



A Discussion on Corruption and Political Risks
in Latin American Countries - a General View
Using Chaos Theory

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CHAPTER 21

A DISCUSSION ON CORRUPTION AND POLITICAL RISKS IN LATIN AMERICAN COUNTRIES¹ - A GENERAL VIEW USING CHAOS THEORY²

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21.1. INTRODUCTION

Corruption is a huge cause of wealth and resources distribution distortion and of social justice unfairness. To combat this problem, mainly ethical and legal issues must be considered. Intervention mechanisms are crucial to detect and even to avoid, for example, situations in which people are positioned to feel unpunishable to improperly either appropriate or influence ownership of third parties resources or to influence other people by illegal means.

Chaos theory outlines are very interesting in explaining possible disturbs in structure, considering inherently disorder and instability in systems. A possible, and with enormous negative consequences due to their importance in structures administration, appearance of structural instability sources may be associated to governments' interventions, which is so much visible in national and international contexts.

¹ Latin America is a set of sovereign states and several territories and dependencies which cover an area located from the northern border of Mexico to the southern tip of South America, including some Caribbean Territories, comprising nearly 13% of the Earth's total land surface area.

² In Filipe, Ferreira and Coelho (2012) a study was made involving corruption and political risks. In Ferreira and Filipe (2012), Filipe and Ferreira (2013a,b) and Ferreira *et al.* (2014) the 'drop of honey effect' in chaos theory was presented. Along this work is intended to join both subjects and integrate them in a unified perspective of analysis, considering the problem of corruption and political risks as phenomena explained by dynamical systems theories, particularly involving chaos.

Disorganization – social, economic, and even cultural - becomes a mode of expressing the chaotic and complex network of inefficient relationships in a system.

Political risks, corruption, violence and several kind of crimes destabilize socio-economic structures as much as impede economic development and companies' investments. These phenomena are severe barriers to the systems stability and to moral principles which are deeply violated. Foreign investment is often kept away from these countries once international companies avoid countries where corruption undermines societies' structures and justice does not work properly.

As mentioned by Shleifer and Vishny (1993), governments' institutions structures and political processes are very important corruption determinants. Usually, when corruption is present, political institutions are undermined, democratic processes are distorted, political instability prevails... Also social injustice and inequalities increase, due to rules perversion, usually becoming the judicial system particularly inefficient.

There are many corruption modes in modern societies. Corruption provokes strong distortions not only in economic structures but also in the pillars of democracy and in the political forms of institutions' organization. Particularly, political corruption is so powerful that in many countries completely undermines the economy by preventing any hypothesis of economic sustainable growth and of sustainable socio-economic development.

The illegal acts executed by political officials, constitute political corruption crimes, particularly dangerous and reprehensible, when they are directly related to their official duties, involving particularly their ability to influence others' decisions. The use of politic influence by government members imply illegitimate private gains, having as the principal motivation the greed of its perpetrators.

Types of corruption are very different in nature. Anyway, activities that constitute corruption, illegal, are differently classified from country to country and from one jurisdiction to another. The same political funding practices for example may be considered legal in one country and illegal in another one.

This last case of campaign contributions is an example of a situation that, even legal, may be considered a form of corruption. Often it is said that they are examples of "legalized corruption". They provoke a bias in the electoral process benefiting particular interests. This kind of practices undermine public trust in political institutions. These practices corrupt institutions even if there are individual members who are not corrupt themselves. But just because they are members of a corrupt collective, they suffer the pejorative of corrupt people. Also similar problems of corruption may happen on organizations in which an institution's manager decisions conflict by considering his/her personal interests and the primary purposes of the institution he/she manages.

Considering these general points about corruption and having the political structures as a reference for international investment, an analysis of the situation of Latin American countries is made so as to understand the current status and prospecting for a future conscientiousness of the situation. For that, chaos theory is used depicting the idea that many activities reflect dynamic forms of analysis and a very complex and widespread reality, specific of complex systems, which dynamics are very hard to model (either

mathematically or physically) and understand. These realities fall within a range of situations integrated in a broader context. This context is intended to be reproduced in the theory but also integrated in the complex environment of their own dynamic, with complex and often chaotic features into their essence.

