FROM KEYNES

to the financial crisis of 2016

PEDRO CARVALHO DE MELLO

ESCOLA NACIONAL de SEGUROS
CPES CENTRE FOR RESEARCH ON INSURANCE ECONOMICS

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Fundação Escola Nacional de Seguros – Funenseg
Rua Senador Dantas, 74 – Térreo, 2º, 3º, 4º e 14º andares
Rio de Janeiro – RJ – Brazil – CEP 20031-205
Phone: (21) 3380-1000
Fax: (21) 3380-1546
Internet: www.funenseg.org.br
E-mail: faleconosco@funenseg.org.br

Editorial Coordination
Directorate of Higher Education and Research

Editing
Vera de Souza
Mariana Santiago

Graphic production
Hercules Rabello

Front Cover/Layout
Grifo Design

Reviewer
Monica Teixeira Dantas Savini

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Fax: (21) 3380-1546
Internet: www.funenseg.org.br
E-mail: faleconosco@funenseg.org.br

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Editorial Coordination
Center for Research on Insurance Economics

Editing
Claudio Contador

Graphic production
Hercules Rabello

Front Cover/Layout
Grifo Design

Reviewer
Amadeu Pumar

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PREFACE

Assuredly, History, understood as the reporting and interpretation of past events, piques the interest of researchers and scholars in Brazil. The work of historians currently has the support of recovered statistics, easy access over the Internet to browse libraries in the most distant countries, and new techniques of quantitative data processing. Reading is no longer dull, mere description of dates and names, and transforms into discoveries and fascinating texts. Despite these technology pillars, the figure of the researcher remains unique.

Prof. Pedro Carvalho de Mello reflects well this new type of researcher. With solid background in economics, master's and doctorate from the University of Chicago, several articles published in Brazil and abroad and some books, Pedro has been dedicated to the study of history since the 1970s, when he wrote at the University of Chicago, USA, his doctoral thesis "Slavery and labor economics in the coffee plantations, 1850-1888". And he always does it in a surprising way. As an executive, he worked in private institutions such as IBMEC, BM&F, PNC Bank (Pittsburgh), and public institutions, such as the CVM, and also has in his record a successful career as a professor at the University of São Paulo, FGV/Ohio University College of Business and ESAGS. Combining his interest in risk and insurance market, Pedro gifts us two instigating books.

In the first – John Maynard Keynes and his Work in the Insurance Market – he reveals to us that Keynes, certainly the most vibrant economist and of greatest impact in the twentieth century, was president of the National Mutual Life Assurance Society. And as such was an innovator in risk understanding and management.

In the second book he updates the Portuguese version (From Keynes to the Current Economic Crisis of 2012), originally from 2012, to 2016 (new title is From Keynes to the Current Financial Crisis). In fact, Pedro discusses the international financial crisis unfolding since 2007 and seems to be endless, when every following day has new problems linked to earlier ones. In this second book, the author returns to one of his favorite themes – the financial crises – on which he has already written a book which became a classic.

There is already a wide literature on the current crisis, but the understanding of its effects in the insurance market is still incomplete. Pedro covers this gap and provides a detailed description of the events of 2007-09 with an interpretation of their impacts on the insurance market.

Both books have the certain destination of becoming classic readings and consultation sources for researchers. The academy and the institutions of the Brazilian insurance market have a debt of gratitude to Professor Pedro.

Prof. Claudio R. Contador, Ph.D.
Center for Research on Insurance Economics

PRESENTATION

This book is the result of the Research Project from Fundação Escola Nacional de Seguros – Funenseg entitled “Insurance and financial crisis: impact on the insurance industry. From Keynes to the current crisis of 2012”.

The results of this Research Project were presented in Reports referring to the two stages in which it was organized. The reports were published in Portuguese as books.

The Report of Stage 01 had the goal of studying the economic thinking of John Maynard Keynes and his work in the Insurance Market.

The Report of Stage 02 aimed to analyze the Financial Crisis 2007-2009, its developments until 2012 and its impact on the Insurance Industry. For this book, the version in English, we did an update to account for the continuation of the financial crisis between 2012 and 2016.

To write this book, I would like to thank Funenseg, for supporting the research project, Prof. Claudio Roberto Contador, friendship and intellectual support, the University of California, Irvine, for the support of their library, and ESAGS, a new school of administration and economy, where I currently teach after my retirement at ESALQ/USP.

Special thanks to Beto Fonseca, who helped me a lot in the problems of computer use for text editing.

I dedicate this book to my friends Kelly Otto, Gelly Volkmann, Lowell Habel (*in memoriam*), Thelma Ribeiro, Sérgio Tadeu, Isnard Marshall Jr., Valerie Minerovic and other “anteaters” companions, for the good times we spent together in Irvine in Southern California in every summer since 2003, and that both contribute to my willingness to research and write.

INTRODUCTION

My interest in the insurance area appeared later in my life, and I am very grateful to my friend Claudio Contador for opening the doors to this important sector of the economy and finance.

My professional life, and part of my academic life, has always been closely linked to the capital market, to banks and derivatives markets. I also found out that the insurance industry can be a fascinating field of study and professional work. As a matter of fact, strategists are already forecasting that the insurance field should outweigh in importance the banking field during the twenty-first century.

The theme of financial crises has always interested me as well. The financial crisis of 2007-2009, unfortunately, has not diminished in the following years. It worsened in 2011 and is still casting a dark cloud of uncertainty afterwards. The US economy, although showing consistent signs of recovery, remains weak. The Japanese economy, another great dynamo of the world economy, remains powerless. Finally, the European economy, which taken together represents around 25% of the aggregate GDP of the global economy, still faces a serious crisis (in the first quarter of 2016, banking crisis). Even the Chinese economy (crisis of shadow banks) and the rest of the BRIC countries are beginning to take the hit from the reduction in demand in the international market.

In the economic scenario of the global economy in 2016, what is reserved for the insurance industry? The possibility of a recession as in the 30s, and a prolonged financial crisis? Or, what past experience can contribute to alter this scenario? Exploring these questions is the goal of this book.

The activity of managing an insurance company is very complex, since, on the side of the liabilities, the risks must be properly assessed, and, on the side of asset management, investment policies are faced with situations of uncertainty in the business world. Moreover, the transformations of the modern world are always demanding new products or modifications to the traditional products, which causes a demand for increased innovation.

Under these conditions, the financial crisis may cause major impact on the insurance industry, and it is necessary to scale and evaluate the potential impact on it. In the crisis of 2007-2009, major insurers almost went bankrupt, governments had to intervene, there was a great controversy about the “credit default swaps” and the insurance industry as a whole was seen in the eye of the financial storm.

The objective of this study is first to examine the general aspects of the financial crisis, in which “rational” manifestations are mixed in conjunction with more “emotional” attitudes.

Second, to examine the main events of the Crisis of 2007-2009, particularly those related to the insurance industry.

Third, to focus on the development of the crisis in 2011 and 2012, and its impact on the insurance industry.

Fourth, to explore the events in Europe, and the discussions on the financial crisis in the Euro Zone.

Fifth, to evaluate the dangers of a broad recession in the world economy, and its reflection in the insurance industry.

Sixth, to examine lessons learned from the recent crises, regulation and reform measures being adopted or discussed in major insurance centers.

Finally, to examine the issues in the context of the Brazilian economy and financial and insurance sectors.

PART I

THE DYNAMICS OF CRISES

This work uses an extensive and updated bibliography, which is constantly increasing due to the global financial crisis in progress[1]. Our goal was twofold: first, to point out the most important aspects of the financial crisis on a long-term vision. Second, to bring this discussion to the context of the insurance industry and the Brazilian economy.

We will examine the aspects that we consider most relevant, within the myriad of issues involved, to draw an overview of the financial crisis.

In our view, the Financial Crisis central theme revolves around reason and sentiment. As will be shown throughout the work, one cannot interpret the financial crisis only under a rational angle. Emotions and irrationality permeate and strengthen these crises.

Economic theory, despite the great progress made in analytical terms and quantitative methods, has as its object the human behavior in the economic sphere. Therefore, it has to deal with human nature. That is, reason and sentiment.

1 The author recently wrote the third edition of his book (with Humberto Spolador) on the Financial Crises. This report makes extensive use of several topics discussed there (in 2010), but updated for the present time of the Subprime Crises and the Euro Zone. See Mello, Pedro C. de and Spolador, Humberto. *Crises Financeiras. Quebras, Medos e Especulações do Mercado. Do Século XVII à Crise do Subprime e da Zona do Euro. Third Edition.* São Paulo: Saint Paul Editora, 2010.

In fact, the question is more complex. We are all a mixture, with varying degrees of dosage, of reason and sentiment. And what is worse, at the time of crises, we can change quickly and with a high volatility: the multitude of rational beings turning into a crowd of people driven by emotion.

We hope, therefore, to not only awaken the readers' attention to the various issues associated with the financial crisis, but also present the richness, creativity and diversity of economic thought.

CHAPTER 1

The modern crises: global macroeconomics and finances

When observing the characteristics of the major financial crises of the last 300 years, a subject draws attention. The scale, the diversity of financial assets and the geographic extent of the financial crises have been growing over the years. Some aspects, however, remain common traits. The economic rationality, the influence of emotions, the panic and fear, the speculation, the risk, the uncertainty, the government's acting, and other aspects that will be examined throughout this book.

Our focus will be to analyze the latest crisis: The Subprime Crisis (2007-2009) with its development in the Euro Zone (2010-2012). We will refer to from now on as the Subprime Crisis and the Euro Zone Crisis[2]. In the context of these crises, we will examine the role of insurers in their financial dimension, highlighting the implications of risk and uncertainty. In this sense, the first part of the research (book on Keynes as president of insurer) will serve as a conceptual foundation, allowing for continuity in this discussion[3].

2 The following countries are the epicenter of the crisis in the Euro Zone: Ireland, Greece, Portugal and Spain. Italy and Belgium cause concern. In Europe, although outside the euro, Hungary and other Central and Eastern European countries experience difficulties.

3 Research Project – Insurance and Financial Crises: Impact on the Insurance Industry. From Keynes to the current Crisis of 2010/2012. Report of Stage 01, "Keynes President of Insurer".

The present crisis can be understood in two fronts. The Subprime Crisis was a classic financial crisis, based on the bubble of an asset (mortgage market). However, it extrapolated to the financial sector as a whole, and for the first time, to financial securities insurance operations, offered by the insurance industry[4]. It was also very wide, reaching virtually every country. In a second moment, due to its impact on global economic activity, it triggered a crisis of macroeconomic character in Europe, where governments were held more in the "firing position" and banks took a back seat.

Thus, it is certain that in modern crises macroeconomic aspects prevail, in which the monetary, fiscal and exchange rate factors are very important. The choice between a crisis of banking or foreign exchange origin is only of emphasis on the fact that originated it.

Indeed, following the evolution of each crisis, banking and exchange rate aspects end up confusing and influencing each other.

The typology of crises according to Rogoff and Reinhart

In a book published in 2010[5], Rogoff and Reinhart examine the history of financial crises that have occurred over the past 800 years in 66 countries.

These authors seek, in the first chapter, characterize and classify the different varieties of crises. The work of Rogoff and Reinhart is based on the use of historical studies, statistics and quantitative methods. This is an excellent attempt to define, at first, what constitutes or not a crisis, then classify and group financial crises.

The methodology utilized separated and classified the financial crisis in two main groups: first, it grouped together those who were susceptible to strict quantitative definitions; second, it grouped together those for which one must resort to more qualitative and discretionary analysis.

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4 "*Credit default swaps*".
5 "*This Time Is Different: Eight Centuries of Financial Folly*".

In this way, we would have:

(i) Definition of financial crises based on quantitative thresholds:

a. Inflation crises

b. Exchange rate shocks

c. Debasement of currency by reducing the metal content

d. Debasing of the currency via currency replacing

e. Bursting of asset bubbles (stocks or real estate)

(ii) Definition of crises according to events, based on more qualitative and discretionary analyzes:

a. Banking crisis due to financial difficulties (milder)

b. Systemic banking crisis (more severe)

c. External debt crisis

d. Internal debt crisis

The classification of financial crises adopted in the text that follows does not differ much from the Rogoff and Reinhart classification. Our classification was based on two aspects: (i) first, the crises that had great resonance economic, political and social at the time they happened, and were recorded in history as significant events; and (ii) second, the modern crisis, which we sub-divided into three groups for analytical purposes: the banking and external debt crises of the 80s; the foreign exchange and macroeconomic crises of the 90s; the Subprime Crisis (2007-2009, peaking in 2008) and the Crisis of the Euro Zone.

Table 1 presents a summary of modern financial crises and economic reasons associated with it, according to our classification[6].

6 It is based on the vision of Rogoff and Reinhart.

TABLE 1. ECONOMIC FEATURES OF MODERN CRISIS

Types of crises	Definition of crises	Economic characterisation	Economic causes	Exemples of crises
Asset bubbles burst	Financial value of the assets moves away from the economic value derived from their implied real profitability.	Formation of a speculative bubble and an initial "happiness chain" until its inevitable "burst".	Excessive credit.	Subprime crisis, which began in the US mortgage market.
Insurances for Operations in the Secondary Market Mortgages	Some large insurers entered heavily in the CDS market, and lost fortunes.	Confusion between risk and uncertainty on their part. The CDS was thought were risky operation, but in fact it was in the realm of uncertainty.	Insurers were seeking profitable operations, and oversupplied insurance.	Subprime crisis on insurers, most emblematic case of AIG.
Domestic Debt Crisis	Unsustainable government debt, given the macroeconomic parameters of the country.	The government cannot honor the debt and / or their service, putting lender banks at risk.	Fiscal irresponsibility by governments, spending and investments more than its revenues.	Crisis of the euro zone, which occurs on the PIIGS.
Systemic Banking Crisis	Some or all the country's banks are threatened by insolvency.	When a bank fails, there will be financial disintermediation.	Usually caused by fiscal imbalances, inflation, currency crisis, default and the bankruptcy of banks.	Crisis of sovereign debt in Latin America in the 80s.
Currency / External Debt Crisis	Whatever the exchange rate regime, failure to honor the debt.	Rapid loss of reserves in the fixed exchange rate, which becomes unsustainable. Rapid and intense depreciation of the exchange rate, in the floating exchange rate regime.	Excessive volatility of capital flows and contagion via "herd spirit".	Crises in Asian countries, Russia, Mexico, Brazil and Argentina (1990s).

Source: Author.

Exchange rate regime and modern crises

Financial crises constitute a recurrent aspect of modern economies. Despite all progress in macroeconomics and global integration of markets, and despite the actions of powerful international organizations – such as the IMF, the World Bank, the Inter-American Development Bank (IDB) and others – financial crises tend to be so frequent today as they were in the nineteenth and twentieth centuries.

A determining factor for the emergence of modern financial crises was the decline and end of the "Bretton Woods system". This system was in force between the end of World War through the years 1971-73, when it was rejected by the United States, in the "Smithsonian Agreement".

Under the auspices of this system, countries adopted fixed exchange rates with the US dollar, and the same held a fixed relationship to gold. In other words, the currencies were anchored in the dollar, and the dollar was anchored in gold.

It was very difficult for countries, in this System, to simultaneously have a domestic macroeconomic balance and an external balance. Pressures for devaluation arose from time to time.

The necessity felt by countries to achieve the simultaneous balance of their internal and external accounts, pressed for the decline and eventual end of the "Bretton Woods system". The United States, meanwhile, were facing serious and growing problems keeping the dollar-gold parity. Thus, they cut the anchoring of their currency in gold, and exchange rates become floating rates.

With the transition to the current system of floating exchange rates, there was greater freedom of movement "cross-border" of capital flows. On the other hand, countries had to increase their degree of responsibility in running the economy. Macroeconomic fundamentals began to demand greater attention from governments, for a proper management of their fiscal accounts and consistent monetary policy decisions. The crises have become more global, and not concentrated in specific countries, as happened during the term of the "Bretton Woods system".

Mobility of capital and modern crises

A key aspect of modern globalization is the large and growing mobility of capital.

Due to rapid removal of the obstacles that hampered trade and international investment, and thanks to the remarkable progress of communications, it has become much easier to move capital between countries.

This trend was accentuated thanks to the reduction of transaction costs for capital mobility and guarantee, due to the improvement of institutional arrangements in the countries involved in globalization, and also thanks to significant innovations spread in the financial system, represented by the availability of several types of assets and financial instruments.

This progress, however, was accompanied by the risk posed by the increased volatility of capital flows.

The biggest challenge of modern economies is how to take advantage of this larger availability of movement of capital, without creating macroeconomic instability in the countries and in the global community.

In the modern global world, due to the enormous ease and speed of information, expectations of a psychological nature are enhanced to the extreme.

A true system of communicating vessels is created in the global economy, and any crisis immediately starts a quest for liquidity that ends up infecting every economy.

In this sense, modern crises are much more global and systemic than in the past. On the other hand, there is, nowadays, much more accumulated economic knowledge as well as improved channels of communication between authorities and leaders of the major financial centers, allowing effective ways to reduce or even eradicate these crises.

Irradiation of crises

There are two important issues to consider in the irradiation of crises.

The first question is the following: the irradiation of crises only affects the fragile economies with macroeconomic imbalances or it may also impact sound and well-structured economies?

There has been observed a close relationship between financial development and economic growth. The economic history of the countries shows that the creation and expansion of financial institutions, financial innovation and of the launch and distribution of assets and financial instruments occurred in parallel with the expansion of industry, commerce and insurance.

The great expansion of international trade also occurred in parallel with a major development of financing instruments, capitalization and insurance.

It is important to note, however, that association does not imply causality.

It is noted the occurrence of a great debate – unconcluded – between the following three situations:

- financial development precedes and is proactive to the growth of real side of the economy and of insurance industry;
- financial development is passive, and grows trailing the real side of growth of the economy and of the insurance industry; and
- The two segments grow in parallel and feed each other, although there may be asymmetries and lack of synchronization.

Whatever the causal relationship, one thing is certain: the malfunctioning of the financial and insurance sector can create disruptions and reversals – some prolonged – in the process of economic growth.

The Subprime Crisis 2008 shows that with modern instruments of funds transfer technology, capital openness and the wide and timely dissemination of information, the contagion that occurs is fulminant.

The theme of the relevance of the financial system as a promoter of economic growth has been much criticized, due to the 2008 crisis.

Paul Krugman, in an article published in the New York Times (April 23, 2010) asked: what's wrong in finance?

According to him,

- modern financial industry produces huge profits and fat paychecks, but few concrete benefits;
- academic justification for profits is that the financial industry benefits the economy by: (i) conducting the capital for productive uses; (ii) diluting the risk; and (iii) strengthening financial stability;
- the Crisis showed the opposite: (i) the capital was not channeled into innovation responsible for creating jobs, but to an unsustainable real estate financial bubble; (ii) instead of thinned, the risk was concentrated; and (iii) when the housing bubble burst, the supposedly stable financial system imploded, causing the worst global economic downturn since the Great Depression;
- bankers make so much money because they make bets mainly with other people's money; and
- financial innovation is limited to creating an illusion of security, to provide investors with "false substitutes" for old-fashioned assets like bank deposits.

Krugman positioned himself in favor not only of financial reforms as well as reducing the size of the financial industry.

The second question is the following: can monetary and financial crises create serious problems for the economies, affecting the sentiments of investors and creating unemployment?

There is a similarity between business cycles and financial crises. Although both phenomena create manifestations of changes of trends in macroeconomic variables, especially GDP and prices, the biggest difference lies in their origin: in the crisis, the financial side of the economy, and in the cycles, the real economy.

Following a crisis or a cycle, however, both the real part and the financial side are affected. Such contamination may in some cases be reciprocal.

Now, when financial crises occur in the form of banking crises, currency crises, sovereign debt crises, "twin" crises, "melting" of market assets, etc., they are transformed into cataclysmic events in modern economies.

Modern financial crises are different from those of the past, mainly due to greater economic and financial integration of the countries. Each recent crisis has been accompanied by a contagion effect, the crisis originated in a country rapidly spreading to other.

In a recent book by Nouriel Roubini and Stephen Mihm,[7] these authors comment that:

> “crises, as we have seen, are so ancient and ubiquitous as capitalism itself. They emerged with capitalism in the early seventeenth century and, like Shakespeare’s plays, first introduced at that time, never changed since. The scenery changes, as change the spectators; however, all the rest – the cast, the order of the acts and even lines – remain remarkably consistent from one crisis to the next, century after century”. (p.289)

Forecast of crises

International analysts consider difficult, based on the past behavior of economic life, to make forecasts about future crises.

Indeed, some crises, such as the sovereign debt of Latin American countries in the 1980s, can be attributed to inconsistent or unsustainable macroeconomic policies. In other cases, as exemplified by the Asian crises of the 1990s, several countries with solid macroeconomic fundamentals were violently hit.

Because of this character of systemic risk at the international level, the issue of the financial crisis is on the agenda of governments and international organizations, as well as various policies and instruments are under discussion. The monetary authorities, in general, seek to protect themselves by creating shields – even if the economies are apparently solid. The ultimate goal, as will be seen in Chapter 8, is to improve the international financial architecture.

7 Nouriel Roubini and Stephen Mihm, *Crisis Economics*.

General conceptual framework

The financial crises have shown, over time, a remarkable variety of characteristics in regards to causes, consequences and diffusion. Modern financial crises, since the 80s, are generally characterized as currency crises, banking or some combination of the two.

