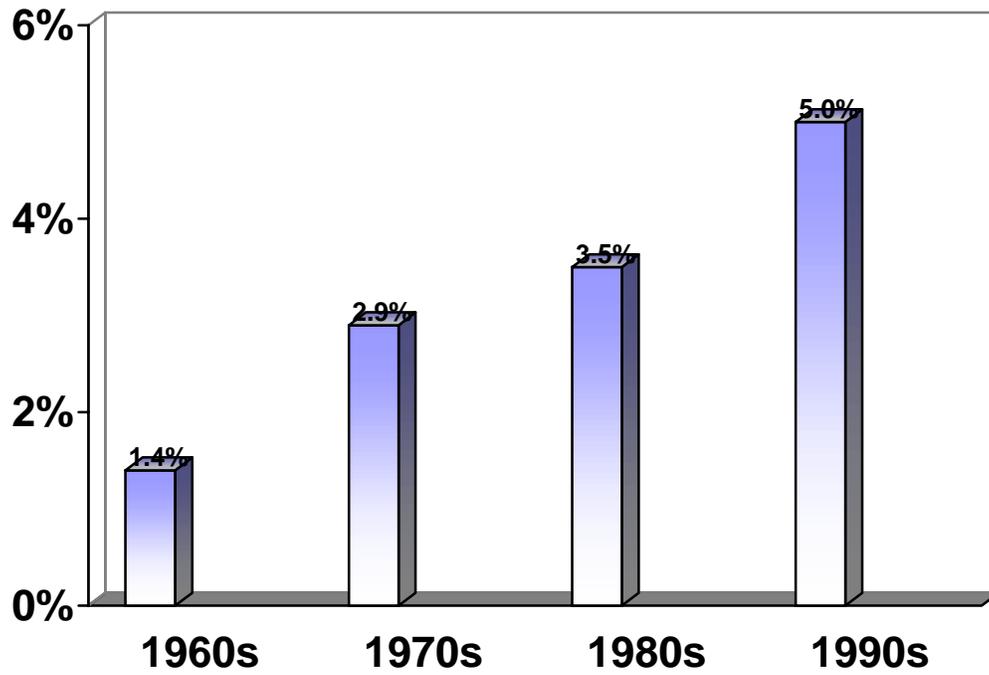


Source: World Bank

¹²¹ Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p. 29.

FIGURE 6

PER CAPITA GDP GROWTH RATES: POST-1980 GLOBALIZERS¹²²

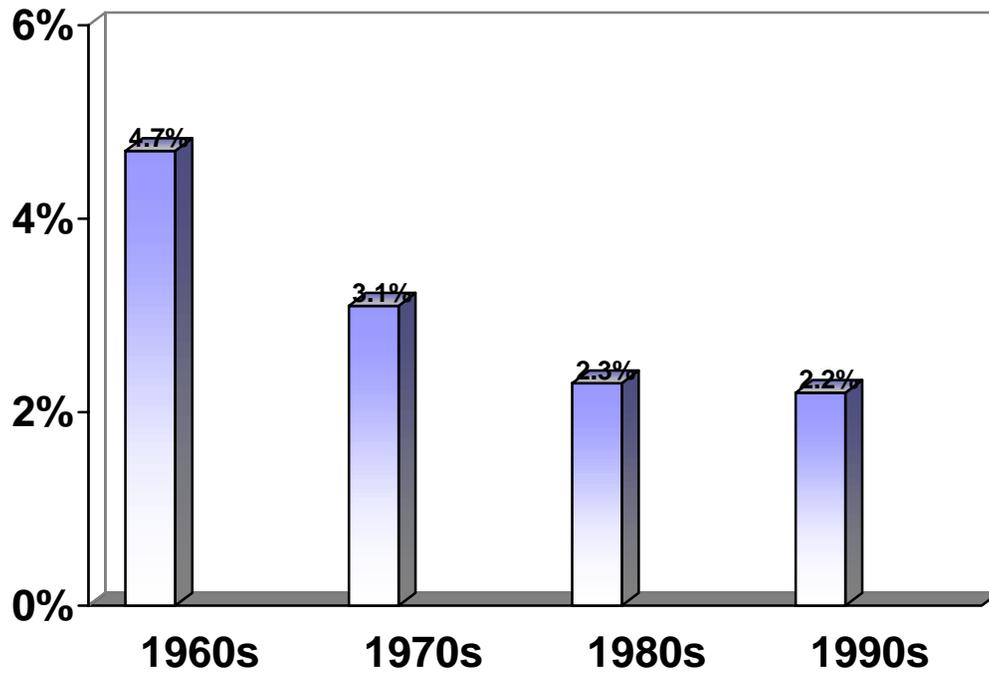


Source: Dollar and Kraay (2001)

¹²² Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p. 31.