International financial and economic relations have shown the weaknesses of national, international and transnational economic systems, exposing how international finance is dependent on a set of economic networks and sometimes specific events with strong implications on the systems stability. The Madoff case³ is a particularly example. In chaos theory this shows the “Drop of Honey Effect” working: Madoff’s personal and business asset freeze created a chain reaction throughout the world’s business and philanthropic community, forcing many organizations to at least temporarily close.

After the Introduction, in this chapter, in short, it is intended to deal with:

- Political risks and corruption;
- Dynamical systems, in general;
- Chaos theory;
- Political risks in Latin America;
- Corruption in Latin America;
- Chaos theory applied to Latin America;
- Some final remarks.

21.2. POLITICAL RISKS AND CORRUPTION

International companies’ investments intentions in foreign countries require a complex analysis considering the conditions of attraction. Political conditions, involving the country’s risk and the corruption levels, are determinant in companies’ studies and reports. The stability of a country’s government is also determinant when an international company’s study is made.

As stated in Filipe *et al* (2012) the economic and social development of developing countries depend often on commercial advantageous investments and on the reinvestment of capitals on these economies. Economies need to grow up and for that, at a large extent, they require foreign capital and foreign investments. The risk involved in the operation is determinant to an economy to be interestingly attractive for investors.

Even though, often governments attempt to present policies that are investment’s friendly, with management systems and facing a control of economic activities’ structures. In international business high levels of corruption are common in many countries, increasing the political risk of any host country that cannot be neglected in agents’ decision-making.

Due to the term “political risk” importance to the context of international investment some ideas are left in this chapter about it. The term “political risk” appears often in the international business literature

³ The Madoff investment scandal was a major case of stock and securities fraud discovered in late 2008. In December, Bernard Madoff, the former NASDAQ Chairman and founder of the Wall Street firm Bernard L. Madoff Investment Securities LLC, admitted that the wealth management arm of his business was an elaborate Ponzi scheme.

and by its usage usually it is meant that there is a strong chance of unwanted consequences arising from political activity. However, the precise meaning is far from just that. Political risk is customarily seen as the (usually host) government interference in business operations.

As referred in Moura *et al* (2011), many authors define political risk as the government interference with business operations (see, for example, Carlson (1969), Greene (1974), Baglini (1976) or Lloyd (1976)). Other analysts define political risk in terms of specific events (certain political acts, constraints imposed on firms, a combination of both ...). Political risk can be regarded as any political change that alters the expected outcome and value of a given economic action by changing the probability of achieving business objectives (Price Waterhouse Coopers, 2006).

Simon (1982) definition refers to political risk as the governmental and societal actions and policies, originating either within or outside the host country, and negatively affecting either a select group of, or the majority of foreign business operations and investments (Simon, 1982, cited in Jessen, 2012). Simon (1982) definition of political risk includes political risks originating from the host-country environment, home-country environment, international environment and the global environment. It views political risk in the general environment context, whilst differentiating between internal and external causes of political risk, and includes both the country factors as well as the industry-specific concerns (Jessen, 2012).

Political risks may arise from national governments' actions which interfere with or prevent business transactions, or change the agreements terms, or cause the confiscation of wholly or partially foreign owned business property (Weston and Sorge, 1972). Root (1976), cited in Kobrin (1978), defines political risk in terms of the "...possible occurrence of a political event of any kind (such as war, revolution, *coup d'état*, expropriation, taxation, devaluation, exchange controls and import restrictions), at home or abroad, that can cause a loss of the potential profit and/or of the assets in an international business operation".

Political risk is related to a set of risks on diverse areas as financial and market risks, for example, or others that imply losses for companies and individuals resulting from political decisions, changes or other disruptions.

Surely, there are many factors influencing business and one of them results from a political decisions' basis. Political decisions taken by governments in areas such as taxes, currencies, trade tariffs or barriers, investment regulation, wage levels or wage legislation, labor laws, environmental regulations and development priorities, for example, affect companies and their environment and market conditions as much as their profitability conditions. Also many non-economic factors affect businesses framework. Political disruptions (such as, for instance, terrorism, riots, coups d'état, civil wars, international wars, even political elections...) have huge consequences in business and markets, and companies need to consider all these factors on their analysis.

