



RIO DE JANEIRO

AS A GLOBAL
FINANCIAL
CENTER

VIRGÍLIO
GIBBON

ORGANIZATION



SUPPORT





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EXECUTIVE SUMMARY

This paper suggests introducing Rio de Janeiro as the center of a New Complementary International Financial System, to facilitate the financing of sustainable projects.

The paper states that, contrary to what happened in the decade of the eighties, when the economic crisis found the city in a severe process of reduction in the levels of activity in several sectors, and which resulted in the transfer of financial markets to São Paulo; the current economic crisis did not significantly affect investment prospects for Rio de Janeiro, because the city was chosen to host two major international events: the World Cup and the Olympics, which generated a real revolution in terms of Urban Reconstruction.

The paper also cites the large investments that were being made on the basis of oil in the pre-salt and, although at a slower pace, should continue to be carried out, creating great opportunities for the development of financial services, notably in the reinsurance area, as the result of a huge boom and increased efficiency as a result of opening up to foreign capital participation, presented by sector.

The paper also describes innovative mechanisms that can serve as links between environmental assets markets and traditional financial markets, initiating the activities of the new BVRio Environmental Stock Exchange recently set up in the city.

Finally, the paper refers to an innovative proposal, presented at the Rio + 20, to create a new currency, backed by US public debt securities, dedicated exclusively to the financing of sustainable projects on a global level. And it also suggests the implementation of two relevant pilot projects in the city of Rio de Janeiro, in order to demonstrate the feasibility of the scheme and that serve to anchor the central idea of the mechanism to transform Rio de Janeiro as the headquarters of a new Complementary International Financial System, for the financing of environmentally sustainable projects.

01 | INTRODUCTION

Situational crises tend to concentrate economic activity in centers where such activity already is historically more significant. As a result, financial markets — especially the organized markets — tend to coalesce around these same centers because they benefit from the higher level of liquidity that concentrated economic activity offers. This undoubtedly was one of the major causes of the waning of the financial market in Rio de Janeiro, and the hegemony conquered by São Paulo as of the 1980s.

Indeed, in the decade of the eighties, although Rio was still the financial center of the country, successive crises and unsuccessful economic plans significantly reduced its vitality and the relocation of companies and financial institutions to São Paulo became a frequent occurrence.

Internationally, Brazil lived a context of accelerated globalization, but the Brazilian economy took only baby steps to be included in that process. The solutions envisioned to revitalize Rio de Janeiro, which at that time was the financial center of the country, sought to create the conditions for inserting the Brazilian economy into a new international scenario that promised abundance and growth.

In terms of financial markets, the measure adopted was to implement mechanisms making it possible to operate in an environment of global interest rate, exchange rate and stock market swings. That was why futures and options markets for financial assets were established in Brazil.

Rio de Janeiro was a pioneer in this initiative with the creation of the Brazilian Futures Exchange and the implementation of the first independent Clearing House, managed by the International Commodities Clearing House (ICCH) in London. However, the volatile environment at that time, by further concentrating economic activities, attracted the liquidity of these markets to São Paulo in the wake of a simultaneous and massive transfer of the decision-making centers of the country's major financial institutions to that city.

In this light, rethinking Rio as an International Financial Center in the middle of the current crisis, may at first glance seem untimely or inopportune. However, the current crisis has some distinctive features, is part of a totally new international context and comes at a time when Rio de Janeiro is in a phase of profound transformation and urban regeneration.

This phase of Rio de Janeiro's transformation and revitalization is marked by the underscoring the performance of the city in some strategic sectors: the oil industry, energy (a number of headquarters locations), tourism, telecom, reinsurance, etc., which have led Rio to reposition itself naturally as a major international economic and financial center.

Today, the economic crisis in Brazil, has some distinguishing features. In addition to the fiscal imbalance that almost always characterizes cyclical crises, the current crisis presents a structural profile that is more complex in that it depends not only on major reforms in the political arena, but also and above all on a new way to drive development — which will require a new relationship between the State and the market. Indeed, we are witnessing a significant change in mentality, along with a review of ethical values that, in parallel, requires greater focus on aspects of social and environmental sustainability as a precondition for attracting new investments.