Fiscal crisis, characterized by increasing public deficits can contribute to financial crises. This is generally when the government budget deficits are associated with continuous current account deficits ("twin deficits").

The use of foreign savings can cause an accumulation of current account deficits, leading to situations of a growing foreign debt.

In many countries, the exchange rate may be overvalued. This aggravates the situation of current account deficit, and also causes difficulties to roll over debt with creditors. In more severe cases it may even lead countries to declare a moratorium, delaying payments for services (depreciation and interest), or even to repudiate sovereign debt.

CHAPTER 2

The dynamics of crises and overview of financial crises

In recent years, it came to light a large volume of new work on financial crises and periods of economic recession. These new works bring much information about the specific aspects of this new historical theme, but add little to the main findings on the dynamics of financial crises made before the Crisis of 2007-2012[8].

We can point out eleven general aspects of importance on the financial crises, which apply to the current crisis.

Technical *versus* emotional

First, the view of the crises by the financial market oscillates between a more "personal and emotional" diagnosis and more "impersonal and technique" analysis. Evidently, this applies with greater force to more localized crises – such as the "dot com" of 2001, in the new information technologies industry – and less in more macro crises, such as the current.

8 In this sense, the book of Peter C. de Mello and Humberto S. Spolador, "Financial Crises", can be seen as synthetizing this thought on the dynamics of financial crises, and serve as theoretical support for the analysis presented in this chapter.

Many analysts believe that crises are episodes that end up being corrected by the market itself, and see in crises an episode of “atonement and overcoming.” In this moral vision, the financial crisis have also the purpose of cutting “excesses” and bringing the economy back to “more normal” behaviors.

It is as if there are target limits for economic and financial activity, both for expansion and for contraction, where the “goalposts” were the possibility of financial crisis. This activity, in normal times, would offer no problem. However, any deviation to overexpansion or exaggerated contraction in relation to economic fundamentals consistent with a long-term economic growth would spark a “yellow alert”.

For others, however, financial crises are expected facets of an economic and financial system in which financial speculation is endogenous. This view leads us to the most emotional, subjective and irrational aspects always present in economic life.

Rationality *versus* irrationality

Second, the financial crisis theme arouses a great fascination among economists and scholars of the economic system. On the one hand, the economic science has advanced over the past decades increasingly immersed in an economic rationality paradigm. On the other hand, the financial crises, with its large component of irrationality and whirlwind of emotional reactions, appear and reappear often in the economic scenario, and seem to deny the primacy of the “rational man”.

In 2002, the psychologist Daniel Kahneman won the Nobel Prize of Economics thanks to his experiments on the rationality of consumers and investors. According to him, when there is an investment bubble, there is also a lot of people thinking they will be able to get out in time. Kahneman think it is wrong to conclude that this is because people make rational choices and like to take risks to increase your earnings.

For him, the opposite occurs. “People have great aversion to risk, but they are excessively optimistic. So they do not know the extent of the risk they are taking. “In other words, they are much less safe than they think. He also thinks that people tend to orientate their thinking too much in the short term.

The ones who “win it” and the ones who “pay the bill”

Third, some win and others lose with the crisis. In modern crises, some failed banks, but “too big to close the doors,” manage to escape. While for the small... for them, the “market forces” (see case of Lehman Brothers). This is generating even a great movement of social indignation, as shown by the recent movement “Occupy Wall Street”.

According to Galbraith[9], the basic attitudes of market participants can be classified and grouped according to the behavior of two groups of agents.

The first group believes that asset prices and values will continue to rise indefinitely and permanently. They act as if the market were always remain high.

The second, usually fewer, are more astute – or are trying to be – and consider themselves capable of learning and interpreting the speculative spirit of the moment. They intend to enter and exit the market at the “right time” and earn profits.

Kindleberger follows similar lines. Kindleberger believed there are psychological elements of expectations and individual behavior of consumers and investors that turn assets’ market prices away from their intrinsic values, dictated by economic consistency of costs and returns. The irrationality in this sense is present.

For him, it can be shown that excessive speculation, taken in short as a mania, and the reaction to this excess in the form of crisis, crash or panic, is, if not inevitable, historically common.

Dynamics of crises

Fourth, it can be observed in several historical episodes that there is a dynamic of crises, in terms of outbreak, development and decline, that is usually repeated.

This dynamics of the crisis has been described by Kindleberger[10], and follows certain steps, which are summarized in Table 2.

9 Galbraith, “*A Short History of Financial Euphoria*”.
10 C. Kindleberger, “*Manias, Panic and Crashes*”.

TABLE 2. DYNAMICS OF THE CRISES, ACCORDING TO KINDLEBERGER		
Stages 1 to 7	**Stages 8 to 14**	**Stages 15 to 22**
1. The events that lead to a crisis begin with a "disorder", something like an exogenous shock, outside the macroeconomic system.	8. A growing circle of speculation begins – euphoria.	15. At some point, a few insiders decide to realize their profits and sell all of their titles.
2. The nature of the disorder varies from one speculative boom to another, for example the real estate market to "subprime" clients in 2007.	9. The continuity and excitement of the participants causes the overtrading.	16. On top of the market there is hesitation, when new candidates for speculation are shaken by insiders retiring.
3. If this disorder is sufficiently broad and diffuse, it will change the economic picture, changing the relative opportunities for profit in the various sectors of economic activity.	10. The overtrading may involve pure speculation, with purchase for resale rather than use in the case of commodities, or for resale rather than income in the case of financial assets.	17. The prices begin to level off. This can result in a period of "financial difficulties".
4. The attraction of resources for lucrative segments makes room for the emergence of a boom.	11. When the number of participants grows, even attracting new segments of investors, speculation and profit move away from the normal and rational behavior towards what has been described as "mania" or "bubble".	18. For the economy as a whole, it can trigger a rush for liquidity – exchanging other assets for cash – with disastrous consequences for the prices of commodities and bonds, and leaving some speculators who contracted loans unable to afford them.
5. This boom is usually fueled by an expansion of bank credit, which is notoriously unstable.	12. The word "mania" emphasizes irrationality, while the word "bubble" pronounces the burst. A negative bubble is nothing more than a crash.	19. In this unfavorable scenario, speculators start a movement of market withdrawal.
6. Assuming the urge to speculate is present, it, driven by credit, is transmuted into effective demand of commodities or financial assets.	13. The overtrading has the historical tendency to expand from one country to another.	20. The race to get rid of financial or real assets and turn them into money might be something like a bursting of a stampede.

TABLE 2. DYNAMICS OF THE CRISES, ACCORDING TO KINDLEBERGER		
Stages 1 to 7	**Stages 8 to 14**	**Stages 15 to 22**
7. Prices of those go up, providing new opportunities for profit by attracting more companies and investors to the market.	14. As the speculative boom continues, the interest rates, the money velocity and the prices continue to rise.	21. There may occur different specific signals prior to the crisis, such as the fall in house prices in the Subprime Crisis, primary object of speculation, if this is viewed in isolation as overvalued. The violent reaction and the discrediting may deepen as to lead to panic.

Source: author, based on Kindleberger.

Kindleberger points out three situations that can mitigate a wave of panic in the market, namely: (1) prices fall so much that people feel encouraged to keep part of their wealth in less liquid assets, (2) the establishment of a "circuit breaker" to interrupts the price declines in the stock market, such as, for example, the closing of transactions or closing of the stock market for a while, (3) the presence of a supplier of loans that may convince agents market that the supply of money available will be sufficient to meet demand.

Fall and exit of crises

Fifth, as noted above, there is at the core of speculative mania situation the embryo of a future and inevitable fall, which may be mild or gradual. This is because both groups of participants of the speculative situation groups are scheduled to try to get away from it in sudden way.

Kindleberger traces a speculation dynamic represented by two stages. In the first stage, he highlights the investment factor, and a more rational behavior. In the second stage, capital gains play a major role.

There would exist, in this interpretation, two groups of speculators: insiders and outsiders. The first destabilize raising prices more and more, selling at the peak, the latter group, who buy and sell at this stage in the end, in the low, when the insiders are abandoning the market. Losses from outsiders are equal to the profits of insiders, and the market as a whole is balanced.

Importance of economic causes

Sixth, when financial crises hatch or economic turmoil arise, it is customary to interpret what happened as a momentary episode, without root causes, and taking place almost entirely in the financial sphere. Some authors, however, interpret these crises as a manifestation of deeper economic causes.

According to Kindleberger, financial crises are associated with peaks of economic cycles. Financial crises culminate a period of economic expansion, and lead to a depression in sequence. The role of contractions and expansions in economic activity would be something rational from an economic point of view.

Credit leverage

Seventh, Kindleberger's interest is to establish an underlying economic model to a financial crisis, and accordingly attributes great importance to the role of debt structures as cause of financial difficulties. In particular, the process of credit "leverage", and the debts incurred to finance the acquisition of speculative assets for subsequent resale.

The economist Hyman Minsky (1919-1996), considered a "radical Keynesian", also proposed theories that incorporated the financial fragilities as endogenous elements of free market economy and the normal functioning of the economy[11].

The author aimed to interpret financial crises in the United States, Britain and other market economies. For him, credit supply was a key factor. Minsky's thesis is that the manias and panics cycle results from pro-cyclical changes in credit supply. Credit supply increases relatively quickly in good times, and when economic growth weakens, the credit growth rate declines rapidly. Writing his work twenty years before the subprime crisis, Minsky displayed great analytical power, and his theories have gained much importance today.

The main characteristics of the model developed by Minsky are presented in Table 3.

11 Minsky, H. *Stabilizing an Unstable Economy*.

TABLE 3. MINSKY'S VIEW ON THE ROLE OF THE CREDIT CRISIS	
(i)	Credit supply has a pro-cyclical behavior, increasing when the economy is in a phase of prosperity and decreasing when the economy is in a contraction phase.
(ii)	During the expansion phase of the economy, investors are more optimistic about the future, and revise upwards their estimates for future profits, becoming more willing to take on larger debts with loans.
(iii)	Banks, in turn, tend to decrease both their investors' credit risk assessment, and their risk aversion, and become prone to grant larger loans.
(iv)	When the economy reduces or contracts the growth of its activities, investors become more pessimistic and more careful; lenders begin to take losses on loans, and also become more cautious.
(v)	This pro-cyclical behavior causes a fragility in financial transactions and increases the probability of financial crisis.
(vi)	The events that cause the crisis start with a "displacement" or shock, often exogenous, which reaches the macro-economic system. If the shocks are significant, they create a series of events that reverse the optimistic expectations and reach the credit market.
(vii)	The economic boom is powered by an expansion of credit. However, for Minsky, the growth of bank credit is very unstable. At some times, banks behave as euphoric lenders and provide loans very easily. At other times, however, this behavior is reversed in a mercurial way. Banks become extremely cautious, and "pull the rug" from borrowers.

Source: Minsky, organized by the author.

The active role of the speculator

Eighth, a "scapegoat" is looked for to explain the crisis, and for that the speculator figure is pointed to. The theme of speculation will be dealt with in the next chapter. Here we discuss the role given to them as the cause of financial crises.

A good example is found in the approach taken by Edward Chancellor[12]. The author puts the speculator as the central agent of his analysis. Unlike the positive outlook on the speculator accepted by many in the financial markets, Chancellor believes that speculation can only be understood in a social context,

12 Chancellor, *Devil take the Hindmost. A History of Financial Speculation*.

and that history cannot simply be the description of economic issues, but also needs to be a social history.

Generally speaking, in presenting the great events of speculation in world economic history, Chancellor describes a more negative than positive action speculator at the individual level, but he seems to admire this figure as a libertarian agent in the general plan of capitalism.

Generally speaking, Table 4 shows the theoretical construction of Chancellor on crises:

TABLE 4. CHANCELLOR'S MAIN THEMES OF EXPLANATION FOR CRISES	
(i)	The propensity to barter and exchange is an innate human trait.
(ii)	The inclination to try to guess the future is another trait deeply embedded in our nature.
(iii)	Together, these two features constitute the act of financial speculation.
(iv)	Economic societies developed, over the centuries, several instruments and institutions to allow speculation, such as stock exchanges and derivatives markets.
(v)	The speculator is far from acting in an environment with reasonable price adjustments.
(vi)	Speculators sell without knowing why, and buy without a reason for it.
(vii)	The expectation of an event creates a deeply larger impression on the stock market than the event itself.
(viii)	The market creates bubbles and investment manias, commonly, when creating a new industry or technology, when people over-estimate the potential gains and too capital is directed to these new activities.
(ix)	The market behaves more like a "follower of trends" than following a random behavior ("random walk"), which weakens the arguments in favor of the efficient market hypothesis.

Source: Chancellor, organized by the author.

The rationalization of the crisis

Ninth, after the "boom" is over and the "crisis" occurs, there are explanations. For Galbraith, after the collapse of the speculative episode, speculation itself is hardly discussed, or the aberrant (or lavish) optimism behind it. That is, after the tribulations of speculation, reality will be almost entirely ignored.

According to him, there are two reasons for this. First, many people and institutions were involved with speculation, and while it is permissible to assign blame to some individuals, it would be inappropriate to blame the financial community as a whole.

Second, the market is considered, for ideological reasons, as a self-adjustment mechanism, not admitting that it is subject to an intrinsic dynamic and internal error. Thus, it becomes necessary to find some cause for the collapse, external and extrinsic to the market itself.

As a variant, it can be diagnosed that there has been an abuse of market rules, which has inhibited normal operation, in which case the prescribed recipe is increased government regulation.

Fear, panic and the psychology of crises

Tenth, financial crises haunt the collective thinking, creating fears and panics. Indeed, the sense of fear is a striking feature of our modern society. The certainties are questioned, and predictability of future dimmed, creating a climate of insecurity.

The fear of an economic crisis can even create its own crisis, fear generating fear, and surfacing fears – which may be genuine or imagined – but that end up infecting the feelings of the financial market.

Vikas Bajaj, writing[13] at the height of the crisis, illustrates what happened in the market during the "eye of the storm":

> "markets have become a psychology case study of the mobs, in which investors appear to be selling first and asking questions later. The technical term for this is "negative feedback loop". The rest of us call it panic."
>
> "the markets are showing signs of "capitulation" – another jargon to describe what happens when even optimists join the stampede fleeing the market. Fear can be seen everywhere."

13 Article "Fear is taking advantage", published in the *Estado de São Paulo* newspaper (ESP, October 9, 2008, B9).

Finally, still this article, Bajaj mentions that:

> "[According to studies on investor behavior] fear is a powerful force, perhaps greater than greed ... scientists who have studied how the brain works have found that the part of the brain that controls fear responds faster than the parts deal with cognitive functions."

A "Fear Index" was developed in the market. It served as a "panic barometer". It is based on "commodities and securities exchange Volatility Index", the Chicago Board Options Exchange (Index VIX).

The index has become a daily indicator of the anxiety of investors. The index measures how much investors expect the value of the shares to oscillate, and monitors the transactions of options for investors to protect against future losses.

The repetition of the crises and the lessons of history

Eleven, the repetition of crises, in which the same common elements appear, leads us to question the reason why people do not learn from history. Why are there repeated episodes of speculation and the drama of mass insanity? According to Galbraith, in almost any other sphere of human endeavor is history worth as little as the world of finance.

Some analysts believe that the collective memory is short, lasting no more than twenty years or the time of a generation. Professional lives of financial executives are usually not long, and executives who replace those who participated in crises linked to past events seek to delete the episodes of their memory and look to the future. Financial disaster is quickly forgotten, and the new generations tend to be self-confident, thinking that "this will not happen to us" or that "this time is different".

According to Kindleberger, the economic pathology exists. Most of the economies are very healthy, but at times, an economy may be affected by a particular economic virus. For example, a speculation virus, fed by credit leveraging. There are two risks: that the symptoms are analyzed instead of the causes of disease, and that the medicine used is inadequate to fight the virus.

Those who believe in market rationality will argue that it does learn to correct his own mistakes, and it is better at it than the government. The narrative of the successive financial crises places doubts if markets can effectively learn from the lessons of history. On the other hand, government policies adopted at the end of the first (which were wrong) and Second (which were correct) World Wars, show that, in some cases, governments learn the lessons of history.

Rogoff and Reinhart[14] point out that the phenomenon of financial crises is universal and affects both poor and rich countries. In every crisis emerged, analysts, in subsequent examination, say that “this time is different.” With this, they mean that the previous analysis instruments no longer apply, and that the present crisis bears little resemblance to previous crises.

The authors show that this is not true. Moreover, they conclude that people forget that they happen with so much regularity. Due to a mixture of arrogance and ignorance, beneficiaries, while the bubble is growing, refuse to accept that this situation will not last forever. This in spite of hundreds of very similar cases, ending in financial crises of greater or lesser intensity, have been repeated regularly over the centuries.

By making a retrospection of the months following the outbreak of the subprime crisis, and without having yet a precise dimension as to how long the crisis will last, one notes a very positive scenario. There have never been such transparency of information and coordination of anti-crisis policies by government authorities of the affected countries, and also by multilateral institutions.

It is evident the effort to avoid past mistakes – for example, excessive protectionism and excessive concern with inflation. The Crisis of 1929 serves as a benchmark to base the new policies and it is nonetheless encouraging that the former Chairman of the Fed, Ben Bernanke, is a leading expert in the matter. This time, the lessons of history are being put to use.

14 In the book “*Eight centuries of financial folly*”.

Economic rationality, market efficiency and the financial speculation

We will examine in this chapter, the role of economic rationality, market efficiency and financial speculation. These themes, in a certain way, are central to an understanding of the conceptual framework involved in the Subprime financial crisis, including developments in the insurance industry.

Financial speculation

It is said that in the last – and decisive – interview with President George Bush, for the designation of the presidency of the FED, Ben Bernanke was interviewed on the role of speculation[15].

In this interview, Bush – whom held no positive opinion about speculation – asked: at which degree does speculation increases market volatility?

Bernanke replied: The majority of the studies I know about this matter shows the opposite. The speculation reduces, instead of amplifying, the volatility of prices.

15 The book of David Wessel, "*In Fed we Trust*", published in Brazil as "*Nos bastidores da Crise*", details the encounter. According to the author, "Bush echoed a widely spread vision among politicians and the general public, and complained that the *speculator* would be elevating the price of oil and making the markets more volatile" (p.81).

Although Bush had a contrary point of view, he accepted the explanation, and appointed Bernanke for the FED, just before the 2008 Crisis.

Was Bernanke right? Or Bush was?

In the Subprime Crisis, and in the ongoing Euro zone Crisis, the word "speculation" appears in almost every analysis. Usually, with a highly negative connotation. This is curious, as speculation, from the point of view of the efficient operation of the financial market, is positive.

In truth, in our opinion, there is a confusion of themes. There has been, without a doubt, a displacement between the "real side" of the economy and the "pyramid" of financial assets and liabilities in these two crises. Financial structures mounted were incompatible with a healthy return rate of what was produced and invested on the "real side" of the economy.

In this sense, one can speak of "speculation" in the global financial market. In a micro aspect, however, the speculator practices several positive and necessaries actions to balance demand and supply in the market of financial assets, including derivatives.

Keynes, as we read in Book 1, positions himself with a negative opinion about the role of speculators. He makes the following distinction: the speculator is oriented to short term liquidity and to the financial markets, in detriment to the more long term and productive investments in the real side of the economy.

The word "speculator", mainly on the Portuguese language, carries a strong negative connotation. The speculator is considered almost like a criminal figure. In its origin, however, the speculator is the one who has the ability to see situations ahead, in the long run, draw conclusions, come back to the present, and develop operational strategies. Thus we have the scientific speculator as an example.

The speculator is a character who is always associated with financial crises. Some see him as someone who is a parasite or greedy, who creates and nurtures himself from financial crises.

Others have a radically different point of view. For these, speculation is a benign force, essential to the effective behavior of a market economy. The speculator is the conduit that allows new information to be reflected rapidly on the prices. Without the speculator, the economy would be more unstable, and we would have an even higher number of financial crises.

According to this view, the speculator acts like a conduit that allows new information – for instance, disclosure of the inflation indices, effects of hurricanes on coffee production, etc. – to feed the prices on the market. Without the speculator, the markets would have many choke points and the economic crises would be more common. Furthermore, the dissemination of new technologies, such as the Internet, relies heavily on the activities of speculators of the stock market.

In practice, Schumpeter's[16] definition is useful, in which the difference between a speculator and an investor can be defined by the presence or absence on the intention of holding an asset to make profit with its price fluctuation. In a cynic view of the Brazilian market, the investor is the speculator whose stock "went wrong"...

Also according to Chancellor, the psychologies of speculation and gambling are almost indistinguishable. According to him, both are dangerously addictive, creating a habit of a frantic quest for wealth, and are frequently accompanied by an delusional behavior and are dependent, for achieving success, of the control of emotions.

Part of the problem with the muddled picture of the financial markets on speculation derives from the forces that act upon it. Some of these forces seek to maximize their profits in an active manner, such as the speculators. These agents seek mainly capital gains. Other agents, such as small investors, seek this same objective, however, in a more passive way[17]. These agents aim, many times, to earn income from their applications. These earnings result from residual value calculations associated with enterprise profits.