So, corruption is determinant in political risks' analysis. Corruption may involve also government institutions. The policies of corrupt governments in general potentiate the resources controlled directly by them and have the particular consequence of increasing poverty. According to Brink (2004), corruption implies that a transaction takes place between a corruptor and the corrupted.

There are many definitions for corruption. All of them highlight the pernicious nature of corruption. In consequence of the corruption multiple effects, it is important to understand the path followed by market economies in their socio-economic development process.

Moura *et al* (2011) refer political risk in general is much difficult to evaluate quantitatively contrasting with economic or financial variables, which measuring is often easily performed. If it is possible to calculate political risk “scores” or other quantitative-looking benchmarks, it is important to have in mind that the calculus is at last based on qualitative judgments.

An evident corollary of corruption is the markets’ poorer performance and accomplishment. As Senior (2006) reminds, corruption means ‘decomposition; moral deterioration; use of corrupt practices (bribery, etc.); perversion (of language, etc.) in its original state’. In the interesting approach to our purposes, corruption may be highlighted through some of the following ideas in terms of the definitions considered next. For example, according to Morris (2004), the term corruption is described as the illegitimate use of public power to benefit a private interest. Senior (2006) defines corruption considering five conditions that must all be satisfied simultaneously. Corruption occurs when a corruptor (1) covertly gives (2) a favour to a corrupted or to a nominee to influence (3) action(s) that (4) benefit the corruptor or a nominee, and for which the corrupted has (5) authority.

Senior (2006) makes a profound literature review on corruption. This author presents, for example, a corruption classification, made according to Heidenheimer (1989), considering the following three categories:

- ‘black corruption’, which indicates that a particular action is such that a majority consensus of both elite and mass opinion would condemn and claim its punishment on grounds of principle;
- ‘grey corruption’, which indicates, in a not at all consensual attitude, that some elements, usually elites, may want to see the action punished, others not, and the majority may well fall in an ambiguous position;
- ‘white corruption’, which signifies that the majority of both elite and mass opinion, in a quite consensual attitude, probably would not vigorously support an attempt to punish a form of corruption that they regard as tolerable.

Senior (2006) also shows a list of forms that corruption can take, according to the Johnson and Sharma (2004) framework, which, in their view, encompass more than bribery, as follows:

- bribery and graft (extortion and kickbacks);
- kleptocracy (stealing and privatizing public funds);
- misappropriation (forgery, embezzlement, misuse of public funds);
- non-performance of duties (cronyism);
- influence-peddling (favor-brokering and conflict of interest);
- acceptance of improper gifts (‘speed’ money);
- protecting maladministration (cover-ups, perjury);

- abuse of power (intimidation and torture);
- manipulation of regulations (bias and election rigging);
- electoral malpractice (vote buying and election rigging);
- rent-seeking (public officials who illegally charge for services after creating an artificial shortage);
- clientelism and patronage (politicians giving material favors in exchange for citizen support);
- illegal campaign contributions (giving unregulated gifts to influence policies and regulations).

Such a list, resulting from a classification effort, with thirteen items synthesizes in a very clear way the various forms corruption can assume, giving also an idea of its potential, and also real, dimension.

As stated by Morris (2004), corruption tends to be higher in countries at lower levels of economic and human development, with lower levels of education, limited political rights, weak or non-existent political competition, a relatively large state role in the economy, lower levels of economic freedom and openness, ethno-linguistic factionalism, the lack of judicial independence and a free press, low civil service wages, abundant natural resource endowments, low levels of interpersonal trust, and high levels of permissiveness toward corruption, among others (on the causes of corruption see also Ades and DiTella, 1997; Brunetti and Weder, 1999; Johnston, 2000; Kaufmann and Wei, 1999; LaPort *et al*, 1999; Mauro, 1995, 1997; Tanzi, 1994, 1998; Triesman, 1999).