Internationally, in turn, there are still concerns about Brazil's insertion in the globalization process. Here the improvement of mechanisms and the creation of markets that permit the reallocation of capital flows to finance activities compatible with a sustainable development process are of fundamental importance. Brazil is still one of the most closed economies in the world, compared to its G20 peers. This profile has impacted not only Brazil's position in relation to international trade, but also its capital flows.

Finally, the most significant difference between the current phase and that which prevailed in the 1980s is that even with Brazil experiencing a severe economic crisis, Rio de Janeiro is going through a period of significant urban revitalization. This is a result of two successive events of international importance in the city: the recent FIFA World Cup and the upcoming hosting of the Olympic Games.

Given these events, Rio de Janeiro is undertaking in-depth urban modernization, with works that impact on not just various transportation modes, such as air, rail, subway and roads, but also the very surface transportation matrix itself. This involves widening streets and avenues, the redevelopment of public spaces, investments in modernizing traffic control, in preservation of the environment and nature, restoration of vegetation cover, along with sewage disposal and drainage projects for the recovery of lacunar systems and Guanabara Bay.

Among these investments, worth highlighting are the modernization of the international airport; the construction of new subway lines, which will link the South Zone with Barra da Tijuca; construction of two new large surface traffic arteries (Transolímpica and Transcarioca projects), with expressways for the Bus Rapid Transit (BRT) system; duplication of the elevated highway linking São Conrado and Barra da Tijuca; the implosion of the Perimetral Elevated Highway, part of a comprehensive revitalization of the port area; and the construction of the VLT (light rail vehicle, or LRV in English), whose tracks are almost ready and should be operational in 2016.

In parallel with the construction of infrastructure, sanitation, environmental protection and the highway network, the city is also experiencing a period of acceleration in other fields of construction, and not only in sports centers and stadiums that will host athletes and the Olympics Games. This is especially true in the hospitality sector, where the supply of new rooms should by exceed the Olympic target of 48,000 rooms by the end of 2015. It is estimated that by the 2016 Games, this number will increase to 51,100 rooms distributed in over 70 new hotels, of which seven are five-star and 25 are four-star facilities¹.

¹For a comprehensive description of all of the construction work underway in the city, see *Urban Legacy Plan*: <http://www.rio.rj.gov.br/documents/91237/c5b934c7-5e57-43c4-9e9a-1a2c43f0cbc2>

This dynamism resulting from the preparations for the Olympics came about at a time when the city already was in a phase of prosperity that began with investments for the exploration of pre-salt oil, the building of oil refineries, gas-fueled thermoelectric plants and the recovery of the shipbuilding industry. While these investments have been substantially curtailed as a result of the PETROBRAS crisis, many projects, although revised, will continue. It is legitimate to expect that oil royalties also will continue to increase in the future, because even with the revision of the law regulating production sharing, the revenue pie should grow to the extent that volumes increase — especially from the new wells to be operated under the concession regime.

Incidentally, many of these wells have not even been tendered. This makes it possible to forecast the continuation of investments in the sector and, consequently, the need for insurance and reinsurance to ensure their viability, both regarding performance, for implementation of new projects and for production of equipment. It will also be necessary to cover the risks associated with the operation, among which are significant risks of environmental accidents.

However, it is important to emphasize that the current crisis affects not only Petrobras' operations, but also its ability to obtain financing. There is now an unfavorable scenario for the global oil industry as a result of lower oil prices. This scenario will result in greater caution regarding risks and more competition for funds, which are increasingly scarce.

As for environmental claims, it is important to remember the process stemming from the opening up of the industry, with the breaking of the IRB reinsurance monopoly, the growing participation of foreign insurers can discover in Rio de Janeiro: a suitable niche for contracting risk coverage policies, due to the city's prime location next to oil reserves and the pre-salt oil and gas fields, plus the significant volume of urban infrastructure projects underway. However, this is not a subject that is limited to Rio de Janeiro. The issue of infrastructure in Brazil has become a priority on the national political agenda.