For example, the dividend of a stock results from the profit obtained by the company, which in turn results on the difference between revenue and expenditure. The dividend is the "residue of the residue". All kinds of abuse can be perpetrated to minimize the final link in this current of residues, that is, the dividend paid to the shareholder.

It is no exaggeration to state that there is antipathy in relation to the role of speculators in financial markets, in particular in the stock market. This antipathy fluctuates higher and lower, depending on the phase of the crisis or euphoria that the market is undergoing. Curiously, however, the number of people and institutions that apply their resources on these markets is increasingly larger around the world.

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16 Schumpeter, "*Business Cycles*".

17 The stock market is also called "Equity Market" in English. The word equity comes from Latin *aequitas*, which in turn derives from *aequus*, meaning fairness. The conflict happens because many times the success of the speculator is seen as harmful to the sense of fairness of the market. It is common that the investors, mainly the small ones, need higher protection, be it from governmental regulatory bodies, be it from the market's self-regulation.

Economic rationality

This leads us to discuss the theme of "Economic Rationality", that is very much associated to the "market efficiency" thesis.

A joke is told in the academic field. An imaginary professor from the Chicago University was walking on the sidewalk of the main road that crosses the University, when he sees a hundred dollar bill on the floor. Upon seeing it, the professor refused to believe in what he was seeing. For him, it could not be real. After all, he thought, if the hundred dollar bill was really there, someone would have already picked it up. Therefore, he concluded, I am having a hallucination. He did not pick it up and kept on walking. A not so sophisticated passerby, who was walking just 20 meters behind, found it and picked it up.

According to the deep belief of this professor in the rationalities of the markets, the hypothesis of an efficient market would be of use to many things, including not admitting the existence of speculative bubbles.

The notion of economic rationality is firmly grounded in economic theory. The issue of financial crises, therefore, disturbs many economists. Overlooking the occurrence of financial crises, on the basis that there can be no bubbles and bankruptcies because that implies irrationality, is to pass over reality in favor of a theory.

According to Kindleberger, manias and panics are occasionally associated to irrationality and mass hysteria. The relationship between rational individuals and the irrational as a whole is, in general, more complex.

Kindleberger raises the following question[18]: what does it mean to say that investors are rational? An answer to that can be that most investors behave rationally during most of the time. Another is that all investors behave rationally during most of the time. A third answer, much stronger, is that all investors behave rationally all the time. Each of the answers carries different implications on the manner investors behave in the market.

Kindleberger disagrees that there is a strong level of rationality in the market. According to him, "rationality is an *a priori* hypothesis on the way the world should function, instead of a description of how it really functions"[19].

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18 Kindleberger, *Manias*, p. 34.
19 Ibid, p. 34.

The author cites six aspects that show the dichotomist rationality of individuals, such as market irrationality, shown in Table 5.

TABLE 5. RATIONALITY *VERSUS* IRRATIONALITY, ACCORDING TO KINDLEBERGER	
(i)	The psychology of the masses or hysteria is well defined as an occasional deviation of rational behavior.
(ii)	People can change attitude, starting rationally and, gradually, at first, and more rapidly, afterwards, at the height of the speculation, losing touch with reality.
(iii)	The rationality of the behavior has different connotations for businessmen, investors or speculators, and can vary in the initial and late stages.
(iv)	The "fallacy of composition" acts, according to which, erroneously, it is believed that the whole is nothing more than the sum of its parts[20]. In truth, the individual behavior can be rational – when someone tries to escape first from a theater in flames – but the behavior of the crowd, making everyone trying to escape at the same time, is irrational and causes tragedies[21].
(v)	From a more technical viewpoint of the dynamic behavior of the supply and demand curves, where there is an imbalance in the response of suppliers and demanders, there may occur the bankruptcy of this market, even upon rational expectations. Due to the lapses between stimulus and reaction, there can be excess demand or supply that destabilize the market and cause panic in extreme situations of disequilibrium[22].
(vi)	The irrationality can also exist in situations where the economic agents choose the wrong model, or leave out some small information, but that can be crucial, or that they decide to suppress information which does not comply with the implicitly adopted model.

Source: Kindleberger, organized by the author.

According to Kindleberger, there is no incompatibility between assuming economic rationality and trying to develop an explanatory model of economic crises. It is enough to follow a broader concept of economic rationality for the compatibility to be possible. It should be taken into account that a rational action in the

20 The fallacy of composition establishes that, from time to time, all the individual protagonists act rationally, but that, combined, in the irrational result is produced.
21 For example, the spectators of a music show on the lawn of the Ibirapuera Park standing up, instead of staying sit down…
22 For example, the investors may exhibit differences in their reaction time to a given stimulus, which can confuse the suppliers of financial instruments.

economy does not imply that all the protagonists possess the same information, the same intelligence, or the same experiences and objectives.

Besides that, people may experience cognitive dissonance, defined as the ability to filter, make-up, manipulate, or, in other way, process information, with the intention of adjusting it according to their adopted ways of thinking. Thus, people with the same information can have different beliefs and reach distinct conclusions; they can reject or disregard evidence that supports contrary beliefs.

Were it not for this, there would be no buy and sell operations. For an asset to be sold by someone and bought by another, both having the same level of information, it is necessary that there is cognitive dissonance.

In the last two decades there has been a great transformation in the financial market, represented by the almost complete dominance, on part of the investments, by big institutional investors (Investment Funds, Bank Treasuries, Insurance Companies, Pension Funds and others). The speculation did not disappear – on the contrary, as it has been stated in the hedge funds activities in the Subprime Crisis – but is credited to "technical" and anonymous operators. The colored performance of great speculators of the past became a matter of history.

In the insurance industry, a strong financial conservatism reigns, and many reserves as to financial strategies – on the management of assets and technical reserves – that resemble speculation.

As it will be seen on the book about Keynes, he was very criticized by the directors of the insurance company he presided over, because he positioned himself in favor of investing the resources of the insurer on the stock market, instead of fixed income and bonds of the British Treasury.

The set of operations of North-American insurance companies in the secondary market of mortgages was not seen as speculation, until the moment that the Subprime Crisis ecloded. Their managers believed they were making insurance policies operations within the rules of prudence and according to usual risk parameters.

With the crisis, it became clear that the risk techniques utilized were not appropriate for that type of insurance operation, because the nature of the "insurance policy" that was being sold was explained by parameters from an analysis of uncertainty. This way, as it will be seen in more detail at Chapter 5, the insurance companies – such as AIG – did not want to speculate, but ended up doing so, and in a large scale.

Market efficiency: three focuses

The academia, over the last years, has dedicated itself to study the role of market efficiency and its relationship with the forces of speculation. There are three main currents of thought, the first based on the hypothesis of market efficiency, the second on behavior models and the third on the exam of "market anomalies".

Focus 1: "Market Efficiency hypothesis"

The hypothesis of Market Efficiency is the most orthodox focus in the field of finance. It has a long history in this field.

In the 30s, during the Great Depression, there was a very popular thought, that financial markets had a resemblance with casinos. With the economic recovery during the post-war and economic growth of the 50s and the 60s, concerns about financial crisis, bubbles and irrationality of investors almost disappeared.

It was on this context that the "Hypothesis of Market Efficiency" emerged with strength, defended mainly by Eugene Fama, professor at the University of Chicago. Financial markets would have the capacity of establishing with precision the price of financial assets.

The price would be the intrinsic value of the assets, and would be achieved with the basis of all available information to the public. As *sequitur* to these ideas, the markets would always be right on the definition of the prices.

The notion that investors act on the basis of "rational expectations" is adopted. It is a theory about the behavior of the market, based on the hypothesis that all available information to the public is reflected on the price of the stocks and other financial assets.

This means that the expectations of the public are formed taking into account their knowledge about the forces that determine the price formation of financial assets.

A logical result of this market functioning would be to make it impossible for speculators, in a consistent way, to overcome the market and earn money with the buying or selling of stock and other financial assets that they believe are wrongly priced.

Evidently, this is a controversial point, as there is a large and sophisticated community of financial analysts that exists and is well payed with the function to contradict the impossibility of "overcoming the market".

The rule for the companies was very clear: maximizing the present profits, because the price of the stock (that is, the wealth of the shareholders) would reflect correctly on the value of the company.

In this context, the search for equilibrium between risk and return would be dictated by the CAPM (Capital Asset Pricing Model). This model would serve to price financial assets, and would serve for the assembly of the investment portfolio. Very logical and very rational. No room for emotions.

The economists, over the time, were relegating the role of psychology in human nature, emphasizing the rationality of the behavior of people. The models were then guided by the paradigms of physical mechanics.

The markets came to be seen as perfect institutions and predictable. The "invisible hand" would solve everything. The "self-deception" reigned amongst the economists.

This hypothesis, widely accepted in the past, started to receive criticism, as it did not adequately incorporated the fact that, amongst the forces that lead to the price equilibrium, there were the very decisions taken by investors. That is, the markets are human inventions, and people are fallible.

The markets do not always self-regulate in a proper manner. Rules and standards of conduct and governmental laws are necessary, so that they behave adequately in terms of efficiency and equity.

The investors, however, may differ as to the possession of information for the process of decision making. Amongst the reasons for such, is the *asymmetry of information*, and also divergence amongst investors in respect to the point in which they are at the *learning curve* (Or, facetiously, "forgetfulness curve") of information processing over time in the decision making in investments.

Focus 2: Psychology of the market and behavioral models

Due to the criticism, another field was developed in finance, unorthodox, called "behavioral finance". In this field, psychological aspects are much more important[23]. The so called "behavioral school" gathers many lines of thought that in common reject the hypothesis of market efficiency.

23 Once again, the pioneering of John Maynard Keynes is observed, by calling out and giving much emphasis – see the "animal spirits" – to this dimension of the behavior of economic agents.

The proponents of this current of thought believe in psychological factors, speculative bubbles, irrational spins and recurring excess of volatility[24].

This current gives support to a rooted idea in the markets, that they are subject to dramatic distortions caused by excess speculation and other irrational standards of behavior.

For the followers of this approach, the Subprime Crisis made it very clear that the psychological forces, that rule the financial events, if they are dedicated to speculation, can harm the generation of wealth of the nations[25].

The opposing critique which is made is that the field of behavioral finance is more effective in criticizing the *rational expectations* field than it is in proposing constructive alternatives for the analysis of investment decisions.

ONE ADDENDUM: BEHAVIORAL FINANCE

Over the last years, a group of psychologists and economists seek to show that, instead of classical economic theory, a new branch of economics, called behavioral economics, can better explain the behavior of investors during crises.

This school is also being called “*Financial Behaviorism*”. Concerning crises and bubbles, their adepts emphasize two aspects which they judge relevant:

(i) in the real world, investors, instead of being cold and calculating beings, are subject to panic, irrationalities, exaggerated exuberance and “herd behavior”; and

(ii) even those that try to guide themselves by rationality, face confidence, credibility and limitation of real guarantees issues, that end up forcing them to the herd behavior.

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24 Akerlof and Shiller, in the book “Animal Spirits”, developed a thesis that human psychology is vital for directing the economy. Their focus is macroeconomical and global, and in them they try to rescue the importance of the entrepreneurial spirit, which Keynes called “Animal Spirits”. The fluctuations of the economy and of finance happened because of own human nature itself, where emotions carry a great weight. The economical actions are much too dependent on irrational impulses, such as those that help explain the acting of entrepreneurs and investors. Human nature is controlled with logic and also feelings.

25 To deal with this risk, Akerlof and Shiller suggest, in the book “Animal Spirits”, a resumption of an active role by the government to recover the ”Animal Spirits”, of the entrepreneur and the investor. The markets, on their own, would not cope with this task.

Nassim Taleb[26] argues that:

> "Who had the greatest influence on economic thought in the past two centuries – No, it was not John Maynard Keynes, nor Alfred Marshall, nor Paul Samuelson, and certainly not Milton Friedman. The answer is: Two non-economists: Daniel Kahneman and Amos Tversky, the two Israeli introspectors, and their specialty was to uncover areas where human beings are not endowed with a rational probabilistic thinking and optimal behavior under uncertainty."

The economists, according to Taleb, did not deepen their discussions about uncertainty. For him, "their discussions about risk... showed that they did not know how much they did not know"[27].

The two Israeli psychologists inspired a new discipline called "Finance and Behavioral Economics". The theoretical focus adopted by them is experimental and empirical, which can be labeled as a normative science and used for recommendations. In this sense, they step away from the most conventional economic thought, of "positivist" approach.

The difference is that, in the positive economic view, a scientific character is assigned to this discipline, in case it directs, methodologically, to "what it is". It would be a science "free of value judgments". But the normative focus directs its questioning to "what it should be", which would make it susceptible to "value judgments" of a subjective nature.

In 2002, both psychologists received the Nobel Prize of Economics thanks to their experiments on the rationality of consumers and investors. Daniel Kahneman explains the occurrence of investment bubbles the following way[28]:

> "What happens when there is a bubble is that there is a lot of people thinking that they will able to get out in time."

Kahneman thinks it is wrong to conclude that this happens because people make rational decisions and like to take risk to increase their earnings.

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26 In his book "*Fooled by Randomness*", written in 2005. (p. 187 & 188).
27 Ibid, p. 188.
28 In an interview to Silvana Quaglio, of the *Valor Econômico* newspaper, upon visiting Brazil, in 2003.

For him, the contrary happens.

> "People have great aversion to risk, but are very optimistic. So, they do not know the extension of the risk they are taking."

In other words, they are much less safe than they think they are. He also thinks that people tend to think in the short term.

Kahneman also says he seeks to recover a concept present in the 19th century, when psychology was used to explain economic events. For the author, "in the 20th century, psychology in economics was thrown out of the window". His work, of countering the assumed rationality in modern economics, seeks to recover ideas that can be very useful in understanding the modern world and not to a return to the past.

Focus 3: Market anomalies

Finally, a third alternative to the theme of rationality is gaining supporters. Richard Thaler[29] initiated a new field of inquiry in economics and finance.

Thaler listed and analyzed a series of paradoxes and anomalies in the economic life which are not satisfactorily explained by the "rational man" paradigm.

According to Thaler, an economic anomaly is a fact or observation that is inconsistent with the theory. Two ingredients are necessary for the detection of a convincing anomaly:

(i) that a theory making firm predictions exists; and

(ii) that there are facts contradicting this theory.

According to Thaler, the two basic hypothesis of the economic theory are rationality and self-interest.

By discussing the rationality hypothesis, Thaler counter-argues that there is a possibility for cognitive error, making rationality to be restrict and to manifest under strict limits ("bounded rationality").

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29 Shown in his book, "*The Winner Curse*".

With regard to self-interest, Thaler argues that people also derive utility by meeting the interest of others. That is, they are not guided only by their individual preference. Note that this last hypothesis is used frequently in the microeconomic theory of risk analysis.

To this author, although the financial markets are seen as the most "efficient", in truth, they show several anomalies.

Thaler[30] examines the hypothesis – basing on the idea of "market efficiency" – that the stock prices would reflect their intrinsic value.

For him, stock prices cannot diverge from their intrinsic values, be it due to the existence of system irrationality, be it from information problems. This way:

> "The real challenge faced by the field [of business finance] is to develop new theories of pricing of the assets that are consistent with known empirical facts and that offer new testable predictions. We are pessimists as to the chances of success of traditional models, which assumes that all agents are completely rational." (p.167)

Because of this, Thaler concludes that:

> "Models in which agents have non-rational expectations on future cash flow, or that exhibits fallible perception of risk, seem to show greater promise." (p.167)

Financial legislation and legal system

To conclude this chapter, we want to highlight an important aspect, although little emphasized. Until what point are modern stock markets a cultural byproduct of the Anglo-Saxon world, which faces many difficulties to adapt to other cultures and juridical regimes?

The laws, norms and regulations are voted and approved to be put in practice in societies where it is supposed that ethics, culture and a legal system are in place and able to enforce the law and guarantee the rights.

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30 In the chapter 12 of his book.

Due to the difficulties of adaptation to the “Anglo-Saxon Model” of these stock markets on their institutional medium, many countries, such as Germany, developed universal bank systems which substitute, in part, the stock market; or created big development banks, which is the case of Brazil – for example, BNDES – ,which also substitutes these markets._

In the last years, however, this picture is reversing. The Asiatic countries and the countries in transition from socialist regimes managed to develop these markets on their medium, and even the European and Latin American countries have achieved great progress in this direction.

PART II

THE 2007-2012 FINANCIAL CRISIS

Throughout the history of financial crises, it has been observed that they increased in amplitude and economic/geographic space. In the past, the crises were localized, involving small publics and specific financial instruments.

Currently, we are a dealing with two “macro” and connected crises: The Subprime (2007-2009) and the Euro zone (2010-present). The emotional aspect also emerges, already masked by Strong political factors. Once again, arguments, actions and policies are based exclusively in the use of “fundaments of economic rationality” are incomplete, unable to deal adequately with the complexity of these crises.

CHAPTER 4

The crisis of 2007-2009 and its impact in the banking and capital market sectors

The Subprime Crisis and its sequitur Crisis of the Euro Zone, is considered the greatest crisis since the Great Crash of 1929. The drama, the contagion in several global markets, the impact on the real side of economies, show the similarities between the two crises.

However, the greatest difference lies in the prompt government and financial sector response that is taking place, in order to face it and collaborate to solve the many problems occurred, or even in progress. We will examine, in this Chapter, the Subprime Crisis. We will also examine the role of Insurers in this crisis. The next chapter will focus on the Euro Zone Crisis.

The subprime crisis

The subprime crisis emerged from the US housing market, starting in 2006. During the previous years, there was a huge expansion in the construction and financing of new homes.

At that time, real estate prices did not stop growing, stimulating consumption via the "wealth effect". In the mortgage market of the United States, there is a mechanism widely used, the "second mortgage". This allowed for higher household indebtedness, in return for higher consumer spending.

To increase demand, in order to absorb the stupendous real estate supply increase, the financial mortgage market was expanded, to provide financing to people who, strictly speaking, were not qualified to be so. They did not have enough income or job security, or collateral assets (the "Ninjas")[31].

The financial market created a number of structured transactions to increase the inflow of funds in real estate, combining various instruments and financial markets, with the illusion of mitigating or managing risk.

Among these, we highlight the Mortgage-backed Securities (MBS) and Collateralized Debt Obligations (CDO), which will be described below.

At the time, there was a widespread availability of money and credit in the market, and real interest rates remained low. The expansion of mortgage financing, along with the creation of additional investment vehicles supported by it, created new opportunities for more profitable investments, assuming a controlled risk.

Investors from other countries also entered, directly or indirectly, in this market. In some cases, without even realizing it, given the complexity and the existing connection of the various financial instruments in the international market.

The peak of the housing bubble manifests itself in the years 2005-2006. Increasing, defaults begin appearing in the subprime market, aided by the fact that mortgage interest rates are floating (adjustable rate mortgages, ARM).

In the 2006-2007 period, interest rates begin to rise and property prices reach their peak, and already show a moderate fall. With continued decline in property prices, and the increase in default rates (and the repossession of real estate by lenders), financial institutions – in the North American and European market – start to suffer heavy losses.

The crisis begins then, still in the third quarter of 2007, and would fully manifest in the following months, most intensively in the second half of 2008. This crisis resulted in the collapse of large commercial and investment banks and insurers, in large falls of stock prices, in a brutal loss of confidence in the stock market, in a huge increase in unemployment and in a fall in the productive activity of the countries.

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31 The term "ninja" is a parody with the type of subprime investors: people with no income (or *nin*), unemployed (without jobs or *j*) and no assets (or *a*). Connecting the letters: *ninja*.

The "dark period" of the crisis on the Brazilian stock exchange was between May 7, 2008 – when the Ibovespa (Brazilian stock exchange index) reached 73,516 points – and October 2008, when it fell below 30,000 points.

Main impacts of the crisis

The main impacts of the crisis in the global financial market were as follows:

(i) losses of financial institutions, which reached more than 3 trillion dollars;

(ii) bankruptcies and mergers of banks and other financial institutions such as Bear Sterns, Lehman Brothers, Merrill Lynch, Northern Rock, Country Wide Financial, Washington Mutual, Wachovia, Royal Bank of Scotland etc.;

(iii) "near bankruptcy" of banks and insurance companies (for example, AIG, the largest US insurance company), those considered "too big to fail"[32];

(iv) in the height of the crisis in September 2008, bank runs, interruption of credit lines, collapse of the interbank market, closure of credit lines for exports, etc.;

(v) the creation by the government (Treasury Department) of immediate tools to combat the panic, such as in the United States, the "Emergency Economic Stabilization Act," which managed the "Troubled Asset Relief Program". The so-called TARP injected US$ 700 billion in the US financial system;

(vi) The Inspector General of the TARP told Congress, in July 2009, that in an extreme hypothesis of ceiling expenses, the total support of the Federal Government for this program could reach US$ 23.7 trillion, equivalent to 150% of the GDP.

(vii) implosion of the "shadow banking system". Just before the crisis, the system had an almost equal importance to the traditional financial system for credit supply purposes. With the crisis, investor sources of resources dried up, preventing the continuity of their financing role;

32 Known in the market as *TBTF* ("*too big to fail*").

(viii) perverse results on the real economy (mainly consumption) with the reversal of the wealth effect after the violent fall of real estate and stock prices. In the US – remembering that total global GDP in 2009 was about 68 trillion dollars – the loss of wealth due to the crisis was estimated at 14 trillion dollars; and

(ix) the global contagion was a striking feature of the crisis, explained by the speed with which occurred and the complexity of its ramifications between financial markets and between countries.