FIGURE 7

PER CAPITA GDP GROWTH RATES: RICH COUNTRIES¹²³

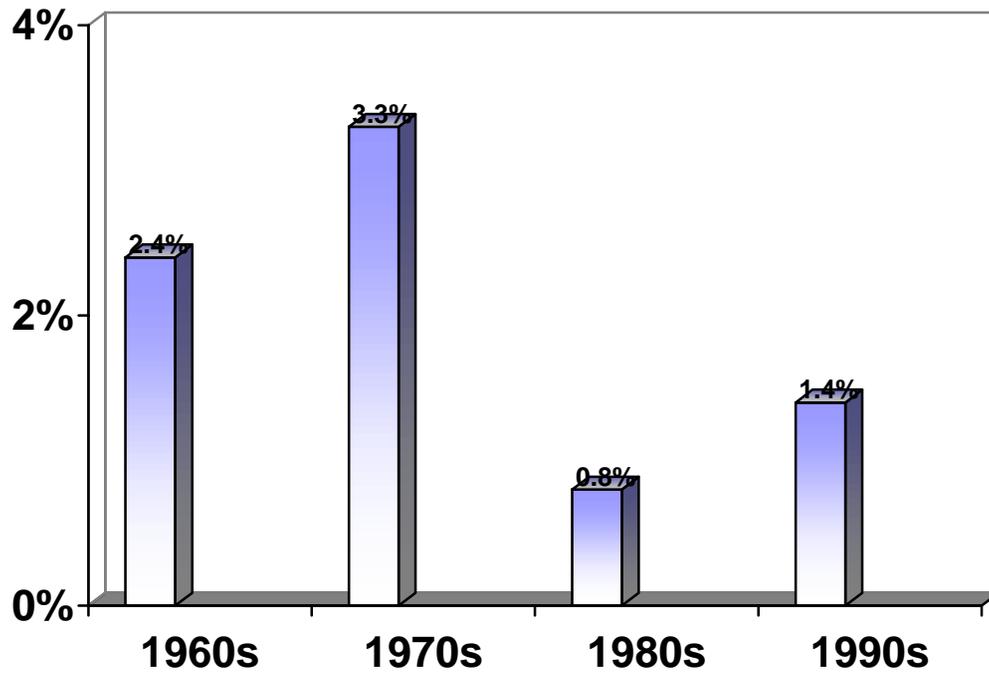


Source: Dollar and Kraay

¹²³ Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p. 31.

FIGURE 8

PER CAPITA GDP GROWTH RATES: POST-1980 NON-GLOBALIZERS¹²⁴



Source: Dollar and Kraay (2001)

¹²⁴ Taken from Dollar, David, (Nov. 2001), "Globalization, Inequality, and Poverty since 1980," *World Bank*, p. 32.

FIGURE 9

A STYLIZED OUTLINE OF FINANCIAL CRISES, 1618 – 1998¹²⁵

Year	1618-1623	1636-1637	1690-1696
Countries (city)	Holy Roman Empire	Dutch Republic	England
Related to	Thirty Years' War	Boom in war against Spain	Glorious Revolution 1688; was with France 1689-1697
Preceding Speculation in	Subsidiary coin, exchanging bad for good	Shares of Dutch East India Company, real estate, exotic tulip bulbs, common tulip bulbs, canals	East India Company, treasure, new companies, lotteries
Monetary Expansion from	Debasement of coins by weight, fineness, denomination	None (?), down payments in kind	Coin debasement, Bank of England established 1694
Speculative Peak	February 1622	February 1637	1695
Crisis	February 1622	February 1637	1696
Lender of Last Resort	None	None	None