Indeed, the opening up of the reinsurance industry, which began with Constitutional Amendment 13 of 1996 and that was regulated by Complementary Law 126 of January 2007, has led to significant changes in

the industry. This includes a decline in reinsurance prices, now approaching levels prevailing in the international market; improvements in the efficiency and technical expertise of reinsurers, brokers and insurers in general; and better risk management and expansion of existing insurance product lines in Brazil.

It is expected the recent regulation of the opening process resulting from the National Private Insurance Council's Resolution 322 of July 2015 establishing the chronology of premium transfer percentages to companies belonging to the same financial conglomerate headquartered abroad, as well as the lowering of the percentage of preferential supply rights awarded to local reinsurers, will lead to the gradual and safe opening up of the sector, thus enabling expansion and attracting foreign investments based on high ratings of the institutions.

The facts mentioned above, by themselves, clearly show how Rio de Janeiro is undergoing a revival phase, unlike what happened in the 1980s. And the main characteristic of this phase is still the fact it is motivated mainly by events that will put Rio back again in the focus of world attention. Incidentally, this undeniably seems to be one of the city's natural talents. Not surprisingly, the city was chosen to host the United Nations Conference on Environment and Development (UNCED) in 1992, which resulted in the United Nations Framework Convention on Climate Change (UNFCCC). More recently, Rio de Janeiro was also the host city of the United Nations Conference on Sustainable Development, known as Rio+20.

More broadly, the aforementioned facts show that the Brazilian economic model is undergoing a slow process of transition. Following the liberal reforms of the 1990s, there was nearly a decade of increasing state intervention in the economy. A few years ago, the political and economic costs of this top heavy state management propensity increased. Faced with the need to revitalize the economy to meet the growing demands of a new middle class, the government has begun to rethink its relationship with the economy. This could be the beginning of a gradual cycle of further liberalizing economic policies, bringing about conditions necessary for the country to rediscover the path of sustained and sustainable economic growth.

Perhaps because of its privileged nature, but also by the innovative character that has always guided Rio de Janeiro's initiatives, it has built an image that is strongly linked to environmental preservation. This aspect is a strong argument in favor of the subject of this paper: to reflect on the opportunity to build a Specialized International Financial Center in Rio de Janeiro, able to channel funds into a low-emission economy and finance sustainable projects.

This idea is echoed in the current scenario of international concerns that, as indicated earlier, no longer is focused on the globalization process, as in the 1980s, but rather the search for a new development model that could reconcile economic growth with sustainable use of natural resources, globally.

Proof of this statement is the great expectation around the Conference of the Parties (COP 21) to be held in Paris later this year, when it is anticipated that new targets for reducing emissions of greenhouse gases will be established.

To be clear about the feasibility of setting up a Financial Market focused on sustainable development in Rio de Janeiro, in the second part of this paper we will review some initiatives already being taken and try to explain how they are consistent with the opportunities, problems and solutions that are currently the focus of discussions in the international arena.

02

O RIO DE JANEIRO

AS A FINANCIAL CENTER: VOCATION AND OPPORTUNITIES

Expectations about results of the next COP 21 to be held later this year in Paris have caused ambiguous feelings in the carbon market that already are being felt in decisions for the traditional economy. On the carbon credit supply side — that is, the side of economic agents involved in the implementation of projects that generate emission reductions — there is strong hope the new targets will help recover the price levels and, consequently, make their projects viable. On the other hand, on the demand side — that is, the side of companies that emit CO₂ — the feeling is of concern because an increase in the price of tons of CO₂ could force them to revise their production processes and, in many cases, suspend or review new projects, due to the higher costs.

This context of uncertainty, which has been present for several years, is likely to remain the same even after the Paris meeting, because the market does not adjust instantly. In addition, it also suffers from other uncertainties, regulatory in nature, which could affect credit supply and demand.