Clammer (2012) sees corruption as “a systemic problem in which the whole social systems are implicated, and which is generated in large part by dysfunctions in systems themselves. Indeed, corruption is generally viewed as a society’s problem, with consistently negative consequences, that deform society’s socio-economic structures and often the judicial system in a country, undermining the investment’s environment. This general setting brings intricate forms of managing the social country’s system and makes a very complicated net of interests that discourage the agents’ official actions inside the system. The well known problem of Latin American countries on this subject is much studied in literature, giving way to many reflections in the course of the past decades. Recently this phenomenon has increased again in many Latin American countries.

21.3. DYNAMICAL SYSTEMS

An interesting and important term to the sequence of this chapter is *dynamical system*. Let’s see briefly some notions on this term, presented on a constructive way.

Begin to note that a system may be considered as a set of interacting or interdependent component parts representing a complex and intricate whole. It is defined by the concretization of its spatial and temporal boundaries, influenced by its environment, described considering its structure and its purpose and expressed in its operative mode.

Complex systems are highly composite ones, built up from very large numbers of mutually interacting subunits that are often composites themselves, producing a very intricate dynamics.

Chaotic systems do not have necessarily a lot of mutually interacting subunits. But even when very few interacting subunits have, they interact in such a way as to produce very intricate dynamics.

Following Rickles, Hawe and Shiell (2007) “a dynamical system is a system whose state (and variables) evolve over time, doing so according to some rule. How a system evolves over time depends both on this rule and on its initial conditions - that is, the system's state at some initial time instant. Feeding this initial state into the rules generates a solution (a trajectory through phase space), which explains how the system will change over time; chaos is generated by feeding solutions back into the rule as a new initial condition. In this way, it is possible to say what state the system will be in at a particular time in the future”. Therefore, the term "dynamical" is related to the evolution of the system over time which here is a crucial variable. When the system does not evolve over time it is said to be "static" or “stationary”.

Inherently, those authors synthesize that “complex and chaotic systems are both examples of *nonlinear dynamical* systems”. Here the term "nonlinear" emphasizes the disproportionality of the response of the system when compared to the very pivotal variation of the initial conditions that gives rise to it.

21.4. SOME GENERALITIES ON CHAOS THEORY

Quite important in the analysis intended to be performed here some concepts, generally accepted in chaos theory, are now introduced.

Begin with this phrase: “the hidden orderly patterns in chaotic behaviour can be presented in the so-called phase space”, that is an abstract mathematical space. It is a set of structured points, representing each one a complete and detailed state which the analyzed system can eventually assume. Thus, the larger the dimension – number of coordinates – of the phase space, the better will be the description of a particular state reached by the system (I Font and Régis, 2006). But, the larger the dimension the greater the difficulty of the interpretation, in terms of real world, of the state meaning.

A trajectory in its phase space, portrays the evolution of any particular system. The existence of a trajectory assumes the idea of existence of an attractor, because any trajectory of a system running on the long-term is somehow “attracted” by some points or some closed, in sets ‘language sense, regions within the phase space describing the system in question.

Generally a chaotic behavior is characterized by its extreme sensitivity to the initial conditions, as stated already in the former section. This sensitivity means, for example, that a very small perturbation of the system in an initial condition may lead it to an exponentially type divergent final state. The trajectories may behave in a very different way in neighboring points, approaching and moving away one from the other in a really unpredictable way: consider for illustration the metaphors either of the “Butterfly effect” or of the “Drop of Honey Effect”.

Also important to refer the bifurcation points, which permanently challenge the trajectory of the system, positioned where the system sensitivity to the initial conditions is stronger. Up to this kind of moments, the trajectory of the system might behave in a quite predictable pattern, but once reached this bifurcation point, the prior order breaks out and the system is driven by patterns of behavior less predictable

than ever before. That is: with nonlinear dynamic systems, the bifurcation implies a change in the system's behavior when it is changing from one attractor to a new one (see I Font and Régis, 2006).