Year	1720	1720	1763
Countries (city)	England	France	Amsterdam
Related to	Treaty of Utrecht, 1713	Death of Louis XIV, 1715	End of Seven Years' War
Preceding Speculation in	South Sea Company stock; government debt	Mississippi Company, Banque Générale, Banque Royale	Commodities, especially sugar (?)
Monetary Expansion from	Sword Blade Bank	John Law banks	<i>Wisselruitij</i> (chain of accommodation bills)
Speculative Peak	April 1720	December 1719	January 1763
Crisis	September 1720	May 1720	September 1763
Lender of Last Resort	Bank of England (??)	None	Bank of England

¹²⁵ Taken from Kindleberger, Charles, (1996), *Manias, Panics, and Crashes*, 4th Ed., John Wiley and Sons, pp.223-232.

Year	1763	1772	1792
Countries (city)	Britain	Amsterdam	United States
Related to	Seven Years' War (10 years after)	Seven Years' War (10 years after)	Constitution adopted, 1789
Preceding Speculation in	Housing, turnpikes, canals	East India Company	Recovery of U.S. bonds
Monetary Expansion from	Ayr Bank, country banks	<i>Wisselruitij</i> ; Bank of Amsterdam	Treasury accepted public securities at par for stock of Bank of the U.S.
Speculative Peak		January 1772	January 1792
Crisis		January 1773	March 1792
Lender of Last Resort	Bank of England	City of Amsterdam	U.S. Treasury open market purchases, deferred customs receipts
Severity of Crisis		"One of the fiercest financial storms of the century" ¹²⁶	

Year	1793	1797	1799
Countries (city)	England	Hamburg	England
Related to	Reign of Terror (France)	Collapse of <i>assignats</i> ; French landing, Fishguard	Break in Continental blockade
Preceding Speculation in	Canal mania	Securities, canals	Commodities
Monetary Expansion from	Capital flows from France	Country banks	Wechselreiterei
Speculative Peak	November 1792	1796	1799
Crisis	February 1793	February – June 1797	August – November 1799
Lender of Last Resort	Exchequer bills	Exchequer bills, abandon gold	Admiralty bills
Severity of Crisis			

¹²⁶ Ashton, T.S., (1959), *Economic Fluctuations in England, 1700 – 1800*, Oxford University Press, Oxford, p. 127.

Year	1810	1815-1816	1819
Countries (city)	England	England	England
Related to	Wellington's peninsula campaign	End of Napoleonic War	Waterloo (five years after)
Preceding Speculation in	Exports to Brazil (and Scandinavia)	Export commodities, Continent and U.S.	Commodities, securities
Monetary Expansion from	Country banks	Banks	Banks generally
Speculative Peak	1809	1815	December 1818
Crisis	1810, January 1811	1816	None
Lender of Last Resort	Exchequer bills	?	None needed
Severity of Crisis			

Year	1819	1825	1828
Countries (city)	U.S.	England	France
Related to		Success of Baring loans; decline in interest rates	Decline in interest rates
Preceding Speculation in	Manufacturing behind embargo	Latin American bonds, mines, cotton	Canals, cotton, building sites
Monetary Expansion from	Bank of the U.S.	Bonds sold in installments, country banks	Paris banks
Speculative Peak	August 1818	Early 1825	
Crisis	November 1818 – June 1819	December 1825	December 1827
Lender of Last Resort	Treasury specie deposits	Bank of England	Paris, Basel banks, Bank of France banks
Severity of Crisis		“A panic seized upon the public such had never seen before” ¹²⁷	

¹²⁷ Joplin, Thomas, (after 1832), *Case for Parliamentary Inquiry into the Circumstances of the Panic, in a letter to Thomas Gidborne, Esq., M.P.*, F. Ridgeway and Sons, London, p.14.