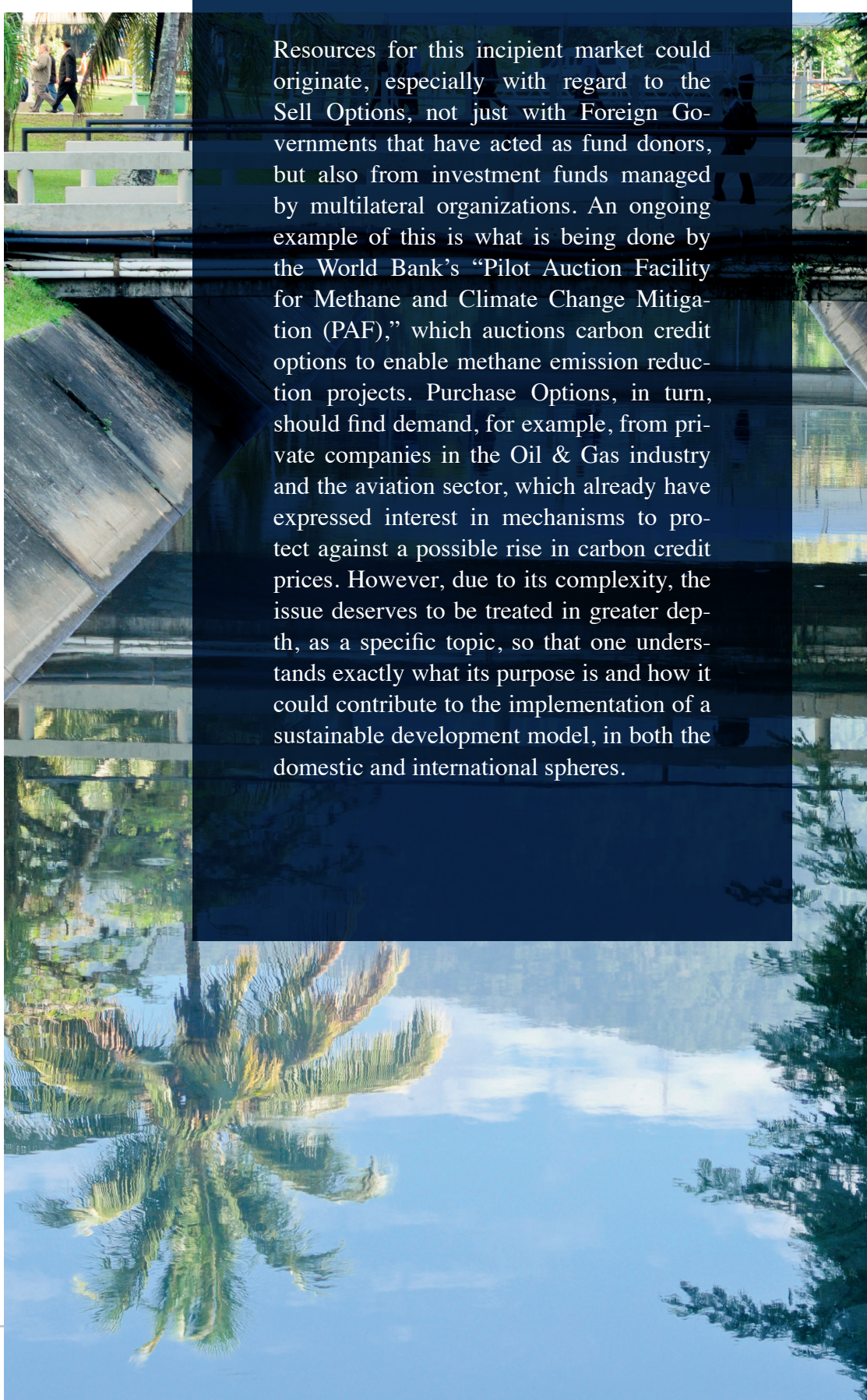
In fact, the supply of credit may suffer wide swings depending on acceptance or not of credits from projects to combat deforestation, which is being regulated both through the United Nations as well as by sub-national governments.