Phenomena happen over time as at discrete, separate or distinct, intervals⁴ or as continuously⁵ (Williams, 1997). Discrete intervals can be spaced evenly in time or irregularly in time. Continuous phenomena might be measured continuously.

Differential equations are often the most accurate mathematical way to describe a smooth continuous evolution. However, some of these equations, although it is known they have solutions, no one achieved to determine them. In contrast, although the tools adequate to solve difference equations are much simpler than the adequate to differential equations, with the exception of linear difference equations and some other exceptional cases, it is much more difficult to achieve analytical solutions. In opposition it is in general possible to obtain numerical solutions using computational recurrence processes. The problem with these kind of solutions is that they do not allow to determine temporal behaviors in a general form. Furthermore, they are often acceptable approximations of differential equations, allowing to obtain approximate numerical solutions for them. Olsen and Degn (1985) state that difference equations are the most powerful vehicle to the understanding of chaos. But note that either linear differential equations or linear difference equations are the most uninteresting from the point of view of chaos theory (see the nonlinearity discussion above).

It follows an example got from Ferreira et al (2014) for politics, considering the political credibility, modelled through a difference linear equation. Call x_t the political credibility, of a politician or of a party measured, for instance, in number of votes, or in the number of chamber's members, or even in money, in the year t ; and consider b the political credibility increasing rate, $b \geq -1$. It is admissible that in the year $t+1$, $x_{t+1} = x_t + bx_t$ that is: in a certain year the political credibility is the one of the former year plus, or minus, a part of it. Solving this difference equation (see Ferreira and Menezes, 1992) it is obtained⁶:

$$x_t = x_0(1+b)^t, b \neq 0 \text{ and } x_t = x_0, b = 0.$$

Then, according to this model, if the political credibility increasing rate is null the political credibility is kept unchanged, assuming always the initial value. If $b > 0$, the political credibility follows an increasing exponential path. If $-1 < b < 0$, the political credibility follows a decreasing exponential path converging to 0. Finally, if $b = -1$, x_t is permanently null. Evidently, values like $-1 \leq b < 0$ define political credibility paths that may lead to people's chaotic behaviors if, for instance they mean either an important politician or an important party loss of political credibility. To detect this chaotic behavior, it must be defined a new model, constructed over the just presented, translating the idea that the social disturbances are greater the minor is the politicians credibility. And this is really a challenging question.

⁴ Examples are the occurrence of earthquakes, rainstorms or volcanic eruptions.

⁵ Examples are air temperature and humidity or the flow of water in perennial rivers.

⁶Evidently, this is the compound interest capitalization formula, at interest rate b used for financial purposes.

Indeed, chaos is extremely complex and difficult to be identified in the real world, using the workable information. But it is sometimes possible to find specific mathematical relationships for problems to be solved. Indeed, the introduction of the idea of nonlinearity into theoretical models, allowed the existence of chaos analysis through the models possible. But in any event, it is not possible just grab a nice little set of data, apply a simple test or two, and declare “chaos” or “no chaos” (Williams, 1997).

Chaos occurs in deterministic, nonlinear, dynamical systems and it is something extremely sensitive to the initial conditions. The sensitive dependence on initial conditions shows how a very small change at either a place or a moment in a nonlinear system can result in quite large differences to a later state in the system.

The deterministic chaos, occurring in some nonlinear systems, in general imposes limitations on the human ability to predict behaviors. But, the exploration of a big number of alternative conditions by a single deterministic result may create the possibility of a prospective outcome in terms of adaptation and evolution. In the environment of artificial life models, this has led to the notion of “life at the edge of chaos” expressing the principle that a delicate possible balance between chaos and order is optimal for successful evolution (Campbell and Mayer-Kress, 1997).

The “drop of honey effect” is proposed in this work, after its presentation in Ferreira and Filipe (2012), Filipe and Ferreira (2013a,b) and Ferreira et al. (2014) to show how punctual events, some of them apparently with no significant importance, have huge consequences either in economic or social or political terms. This effect was constructed from the wonderful tale written by the Armenian poet Hovanés Tumanian (1869-1923). The “drop of honey effect” may be used instead of the term “butterfly effect” when dealing with social events. While the term “butterfly effect” seems more adequate when dealing with physical and natural events, the “drop of honey effect” seems much more adequate and accurate to evidence chaos in social and political situations.