Year	1836	1837	1838
Countries (city)	England	U.S.	France
Related to	Textile boom	Jackson presidency	July 1830 Monarchy
Preceding Speculation in	Cotton, railroads	Cotton, land	Cotton, building sites
Monetary Expansion from	Joint-stock banks	Wildcat banks, retention of silver	Regional banks
Speculative Peak	April 1836	November 1836	November 1836
Crisis	December 1836	September 1837	June 1837
Lender of Last Resort	Bank of France and Bank of Hamburg helped Bank of England	Bank of France and Bank of Hamburg helped Bank of England	Bank of France and Bank of Hamburg helped Bank of England
Severity of Crisis		“One of the most disastrous [panics] this nation ever experienced” ¹²⁸	

Year	1847	1848	1857
Countries (city)	England	Continent	U.S.
Related to	1846 potato blight, wheat failure	1846 potato blight, wheat failure	
Preceding Speculation in	Railways, wheat	Railways, wheat, building (Cologne)	Railroads, public lands
Monetary Expansion from	Installment of railway securities	Regional banks	Gold discoveries, clearinghouse
Speculative Peak	January 1847	March – April 1848	End of 1856
Crisis	October 1847	March 1848	August 1857
Lender of Last Resort	Suspension of Bank Act of 1844	Bank of England loan to Bank of France; Russian purchase of French rentes	Capital inflow from England
Severity of Crisis	“In the last nine months more reckless and hazardous speculation than any other known in modern times” ¹²⁹		

¹²⁸ McGrane, Reginald Charles, (1924; reprint ed.), *The Panic of 1837: Some Financial Problems of the Jacksonian Era*, Russell and Russell, New York, p.1.

¹²⁹ Wilson, James, (1847), *Capital, Currency, and Banking*, Economist, London, p. 1101.

Year	1857	1857	1864
Countries (city)	England	Continent	France
Related to	End of Crimean War	End of Crimean War	End of Civil War
Preceding Speculation in	Railroads, wheat	Railroads, heavy industry	Cotton, shipping companies generally
Monetary Expansion from	Bank mergers, clearinghouse	Crédit Mobilier, new German banks	Crédit Mobilier
Speculative Peak	End of 1856	March 1857	1863
Crisis	October 1857	November 1857	January 1864
Lender of Last Resort	Suspension of Bank Act of 1844	Ailberzug (Hamburg)	Maturities of bills extended
Severity of Crisis	“Crisis of 1857 the most severe that England or any other nation has ever encountered” ¹³⁰	“So complete and classic a panic has never before as now in Hamburg” ¹³¹	

Year	1866	1873	1873
Countries (city)	England/Italy	Germany/Austria	U.S.
Related to	General limited liability	Franco-Prussian indemnity	Fraud exposed in 1872 campaign
Preceding Speculation in	Cotton, shipping companies generally	Building sites, railroads, securities, commodities	Railroads, homesteading, Chicago Building
Monetary Expansion from	Joint-stock discount houses	New industrial banks, broker banks, construction banks	Short-term credit; inflow if European capital
Speculative Peak	July 1865	Fall 1872	March 1873
Crisis	May 1866	May 1873	September 1873
Lender of Last Resort	Suspension of Bank Act; Italy abandoned fixed parity	None	None
Severity of Crisis	“Crisis of 1866 most serious in modern times” ¹³²	“In 56 years, no such protracted crisis” ¹³³	

¹³⁰ Evans, D. Morier, (1969), *The History of the Commercial Crisis, 1857 – 1858, and the Stock Exchange Panic of 1859*, re-print ed., Augustus M. Kelly, New York, p. v.

¹³¹ Oelssner, Fred, (1953), *Die Wirtschaftskrisen, vol. 1, Die Krisen in vormonopolistischen Kapitalismus*, Dietz Verlag, Berlin, p. 237, quoting Friedrich Engles.

¹³² Andréadès, A., (1909), *History of the Bank of England*, P.S. King, London, p.357

¹³³ Stern, Fritz, (1977), *Gold and Iron: Bismarck, Bleichroder, and the Building of the German Empire*, Allen & Unwin, London, p. 189, quoting a letter of October 1875 from Baron Abraham von Oppenheim to Bleichroder.