The development of the crisis in the financial sector

The mortgage market worked as follows:

1. Real estate buyers with bad credit history (subprime) contracted mortgage financing from mortgage brokers;
2. The market expanded. More brokers entered into the business. Loans were granted to people without the slightest financial condition (ninjas). Interest rates were very high and contained escalation clauses. The market had revenues (short-term illusion) with the higher contractual interest;
3. Large financial institutions enter the market, raise investor resources, and sell asset-backed securities based on mortgages ("packaging"). Thus, expand mortgage lending;
4. Large American investment banks enter and further expand the market, innovating financial instruments based on mortgages;
5. Rating agencies begin classifying the new securities, giving ratings to the investments, and in this process pension funds, insurers and other institutional investors enter the market; and
6. The market becomes globalized, and banks and investors in Europe and Asia acquire the bonds, creating the conditions for a subsequent global financial crisis.

Financial innovation

The early years of the century marked a period of great innovation in the financial system. We want with this characterize the continued development of mechanisms and negotiation techniques, as well as new securities and money market instruments. This resulted in a true “financial engineering”, designed with the purpose of increasing the profitability of operations, without necessarily increasing the corresponding risk.

In the case of the subprime market, financial products were created in order to meet the goals of special customers. It should be highlighted, among these, the instruments to offset exposure to risk – default of the borrower – or to assist when pleading loans by improving credit risk profile.

The main financial products created were: (i) adjustable – rate mortgage (ARM); (ii) securitization for sale to investors, via the consolidation of individual subprime mortgages into “packets”, called mortgage-backed securities (MBS) or collaterized debt obligations (CDO); (iii) structured investment vehicle (SIV), a more aggressive CDO, exclusive to the real estate market; (iv) monoline insurance companies originally targeted for municipal insurers, which then turned to offer insurance to the subprime market securities; and (v) a kind of credit insurance called credit default swaps (CDS).

The global financial market rapidly absorbed these new instruments, incorporating them into their mechanisms of credit and investment. Due to their complexity, the process created enormous difficulties for investors to properly assess and report on balance sheets the value of these new financial assets.

The use in this process of derivatives and over the counter markets increased their complexity even more. To circumvent rules and regulations, there was also an expanded use of so-called “off-balance sheet financing”, that is, financing transactions not adequately shown in the financial statements of banks and other financial institutions.

The exaggerated leverage[33] was another characteristic of the “fever of financing”. Borrowers and families became overly committed, given their disposable income. As a result, it created a pyramid structure for investment of funds in the financial market, in which the base was made of clay.

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33 The market calls “leverage” situations where there is a multiplier effect. For example, one is buying shares paying 20% of the price, and using the shares as collateral for loans equivalent to 100% of the value of these shares.

Insurers and the problems with the crisis

The date was September 16, 2008. The day that AIG (American International Group), the US company that was the world's largest insurer, nearly bankrupted. It just did not bankrupt because it was "saved" (through bailout) by the US government. There were 85 billion dollars of aid. To date, worldwide, this was the largest financial rescue operation ever made.

How does it is explained that an insurance company, the largest in the world, reached this situation? After all, insurance companies are seen as and behave conservatively, and like their customers focus generally in long-term operations, they seek to combine risk and profitability technically.

Before answering on the factual case of AIG, one must consider that there is until today a discussion in the insurance industry on the Financial Crisis Subprime. For most insurers, there was not, and what happened was very little, direct involvement with the epicenter of this crisis, the mortgage market or insurance operations.

On the side of the financial assets of insurers, evidently there was a contagion of the crisis. As the crisis was deepening in 2008, there was a general deterioration – and increasingly global – of financial assets. Insurers, like other institutional investors, were hit hard by the crisis.

Similarly, insurers – such as other business segments of the economy – were severely affected by the drop in demand during the peak months of the crisis.

However, the point of the discussion – and from the perspective of passive, not asset, management – is as follows: is the Subprime Crisis a banking crisis, or is it also an insurance crisis?

In our opinion, it is a banking crisis. The solvency of the insurance industry as a whole – except for the case of AIG and some others – remained adequate, and was not threatened by the Subprime Crisis.

Insurers – especially those operating in "life segment", such as that one presided over by Keynes – served as an important element in stabilizing the economy, serving to mitigate the negative effects of the Subprime Crisis.

Indeed, insurance companies are large institutional investors, who place great emphasis on investment policies based on long-term bonds and securities. Accordingly, they are more resistant to short-term shocks, waiting for the arrival of the period of redemption of investment securities which they carry in their wallets, and do not behave with the short-term point of view of commercial banks and investment.

In our opinion, the problem of some insurers, in particular AIG, did not occur in the investment side. The problem occurred with trying to behave with methods and visions of investment banks, and involvement with over the counter derivatives operations, quantitative methods of pricing, dependence on "rating agencies" and other initiatives, with the desire of operating in products – on the side of its liabilities – that were more profitable than traditional insurance policies. In this quest, as it will be seen in the next section, they confused risk with uncertainty.

AIG, the CDS, and the financial crisis

The insurer American International Group (AIG) was a very complex organization in October 2008 ("global financial service holding company").

The AIG was a financial group made up of 70 insurance companies based in the United States and over 170 other financial services firms. In addition, many analysts comment that this organizational complexity and the network of cross interests between the various group companies affected the transparency of financial information, and created the problem called "opacity".

Moreover, as of the AIG episode, supervisors and regulators of the insurance industry in different countries, became alert to incentive problems (in this case, negative) that emerged in complex financial groups, (i) when their companies, individually, were chasing profits in different activities in terms of risk profile, but using the same base capital; or (ii) when some companies or segments of the Group benefited, explicitly or implicitly, of the capital raised by the parties with lower risk of the Group.

According to Mason, the American International Group (AIG) has become a symbol of union between capitalism and people after 1945. The insurance system has become a great mobilizer of popular savings. The AIG had taken center stage in the US financial system, and then in the world market. From 1984 to 2005, the price of its share increased on average 24% per year. The strength of AIG was its size, stability and security. Its credit rating was excellent, "Triple A"[34].

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34 Mason, Paul. "*Meltdown. The End of the Age of Greed*", pages 10-14.

In the year of crisis in 2008, the gross revenue of AIG was US$ 110 billion, and the value of its assets was US$ 1 trillion. The largest insurance company in the world. It became "Too big to fail". No doubt this contributed to problems in the nature of so-called "moral hazard".

There was, however, a dark side to its business operations. In 2000, at the height of the "Dot-com Crisis", 15% of AIG's profits came from insurance speculation operations. AIG, to maintain the growth of dividends and profits, was increasingly getting into risk.

It also began "creating accounts". In 2005, it admitted that about US$ 500 million of business with other companies "resulted from transactions which appear to have been structured for the sole purpose of achieving a desired accounting result." It also admitted that another US$ 3 billion in revenue had been "misclassified" in order to increase profits disclosed to the market.

Come into play the CDSs. To simplify, credit default swaps (CDSs) are like an insurance policy that indemnifies the policyholder in the event that another company bankrupts. The CDS is thus a kind of insurance, related to the increasing size and complexity of the banking system.

In fact, it is a derivative, created by "financial engineers", which can be used to protect investors from the risks of investing in CDOs ("Collateral Debt Obligations"). The CDS is a financial instrument tied to an underlying asset, such as a Bond[35], which pays the face value if there are defaults on that title. For example, an investor who has US$ 100 million in bonds issued by the company General Electric can buy a CDS paying only US$ 200 thousand per year. If the GE Bond fails to honor its commitments, the CDS issuer must pay US$ 100 million to investors.

Although technically a derivative title, the CDS were seen by the market, and by insurers, as insurance policies for protecting investors from problems with financial securities they purchased. At the time, a senior leader of AIG explained that "to make CDSs was the same as selling insurance against a catastrophe that will never happen".

In 2007, there had been many operations made with "Synthetic CDS" (about half volume of CDS operations). A synthetic CDS is an operation mounted as follows:

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35 The bond is a term used for debt issued by companies or debt securities issued by governments.

it seeks to “mirror” mortgage bonds and replicate the market behavior of these securities. The investor was enabled to buy not the real mortgage bond, but a contract that promised to insure the alleged bond and ensure the return to the investor, identical as he would receive if he had bought the mortgage bond.

The CDS transactions were made at the London unit (AIG Financial Products London), and this unit used a lot of “quants analysts”, who produced mathematical models according to which AIG would not be at risk.

The AIG issued millions of CDS under the mistaken assumption that they would be virtually taking no risk.

After the diligences taken in the months following the collapse, it was found that AIG had provided US$ 447 billion of guarantees for the debts of other global companies. The CDSs had become worthless, which implied the need for AIG to honor these commitments. It was seen that US$ 307 billion of this total was for European companies, and with the “purpose of providing assistance to regulatory capital rather than risk mitigation.” That is, European banks were taking big risks, but seeming to regulators to be taking low risks, due to the transfer scheme to the AIG.

To keep in perspective the trading volume of US$ 447 billion of obligations taken by AIG, some numbers are supplied for comparison: (i) except Brazil and Mexico, it is a value greater than the GDP of any country in Latin America; (ii) the aggregate GDP of all countries of the world in 2007 was US$ 65 trillion; (iii) the market value of all companies in the world traded in 2007 (peak of the market) was US$ 63 trillion; (iv) the total of investments in “derivative instruments” was US$ 596 trillion, and (v) the total operations in the international foreign exchange market was US$ 1.126 trillion (over a quadrillion dollars).

How did the CDS came to be? Banks discover gaps in regulation and created “off-balance sheet companies”, known as “conduits” or “structured investment vehicles” (SIVs). The SIVs were based in tax havens. The banks began to ensure the SIVs with companies like AIG, and in addition, using “monoline insurers”[36]. In general, there was very little transparency between the operations of the insurance companies (including the “monoliners”) with the SIVs and the commercial and investment banks.

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36 A type of insurer specialized in assuming the credit risk of banks.

The “collateralized debt obligations’ (CDOs) were one of the main responsible for the collapse of the housing bubble and the subprime financial crisis. However, they would not have caused great damage if there were not the CDSs.

The CDO markets were expanding, with “investment grade” ratings awarded by the rating agencies. Nevertheless, some investors wanted additional guarantees, and this created the market for CDSs.

How could the AIG collapse as if it were an investment bank? After all, the CDS was a technical innovation, an instrument of the derivatives market, traded in the over the counter market, in part speculative, and which had grown from US$ 2 trillion in 1998 to US$ 58 trillion in 2008.

In theory, the CDC is a useful financial tool because it allows investors to hedge the risk that a Bond will default. The problem, according to Hubbard and Navarro, is that companies issuing CDSs underestimated the risk of default[37].

This was because the mathematical models used to calculate the price of bonds failed to properly assess the risk. In our opinion, they confused risk with uncertainty.

As a result, the financial collapse of AIG in September 2008. In order to avoid the bankruptcy of AIG, the government bailed them out with US$ 85 billion. It was the biggest bailout of financial history.

Developments of the crisis in 2009 and 2010

One of the consequences of the crisis was a fleeting joy of nostalgics of socialist regimes, which recognized then an acute crisis of the capitalist system. That is, the financial crisis was only a symptom of a deeper systemic crisis of capitalism. In this context, criticisms similar to those made in the decade of 1930 surfaced, about the tendency to saturation of the consumer market.

The existence of the BRIC countries with rapidly growing per capita income (Brazil, India, Russia and China), and the impact of the expanding middle class consumer in these countries, rather mitigates the possible effects brought by such diagnostic of underconsumption.

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37 Hubbard and Navarro, “*Seeds of Destruction*”.

In addition to the housing bubble, caused in part by excessive monetary liquidity, there was another bubble: the commodity's. For example, between early 2007 and mid-2008, the price of oil rose from US$ 50 to US$ 147 per barrel. The prices of minerals, such as copper, nickel, iron, etc., as well as agricultural products, exhibited large highs during this period.

That bubble, in a way, was very beneficial for the Brazilian economy, but contributed to worsen the available income conditions of consumers and credit borrowers in oil (and other commodities) importing countries.

Pricing of assets

A great villain in the story of the Crisis of 2008 was the incorrect pricing of risk factor. Theoretically, risk pricing refers to a process in which investors agree to undertake an additional risk if there is also additional compensation. That is, an increase in risk requires an increase in the expected return on investment.

After the harmful effects of the financial crisis, a significant part of government authorities and market entities assessed that the theoretical approach failed miserably in the episode.

Unfortunately, due to a set of circumstances, market participants could not measure accurately the inherent risk that existed in the financial innovations (MBS, CDO and others).

They also failed to understand the impact of their miscalculation of risk in the systemic stability of the financial market.

The role of rating agencies

As it became more difficult to understand the actual risk of operations, the role of credit rating agencies was acquiring importance. They became true "crutches" of the market. Later, it was thrown at them a disproportionate share of responsibility for the financial crisis.

Although it is perceived, in the light of subsequent events, that it would be an almost impossible task for rating agencies to make a correct risk assessment, the fact is that investors relied on those verdicts to make decisions.

Another problem, as verified later, was in the mathematical models used. The limitations of these models, as discussed by Taleb (see Chapter 5), were not well understood. In particular, the stability over time of the correlations of the yield curves of many financial securities and the formulas based on probability theory and the use of Gaussian models.

The shadow banking system

It should be noted that another development occurred, which proved harmful in the context of the causes of the crisis. It is the rapid expansion of the "parallel" banking system, called the shadow banking system.

This system consists of entities that are responsible for a significant role in the supply of credit, but which, however, are not subject to the same degree of regulation by regulatory agencies. That is, they were far less supervised and regulated than commercial and investment banks, and other financial institutions operating in organized securities market.

The greatest vulnerability of shadow banking entities is the fact that the bulk of their operations were to borrow funds in the short term and apply them in long-term operations and without much liquidity.

Liquidity or solvency

The crisis underscores a theoretical aspect of high relevance: the difference between liquidity and solvency. Liquidity is the ability to raise money in the short term. The liquidity crisis could lead to a solvency crisis. This, in turn, is related to a more general crisis of confidence. Authorities, at some peak moments of the Crisis of 2008, were stunned with this dilemma: who to help first.

Finally, another fact, discreditable to economists, was appointed in this crisis: only a few anticipated it.

Despite there being thousands of skilled and well-trained economists, working full time in the study and monitoring of the economic situation, what they predicted was exactly the opposite. They believed that the economy experienced a period called "The Great Moderation". Merit should be given to heterodox economists for being correct in their forecasts. Some, for example, such as Nouriel Roubini and Robert Shiller, warned often of the risks of bubble and its possible explosion.

On the other hand, many "mainstream" economists, more orthodox, believed that financial crises could not be predicted. After all, by being followers of the hypothesis of market efficiency and the assumption of "random walk", they believed that the market had all the necessary information about possible price movements. Thus, the oscillation of financial prices was unpredictable and random.

Double dip: the crisis impact on world economy

The Crisis is 2008 is not over in the US, and the new focus of attention is the European Crisis. The academic community discusses a key issue, namely the letter that symbolizes the evolution of the crisis.

Some think it has the shape of a **V**, meaning there is a quick fall of economic and financial activity, followed by an equally rapid recovery.

Others believe that is shaped like a **U**, meaning a rapid fall, followed by a period – which can be long – in which financial and economic activity "walks sideways," that is, it is stagnant, or even reverse, in the future, and starts growing back.

The third group contributes a **W** to this alphabet soup. In this view, economic activity behaves initially in **V**. However, it does not find support for that and falls again. The **V** appears again.

Remember that the Crisis of the 1930s displayed a **W**, which did not become a **WW** because of World War II.

The impact of the Subprime Crisis, like major financial crises of the past, was devastating. It contributed to the bankruptcy of large banks and financial firms, caused the loss of trillions of dollars of wealth from consumers, forced the governments of the countries (particularly the United States and Western Europe) to take bailout commitments also in trillions of dollars, and caused serious recessionist and contractional impact on the economies of industrialized and emerging countries.

This raises another point that is forgotten in the debate. Adopting the term **W** discussed above, one can make the following separation. The first **V** is mainly originated in the private financial side of the economy. In the second phase, the crisis spreads through the real economy, and governments are called on the scene.

At this stage, it is expected from government authorities prompt action, which generally involves significant costs. These expenses may be hardly covered by existing public revenues.

First, because most governments operate with balanced budget, or with small deficits relative to GDP (around 3%). Second, the crisis directly affects tax collection, increasing the pre-existing deficit. Third, because the crisis requires from governments disbursements of substantial expenses to help the economy.

Thus, the crisis itself, in a first moment (the first **V**), destabilizes the economy, which requires that in a second moment a significant increase in the government deficit. In certain cases, such as the PIIGS countries[38], this leads to high indebtedness and the perception by the financial market of great difficulties ahead for the interest payment and amortization of debt. The second **V** may arise from there.

Therefore, we want draw attention that this is not a crisis that was independent of the other, but a crisis that is an offshoot of another. In the case of the PIIGS, there are other structural factors – we would highlight the shrinking and aging of the population and the challenge of Chinese competition – that contribute to the difficulty these countries.

38 The PIIGS are Portugal, Italy, Ireland, Greece and Spain.

The crisis of 2007-2009, risk and uncertainty, and its impact in the insurance industry

We will examine in this chapter the performance of insurance companies in the Subprime Crisis. In our opinion, there was a change in the traditional role of insurance companies, of managing their liabilities based on risk theory.

A great controversy arose about the "credit default swaps" and the insurance industry as a whole was seen in the eye of the financial storm. As already mentioned, and will continue to be discussed below, some insurers were engaged in financial instruments, taking commitments in situations that can be characterized as uncertain. Financial losses were huge, leading some insurers to the brink of bankruptcy.

Risk and uncertainty

Thus, we will start the chapter with a discussion over risk and uncertainty, and then analyze the specific cases of performance of insurers in situations that, although considered of risk, turned out to be of uncertainty.

Peter Bernstein is one of the most important authors of books on the financial history of the world. Combining the skills of a researcher, historian and successful investor, Bernstein published books on gold, the Wall Street stocks market, and risk, as well as other works.

According to Bernstein[39], there are two basic laws of economics: (i) There can be no compensation without risk; (ii) gaining an advantage over competitors in a free market with skill and knowledge is extremely difficult. By combining the links between risk and return with the combative nature of the free market, new methods have been created for investors to manage their capital[40].

Bernstein, in another work[41], so grandiloquently describes the role of risk in modern societies:

> "what distinguishes the thousands of years of history from what we understand as modern times? The answer goes far beyond the advancement of science, technology, capitalism and democracy. The revolutionary idea that defines the boundary between modern times and the past is the mastery of risk: the notion that the future is more than a design of the gods and that man and woman are not passive before nature."[42]

According to him, the speculators who think they know what will happen in the future always risk making mistakes and losing everything. The long history of finance is full of examples of lost fortunes in high stakes.

Bernstein is optimistic about the ability of our society to gradually increase our knowledge about the nature of the risk, and to find ways to control risk[43].

For Bernstein, the speculator is someone who is willing to take on the uncertainty experienced by others, based on their belief about the likely course of events.

Also in the mentioned book, Bernstein questions: what risks must we take, what risks must we hedge, which information is relevant? How confident can we be in our beliefs about the future? In short, how can we manage the risk?

According to him, under conditions of uncertainty, both rationality and measurement are essential to the process of decision making. Rational people process information objectively. Whatever mistakes they commit to predict the future,

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39 Peter Bernstein, *Capital Ideas*.
40 Ibid, p. 2.
41 Peter Bernstein, in his second book, written in 1996, "*Against the Gods*".
42 Bernstein, ibid, p. 1.
43 Ibid, p. 1.

these errors are random and not the result of a stubborn bias either for optimism is for pessimism.

They respond to new information on the basis of a clearly defined set of preferences. They know what they want, and use the information so as to support the preferences.

Hirshleifer wrote in 1970 a work that has become a classic in economics[44]. In this book, the author advanced significantly the theoretical knowledge about the interrelationship of investment, interest and capital.

These areas are among the most arid and difficult of economic theory, and Hirshleifer's contribution was enlightening and noteworthy.

For him, the theory of capital does not constitute a separate branch of economic analysis, which has its own rules. On the contrary, he argues, theory of capital should be examined as part of a general theory of economic choice in temporal models.

Thus, investment decisions – from individuals and businesses – should be examined in terms of both certainty and uncertainty.

For him, in the case of theory of capital being built as a systematic allocation of resources over time, this will greatly decrease the "air of mystery" surrounding this issue.

Thus,

> "investing is sacrificing goods on the present date to enjoy them in a future date in; interests constitutes an element in the ratio of prices – one "exchange rate" – between present and future goods; and capital is this present incorporation of goods that will be consumed in the future"[45].

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44 Hirshleifer, "*Investment, Interest and Capital*".
45 Ibid, pp. v and vi.

In Hirshleifer's vision,

> "investment is, in essence, the present sacrifice for future benefit. But the present may be relatively well-known, while the future is always an enigma. Investment, then, commonly represents a certain sacrifice for an uncertain benefit"[46].

Robert Shiller[47] suggests institutional ways for society to manage its greatest economic risks.

In his view, these risks end up being borne by individual members of that society. This view was confirmed in the current financial crisis because the losses and damages are being divided by society as a whole.