21.5. POLITICAL RISKS IN LATIN AMERICA

In the beginning of the 1990s, many Latin American countries tried to follow a path towards democracy. The transition has driven to the establishment of new political institutions, which has posed challenges for a) determining the concept of the state and b) the way in which these institutions should safeguard democracy (Zambrano, 2012).

As Zambrano (2012) reports, in some cases, the transition to democracy stimulated the development of successful economies with effective political and social control systems. This led to greater governability and increased transparency, being the region’s most prominent example Chile. Overthrowing dictatorship, began an intense process of economic development, which coupled with good investment decisions, opened up spaces for transparency and social control.

In many other situations, however, institutions were not enough strengthened and corruption went on at all state levels, being the main impediment to reach equality and the development of counties.

Nevertheless, in general, Latin America got interesting results and some important achievements were got as:

- income distribution improvement,
- poverty decrease,
- home ownership increase,
- higher literacy, and
- a more stabilized democracy.

As Schumacher and Giovingo (2012) report, the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) shows that global FDI grew only 1 percent in 2010, but FDI in South America was up 56 percent to over \$85 billion. As has been the case in the past, United States was the leading source of FDI in the region followed by the Netherlands, China, Canada, Spain and U.K. These figures suggest that the global business community sees attractive opportunities in many countries across the region.

However, companies can generally expect to encounter certain risks in South America, varying from country to country (Schumacher and Giovingo, 2012), as for example:

- Local government officials tend to be paid lower wages, and there may be an expectation wages are to be supplemented with “payments” either from individuals or from companies needing their services,
- The attitude towards bribery is generally highly relaxed, and may even be viewed as an accepted part of doing business,
- Local laws are complex and often make it difficult to prove and prosecute bribery,
- Customer relationships built on trust may result in a general reluctance to memorialize business agreements or understandings into formal written contracts.

Yet according Schumacher and Giovingo (2012), as companies find potential risks within specific countries, they also may find unique interesting challenges. The following realities are usually considered:

- Chile was rated as having “little or no enforcement” of anti-corruption laws in Transparency International’s 2011 Progress Report,
- In Argentina, the government has an old habitude of establishing short-term and long-term trade barriers such as quotas, additional import/export fees, or licensing and registration requirements to protect local industries,
- In a Transparency International study, Argentina was cited as having certain inadequacies in its legal framework to combat bribery and corruption, including no criminal liability for corporations, inadequate sanctions, and inadequacies in statutes of limitations,
- In Peru, the government is encouraging state-owned energy companies to play a greater role in the economy, similar to Chile and Brazil, so companies in this industry may be dealing with more government entities and officials going forward,

- In Venezuela, nationalization of key industries has resulted in a sharp drop in FDI with increased government interactions for companies continuing to conduct business there,
- Venezuela has the highest level of perceived corruption among South American countries based on Transparency International's 2011 Corruption Perception Index with a score of 1.9,
- Ecuador ranks 130 out of 180 in the World Bank's "Ease of Doing Business" 2012 ranking by scoring poorly on certain sub-indices including (i) Starting a Business, (ii) Protecting Investors, and (iii) Getting Electricity.

Accordingly, the unique business and regulatory environments in many South American countries may require companies to assess corruption risk on a country-by-country basis.

The political climate of Latin America shows the peculiar facet within the international geostrategic relationships. Indeed Latin America incurs serious risks. The international framework is getting a very significant and complex stage in terms of the international relations for Latin American countries, as much as the new dimensions for the international economy, and allows showing the evidence of complex vulnerabilities for which the solutions seem very difficult in the present context (see Filipe *et al*, 2012).