Year	1882	1890	1893
Countries (city)	France	England	U.S.
Related to	Expansion in southeastern Europe	Argentine clearing of southern lands; Brazil, coffee; Chile, nitrates; South Africa, gold	Sherman Silver Act, 1890
Preceding Speculation in	Stock of new banks, Lyons	Argentine securities, private companies going public	Silver, gold
Monetary Expansion from	Securities bought on margin	Goschen conversion	Contraction
Speculative Peak	December 1881	August 1890	December 1882
Crisis	January 1882	November 1890	May 1893
Lender of Last Resort	Limited help from Paris banks	Baring liabilities guaranteed; Bank of France, Russian gold loans to Britain	Repeal of Sherman Silver Act, of August 1893
Severity of Crisis	“Never have I seen an equal catastrophe” ¹³⁴		

Year	1893	1907	1907
Countries (city)	Australia	U.S.	France/Italy
Related to	Growth of cities	Russo-Japanese war (?), San Francisco earthquake (??)	Russo-Japanese war (?), San Francisco earthquake (??)
Preceding Speculation in	Land, gold mines	Coffee, Union Pacific	Industrial borrowing from banks
Monetary Expansion from	Capital inflow	Trust companies	Società Bancaria Italian
Speculative Peak	1891	Early 1907	March 1906
Crisis	Spring 1893	October 1907	August 1907
Lender of Last Resort	None	\$100 million inflow from Britain	Bank of Italy
Severity of Crisis			

¹³⁴ Bouvier, Jean, (1960), *Le krach de l'Union Générale*, Presses universitaires de France, Paris, p.145, quoting a director of the Crédit Lyonnais.

Year	1920-1921	1929	1931-1933
Countries (city)	Britain/U.S.	U.S.	Europe
Related to	End of postwar boom	End of extended postwar boom	Cutoff from U.S. foreign lending
Preceding Speculation in	Securities, ships, commodities, inventories	Land to 1925, stocks 1928-1929	Not applicable
Monetary Expansion from	Banks	Stocks bought on margin	U.S. lending
Speculative Peak	Summer 1920	September 1929	1929
Crisis	Spring 1921	October 1929	Austria, May 1931; Germany, June 1931; Britain, Sept. 1931; Japan, Dec. 1931; U.S., Mar. 1933
Lender of Last Resort	None	FRBNY open-market operations (inadequate)	Feeble efforts in U.S., France
Severity of Crisis		“The greatest cycle of speculative boom and collapse in modern times – since, in fact, the South Sea Bubble” ¹³⁵	

¹³⁵ Galbraith, John Kenneth, (1972), *The Great Crash, 1929*, 3rd ed., Houghton Mifflin, Boston, p. vii.

Year	1950s, 1960s	1974-1975	1979-1982
Countries (city)	Worldwide	U.S./Worldwide	U.S./Worldwide
Related to	Convertibility without macroeconomic coordination	Collapse of Bretton Woods: OPEC 1973 price rise	Third World syndicated bank loans, OPEC 1979 price rise in oil, real estate in Southwest United States, U.S. farmland, dollar
Preceding Speculation in	Foreign exchange	Stocks, REITs, office buildings, tankers, Boeing 747s	
Monetary Expansion from	Not applicable	Eurodollar market flooding in 1970-1971	
Speculative Peak	Speculation in currencies of:	1973	1979
Crisis	France, 1958; Canada, 1962; Italy, 1963; Britain, 1964; France, 1968; U.S., 1973, etc.	1974-1975	Dollar, 1979; farmland, 1979; oil, 1980; Third World debt, 1982
Lender of Last Resort	BIS swap network	BIS swap network	IMF; FRBNY, U.S. govt. for Mexican debt, Farm Loan Bank Board
Severity of Crisis			

Year	1982-1987	1990	1994-1995
Countries (city)	U.S.	Japan	Mexico
Related to	Stock market, luxury housing, office buildings, dollar	Nikkei shares index; real estate	Deregulation; capital inflow and outflow; domestic boom
Preceding Speculation in			
Monetary Expansion from	Capital inflow	Interest-rate reduction 1986	Capital inflow, bank lending, domestic new banks 1991, nationalized banks privatized 1991
Speculative Peak	Dollar, 1985; stocks, 1987; real estate, 1987	First half 1989	1994-1995
Crisis	Stocks, October 17, 1987	January 1990	1994-1995
Lender of Last Resort	FRBNY open-market operations banks, FDIC, FSLIC dollar, swaps	Ministry of Finance and Bank of Japan slow to react	U.S. stabilization Fund; IMF; IADB
Severity of Crisis			
Year	1997-1998		
Countries (city)	Thailand, Indonesia, Malaysia, Korea, Russia, Brazil		
Related to	Deregulation, capital inflow and outflow; borrowing abroad		
Preceding Speculation in			
Monetary Expansion from	Bank lending; construction boom; crony capitalism		
Speculative Peak	1997-1998		
Crisis	1997-1998		
Lender of Last Resort	IMF; World Bank; ADB; bilateral country loans		
Severity of Crisis			