The question he asks is the following: why market forces, or new market technologies, cannot deal adequately with these risks?

Schiller suggests two institutional measures that would contribute to answer his question. For him, new markets could be established to address the risks.

In this sense, the author emphasizes the great potential of hedging instruments (futures and options) to handle some risks that are not commonly thought of as likely to trading with derivatives.

For example, the moments that precede the announcement in Brazil if of periodic economic events – Copom minutes, quarterly GDP, the IGP-M, and other indicators that impact asset pricing expectations – cause great speculation in the market. Until an official disclosure of the indicators, the market operates wildly, causing gains and losses. This is one of the dimensions of risk.

Schiller suggests the creation of a futures market, based on betting, in a very similar model to that used for betting on horse races, in order to create hedging instruments[48].

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46 Ibid, p. 215.

47 Robert Shiller, "*Macro Markets*".

48 Based on the writings of Schiller, Mello and Fumero wrote a paper outlining a proposal for the implementation in Brazil of a derivatives market for economic-financial information and macro forecasts. See Mello and Fumero, "The Economic Derivatives".

The book presents several suggestions for institutional mechanisms. The main message is that there are many macro risks, but that society may develop hedging mechanisms for the market to mitigate these risks.

Eric Bernhocker presents[49] a different view on risk and uncertainty. Bernhocker is a business consultant and senior fellow at the McKinsey Global Institute.

Author of several works, in his opinion the economy is an evolving system, and grows organically, like in a biological system.

There is therein some conflict with the more traditional view of the economy. This view makes analogies with mechanical systems, and commonly uses the notion of "balance." Bernhocker in his turn makes an analogy with the notion of "harmonization".

To this end, he presents a panel on the creation of wealth throughout history. He uses for this purpose, the concept of "complex economy", based on an evolutionary and adaptive conception.

In his words,

> "in the 1980s and early 1990s, researchers began experimenting models of economic phenomena that were radically different from traditional models. Rather than portray the economy as a static equilibrium system, these models feature the economy as an active hive of dynamic activity, with no balance in view"[50].

In discussing the phenomenon of uncertainty, he thinks this is neither a new topic in economics nor in strategic planning. Traditional economics makes a big assumption about the type of uncertainty that we face, and uses probabilistic models to analyze them.

For Bernhocker, the most important type of uncertainty in the business world is different. For him,

> "the use of probabilities has some merit, yet small. It is the dynamic and nonlinear structure of the system that leverages small events on results that can change the course of history"[51].

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49 Bernhocker, "*The Origin of Wealth*".
50 Ibid, p. 19.
51 Ibid, p. 238.

Financial risk

In the years before the Crisis of 2008 there were major advances done in the study and application of techniques aimed at “taming” the financial risk.

At that time, finances lived a golden age. Global inflation was very low compared to that what had existed in the past, nominal interest rates were also very low and financial markets rewarded investors with situations of low volatility and high returns.

Five major developments in finance created this attractive scenery:

(i) the extraordinary progress of stock exchanges, brokers and instruments (futures, options and swaps) of the “derivative market”, creating operations for hedge or management of several types of risks (foreign exchange, interest rates, commodity prices and other prices of financial asset);

(ii) the use of the mechanism of “securitization” to shred and distribute credit risk, and its combination with derivatives to create operations of “financial engineering”;

(iii) the gradual entry and preponderance of large institutional investors in the market, among them the insurance companies, which use more technical approaches to risk and return analysis, and operate on large scale;

(iv) a highly sophisticated combination – and giving it an exaggerated connotation of “scientificism” – of mathematical talent (the quants) and powerful computers to “tame” the risk; and

(v) the appearance and credibility and reputation gain of the “rating agencies” which gave ratings (ordination) and classified financial assets worldwide. With this, leveraging securities portfolio composition operations by mixing “good” and “bad” assets, with the ambition of creating an “appetizing” combination of risk and return.

The academic world, in the past, had contributed with the models of CAPM (Capital Asset Pricing Model) to build investment portfolios, with the Black-Scholles Model for pricing financial assets using derivatives markets, and the VaR (Value at Risk) Model to assist banks to calculate limits of losses.

Confidence was growing in the process of financial innovation, that technological advances and finance knowledge could enable leveraged transactions, resulting in lower risks and higher profits.

A good example of this trend was the development of "Collaterized debt obligations" (CDOs). In this financial asset, a number of so-called "mortgage-backed securities" are grouped ("packed") in CDOs. Over time, the CDOs were so complex that required intricate mathematical models for their risk and profitability analysis.

Few market players were able to do so, and in the process "quant" people such as the "Fabulous Fab" of Goldman Sachs, had gained great importance and prestige[52].

The greatest danger to the health of the global financial system, brought about by these developments, was discovered after the "implosion" of the speculative bubble and the Crisis of 2008. The danger was that gradually the authoritative and mature judgment of risk situations, as done by people like J. P. Morgan, John Maynard Keynes, George Soros or Warren Buffet, was abandoned. Numbers and mathematical formulas and statistics were made to reign.

Uncertainty

The effect of uncertainty, which interferes in the decision making of companies, acquires an extraordinary weight in a modern economy, of sophisticated use of capital, due to the existence of multiple capital assets and financial instruments.

The current practice is to finance long-term capital assets through speculative finance, that is, by issuing new debt. Since the future is unknown, such financing occurs between alternating waves of euphoria or despair environments. A basically unstable environment, therefore, is generated, characteristic of modern economies capitalists.

A great merit of Keynes, as seen in our book about his role as director of insurers[53], was to emphasize the issue of intuition and psychology in macroeconomic analysis. His analysis of the role of investment in determining the level of income in the economy and the role of entrepreneur investors to decide these investments based on their "animal spirits" was very fruitful for subsequent ideas of modern macroeconomics.

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52 The "Fabulous Fab" was a young trader Goldman Sachs sued in the US for events Subprime Crisis (see Mello and Spolador, Financial Crises, pp. 93 and 94).

53 Pedro Mello, *John Maynard Keynes and his Work in the Insurance Market*.

Talent or luck: how to manage resources

Nassim Nicholas Taleb is a writer, teacher and "mathematical trader" in the financial market. Taleb studies the multidisciplinary dimensions (philosophy, mathematics, finance and social sciences) of the uncertainty phenomenon.

One of the books he wrote[54] has created a small blow to the image we have of successful speculator. Its basic message is what is important to success is luck, not talent or market knowledge.

A passage from his book exemplifies his thought (part 2 of the book):

> "if we put an infinite number of monkeys in front of typewriters (of solid construction), and let them use the keyboards at ease, there is a certainty that one of them can write a perfect replica of the Iliad."[55]

Evidently, the probability of a monkey turning into Homer is extremely low. However, it is there. According to Taleb, the following experiment would be more challenging: would it be worth investing the savings that we have accumulated throughout our life on a bet that in a second round of the above experiment, the monkey would write the Odyssey?

That is, is past experience relevant to predict future performance? Making an analogy with the financial market, will a very successful asset manager continue repeating his achievements in a consistent manner in the future? Can we bet on it? According to Taleb, we cannot.

The author, using a lightweight style, replete with humor, makes a thorough examination of the role of risk and probability. It is an important study in the field of "Mathematics of Chance". He even jokes that probability is a branch of "applied skepticism", not an "engineering discipline".

For him,

> "probability is not merely computing the relative frequencies of successive throws of a dice or more complicated variants; it is an acceptance of the lack of certainty of our knowledge and the development of methods for dealing with our ignorance"[56].

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54 Taleb, "*Fooled by Randomness*".
55 Ibid, p. 135.
56 Ibid, p. x.

While Taleb is a veteran market player, he considers that the financial market is only one of the "traps of chance." He thinks that luck plays a big role in the market, of a kind that no one can understand, but which most traders think they can understand.

Taleb is not against preparation and acquisition of financial knowledge by operators. He just thinks this only helps if the operator has luck.

In his latest book[57] Taleb develops his thoughts on uncertain events. The "Black Swan" is an extreme event.

He tells that, as a young man, he embraced the profession of "quantitative finance". In his words:

> "I became a quant and trader at the same time – a quant is kind of an industrial scientist who applies mathematical models of uncertainty to financial data (or socioeconomic) and complex financial instruments."[58]

At that point, Taleb makes a distinction, which is key to his vision of financial markets:

> "except that I was exactly an opposite of a quant: studying the errors and limitations of the models, seeking a "Platonic fold" [according to him, where our representation of reality no longer applies, but we do not know that] where they stopped working. Also I got involved in speculative transactions, not only "chat", which was rare in quants because they were prevented from taking risks, being their role restricted to analysis, not decision-making."[59]

In this book, Taleb continues the discussion of the problems and difficulties in forecasting and scientific induction. A passage reads as follows:

> "Forget everything you learned in college about statistics and probability theory. If you have never studied these topics, even better."[60]

57 Edited in 2008, "The Black Swan: The Impact of the Highly Improbable".
58 Ibid, p.49.
59 Ibid, pp. 49 and 50.
60 Ibid, p. 289.

Taleb considers the Bell Curve (Normal Distribution) a great intellectual fraud. Note that the modern theory of finance develops its supported by the existence of normal distributions. For this author:

> "shockingly, the Gauss Curve (in the form of a Bell) is used as a risk measurement tool for regulators and central bankers who wear dark suits and talk in tedious manned about currencies."[61]

Still on this issue, Taleb says:

> "the main point of the Gaussian Curve is that, as I have been saying, most observations float around the mediocre, average, while the odds of a deviation decline faster and faster (exponentially) as we move away from the average. If you need to record a single piece of information, remember only this dramatic speed decrease in the odds, as it departs from the average. Outliers are increasingly less likely. They can be safely ignored."[62]

Taleb comments that the finance professors with Gaussian training took control of the economics faculties, finance and MBA programs, and that their students would have been "victims of brainwashing by a bogus management portfolios theory"[63].

Still on the same issue,

> "the Gaussian Curve has infiltrated the business and scientific culture, and terms like sigma, variance, standard deviation, correlation, R-squared and the eponymous Sharpe ratio, all directly connected to it, infiltrated in the jargon"[64].

Taleb describes the great fiasco of Robert Merton and Myron Scholes Jr. (Nobel Prize) in the management of Long Term Capital Management (LTCM), a company that operated in high-risk investments, and with high leverage. The company bankrupted in 1998, in a noisy affair, and received help from the Federal Government.

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61 Ibid, p. 291.
62 Ibid, p. 313.
63 Ibid, p. 343.
64 Ibid, p. 344.

The assets management used models designed by Merton and Scholes, which excluded the possibility of large deviations, thereby running a monstrous risk. Again, they diagnosed as risk situations that were of uncertainty. When the Russian crisis in 1998 occurred, a "flight to quality" for T-Bills Americans begins.

The models were based on the stability of yield-curves differentials. With the crisis, there was a departure – not predicted by the models – from the deviations with normal curves. The company was making terribly leveraged bets, and bankrupted.

For Taleb, it did not drag with it the financial system only due to prompt government action. A detail: investors of LTCM were very rich people, and there was a waiting list to have the "privilege" of investing in the fund. Again, situations with the gains are for private investors, but when losses appear, they invoke the fear of a "systemic risk", and the general public covers the losses. This asymmetry of gains and losses is perhaps the moral factor that most sharpens the feelings that arose with "Occupy Wall Street" movement.

Taleb opinion's, evidently, are very unpopular in many segments of the financial industry, particularly among financial analysts and asset managers.

The "Quants"

The *Estado de São Paulo* newspaper published an article in February 2010, with the following title and subtitle: "Mathematical geniuses make errors on Wall Street: book shows how mathematicians and computer scientists almost destroyed the financial system".

The article is based on the book by Scott Patterson[65], who works as a journalist for the Wall Street Journal.

The idea of employing engineers and mathematicians in the financial market is not new. In Brazil, many engineers occupy prestigious positions in the financial system, and represent a high proportion of bank professionals, brokers and other institutions. After all, "they know math".

65 Patterson, "*The Quants*".

In the United States, when the NASA project was partially closed in the mid-70s, thousands of highly skilled space engineers were dismissed. There were many personal and family problems, and the US government has researched and raised alternative areas of occupation for such highly qualified personnel. The intention was to create retraining programs.

Two areas were selected: management of metropolitan areas and electronic business journalism. One of the beneficiaries was Michael Bloomberg, who created the famous news company.

With the increasing use of techniques of "financial engineering", along with increased use of asset management based on derivatives, there was a huge growth in demand for mathematicians, physicists and space engineers to work on Wall Street. Investment funds started using mathematical models for financial assets risk and pricing, and to operate terribly leveraged.

The book shows the transition from one type of professional facing economic fundamentals analysis and taking aggressive risks – such as Soros and Buffett – to the boy-wonders of quantitative training (the Whizz kids quants, also called rocket scientists).

Patterson thinks this caused a major disaster. Commenting on the rise of these new "gods of the universe" on Wall Street, Patterson notes the following:

> "over the last twenty years [that is, 1990-2010] these kind of math whiz – technocrats who make billions with formulas and great speed computers instead of fundamental analysis and courageous buying – usurped the risk takers, moved by testosterone and willing to kill or die, which for long had been the "alpha male" of the largest casino in the world. The quants believed that, by creating a dizzying, indecipherable (for mere mortals) cocktail, using differential calculus, quantum physics and advanced geometry, they would be given the key to reap riches from financial markets. They helped build a digital machine to make money, able to turn billions around the world with just the push of a mouse"[66].

Many are strategists and hedge fund managers. In a simplified way, with respect to the Subprime Crisis, the strategy was based on the use of financial engineer-

66 Ibid, p. I.

ing to group high risk bonds (mortgage) in new titles (using securitization and derivatives), which were framed as “investment grade “. The idea was to dilute the high risk of some mortgages with low risks of other, grouping them into a new financial paper.

To achieve this, they used sophisticated mathematical models for risk calculation. These models, however, had as assumption stable situations in macroeconomics. The risk was individual, they believed, and not systemic. In normal times, an almost infinitely low probability of not working can be incorporated into the models.

The same does not happens, however, when a rapid and volatile situation of abnormality materializes. The recipe for risk that worked in normal times becomes a recipe for disaster in a crisis situation. Worse – it becomes the dynamic element to intensify the crisis.

For Patterson, it was not clear that the creation of the “machine” would produce the biggest financial disaster in history. Driven by greed, the quants did not realize the dangers of mathematical models.

Part of the explanation of the “fiasco” of AIG and other insurers lay in over-reliance on “quant culture”.

CHAPTER 6

The impact in the Euro Zone and the continuance of the financial crisis in Europe post-2009

In 2011 and 2012, the Euro Zone Crisis ecloded, also called Crisis of the PIIGS[67]. The economic nature of each of these countries is distinct, as well as their economic structure.

Ireland financed and built a number of houses much larger than the number of Irish families, crippling the financial system. Ireland has a fiscal deficit (12.5% of GDP) similar to Greece. Greece has set up a social welfare system without having created economic activities that could provide stability to such a system. Portugal shows a weak government, political fragility and a lack of good economic projects. Spain shows high unemployment and suffers from the bursting of its real estate bubble. Italy shows a very high ratio of debt to GDP, and its northern region is suffering from Chinese competition for the industrial products it manufactures.

Although different, the PIIGS countries present, in common, great deterioration in economic indicators and create distrust in the market that they may not comply with their sovereign debt contracts. In financial terms, the biggest problem is the excessive indebtment and budget deficit.

67 Portugal, Ireland, Italy, Greece and Spain.

Germany and the crisis of the Euro Zone

Since the Crisis of the Euro Zone sparked, there appear daily in the press news about the reaction of countries in crisis, strikes, broken dreams, youth hopelessness, unemployment, loss of income, and other aspects that point to a situation of economic recession in the PIIGS. Apparently, only Germany, and secondarily, France and Britain, are escaping this fate.

In a later section, we comment on the chronology of the crisis. In this section, it is important to comment on Germany's role in this crisis.

On February 13th 2012, the Greek Parliament approved a plan of government spending cuts (approximately 325 million Euros), acceleration of privatization and a 22% reduction in the minimum wage in the country (an IMF and Union European requirement). In return, a new bailout package of 130 billion Euros was promised.

Very similar to the policies of the Crisis of 1929 that Keynes criticized in England.

Reactions in Greece were very violent, with 80 thousand protesters in Athens, riots and fires. Even more violent than manifestations that we watched in Brazil in the 1980s.

On the day that this package was being voted, the Minister of Finance of Germany, Wolfgang Schauble, said that "Greece is a bottomless pit".

This impatience of the German government is understandable, because they fear the "moral hazard effect" on other PIIGS, and the very future of the Euro.

The issue, however, is whether the austerity measures, alone, will be able to overcome the crisis. If Keynes were alive, he might have proposed other strategies.

George Soros said that German Chancellor Angela Merkel "Europe leads astray." Soros, in this interview[68], says he fear a repeat in Europe of the mistakes of the US crisis of 1929.

In this interview, Soros states that:

> "We should reactivate the economies of European countries injecting public money instead of forcing governments to save. Otherwise, we

68 To the Der Spiegel magazine, in February 12th, 2012.

> will repeat the mistakes that led the United States to the Great Depression of 1929."

In the same interview, Soros reaffirms his view that the IMF should not be involved in crisis management, because he believes that "only Europe should be able to solve their problems".

The Greek crisis

Greece turns out to be the emblematic case of the euro zone crisis countries. When talking about "debt default" or difficulties of a sustainable macroeconomic adjustment, Greece is the country to receive attention. Greece turns out to be the most difficult case.

According to nominal GDP, the Greek economy occupies the 27^{th} position in the world economy; taking into account the GDP calculated based on Purchase Power Parity, it occupies the 33rd position. In terms of GDP PPP per capita, the 25^{th} position.

Greece is a developed country with a high standard of living and good social performance, as shown by the HDI index. Member of the European community, its currency is the Euro. The public sector represents 40% of GDP. According to another type of classification, the services sector represents 75%, industry 21% and agriculture the remaining 4%. Its economy is one of the most globalized in the world.

In 2010, partly as a result of the 2008 crisis, Greece revealed serious problems of fiscal order. The situation worsened when its authorities publicly admitted that the fiscal accounts had been manipulated, with the assistance of Goldman Sachs bank, to present surpluses instead of deficits.

In this context, it was clear to the financial community how vulnerable the European banks were. Exposure to Greek debt exceeded US$ 175 billion. French banks were the most vulnerable (nearly US$ 80 billion), followed by German banks (US$ 45 billion).

A complicating the story are the derivative contracts called "credit default swaps". The CDSs serve as a kind of insurance against default, and are used by banks and hedge funds. A London company, Market Group, calculates an index with the name "iTraxxSovX". The index is constructed on the basis of negotiations with the 15 most traded CDSs in Western Europe. The derivatives and the index created great controversy. For some, they leverage and create interested parts in the deepening of the crisis. For others, the opposite occurs, as they are hedging instruments and protection for a possible default of Greek debt.

The crisis may be used as an excuse for taking unpopular measures. In the Greek case, the country had been mismanaging its budget, with higher expenses than revenues. The political clientelism and misuse of public funds has always been very strong. The population was living above their means. The European Community – read: Germany and France, in particular – financed the deficit.

Economic policies for the crisis in Greece

With the crisis, resources become more difficult, and reached the moment of truth for the country. For its politicians, a good moment to start painful reforms to reduce expenses, blaming the crisis. The asset sales and privatization (Postal Service) has already been announced by the government.

The proposed remedies are the usual ones: increase taxes and reduce expenditure, including the "welfare" and "social protection network 'which was built in recent years.

The European countries and the IMF discussed for more than two months the structure of a "rescue package" to the Greek government. During this period, several proposals have been made and refused. The financial community reacted with concern to the difficulty of reaching an agreement. The stock markets presented big losses and intensified the speculative action.

Over time, it was seen that the Greek crisis was extrapolating to other countries in the region, and putting into question the very future of the euro zone. There were rumors of avoiding the IMF, and creating another institution, the "European Monetary Fund", to not suffer shame. The idea was abandoned.

Finally, there was an agreement on 10 May 2011. The region governments have announced a "package" amounting to 750 billion euros. Of this amount, 500 billion euros would be lent by countries in the region, and the remaining 250 billion euros by the IMF, linked to several provisions of the IMF Prescription, as in Brazil in the 1980s. Ironically, this time Brazil is on the side of "creditors" of the Greek package...

From Greece to the Euro Zone

Financial markets initially received with euphoria the solution for Greece. The stock markets had significant rises. In the following days, however, the financial markets and the euro returned to suffer losses. This time, fears about the rapid weakening of European banks. For the Greek people, there is the prospect of years of austerity for the future.

The Greek crisis would come eventually in the future in one way or another, even without the Crisis of 2008. The crisis only accelerated the inevitable. Since beyond Greece there are four other countries (Spain, Portugal, Ireland and Italy) with fiscal difficulties, perhaps even others, the future of the Euro currency was put into discussion, creating additional uncertainty in the context of a crisis which many consider not finished yet.

A dramatic case is that of Spain, the fifth largest economy in Europe. Until some time ago, an example of entrepreneurship, progress and social advancement. It was hit hard by the crisis. Those who suffer most are the young, and the unemployment rate for this group is estimated at 50%. With the country experiencing a very difficult situation, it is creating the generation "ni ni": *ni presente, ni futuro*[69].