21.6. CORRUPTION IN LATIN AMERICA

Corruption, got deteriorated along the last years. Comparing 2011 Transparency International Corruption index metrics with those of a decade earlier, it can be seen a surprising (or maybe not...) trend of increased corruption across a Latin America great part. Among a wide range of economic, political and cultural factors influencing a nation's level of corruption, many may be found on Latin America (see Morris, 2004). In Brazil, for example, corruption [and human trafficking] has increased greatly over the past few years owing mainly to the high rates of poverty, income differentials, illiteracy, gendered cultural practices, discrimination and homelessness. All of which have been described by Bales (2005) as critical 'push' factors (see MPDFT - Ministério Público do Distrito Federal e Territórios - 2010).

For investors, Latin America represents a perplexing dichotomy. On one hand, strong resource prices, an expanding middle class, and rising discretionary consumption present tantalizing opportunities to global companies. But fortune-hunting businesses must contend with increasing corruption, and not just when trying to sell goods and services to governments. Wherever government oversight is needed - to obtain a permit, to import a component, to inspect a facility, to police a district... - the specter of corruption is near (Price, 2013).

Organized crime is also an important pillar of corruption in Latin America. While the Colombian, Peruvian, and even Bolivian governments managed to pulverize the power of cocaine cartels, those managing distribution channels for the drug have become the enemies of the state in other countries. In Central America, Mexico, Venezuela, Trinidad and Tobago, Jamaica, Bahamas, the Dominican Republic, Paraguay, Argentina, and Brazil, the organized crime has grown and become more consolidated, fueled by the incredible profits of drug trafficking and distribution. Per capita cocaine consumption in Buenos Aires

is now believed to exceed that of most U.S. cities. In Jamaica, the two leading political parties are both accused of taking contributions from rival street gangs who control the nation's drug trade. Venezuela's military leaders are accused by some of colluding with Colombian drug producers (Price, 2013).

Galán Páchon (2010) categorizes, citing Casal and Associates (2004), that there is a set of incentives/weaknesses that encourage corruption, as follows:

- A civil service in transition towards professionalization and meritocracy.
- Deliberated confused and often redundant legal systems.
- Extremely complex and bureaucratic procedures and regulations.
- Oversight and control weaknesses.
- Inefficient control on the part of the legislative branches.
- Dysfunctional judicial systems.
- Social control weaknesses.
- Limited awareness of the issue, in conjunction with attitudes and opinions that do not reflect the extent of the problem.
- Insufficient political will.

Price (2013) defends that the greatest weapon against corruption, therefore, is austerity. Latin America became a more transparent region in the 1990s (versus the 70's and 80's) because low resource prices and aggressive debt servicing obligated governments to manage costs. By privatizing government-owned resources, infrastructure, and manufacturing firms, many of the vehicles of corruption were taken away from their puppet masters. After a decade of prosperity, some Latin American leaders have deluded themselves into thinking that they can manage energy companies, mining operations, steel production, electricity distribution, ports, and highway tolls. The reversal of Latin America's privatization trend is worrying on two fronts - it threatens the region's competitive standing and provides new channels for government corruption.

In fact, corruption is growing considerably again in Latin American countries. As stated by Price (2013), the data presented by Periodistas Frente a la Corrupción (PFC), which publishes a report every year highlighting a considerable number of corruption cases which have actually been indicted, show a set of examples, being some of them pointed out as follows:

- an unfinished highway in Ecuador costs taxpayers \$106 million when the winning quoted \$36 million;
- in Guatemala, the Ministry of Communications awarded \$27 million to fictitious suppliers linked to government officials;
- in Venezuela, the massive public housing program paid close to \$800 million to phantom companies as well as builders who never broke ground.

These are just a handful of indicted cases, a drop in the veritable bucket of existent corruption, estimated by some to be anywhere from 5 to 10 percent of overall government spending and 10 to 30 percent of infrastructure spending in Latin America (Price, 2013).

There is a trend that shows that the situation on corruption in general is getting worse (figures in 2010 already showed this tendency - see Galán Páchon, 2010).

More recently, for instance, in Brazil, the 'Lava Jato' operation (car wash operation) is a set of ongoing investigations by the Federal Police of Brazil, involving for example more than 1000 search warrants and seizure, temporary arrest, pre-trial detention, aiming to establish a money laundering scheme that moved from 10 to 20 billion *reais* in bribes. Started on 17 March 2014, the operation counted until February 2016 with 38 operating phases, during which more than 100 people had been arrested and convicted.