FIGURE 10

COUNTRIES WITH EXPORT DEPENDENCE ON THREE LEADING COMMODITIES GREATER THAN 50% ¹³⁶

	Population (in millions)	Export dependence on 3 leading commodities	Leading Commodities	GDP per Capita		Poverty	External Debt as % of GNP)
				US\$	Avg annual Growth	% of people living on less than \$1 a day (PPP)	
	July 2001	1990-1992		in 1995	1985-95	1981-95	1995
Africa (34)							
Congo	2.9	99.0	fuels, wood, sugar	680	(3.2)		365.8
Gabon	1.2	99.0	fuels, manganese ore, wood	3,490	(8.2)		121.6
Nigeria	126.6	99.0	fuels	260	1.2	28.9	140.5
Burkina	12.3	99.0	cotton	230	(0.2)		55.0
Zambia	9.8	99.0	copper	400	(0.8)	84.6	191.3
Niger	10.4	95.7	uranium	220		61.5	91.2
Angola	10.4	94.5	fuels	410	(6.1)		274.9
Benin	6.6	93.8	cotton, fuels	370	(0.3)		81.8
Guinea-Bissau	1.3	92.0	nuts, fishery	250	2.0	87.0	353.7
Guinea	7.6	91.3	bauxite, aluminum	550	1.4	26.3	91.2
Malawi	10.5	88.8	tobacco, tea, sugar	170	(0.7)		166.8
Algeria	31.7	88.8	fuels	1,600	(2.4)	1.6	83.1
Burundi	6.2	87.9	coffee, tea	160	(1.3)		110.1
Mauritania	27	87.8	iron ore, fishery	460	0.5	31.4	243.3
Uganda	24	81.5	coffee, cotton	240	2.7	50.0	63.7
Zaire (Congo)	53.6	81.5	copper, fuels, coffee	120			
Equatorial Guinea	0.5	81.4	wood, cocoa, banana	380			
Cameroon	15.8	81.0	fuels, wood, coffee	650	(6.6)		124.4
Ethiopia	65.9	79.0	coffee	100	(0.3)	33.8	99.9
Cape Verde	0.4	78.9	fishery, banana	960			
Rwanda	7.3	78.8	coffee, tea, tin ore	180	(5.4)	45.7	89.1
Mali	11	73.8	cotton	250	0.8		131.9
Comoros	0.6	70.5	vanilla	470	(1.4)		
Ghana	19.9	67.4	cocoa, aluminum, wood	390	1.4		95.1
Togo	5.1	63.3	phosphate rock, cotton, coffee	310	(2.7)		121.2
Chad	8.7	60.9	cotton	180	0.6		81.4
Mozambique	19.4	58.1	fishery, nuts, cotton	80	3.6		443.6
Somalia	7.5	57.8	live animals, fishery, banana				
Egypt	69.5	59.7	fuels, cotton, aluminum	790	1.1	7.6	73.3
Kenya	30.8	56.0	tea, coffee, fuels	280	0.1	50.2	97.7
Central African Republic	3.6	55.7	wood, live animals, cotton	340	(2.4)		
Sudan	36	55.7	cotton, live animals, sesame seeds				
Cote d'Ivoire	16.4	55.0	cocoa, fuels, wood	660		17.7	251.7
Zimbabwe	11.4	53.5	tobacco, nickel, cotton	540	(0.6)	41.0	78.9
Asia (9)							
Yemen	18	90.2	fuels	260			155.2
Syrian	16.7	61.4	fuels	1,120	0.9		134.8
Cambodia	12.5	99.0	wood, rubber, soybeans	270			73.5
Myanmar		99.0	wood, pulses, rice				
Afghanistan	26.8	78.5	fuels, grapes & raisins				
Maldives	0.3	73.5	fishery, olives	990	5.9		
Mongolia	2.6	68.4	copper ore, live animals, wool	310	(3.8)		61.5
Lao PDR		65.0	wood, live animals, coffee	350	2.7		124.9
Indonesia	228.4	53.1	fuels, wood, fishery	980	6.0	14.5	56.9
Latin America (14)							
Venezuela	23.9	88.1	fuel, aluminum, iron ore	3,020	0.5		
Ecuador	13.2	86.3	fuels, banana, fishery	1,390	0.8	11.8	
St. Vincent & Grenadines	0.1	79.5	banana, fishery	2,280	3.8	30.4	84.1
Guyana	0.7	77.5	sugar, bauxite	590	0.6		
Paraguay	5.7	69.8	cotton, soybeans	1,690	1.2		
Trinidad and Tobago	1.2	68.4	fuels, sugar	3,770	(1.7)		29.4
Jamaica	2.7	67.3	aluminum, bauxite, sugar	1,510	3.6		53.6
Dominican Republic	8.6	66.3	nickel, sugar, coffee	1,460	2.1	4.7	134.9
Honduras	6.4	60.3	banana, coffee, fishery	600	0.1	19.9	36.5
Dominica	0.07	58.0	banana	2,990	4.1	46.5	124.6
Colombia	40.3	55.6	fuels, coffee, banana	1,910	2.6		
Belize	0.3	53.8	sugar, juices, banana	2,630	3.9	7.4	28.2
Chile	15.3	52.5	copper, fishery	4,160	6.1		
Grenada	0.09	50.9	spices, banana, cocoa	2,980		15.0	43.3