It is always good to remember that in the other side of the debt are the lenders, mostly large banks. Since the public debt of the group of European countries exceeds 10 trillion euros, the size of the trouble can be perceived. Banks are very vulnerable, a fact that the market has realized, as manifested in the euro depreciation and the stock markets' plunge.

For those who experienced the kind of pressure that Brazil went through during the debt crisis of the 1980s, some developments of the Greek crisis look like a "play back". We have, again, large commercial banks deeply vulnerable to a potential default of the sovereign debt.

We also watch the triumphant return of the IMF, this time in Europe. We also see a "moral lynching" against Greece, blaming its people and culture for a series of bad predicates. Finally, we observe that hangs in the air a huge bill to be paid by its people to put public finances in order.

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69 Estado de São Paulo newspaper, "No present, No future," article by Juliana Sayuri in Section "*Aliás*", April 8th, 2012, p. J4.

The reactions of the Greek population in the face of the proposed restrictive adjustments reveal a great disappointment, a strong blow to the conviction about the economic future that was believed to come in the coming years, and a feeling of excessive "punishment" imposed by the European Community and the IMF.

In general, the adjustments that are required for Portugal, Greece and Spain appear to be too hard for the population. There is a risk of disruption of the social fabric and institutional dismantling of a good governance policy.

On April 6th, 2012, the *Estado de São Paulo* newspaper published an article by Nikolia Apostolou, entitled "A Final Cry of Dignity"[70]. The article comments on the case of the Greek pensioner Dimitris Christoulas, who committed suicide with a shot in the main square of Athens for having his pension reduced due to the economic crisis. A note was found, in which the pharmacist of 77 years wrote: "I see no option for a dignified end before I have to poke around the garbage." The case shocked the public because suicides of this kind were never recorded in recent decades, and triggered protests (via Internet) and clashes.

Some economists – a group that is growing – think it will be a useless sacrifice to go down the path of adjustment packages. For them, the wound is deeper. It would be impractical to maintain the Euro without there being a European central government to distribute the tax burden of adjustment between countries. To these critics, pushing the fiscal adjustment to the PIIGS countries individually, a regime without exchange rate flexibility, it may be unfeasible.

Thus, the European crisis is likely to remain in 2012, and even in the coming years.

Meeting in Brussels and economic package for Greece

The schedule of the Greek crisis can be summarized as follows:

1. Greek debt is 350 million euros, of which about 212 billion euros correspond to securities held by commercial banks;
2. In April 2010, Greece, in recession, with rising costs and declining revenues, asked for a debt bailout to the IMF and the European Union;

70 Estado de São Paulo, Suplemento "Aliás", p. J5.

3. Greece adopted drastic measures to contain fiscal spending, under pressure to further deepen the fiscal policy tightening. The social fabric began to fray. In June 2011, riots began in the streets of Athens, when the government announced additional spending cuts; and
4. Germany, France and other European countries gathered in Brussels in the week of October 22nd to 27th, 2011. After much debate and pressure on commercial banks, they reached an agreement.

The agreement reached in Luxembourg, on 27 October 2011, provides for:

1. Pardon of up to 50% of Greek debt of about 220 billion euros of responsibility of commercial banks (the 70 largest banks affected were rather reluctant to accept this percentage);
2. Requires banks to seek resources (European banks need 106 billion euros) in the market to increase their capital, with a deadline of nine months for their recapitalization;
3. Expands from 440 million to 1 trillion euros the European Financial Stability Fund – EFSF, which is a bailout fund for countries in difficulty; and
4. Greece will receive 140 billion euros aid. As a counterpart, however, it also requires additional cuts in government jobs and welfare benefits for the Greek population.

The measures resemble the TARP (Troubled Asset Relief Program), created in 2008 to help financial institutions in the United States, which provided for US$ 700 billion. The TARP, through the Treasury Department, bought assets backed by mortgages of troubled banks.

Greek ability to pay the bills is also questioned, even after negotiation. The Greek debt is 330 billion euros. Even forgiving up to 130 billion, there remains a debt that should be equal to 120% of GDP in 2020. The Greek debt, in 2011, is 150% of GDP.

The Greeks, since 2010, faced reform after reform, with spending cuts to reduce the deficit, causing great upheaval in the population. The Greek middle class is formed largely by public employees, retirees and others who depend indirectly on the public sector. Commerce is spurred by these segments of the population.

The GDP has fallen 11% since then. Tensions returned in October 2011, with the Brussels package.

Some predict that Greece and perhaps Portugal, will have to leave the Euro Zone. Others think that these same countries will consider that, for their own sake, it is best voluntarily leave the euro zone. As there are major legal links of debts and assets, and ongoing projects, it is not a simple or easy decision. Spain and Ireland remain positioned to be the next candidates to leave the euro zone. Italy is also in the sights of the market, which forecasts difficulties for the payment of the debt in 2012.

When the market was beginning to evaluate the pros and cons of the agreement, the Greeks came with politics, and gave a real "Greek gift" to the rest of Europe.

Prime Minister George Papandreou announced, on November 1st, a public referendum in order to comply with the Agreement. Papandreou's political movement was seen as betrayal by France, and was met with an awkward silence by Germany.

It is possible that the Greeks prefer to leave the Euro and opt for default. This would bring the risk of blowing up the finances of many countries, disrupt the euro zone and put the world economy into recession. The referendum announcement would surely paralyze efforts to raise one trillion euros. In the end, the Greeks came to a political solution that did not require a referendum, and Prime Minister Papandreou ended up resigning.

If these political movements strengthen the idea of sacrifice of the Greek people to continue in the Euro Zone, the government will have better political conditions to face the protests. Many young people are already planning to migrate to other countries, which would aggravate the problems.

In summary, time is of the essence to equate and solve the European crisis. It is urgently necessary that actions are taken to confront it in a credible and sustainable manner, including a vision of their potential for economic growth, and also to reform, in its fundamentals, the regulation of bank capital in every country in the world.

The importance of Euro to Europe

To understand the importance of trying to keep Greece in the Euro Zone, and the integrity of the European community, we need a bit of history. For centuries, communities that form the European countries today have gone through long and bloody wars.

Whatever the economic calculation that is done to rescue the debtor nations and maintain the integrity of the European community, this value will be worth when evaluated in terms of the tremendous costs brought by World War II. The fall of the euro can be seen as the fall of Europe, and a great failure for the ideals which motivated the creation of the European Community.

The embryo of the euro zone was the European Coal and Steel Community, created after World War II, with six countries. It was intended to deter countries from new wars, after centuries of wars. It was the embryo of the European Community, which has 27 countries today. Not all countries of the European Community adopted the Euro as a common currency. The Euro Zone consists of 17 countries, and emerged after the collapse of the Soviet Union. It aimed to create collective prosperity and achieve greater consolidation policy. It can be concluded that these policy initiatives were successful because nowadays Europe, with 500 million people and US$ 17 trillion GDP, is the largest world power.

Although some alarmists predict the end of the euro zone and even of the European Community, the more likely framework is of a long suffering institutional improvement process. The Euro Zone needs, above all, greater fiscal integration.

The Euro crisis

Greece is not a country with great economic significance in the Eurozone. However, the Greek crisis is being handled with the utmost care and concern, due to several reasons.

First, a Greek debacle could overthrow the very basic concept of formation of the European Community. An economic community actually has political goals that are often more important than economic goals. Europe was given to destructive wars, usually involving France, Britain and Germany. With the Euro Zone, these threats have been dispelled. Bringing the countries of the Mediterranean and Atlantic rim (the PIIGS) contributed to solidify the union. It would be disastrous to let the PIIGS wonder aimlessly.

Second, the currency is the Euro. Strong European countries, particularly Germany and France, paid a high price to consolidate the euro. It would be a disaster to abandon the reputation of the currency and backtracking, recreating the French Franc and the German Mark. Thus, helping Greece is for their benefit.

Third, the creation of a single currency represents putting a “straitjacket” in the adherent countries, since these are limited to developing tight fiscal policies without degrees of freedom for monetary and exchange rate policies. In particular, countries in the region, due to not having their own currency, are unable to adjust their exchange rates to cut wages and prices in real terms. To let Greece succumb to the crisis means assuming that the design of the Euro did not take due account of the capacity of its member countries to withstand external shocks. It would give a certificate of the fragility of the common European market and its currency, which would be a delight for speculators betting on the weakening of the Euro.

Fourth, when the European Community decided to adopt the Euro currency in 1999, it was agreed that member countries would keep their tax regimes, labor practices and laws. The Euro currency would be shared. This posed challenges for the management of competitiveness in those countries. Without instruments of exchange rate depreciation, or without means to increase the money supply to lower interest rates, adjustment mechanisms were meager for a country to maintain its competitiveness.

Fifth, the contamination effect, via transmission network of the financial crisis. The other PIIGS are in a similar situation to that of Greece in terms of deficit and sovereign debt in relation to GDP. Letting crisis in Greece develop, without it being quelled with the help of the European Community, would be a clear indication of who are the next victims. This would “implode” the Euro Zone, creating great political and economic instability.

Sixth, the financial implications would be very serious, especially if other European countries were dragged by the crisis. That would mean the failure of major European banks, particularly French (Crédit Agricole Bank is the most exposed), English, Italian and German (Hypo Real State and Commerzbank).

The resolution of the Greek crisis, therefore, is strategic to maintain the financial health of the European financial (and international) system. Note that European banks were recapitalized with the help of their own governments. The failure of these banks would reach directly (the central banks of these countries are creditors of Greek debt) and indirectly (via systemic crisis in private banks not involved in Greece, but that would suffer serious setbacks) governments in the euro zone.

Seventh, a kind of "demonstration effect" is already working for other European countries. Portugal, Spain, Ireland and Italy have realized and internalized the need of making serious adjustments.

To be fair, other European countries as well. Germany itself announced in mid-June 2010, that it would implement strong measures for the reduction of fiscal deficit. Currently, of the 16 countries of the Euro Zone, only Finland and Luxembourg follow the rules of the limit of up to 3% budget deficit to GDP ratio. Other countries, including the PIIGS, are violating the limit.

The crisis marked the end of "provider state". In a way, Europe will have to reformulate and make more modest its social protection system network. This is very hard for people who thought they had a better future in terms of health care, paid vacations, overtime pay, abundant retirement and job security.

Eighth, the world stock markets are living a great uncertainty with the stocks of European companies, particularly banks. Until the Agreement announced on May 10, 2010, they were experiencing large declines in price indices.

Note that in countries like Germany there is a great interest, and often cross control of banks on non-financial companies. The international financial community is eager to reduce the degree of uncertainty about the future of the Euro.

In short, the Greek crisis has brought to light the dilemmas of the Euro Zone. They are economic and political dilemmas, but mainly of not ruining a dream of peace and prosperity, achieved after centuries of wars and destruction, with the construction of European unity. The great dilemma of economic policy will be to impose serious and restrictive measures, without this causing excessive anger and social breakdown.

In macroeconomic terms, the "package" of 750 million euros aims to restructure government debt, and will have to be financed somehow. Observing what happened in the recent past, there was an "anticipation of consumption" in the countries. The consumption in the region was above what would be consistent with the production capacity.

To "pay this bill," the region will have to produce more, or "tighten their belts". Produce more, in a rapidly aging continent whose population is estimated to decrease by more than 100 million people over the next 40 years, and suffering a great competition from China and India, will be a great challenge.

It is most likely that, maintained production, consumption must be reduced in the coming years – with great suffering for the social safety net – to pay for the “package” of 750 billion euros.

Europe, due to the crisis, will have to improve and tighten up mechanisms of fiscal control. The challenge is to return as soon as possible to operate within the fiscal deficit, treasury indebtment and public accounts control parameters. In short, Europe will have to undergo a future phase of major politic adjustments so that these objectives are achieved. It will be a great challenge.

In terms of the “alphabet soup” commented above, the letter appears to be **vV** (a “lame” **W**). That is, the second stage of the European “double dip” is proving deeper than the first dive.

The financial crisis of Europe and the recession threat

There are important lessons from the financial crisis of 2007-2008, which can provide an analytical framework for assessing the plans to address the current European crisis[71].

One of the central lessons of the recent global financial crisis, and other financial crises that have caused plagues in the world in past decades, is that the failure to credibly recognize and allocate losses incurred does not make them go away. Indeed, a delayed action exacerbates the market’s uncertainty about who will lose, and what amount, which worsens and prolongs the market reactions to losses.

For example, in 2007 and 2008, policy makers from the United States (US) and European Union (EU) failed to impose losses to financial intermediaries, even though these problems were apparent and recognized by the market. By waiting to act or to recognize and allocate losses, the policy makers have exacerbated the uncertainty and were forced to respond reactively to the collapse in market confidence in the fall of 2008, which substantially increased the economic and social costs of the crisis.

71 In late October 2011, the six Shadow Financial Regulatory Committees (Financial Regulatory Committees of Asia, Australia-New Zealand, Europe, Japan, Latin America and the US) promoted a meeting in Washington to assess the lessons of the recent global financial crisis. The meeting took place in Washington, DC, from October 21st to 24th, and the joint statement was presented immediately prior to the time that European leaders were gathering for a meeting in Brussels to discuss the crisis in the Euro Zone.

Outlines of the european crisis

Europe now faces a three-dimensional crisis: (i) problems of debt sustainability of sovereigns[72]; (ii) solvency problems or inadequacy of banks' capital; and (iii) competitiveness differentials between countries in the Euro Zone (over or undervaluation of real exchange rates within the Euro Zone).

These problems are interrelated and the weights given for each vary between countries within Europe. There is an urgent need for Europe to respond decisively against these problems. The Committees agree that this is difficult, because there is no easy and painlessly way out. The necessary decisions that must be made will create substantial costs for many years to come.

The European policy makers need to be aware that when short-term interventions are announced, market participants will look for credible commitments that ensure long-term sustainability of any of the plans that are presented.

This requires mechanisms to restore the solvency of sovereigns, confidence in banks and higher competitiveness for troubled members of the Euro Zone. The ingredients of this problem include the recognition and allocation of existing losses, as well as reforms in tax policy, improvements in financial regulation and measures to strengthen economic growth.

Regulation of banks and basel accords

Whatever the option chosen by the Euro Zone, it is vital to fundamentally change international banking regulation, as the capital requirement standards set by the Basel Committee, in force since 1989, was a major contributor to the crisis.

As recognized by the then President of the ECB, Mario Draghi, in a speech in Brussels in May 2011, "the existence of loopholes [in the framework of the Basel rules], due to lack of coordination or consistency, was actually one of the main causes of the crisis".

Both the standards set out in Basel I as in Basel II induced, artificially, European banks to buy excessive amounts of sovereign debt because these standards

72 "Sovereigns" are debt securities issued by governments.

assigned zero weight to the risk, implying that banks would not need to bear any such purchases with the capital of the owners.

Moreover, since the debt of all governments was evaluated equally as zero risk (provided that such debt was rated as 'investment grade" by the rating agencies), the banks had no incentive to discriminate their choices of countries in the purchase of sovereign debt or to diversify their sovereign debt portfolios.

Even though the Basel Committee has revised, after the last crisis, the capital standards, and will eventually require banks to increase their capital, the standards set by Basel III contain the same flaws as previous versions. In particular, the zero weights for sovereign debt will continue. Probably, the time there has come to abandon the current methods of Basel to establish capital standards, and to replace them with better standards[73].

Potential impact of the european crisis

The whole world has an interest in an urgent and credible solution to the crisis in the Euro Zone and rectification of banking regulation. There are several potential transmission channels of the European problems to the rest of the world if this crisis is not satisfactorily addressed.

Failure to set the standards of bank capital will continue to create artificial incentives for banks to buy sovereign debt, however their quality, thus sowing the seeds for possible future crises.

If the capital flees from the weakened European economies, there is a great risk that they will flee too from emerging markets in general and of countries with high debt ratios over GDP, especially those with short-term to maturity profiles. This would lead to higher interest rates and credit contraction in all these markets.

Indeed, there is an urgent need to strengthen the IMF resources in order to provide liquidity for emerging market economies that could be harmed by the failure of a flawed plan of the Euro Zone.

73 The Six Shadow Financial Committees recommend a simple, yet comprehensive, indicator. It is called the "minimum required leverage ratio", measured as the social capital (of the shareholders) divided by total assets.

In Latin America, the negative impacts can be magnified because European banks hold a significant share in the banking system. If European banks are adversely affected by the crises in their countries of origin, there is a significant risk that they transfer to their headquarters funds from Latin American operations, and consequently creating a dangerous credit crunch in Latin American economies.

The US economy is exposed financially in a different way. About 40% of assets invested in the money market mutual funds are invested in short-term liabilities of European banks.

If these banks cannot meet their obligations, they will expose these money market mutual funds to a valuation below par value and can stimulate bank runs, or yet another bailout as happened after the collapse of Lehman Bank in September 2008.

Global investors are exposed due to their investments in securities in Europe. A crisis in Europe that results in a significant decline in the value of stocks of European companies could not only cause direct losses to shareholders from other countries, but also trigger a crash in the stock markets of other economies.

The problems in Europe, if not properly treated, may also severely disrupt trade finance, hurting international trade. This result can be amplified by a substantial contraction in real activity in Europe that may cause a decline in exports of those countries that send goods and services to the European continent. Europe's major trading partners – the US, Asia (China and Japan included) and all commodity exporters would suffer.

There are, in addition, other risk situations we do not know. For example, it may be difficult for regulators to know the extent of counterparty risks related to different financial instruments and financial institutions in Europe.

In 2008, the United States, the AIG was rescued because, in part, regulators feared it was too exposed in their counterparts in the credit default swap contracts it had issued. Who knows if there are bit other potential AIGs in the event a crisis in the Euro Zone?

The effect of crisis in Latin America

After more than three years from the peak of the outbreak of the Subprime Crisis of 2008, there remain problems and concerns with global macroeconomics.

It is important to ask if the behavior of the US economy in terms of growth and inflation, and the crisis in Greece (and other PIIGS) in the Euro Zone could impact the economies of Latin America[74].

Even though the external environment for Latin America has improved significantly since the outbreak of the global financial crisis of 2008-2009, the current dynamics in advanced economies remains subject to significant uncertainty and potentially brings significant risks to Latin America in the medium term. The risks for Latin America are derived from three main (and unrelated) sources: 1) the evolution of the US economy; 2) the development of the European debt crisis; and 3) the policies of developed countries and regulatory changes affecting international capital markets.

With respect to the United States economy, the financial crisis imposed substantial structural challenges. The impact of the crisis is being felt very differently among sectors of the economy of that country. Families and financial institutions are in a gradual deleveraging process, while small businesses are facing harsh conditions for credit.

In contrast, large corporations and the federal government of the United States are currently benefiting from ample liquidity conditions. In this context, important issues not yet resolved are the burden of mortgage debt and the growing indebtedness of the public sector.

The US economy has for some time now received strong pressure to lower real wages as a result of the expansion of the Chinese economy (particularly, the growth of its workforce driven by low wages) and the use of “outsourcing” practices by their own corporations.

These pressures were offset in the years before the financial crisis by strong expansion in hand-intensive sectors of work and “non-tradeables” (such as in

74 This article is based on a working meeting in June 2011 that the author, as a member of LASFRC, was in Washington, D.C. As a result of the meeting, a document was produced and published, Statement No. 24, entitled “The Uncertainties in the North are sowing a New Crisis in the South? Options for Latin America.”. The document produced, and the list of participants, can be seen in the LASFRC site (WWW.claaf.org).

construction) and stimulated by the real estate bubble. As the financial crisis had the greatest impact in these sectors, the downward pressure on real wages is now playing a significant role in explaining the slow progress in the US labor market, despite the recovery in economic activity and wealth of families.

Due to political complications with the budget issue, the economic policy of the United States will probably depend almost entirely of monetary policy. In a context of persistent unemployment, low growth and high debt levels in both the public sector and in private, monetary policy will likely remain accommodated and avoid significant negative surprises with inflation.

Therefore, faced with this basic scenario, the recovery of the US economy, and especially its employment, is sure to be modest by historical standards. Moreover, the likely low level of nominal interest rates and as a result the negative real interest rates in the US continue supporting conditions for the entry of new capital flows to emerging markets.

With regards to the potential developments in the European debt crisis, there has been observed the existence of significant risks and uncertainties, as a result of the current strategy in the Euro Zone. Based on past experiences in the global context, it is unlikely that the current strategy of providing financial assistance in exchange for fiscal adjustment in Greece restore growth in the medium term, unless the fiscal situation of this country becomes clearly sustainable from the capital market points of view.

Although the current strategy will probably postpone a resolution, ultimately Europe will face one of two possible scenarios: 1) a tumultuous debt restructuring in Greece and probably in other European economies; or 2) a large rescue of Greek bonds and possibly other European countries affected by the euro zone governments that results in a significant reduction in debt and a relatively benign treatment for bondholders. However, a disorderly management of the European debt crisis may cause severe contagion effects in Latin America, especially in light of the large presence of foreign banks in the region.

The situation of high indebtedness in Europe reveals a major challenge for the region, which actually dates from a long time: the need for a significant increase in productivity. However, the structural reforms, needed to generate a significant improvement in growth prospects, face major political and economic challenges. Given these conditions, we can visualize a basic scenario of a slow recovery of economic growth in advanced economies as a whole.