This operation investigates crimes of active and passive corruption, mismanagement, money laundering, criminal organization, obstruction of Justice, fraudulent exchange operation and receiving undue advantage. According to investigations and contributions received by the task force of *Lava Jato* Operation, are involved administrative members of the State oil company Petrobras, Brazil's largest political parties and politicians, including mayors and Governors of States, as well as businessmen from major Brazilian companies.

There are also many suspicions on corruption in Olympic Games in Brazil. In several phases since the attribution of the Games to Brazil until posterior phases the corruption suspicion accompanied the Brazilian Olympic Games.

21.7. CHAOS AND THEORY APPLIED TO LATIN AMERICAN COUNTRIES

This work deals with the way societies in Latin America have to deal with corruption and political risks to manage structures and promote development.

In this chapter several examples are given to show how American countries are undermined by corruption and significant political risks, which provoke serious obstructions to socio-economic development in these countries. Governments are themselves a serious source of structural instability in these countries, provoking socio-economic disintegration in administrative organizations and a deficient context in companies' structures development. Clammer (2012) refers the 'social disorganization' to express the degeneration of a functional system, what can be easily visible in many Latin American countries.

The 'drop of honey effect' metaphor is perfectly adjusted to this study since here is profusely illustrated how simple facts may have a very strong effect in one country's structures and also internationally, in terms of social, political and economic impacts. Some recent cases in Brazil (being yet some of them in court) are examples of the importance they have to the development and to the course a country and a region takes. The example of Lava Jato operation is illustrative. In June, 2015, the arrest of the then-President of Odebrecht, Marcelo Odebrecht, was evaluated by analysts as a serious blow to one of the largest Brazilian multinational, which became one of the icons of Brazil international projection. This situation has resulted

in a very serious problem for this multinational company, which had then tremendous implications in Brazilian economic activity and unemployment. Furthermore, a set of individual events has had recently tremendous impact in the Brazilian economic situation and in its international image, reflected in the Brazilian poor scenario for business and international investment perspective for foreign companies.

The perspective presented in this chapter may be seen as being pessimistic. Countries in Latin America have great potential to get developed and could initiate a strong and impetuous road to progress but they are bound up, losing a set of excellent opportunities they have to develop and not taking advantage from their excellent capabilities in general and also in particular from their large natural resources availability.

Chaotic systems reflect the situation exposed in this chapter considering the situation of these countries. Also the situation is similar considering their international context. Besides, international transactions are often invisible. However they show a face exposed from a market conducive to obscure relations and corruption in these countries. Several examples exist in relations between companies that involve even States and multinational companies, which reflect the existence of chaotic systems and generators of unstable relationships.

21.8. FINAL REMARKS

In this chapter, political risks and corruption in Latin American countries are analysed using chaos theory. The present situation about this topic is analyzed for these countries. The conclusion that, in general, there is a new wave of increased corruption in the Latin American countries gets obvious, understanding it in the light of chaos theory.

It is well recognized that Latin American countries in general potentiate an interesting perspective basis for investments, with considerable returns, as historically it is perceived that they have a great potential to develop and that making business may allow interesting results. In truth these countries may be potentially attractive to companies to establish there but many dangers around the corner constitute obstacles to a real establishment and often companies retract. In fact political risks are considerable and corruption is always present when, in the international scenario, business attractiveness is studied by companies considering to invest on these countries. In recent years corruption is perceived to be increasing.

Chaos theory is adequate to analyse social disorders and their consequences. Corruption itself is the mirror of a society dealing with social organization forms propitious to develop several ways of social distortions. Better policing, change of mentalities, changes in organizational structures and cultural changes involving ethics and morality are required. The nature of social disorganization is essential to understand the emergence of phenomena as violent crimes, endemic corruption and the nature of chaotic socio-economic systems that are the image of several Latin American countries.

KEYWORDS

- **Political Risk**
- **Corruption**
- **International Investment**
- **Latin America**
- **Chaos**
- **Drop of Honey Effect**

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