FIGURE 11

**HISTORICALLY, INTERNATIONAL COMMODITY AGREEMENTS HAVE PROVEN
UNSUSTAINABLE¹³⁷**

	Cocoa	Coffee	Rubber	Sugar	Tin
First agreement	1972	1962	1980	1954	1954
Current/final agreement	4th	4th	3rd	4th	6th
Date	1987	1983	1996	1978	1982
US membership	No	Yes	Uncertain	Yes	No
Breakdown/lapse of economic clauses	Suspended	Suspended	Suspended	Lapsed	Collapsed
Date	1988	1989	1996	1983	1985
Buffer Stock	Yes	No	Yes	No	Collapsed
Ceiling	+ 23.1%	n.a.	+ 28.6%	n.a.	+ 15%
Floor	- 23.1%	n.a.	- 25.2	n.a.	- 15%
Must sell/buy	± 18.2	n.a.	± 20%	n.a.	± 15
May sell/buy	± 18.2	n.a.	± 15%	n.a.	± 5
Export controls	no	yes	no	yes	yes

¹³⁶ Taken from Larson, Donald, Panos Varangis and Nanae Yabuki, (Aug. 1998), "Commodity Risk Management and Development, *World Bank*, WP/1963.

¹³⁷ Taken from Gilbert, Christopher, (Nov. 1995), "International Commodity Control: Retrospect and Prospect," *World Bank* WP/1545, p.42.

FIGURE 12

COMPARISON OF COMMODITY PROGRAM APPROACHES¹³⁸

	Traditional Program	Derivative Instrument Approach
Producer Flexibility	None	Very Much
Income/Price Support	Extensive	Adequate
Trade Distortion	Questionable/Significant	None
Support Established	Administratively	Market-Based
Government Cost (and/or Consumer cost)	Considerable	Minor
Producer Cost	None	None

¹³⁸ Taken from Varangis, Panos and Don Larson, (Oct. 1996), "Dealing with Commodity Price Uncertainty," *World Bank WP/1667*, p.20.

FIGURE 13

ILLUSTRATION OF
PROPOSED PRICE INSURANCE TRANSACTION¹³⁹



¹³⁹ Taken from International Task Force on Commodity Risk Management in Developing Countries, (Sept. 1999), "Dealing with Commodity Price Volatility in Developing Countries: A Proposal for a Market-Based Approach," *World Bank*.