The development in the short-term of sustained inflationary pressures in advanced economies will be unlikely. However, in terms of the international capital markets, policy actions in response to the deterioration of the public debt conditions may result in the adoption of regulations that would be reminiscent of measures historically associated with the concept of financial repression.[75, 76]

According to the basic external scenario discussed above, Latin America will likely face significant and sustained inflows of capital. Strong capital inflows have been, to varying degrees, associated with increasing current account deficits, appreciation of the real exchange rate and credit "booms"[77].

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75 An example of such actions is the growing share of public debt in the assets of commercial banks and pension funds.

76 For example, in 2009 the UK increased the requirement for deposits of government securities held by banks. In 2010, France converted the reserve of the pension fund to become a captive buyer of government debt. Basel III liquidity requirements state that banks must invest in domestic government bonds.

77 For regional aggregates, see *IMF's World Economic Outlook*, April 2011.

PART III

THE RECESSION THREAT

It should be noted that it is still ironic to discuss a financial crisis with a focus on the insurance industry. After all, this is the segment of the economy that seeks to protect from risks.

The insurance industry, in fact, not only faces situations of risk but of uncertainty as well. Aspects of risk and uncertainty were widely discussed in Research Report 1 (Keynes as President of Insurer)[78], and the analysis made therein of the Crisis of 1929 is still valid to examine the current crises.

The situations of uncertainty are patent when one seeks, through investments, to achieve profitability targets of the assets of insurers. Therein lies, enhanced by modern and innovative financial products, the exposure to uncertainty and to the designs of financial crises.

78 Published as a book, Funenseg, *John Maynard Keynes and his Work in the Insurance Market*, April 2012.

CHAPTER 7

Keynes revisited. The recession threat and the lessons from the decade of the great crisis

The Financial Crisis of 2008 triggered a series of discussions involving the direction and severity of an economic downturn. The “fear” of insufficient demand and consumption in the economy came back strongly to the scene. In the context of these discussions, there is much talk about the Crisis of 1929, as a “ghost to haunt us.” And there is much talk of Keynes.

What is, however, the exact historical dimension of the 1929 crisis? In general, what is the theoretical dimension of recessions?

Characterization of business cycles

Economists, geographers and other social scientists usually analyze the economy in a context of economic cycles. The literature on this subject still shows many technical problems, however, despite the imperfections, it can be very useful to characterize periods of economic history and serve for business forecast or for mounting long-term macroeconomic scenarios.

All economies are subject to cyclical fluctuations, showing production and price oscillations. The term “business cycle” or “economic cycles” refers to fluctuations in economic activity around the long-term growth trend, generally represented by the GDP. In other words, cyclical fluctuations are temporary deviations from a long-term trend – called secular trend – of an economic variable, in general, the potential GDP.

The GDP is the market value of all final goods and services produced in the country during the year. The potential GDP is what the economy can produce, given the state of technology if all its factors of production are used to a sustainable level of intensity.

The long-term trend is the trajectory of potential GDP in a historical series, calculated in most cases by statistical methods of linear regression.

Cyclical fluctuations are changes in economic aggregates in the short term – particularly GDP – which translate into acceleration or decreases in its long-term trend.

The cycle includes changes in time in terms of accelerated growth periods (recovery and prosperity) or periods of relative stagnation or even decline (recession and depression).

That is, cyclical fluctuations often have four phases:

1. Contraction;
2. Recession/depression;
3. Recovery/impulse; and
4. Expansion/propagation.

Business cycles: an economic vision

In recent years, the macroeconomics that focuses on the short term is abandoning the vision of "business cycle", preferring instead to analyze what they term "economic fluctuations". The practical result is to consider more difficult to produce forecasts.

The theoretical foundation behind this change of view is that "cycles" suggest that there are more predictable movements, which goes against the belief based on rational expectations and monetary analysis.

In the study of economic theory, real business cycle models seek to explain the empirical regularities of the cycles.

The causes pointed for the cycles and fluctuations are very diverse. Economic causes (rational or based on "irrational exuberance") and political causes are pointed to. Regarding the former, on the side of the Aggregate Demand (AD), interest rates and fluctuations in investments are the most cited. Regarding the Aggregate Supply (AS), they are called "supply shocks". For example, an increase in oil prices. Most "political causes" can be included in this category of supply shocks.

In the short term, there may appear crises and volatility, in the medium term, it may sustain significant highs or falls, and long-term analysis really necessitates more dosage of economic fundamentals.

In general, five types of long and medium term cycles are identified. The dates of Beginning and end, and the dates of expansion and contraction stages within each cycle are subject to a high degree of subjectivity. Furthermore, the cycles of these five types overlap, allowing quite enriched insights and conclusions. Table 6 shows types of cycle:

TABLE 6. CLASSIFICATION OF MEDIUM AND LONG TERM ECONOMIC CYCLES

Type of cycle	Nature of the cycle
Logistic cycles	Logistics cycles studied by the American economist Rondo Cameron, usually have an interval of 150-300 years, and are primarily associated with major demographic changes, and are reflected in changes in the economy. According to this theory, we are still going through the third logistic cycle, the Industrial Age.
Climacteric cycles	Within this logistic cycle, there has been seen in the postwar period a phase of expansion and growing international interdependence which is associated with a climacteric cycle (shorter than the logistics cycle). This climacteric cycle shows, during this period, gradually and increasingly, the great eclipse of industrial economies caused by the emergence of rivals from other regions (NICs – "newly industrialized countries" and the BRICs).
Kondratieff cycle	Interconnected with these cycles, there are the Kondratieff cycles of growth and stagnation. According to this methodology, the following Kondratieff cycles have been identified: I – 1780-90 – (A) growth -- 1810-17 – (B) stagnation -- 1844-51 II – 1844-51 – (A) growth -- 1870-75 – (B) stagnation -- 1890-96 III – 1890-96 – (A) growth -- 1914-20 – (B) stagnation -- 1940-45 IV – 1940-45 – (A) growth -- 1967-73 – (B) stagnation -- ?.
Kuznets cycles	It is noted that, superimposed to such cycles, there occurs the Kuznets cycles. These cycles have been studied by the American economist Simon Kuznets. They are cycles of 10 to 12 years, showing regular changes in the economic growth rate.
Juglar cycles	French economist Clement Juglar studied investment cycles, lasting 8-11 years. There is a certain overlap with the types of cycles studied by Kuznets. This latter economist, however, believed that the investment cycles, themselves, have a longer duration of 15 to 25 years.

Source: author, based on the economists referenced.

Economic fluctuations and financial crises

In an economic crisis, events in the financial world often receive the most attention. However, associated, and really very imbricated, with any crisis, there are economic aspects linked to business cycles and growth trends in the economy.

The economist Joseph Schumpeter pointed out, in his theory about the business cycles, that the behavior of the economy is not uniform over time. According to the "Schumpeterian theory", the economic cycles have four phases:

- ascension or boom;
- recession;
- depression;
- recovery.

The economic depression, there, would be a phase of the economic cycle in which the effects of the recession are accentuated, that is, reduction in output, rising unemployment and downward trend in prices.

In times of economic crisis, terms such as recession and depression are often used to portray the economic conditions of the moment. There is no one single definition, for example, for the term recession: some analysts use this term to refer to an economy that keeps growing, but at a slower pace than their potential; other economists prefer to use the term recession when a reduction in GDP is observed.

Cyclical fluctuations are inherent to economic activity. Thus, they will always happen. On the other hand, there are strong political factors involved in the behavior of the economy, with a tendency existing for economic policy looking to mitigate these short-term fluctuations.

The financial crises of large-scale, such as the Crisis of 2008, commonly, in a second moment, cause major damage to the rest of the economy. Be them "little ripples" or "tsunami", the fact is that in the modern globalized world, it is very difficult for a country to emerge unscathed from a financial crisis of major proportions.

The economic recession

An ongoing debate in mid-2010s, is as follows: has the US recession ended?

This is a discussion that transcends the academic interest, as it affects the "animal spirits" of entrepreneurs. An interesting aspect of the debate is that, going only by numbers and statistics, it does not respond satisfactorily to the question.

There seems to be a consensus that the end of the recession will pass through the change in statistical trends, coupled with the state of mind (changing from pessimistic to optimistic) and psychologic state of the population to favor consumption and investment.

The National Bureau of Economic Research (NBER), in the US, is the body responsible for monitoring the business cycle of the economy of that country.

In the NBER definition, a recession occurs when there is a reduction of GDP (or negative economic growth) for two consecutive quarters, compared to the previous quarter. The decline in the economy affects real income, employment, industrial production, and business in general.

Ben Bernanke is an economics professor at Princeton University and was until 2014 the Chaiman of the Federal Reserve Board. At the time, Bernanke is one of the most important characters in the world economy, mainly because of his knowledge in dealing with financial crises and economic downturns.

It was in a sense a happy coincidence – or Bush's merit – that he was able to occupy the position of Chairman of the FED. Bernanke is one of the most renowned experts on economic recession[79].

We will focus on the first chapter of his book (pages 3 to 38), where Bernanke develops a theory about the macroeconomics of the Great Depression. In his text, he studies not only the depression in the United States, but also makes a comparative analysis with other countries.

In the adopted macroeconomic approach, he examines the forces that acted in aggregate demand and supply. According to Bernanke, the factors of aggregate demand have already been extensively studied by other authors and there is a

79 Bernanke's book, "Essays on the Great Depression", collects together several studies on the economic recession and the Crisis of 1929.

consensus on the importance of monetary shocks and its contractionist transmission through the gold standard mechanism.

With respect to the forces acting on the aggregate supply, Bernanke discusses the rigidity of nominal wages and its impact to hamper economic adjustments. With regard to the financial crisis, Bernanke examines the problem of deflation. This phenomenon undermines debtors and creates problems in the real side of the economy. This ultimately affects the financial health of banks, creating panics and bank runs.

In the introduction to the book, Bernanke comments that the Depression that occurred after the Crisis of 1929 is informative about the economy, for two main reasons: (i) it marked a major event in history; and (ii) it affected most countries.

According to the author, the Depression was characterized by large declines in production and prices. The premise he adopted to explain the event was to attribute the dominant role of the decline in aggregate demand. For him, the most important factor to depress aggregate demand was the worldwide contraction of the money supply.

The monetary collapse was due to a mismanaged international system and with great technical failures. Bernanke also takes into account that non-monetary factors – such as banking panics and company bankruptcies – seriously reduced the availability of credit and exacerbated the economic collapse.

Lessons of the crisis of 1929

It is a major challenge for economists to forecast financial crises. While there are numerous economic and financial indicators, it is very difficult to organize this information in the form of a Leading Indicator System to Alert on Crisis.

How to know the common symptoms that lead to a crisis? The issues involved are complex, having to do with economic fundamentals, imbalances, vulnerabilities, risk assessments and so on.

The question posed by the Crisis of the Euro Zone, however, is different. The crisis has already violently hit the region. What to do to escape economic recession?

This matter, fortunately, has already been better mapped, but with many controversies. There are two issues: the causes of the recession and the necessary economic policies to get out of recession. The complicating factor is that some authors

– see the opinions of Soros about Germany's role in today's crisis[80] – believe that the economic policies for combating the crises cause the opposite effect.

Let us take a look at the opinions of some authors who have studied this subject.

We will begin with the book written by Ben Bernanke, while professor at Princeton University, published in 2000, before becoming Chairman of the FED[81].

Bernanke, in several articles collected in his book, explores the causes of economic recession in the 1930s, attributing importance mainly to monetary reasons, but without ignoring the shocks of non-monetary factors such as corporate failures and bank panics.

In regards to moving out of the recession, he comments that:

> "when intense downward pressures on aggregate demand were removed (for example, through the depreciation of the exchange rate or the abandonment of the gold standard), many countries experienced fairly rapid recovery of output and employment."[82]

Selwyn Parker wrote about the Crash of 1929, and presents what would be, in his opinion, the lessons of the Great Depression[83].

According to the author, taking notes from the Crisis of 1929, and making predictions about the Subprime Crisis, he thinks the crisis will be extended from two to five years. In the Crisis of 1929, the agricultural sector was very important and suffered greatly with depression in the United States. Currently there are several governmental and international institutions, collaborating in helping countries escape the recession.

The "real economy" as opposed to the "financial economy" is more important today. Several other economies, particularly in Asia, can help in the task[84]. According to Parker, however, there is a dark side in the process:

80 Presented in Chapter 5.
81 Ben Bernanke, "Essays on the Great Depression".
82 Ibid, p. ix.
83 Selwin Parker, "The Crash of 1929".
84 Parker, pp. 416 to 418.

> "demonstrable excesses of the financial sector tarnished the image of capitalism and a backlash is inevitable against it – or at least against what politicians and other injured parties consider capitalism to be."[85]

Akerlof and Shiller, proponents of a greater role for psychology in economic analysis, believe that the loss of public confidence, the pressure for profits exceeding antisocial limits, the monetary illusion and changes in the perception of "economic fairness " were outstanding features in both the Crisis of 1929 and in the Subprime Crisis[86].

For the authors, the lessons learned in 1929 serve to take steps to settle the Subprime and the Euro Zone crises, to move out of recession: (i) the government must have a strong and active role, trying all possible measures, with a single goal: putting the economy back into operation; (ii) carry out microeconomic reforms in financial regulation, bankruptcy law for financial institutions; (iii) promote equity and a better distribution of income and wealth in society; and (iv) rebalance the incentives and wages in the financial sector vis-a-vis other sectors of society, an idea of social justice[87].

Paul Krugman published a book on the return to a depressed economy, at the time that the United States and the rest of the world suffered the outbreak of the Subprime Crisis[88]. In the book, he was analyzing the crises in Latin America and Asia in the late 90s, but his observations serve for the Subprime Crisis.

According to Krugman, financial institutions in 2008 were repeating the same mistakes that led the economy to previous crises, and there would be, therefore, a return to economies in depression.

To escape from this trap, Krugman recommends a rescue operation, based on the reform of the credit system so that it can be increased, and an increase in government spending and investment.

85 Ibid, p. 418.
86 Akerlof and Shiller, *Animal Spirits*, p.72.
87 Akerlof and Shiller, Ibid, p. xviii.
88 Krugman, "*The Return of Depression Economics*".

CHAPTER 8

Regulation measures and reforms in the main finance and insurance centers

The Subprime and Euro Zone Crises prompted many debates and discussions on the role of the financial system and global governance, and of its regulation by local governments.

In the same way, the Euro Zone Crisis prompted discussions on the fundamentals and the recommended macroeconomic policies for a country to avoid or remedy a financial crisis.

Basic types of crises

As was seen in Chapter 1, there are two basic types of international financial crises: (i) Those that result from defined and identifiable macroeconomic imbalance; and (ii) Those that result from volatile flows of financial capital which move quickly from one segment of the financial market or country to, respectively, another segment or country.

The first type of crisis seems to characterize the Euro Zone Crisis: severe macroeconomic imbalance, caused in general by budget deficits.

In an isolated country, like Brazil for example, this deficit could have (as it happened in the past) be financed by monetary expansion. The rest of the story is also well-known: Severe currency crises will emerge, exacerbating the vulnerability of the country and creating distorted exchange systems (generally overvalued). Following this, there would be deficits in the trade balance.

The Euro Zone countries, however, are not isolated economies. This makes the crisis that the PIIGS countries face more complex. These countries are linked to the Euro, limiting their degrees of freedom in terms of economic policies, mainly the monetary policy.

In any way, the prescription for this type of crisis is the textbook: cut deficits, basically with the employ of fiscal policies to increase revenues and cut budget expenditures.

The second type of crisis brings out more complex problems to be solved, as it will be seen as follows.

Suggested actions for the subprime crisis

Some developments in the international financial economy created a set of characteristics which make the flow of capital much more volatile:

- significant advances in fund transfer technology;
- wide and rapid financial liberalization;
- floating exchange rate interacting with interest rates;
- financial savings changing from domestic to international;
- capital volatility enhanced by technology;
- herd behavior of the members of the financial system, even in a global level;
- creation of speculative tensions for the country's foreign exchange reserves;
- loss of flexibility for the fund management by the countries; and
- increased ease for situations of lack of liquidity to transform into insolvency.

Due to these characteristics, the second type of crisis creates challenges for the "policy makers":

- possibility of multiple equilibria, confusing the causality between adopted economic policy and obtained results;

- the adopted policy is dependent on the responses of international lenders;
- in this scenario, the financial crisis appears as a possible result, but it is not necessary or pre-determined. It could, however, be self-realizable; and
- healthy banks can be affected, for it is common in the banking industry the mismatch of debt and credit deadlines. The illiquidity can turn insolvency in a mercurial manner, creating systemic crises.

The Subprime Crisis taught that the response of the “policy makers” must be quick, pragmatic and with established doctrines set aside. It was seen in 2008 and 2009 that there are several possible choices for monetary and fiscal policies, but all choices had been linked to “tradeoffs”. For example, avoiding a recession? Defending the exchange rate?

On the other hand, the necessity of dealing with financial integration challenges has become clear. Thus, the biggest challenge is to promote a reform of the international financial architecture.

This reform will have to find mechanisms to control the current easiness of spreading financial crises, find measures to prevent the contagion effects that impact the real economy, and find answers to the “who will be the lender of last resort?” question.

In the long term, the challenge is to search for growth opportunities, based on institutions and financial mechanisms that are more apt to deal with the volatility of international capital flows.

One concern must be dominant: mitigating or avoiding the contagion on the real side of the economy. This happens due to:

- lack of credit affects consumption;
- fear of not receiving financing slows investments;
- volatility of the exchange rate hinders borrowing abroad by banks, and reduces domestic credit.
- lack of credit produces a shortage in exports; and
- deficit in the trade balance encourages protectionism.

Suggested measures for the Euro Zone crisis

For the purpose of acting rapidly and effectively on these problems, Europe needs to execute a four-stage plan to deal with this crisis.

First, Greece – which is the Euro Zone country most obviously complicated and fiscally unsustainable – needs to restructure its debt to a sustainable debt.

By helping Greece restructure in an orderly fashion and restore economic growth, the European leaders need to assure that the rest of Europe is successfully protected from any contagion with bank debts and sovereign debts that may accompany the restructuring in Greece.

A satisfactory answer requires the agreement and the articulation of a plan to allocate losses related to Greece, in such a way as to prevent contagion which results from the lack of a credible plan.

Second, as part of a broader formula, credible and transparent for the recognition of allocation of losses, the European governments need to ensure that the banks will be adequately capitalized to restore the trust of the market in the financial system.

This means that the banks that are currently exposed to great potential losses need to be sufficiently strong to avoid the risk of insolvency, or protected by government guarantees, or solved with clear implications for their plaintiffs, or recapitalized, with public or private funds.

Tough choices are now required on bank solutions, as the previous bailouts significantly weakened the public finance.

Third, a sufficient funding is required, coming from a coordinated source, large and credible to eliminate the uncertainty on the sustainability of European sovereign debts. This also requires the acknowledgment and allocation of loss, be it explicitly or implicitly, and the provision of a sufficient support for liquidity.

For example, the European Central Bank (ECB), the European sovereigns, the IMF or some other international consort, could provide sufficient support for any or all sovereign debts. The funds of this mode could be offered be them without preconditions or just for qualified countries that have done enough reforms.

All these arrangements would be examples of coordinated plans, broad and credible to solve the uncertainty of the sovereign debt, each of which implicating taxes and effective transfers between taxpayers of the various countries.

Until this moment, although the European Financial Stability Fund (EFSF) and the European Central Bank (ECB) have provided some support for the sovereigns, this support is insufficient to resolve the market's uncertainty.

It must be noted that the support of the ECB without credible commitment on the part of its member countries to absorb the fiscal consequences of the purchases of the ECB, may result in a significant inflationary tax.

Fourth, a sustainable trajectory for the current members of the Euro Zone needs to face the long term issues of competitiveness, related with the current distortions in the alignment of the real exchange rates.

The real exchange rates of the countries of the South of Europe are currently substantially overvalued relative to Northern European countries. There are three obvious ways to fix this problem.

One focus – a passive strategy – may be simply to contemplate a painful deflationary adjustment of prices and wages in the South for several years. This focus implies costs of low growth, high unemployment and potential political turmoil, all of which can harm the necessary fiscal consolidation. This focus may prove to fail, resulting in small gains and big costs.

A second strategy would be to get some countries to abandon the Euro Zone. This would, however, be harmful for the markets, possibly reducing the confidence in the European institutions and in the commitment with integration.

A third possibility includes smoothing the adjustment process for the restoration of competitiveness, to be obtained by means of a more elevated inflation rate at the Euro Zone during many years in the future.

This would impose an inflationary tax in the North, and at the same time the deflationary adjustment in the South would be facilitated. This adjustment would still require deep structural reforms in the South, to avoid future imbalances in the real exchange rates. To make these reforms credible, it would also be necessary to reform the governance structures inside the Euro Zone and the EU.

Modern crises management

The Subprime financial crisis, followed by the Euro Zone Crisis, continues to haunt the global economy in the mid 2010's. Many had took for granted that in 2010 we were already in the recovery phase of the Subprime Crisis, but then Greece, the PIIGS and the Euro itself are bringing new doubts and shocks, threatened with a situation of "double dip" (**W**).

Two things are known from crises: They are inevitable, and stir changes that enhance the financial institutions and markets.

The financial world went through a real "cataclysm" in the first months and years after 2008, and until today there are many doubts as to the duration of the crisis. The financial crisis, triggered in September 2008 with the collapse of investment bank Lehman Brothers, was many times compared to a hurricane.

One of the problems faced by regulating institutions, when the credit crunch appeared in the last quarter of 2008, was to deal with the big banks. It was observed that some banks had financial assets and volumes of loan granted so disproportionate that their bankruptcy could ruin the financial system as a whole.

The facilitation of a problem in the post crisis – saving some banks from bankruptcy – caused another – there are even bigger banks now. For example, the J.P. Morgan Chase, which holds one dollar for each dollar deposited in the United States.

The legislators identified two problems in the banking concentration: (i) it reduces the number of choices for consumers and increases service prices; (ii) it increases the "moral risk", since a big bank knows that the government will not let it bankrupt, and as such ends up acting in a more reckless way.

In any crisis, the heat of the moment requires rapid responses and of emergency. In a second moment, it is possible to think, elaborate and execute lasting impact measures.

In the Crisis of 2008, the first measure, taken by many countries, was to increase the money supply. There is a consensus that the lack of liquidity may precipitate a financial crisis, breaking institutions and causing a serious crisis of solvency.

Indeed, in October of 2008 the world seemed to be ahead of a complete collapse. There was a full crunch, nobody wanted to lend money. In truth, there was no trust, it was the famous "every man for himself".

It is very interesting to state, how at this time, how the emotional factors emerge.

The "fallacy of composition" works in this occasion, and the rationality, in this case, is focused on the law of individual survival. Since the crisis is systemic, the individual effort is doomed to fail.

Proposal of regulation measures and financial reforms

Several proposals were made, and still continue being done, to improve the financial system and reform the financial and regulatory architecture.

In this moment, what can be concluded is that there exists a strong tendency for a higher regulation, greater control on operations with derivatives, more surveillance on the transparency of financial information, an improvement of the rating agencies, and other measures.

The economic and financial stability of the international economy is a "public good" of difficult management. Since all the countries, and specially, their financial sectors are potentially affected by financial crises, many works started to discuss the theme of International Financial Architecture.

Harold James argues in his book[89] that the Great Depression of the 1930s had essentially three components: flux of capital, trade and international migration. The crisis, *per se*, would have been confirmed by the mistake of international institutions in not supporting and assuring the treaties that guaranteed economic globalization.

According to the author, there is a resemblance with modern days, in which highly integrated systems prevail (and because of that, more vulnerable to collapse) and global financial markets vulnerable and unstable.

George Soros[90] comments that the history of financial markets is dotted with periodic crises. Due to the existence of globalization, he believes that the international financial system cannot be regulated within the national scope. He suggests the strengthening of global institutions, like the IMF and the World Bank.

Soros's thesis is that the democracies of the world should build an alliance with the dual purpose of, first, promoting the development of the open societies inside

89 Harold James, "*The End of Globalization*".
90 George Soros, "*The Global Capitalism Crisis*" (2001).

each country and, second, strengthen the law and the international institutions necessary to a global open society.

For Soros, the global capitalist system has generated a very unequal playing field, in which the distance between rich and poor is increasing. He believes that the predominant global financial architecture practically offers no support for the least fortunate. Because of that, he presents diverse specific proposals of reforming of this architecture.

Soros argues, in a posterior book[91], that the rapid integration of the international financial markets and the growth of transnational business were not accompanied by, in the social and economic scope, of the institutions. This author contests extreme visions like those expressed by so-called "market fundamentalism", on one side, and by the activists that defend the end of international institutions, on the opposite side.

To Soros, the markets are amoral, in a way that people act on self-interest, whilst society cannot function without a well-defined distinction between "right and wrong".

Because of that, he defends the reform of international institutions, financial and trade, so that they can offer public goods and promote the assistance to economic development on a global scale, because globalization has induced bad allocation between public and private resources, since the market is efficient to generate wealth, but not to take care of social necessities.

On the institutions reforms, George Soros defends the following measures:

(i) counter the instability of financial markets;

(ii) correct the bias of existing financial and trade institutions, which favor developed countries and are largely controlled by them;

(iii) complement the World Trade Organization (WTO), facilitating wealth generation with similarly powerful international institutions focused in social issues, like the reduction of poverty and provision of public goods in a global scale; and

(iv) improve the quality of public life in countries that suffer from corruption, repression and governmental incompetence.

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91 George Soros, "*On Globalization*" (2002).

Frederic S. Mishkin is one of the most important authors on the theme of financial crises. In his book[92], written two years before the deflagration of the Crisis of 2008, the author, among other themes, examines two subjects of great interest for the present: how to prevent financial crises from occurring, and what to do to recover from these crises, in case they happen.

To Mishkin, the financial globalization does not always functions in favor of emerging economies. The financial liberalization, in case it is not organized and administered in a proper fashion, can conduct the economy to a disastrous financial crisis, bringing severe long term consequences to these economies.

This way, the author advocates prudent regulation and supervision. To achieve this, it needs to avoid the currency mismatch, the moral risks with insured bank deposits, the ownership of financial institutions by non-financial groups, an insufficient bank capitalization, an inept risk management and an insufficient transparency of information. The author also advises a greater focus on the supervision job, and recommends more caution with the opening of the financial system to foreigners.

However, if a financial crisis occurs, Mishkin advises the following steps to be taken, with the objective of recovering the economy: (i) Restore the confidence; (ii) Avoid wrong economic policies to promote the recovery, especially concerning the dosage of injected liquidity in the economy; and (iii) Conduct with consistency the adopted economic policies._

Finally, it is important to finish this section with the ideas of Paul Krugman, one of the most important economists and commentators of international finance. Krugman[93] analyses and searches for what would be the deep economic reasons causing the financial crises.

Krugman comments that he started writing his book as soon as the Crisis of 1999 started. Before finishing his book, however, the crisis had passed. Because of that, he modified the focus and raised the following question: what can be learned with this episode of recovery from the crisis?

According to this author, the economics of the depression still circles the world. Even that the risk of this depression has diminished, there still exists the possibility that the insufficiency of demand causes new crises.

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92 Frederic Mishkin, "*The Next Great Globalization*".
93 Paul Krugman, "*The Return of the Economy in Depression*", 2002.

This way, Krugman points to economic fundamentals as the biggest responsible for the crises. In particular, the theme that dominated the first decades of the 20th century, and that Keynes analyzed in a masterful way: the insufficient aggregated demand to produce full employment.

Krugman emphasizes what is called "the old fashioned role" of the lack of dynamism of the aggregate demand for goods and services in the economy to explain financial crises. In his opinion, the crises of Mexico and Asia were the first and second act of the global financial crisis, and the "economy of depression" can put on stage the third act of this crisis.

The work of the IMF and international organisms

The recent crises have shown that the active presence of the IMF is vital[94]. The financial crises usually occur from time to time in the present world and they are hard to predict. Their cost is very high in terms of job losses and a drop in investment and production. In social terms, costs are not smaller, being common the institutional and political disintegration of the country affected by the financial crisis.

It is not surprising, therefore, that the government and the international organisms are very important agents to avoid and quell the crises. The point is how these entities act and the effectiveness of the instruments and policies employed.

The most general theme in this context is the reform of the international financial architecture. For this, the works of the international organisms are key, in special the International Monetary Fund.

The IMF was conceived in the post-war, to seek short term stability in countries under the fixed exchange rate system. With the increasing number of countries under the floating exchange regime and the increasing integration of domestic policies in a scenario of open macroeconomics, the IMF had to change its role. It has begun to consider structural factors of the economy, long term economic aspects and ways of working in international and systemic financial crises situations.

94 Currently, the IMF is present on 181 member-countries, and has a staff of 2,360 employees.

The Claaf dedicated a meeting to theme of the utility of the IMF to mitigate the eclosion or the effects of financial crises[95]. Its members examined the most frequent criticism – it is no longer necessary in the macroeconomic level, and no longer wanted in the micro level (structural reforms) – and disagreed on both.

The committee advocates the continuity of the institution and defends the thesis that the IMF must focus more on its primary responsibilities of fiscal and monetary policy.

The Claaf supports the IMF for the following reasons: (i) The multilateral organizations are important to achieve the cooperation of the countries in an increasingly more integrated world; (ii) The IMF can be active and decisive to revert a financial liquidity crisis; (iii) The IMF possesses a great knowledge on the economy and economic and financial institutions of the member-countries; and (iv) The IMF can complement its resources with new instruments (creation of a new "Liquidity Facility") and with a greater monitoring of these countries.

Specific proposals in discussion

There is a saying that says "after the storm comes the calm". In the case of financial crises, the calm is usually accompanied by a great reevaluation of the primordial functions of the financial system. A kind of moral purge also happens, in which the financial system aims to be purifed from abuse and dishonest or not so ethic actions.

It is very important, in this time of a clamor for reforms, to not lose sight that crises are not necessarily bad, for they allow a reflection on the role of a bigger government regulation. They also allow a greater reflection on how to stimulate financial innovation, to obtain a more sustainable economic growth.

In general, the reforms in discussion seek to:

- improve the practices and capital requirements of banks;
- enhance the supervision of the financial and banking system;

95 The Claaf (*Latin American Shadow Financial Regulatory Committee*) convened in the week of 11 to 16 April, 2007, in Washington D.C. The purpose of the meeting was to review the role of the IMF in a possible financial crisis. The Claaf published a document, with the title: Does Latin America needs the International Monetary Fund? (Statement n. 16, available at www.claaf.org).

- increase capital controls;
- improve the level of transparency of information;
- reformulate the Basel Accord;
- deal with the "moral risk" problems in the solution of crises;
- create the proper economic incentives for the functioning of a healthy financial system;
- place limits on the "domestic part" and the "international part" of financial regulation in the scope of the country;
- regulate the derivative market;
- create limitations for leverage in financial transactions;
- regulate capital flow between countries; and
- give a more active role for multilateral institutions, especially the IMF.

Critical views of the impact of the subprime and Euro Zone crises on the future of capitalism

Richard Posner is a famous author in the United States on matters of interface between Economics and Law, and is a professor of the University of Chicago Law School. He presents a differentiated academic formation, graduated in Law and with a PhD in Economics.

Posner acts as a judge on the "United States Court of Appeal for the Seventh Circuit", the court in New York who is responsible for judging disputes over financial contracts.

Almost all of the global financial operations elect the Court as the venue for resolving contractual and legal disputes.

In his most recent book[96], Posner examines the causes of the Crisis of 2008 and draws a parallel with the Crisis of 1929. The author asks why this crisis was not anticipated, and if something can be done to revert an economic depression.

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96 Richard Posner, "*A Failure of Capitalism: The Crisis of '08 and the Descent into Depression*".

Posner examines the two main existing focus on the causes of the current crisis, with reference to the Crisis of 1929: The first, that the Federal Reserve Board let the monetary supply decrease, fearing a possible inflation; The second, based on Keynes, that the depression was caused by an expansionist wave of credit in the 1920s, the crash of stock market and a downward spiral of economic activity.

After analyzing the functioning of the markets and financial instruments developed in the last years, and the role that the financial system played in the Crisis of 2008, the author positions himself in favor of a bigger government regulation in this sector.

Charles Morris[97] analyzes what he calls the "great credit crunch". According to him, the crisis was already being gestated in the last 25 years, by ideological positions in favor of conservatism and the free market.

This vision, which according to the author predominated on government and financial circles, ended up framing the abusive policies of "asset stripping", the excessive levels of loan and the secret acting of the "hedge funds". These policies were the ones which caused the crisis, in the author's opinion.

Morris makes it clear, in his second edition (written after 2008), that the federal North American government contributed to the financial disaster. According to him, there is a short-sighted vision in the attempts to rebuild the financial sector, by not tackling head-on the archaic financial instruments in use, and the rascality, dogmas, deceptions and errors of judgment in choosing policies, that ended up creating the biggest credit crunch in history.

In case the North American government does not position itself courageously, the crisis can extend for years end-on. To Morris, a radical change of course is necessary.

The second edition of Kevin Phillips' book was written few months after the first edition, launched on April 2008. In the first edition, Phillips analyzed a possible financial crisis. In the current book[98], post-crash of September 2008, the crisis is a reality.

The author criticizes the abuse committed by "speculative finance", which according to him were counter-productive for the role of political and economic dominance of the United States.

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97 Charles Morris, "*The Two Trillion Dollar Meltdown*".
98 Kevin Phillips, "*Bad Money: Reckless Finance, Failed Politics and the Global Crisis of American Capitalism*".

Phillips refers to the last 25 years as having been of "multiple bubbles". These bubbles were caused by excessive consumption, great credit leverage and an unsustainable debt, appearance of "exotic finance" (such as derivatives and securitization) and the deviation on the market of mortgages.

The author believes that the North American government will have to undertake great reforms so that there is no global crisis.

The vision of the US shadow financial regulatory committee

In November 2011, in a general meeting of the Shadow Financial Committees[99], the North American Committee positioned itself in the following way:

(i) the Financial Crisis of 2007-08 was not an ordinary or common crisis: it grew backed by the burst of a bubble in the real estate market, which was financed by excessive indebtedness and that rapidly exhausted capital protections of financial institutions who were inadequately financed;

(ii) the disaster – and this is what the crisis has effectively become, because it infected mainly the developed economies around the globe with similar characteristics – had its roots in errors which were both microeconomic and macroeconomic;

(iii) the combination of mistakes was broad: encouraging excessive risk-taking by borrowers of mortgage loans, lack of caution by borrowers, imprudence or even in bad faith of those that "packed up" loans in the form of securities, disappointment with the rating agencies that were supposed to be filtering out high-risk securities, the failure of the formulators of government policies that in the last decade excessively stimulated the buying of real estates, and the regulators that failed in readily exercising the corrective actions of the regulative regime of banking capital that was established in the United States after the last crises in the 1980s and 1990s;

(iv) the measures of politics were also imperfect and *ad hoc*. The regulators and decision takers of the government failed, by not rapidly realizing that

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99 O content of this Meeting was edited under the form of an E-Book, with the title CLAAF, *The World in Crisis: Insights from Six Shadow Financial Regulatory Committees* (Asia, Europe, Japan, Latin America, Oceania, and United States), E-book, November 2011.

the financial difficulties of the big banks and insurance companies was of solvency, and not just liquidity;

(v) finally, with respect to the insurance industry, the North American Committee, by examining the noisy case of AIG, discusses the bailout by the government of this institution. It thinks that this was a problem of the type "too big to fail (TBTF)", aggravated by the use of derivative instruments traded off the stock; and

(vi) in particular, the lack of informational transparency due to the "opaque" nature of the market of "credit default swaps (CDS)", and the fact that such instruments are of bilateral negotiation, with only two parts involved (buyer and seller). The North American government (Treasury and FED), not without a great polemic, acknowledged that the AIG subsidiary, responsible for the emission of the derivative instruments, could not honor the hundreds of billions of CDS issued by it after the bankruptcy of the Lehman Brothers in September 2008. They feared that the losses of the creditors or the counterparts of AIG would cause an uncontrollable financial panic.

The vision of the european shadow financial regulatory committee

In November 2011, at a general meeting of the Shadow Financial Committees[100], the European Shadow Committee positioned itself the following manner:

(i) the subprime crisis spread rapidly over Europe because 40% of the backed securities in subprime mortgages were acquired by local financial institutions;

(ii) because of that, European banks were very exposed to the crisis;

(iii) the bigger part of European countries responded with a battery of political measures to avoid a "financial meltdown": expansion of bank deposits insurance, warranties for the bank's liabilities, value support for assets, injections of capital;

(iv) during the critical years of 2007 to 2009 the central banks of the region helped a lot. The central banks of the many countries acted quickly, cooperated with one another, and made massive interventions;

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100 O conteúdo dessa Reunião foi editado sob a forma de um E-Book, com o título CLAAF, *The World in Crisis: Insights from Six Shadow Financial Regulatory Committees* (Asia, Europe, Japan, Latin America, Oceania, and United States), E-book, November 2011.

(v) there came up conflicts and coordination problems, mainly in what concerns to the cross-border banks management under the pressure of lack liquidity or threat of insolvency;

(vi) the estimates are that the direct costs of the government interventionist measures represented 3% of the GDP, indicating the speed and efficiency of the governmental action in terms of fiscal costs;

(vii) the massive interventions of the government and of the central banks will have problematic consequences in the long term, among which accentuating the "TBTF" ("too big to fail") principle in a higher degree than before the crisis and worsening the sovereign crisis due to the fiscal costs of the stimulus program and/or rescue;

(viii) the lack of effective means to manage bank bankruptcies (insolvency) continues to be a problem. Without such procedures it will not be possible to restore market discipline for the taking of risks by the banks;

(ix) Europe (EU) has already began substantial reform on regulation and banking supervision, and is already implementing, in a relatively great rhythm, the Basel III, in the form of "Capital Requirements Directive IV";

(x) Europe has also created institutions to coordinate the supervision of the great banks that operate cross-border, and has strengthened macroprudential supervision;

(xi) with this new institutions established in 2011, it is expected that the response for future crises will be quicker and more effective;

(xii) many countries of the region are controlling the wages (considered exaggerated) of the directors of the financial institutions, and seek to create restrictions on the bonus and salaries of financial executives, with the purpose of strengthening the risk management in a long term perspective;

(xiii) the (institutional) diversity of Europe is seen as positive, as it dampens the contagion of the crises, since its member-countries have different financial legislation;

(xiv) there is a proposal to "ring fence" the stock market of the banking Market, that is, return to the times of the "Glass-Steagall Act" and to separate banking activities from stock market activities; and

(xv) finally, it has been verified the need to discipline the distribution of responsibilities to supervise the banks.

FINAL REMARKS

In the Introduction to this book, we asked the following questions: in the economic scenario of the global economy in mid-2012, what is reserved for the insurance industry? A possibility of a recession such as in the 1930s, and a prolonged financial crisis? Or that past experience can contribute to change this picture?

We also promised that exploring these issues would be the purpose of the present research report.

It's hard to summarize in a paragraph or two the material presented throughout this Stage 2 report. Some ideas and findings were highlighted in the analysis of different crises, and considerations were made about the nature and conduct of financial crises:

1. There is always a combination of rational and emotional factors in the episodes of crises. This is repeated throughout history;
2. There are always complaints that people, financial institutions and government authorities do not learn from history, and tend to repeat the same mistakes of previous crises;
3. The crisis has a silver lining, the benefit of forcing change. It is up to society to try and pay a "low" for the crisis, so that the net benefit (benefits minus costs) is positive;
4. Crises are inevitable, and continue will to emerge;
5. The performance of government authorities and financial institutions is improving the ability to respond to crises. However, the complexity of new crises is also growing.

Knowledge of the financial crises, although not able to establish “magic” measures to avoid them, can certainly contribute so that the spread of factors, particularly those of a psychological nature, do not unnecessarily aggravate the adjustment process of economic forces production and consumption.

What lessons can be drawn from these crises, which are useful to protect the insurance industry and to improve the Brazilian institutions?

Most studies on macroeconomics are related to already developed economies, giving emphasis to short-term cyclical issues. They do not take into account that, many times, developing countries face particular economic problems, and that they do not have yet institutions and political systems properly perfected.

In particular, there are problems to consolidate the banking, capital and insurance markets.

There are several reasons why these three markets remain not deeply rooted in emerging economies and developing countries.

The most important are:

(i) the recurrent crises of the banking system create a limitation for a continued supply of liquidity, an essential factor for the functioning of these markets;

(ii) the weakness of institutions prevents full development of markets, as can be exemplified by the legal uncertainty in the financial domain, which inhibits the achievement of the full potential for operation of credit, stock and insurance markets;

(iii) the institutional fragility to enable the fulfillment of contracts increases the risk of default of the counterparty, thus limiting the participation of the market;

(iv) the restrictions on the entry and portfolio composition of institutional investors undermine the supply of financial instruments for the capital markets; finally,

(v) the presence of the risk of non-convertibility of currencies seriously inhibits the willingness of investors to acquire securitizations from emerging markets.

The most important considerations for the country to develop economic policies to tackle or prevent financial crises are:

(i) creating a macroeconomic stability framework;

(ii) strengthening property rights;

(iii) encourage investment in human capital; and

(iv) promoting political stability and internal security.

To conclude this book, we should point out a very important fact: the world has never been so prosperous and the general well-being of the population so high. The challenge is to bring this prosperity to all. However, it is undeniable the per capita world GDP growth, *pari passu* with the eruption and conclusion of several financial crises.

If we look at it another way, the financial crises can be evaluated, in a long-term vision, as sharp adjustments of a process of real economy, production and consumption growth.

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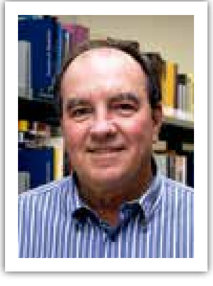

Pedro Carvalho de Mello, Master and PhD. on Economics from the University of Chicago, he is a Professor at ESAGS, Associate Professor at Ohio University; International Coordinator at FGV; member of LASFRC (Latin America Shadow Financial Committee) and member of the Fiscal Council of B2W. He was Visiting Professor at Columbia University, and Visiting Scholar of Tsukuba University (Japan) and of the University of Richmond. Associate Professor (retired) of the Esalq/USP. He was Director (twice the full six years) of CVM (Securities and Exchange Commission of Brazil), Director of BM&F (Brazilian Securities, Commodities and Futures Exchange), and Vice-President of PNC International Bank. Author of several books and articles in the areas of economics, finance, insurance and economic history.

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