This regulatory uncertainty and failure to identify targets has hampered the progress of Reduction of Emissions from Deforestation and Forest Degradation (REDD) projects, both private and those that are jurisdictional in scope, which are feeling the lack of a continuous source of funding to ensure their continuity.

These arguments serve to illustrate the opportunity to establish market mechanisms to take defensive positions in the context of uncertainty; to take on commitments to purchase and sell carbon credits for future settlement; and to build receivables flows that can be discounted in the financial market to ensure availability of funding at the time it is needed, guaranteeing the continuity of environmental projects underway.

This first set of opportunities, in terms of new operational modalities, is at the heart of efforts and studies being conducted at the international level, such as the “Unlocking Forest Finance” and “Unlocking Forest Bonds” programs being conducted by the Global Canopy Programme and by Forest Trends, and are designed to create a link between the carbon market and the traditional financial markets to assure establishment and/or continuity of emission reduction projects.

In line with this international effort and anticipating these operational opportunities, the BVRio Environmental Exchange, located in Rio de Janeiro, signed a memorandum of understanding during the COP 20 event last December in Lima, Peru, with the government of the state of Acre’s Companhia de Desenvolvimento de Serviços Ambientais (CDSA) to create the first options market, for both Purchase and Sale of Carbon Credits from a jurisdictional REDD project. Its startup should be announced at the UN meeting in Paris at the end of the year.



Resources for this incipient market could originate, especially with regard to the Sell Options, not just with Foreign Governments that have acted as fund donors, but also from investment funds managed by multilateral organizations. An ongoing example of this is what is being done by the World Bank's "Pilot Auction Facility for Methane and Climate Change Mitigation (PAF)," which auctions carbon credit options to enable methane emission reduction projects. Purchase Options, in turn, should find demand, for example, from private companies in the Oil & Gas industry and the aviation sector, which already have expressed interest in mechanisms to protect against a possible rise in carbon credit prices. However, due to its complexity, the issue deserves to be treated in greater depth, as a specific topic, so that one understands exactly what its purpose is and how it could contribute to the implementation of a sustainable development model, in both the domestic and international spheres.

03 | **CREATING A LINK BETWEEN THE ENVIRONMENTAL ASSETS MARKET AND FINANCIAL MARKETS**

With regard to climate change, the implementation of an environmentally sustainable development model requires a long period of transition, where traditional production processes will gradually be replaced by others that adopt technologies that are more advanced and emit fewer greenhouse gases. This technological change in production processes represents, on the side of the emitting companies, a major effort to adapt so that they can adjust to the emission reduction targets established by national commitments or international agreements. On the other hand, also emerging is the need for capital inflows to finance new investments, both by companies adapting to new technologies as well as implementation of new projects that already incorporate technology and/or low-emission production processes.

The carbon credit markets have a dual purpose: by enabling emitting companies to purchase these credits from the companies that generated them, these markets let issuers meet their emission reduction targets at lower cost, either because the carbon credits are cheaper than the fines that are imposed or lower than the marginal cost of reducing emissions. On the other hand, they create an additional revenue stream for companies that sell their credits. This increases the profitability of projects whose emission levels are lower than those established through targets.

Carbon credit markets thus make the transition process more efficient, in that they not only reduce the recessionary impact that compliance costs impose on issuers, but also help to positively signal the allocation of funds by boosting the profitability of new projects whose emission levels are under the established targets.

However, these markets only lead to adaption cost reductions for emitting companies or increase in the profitability of projects that incorporate new technologies if they boost their revenue streams. Even when fully operational, they do not deliver the capital necessary for investments. The funds to finance investment needed for both adaptation as well as installation of new projects must come from the capital or financial markets. This subject will be discussed in the final section of this paper. However, in the current phase of carbon market uncertainties, they cannot even monetize — at appropriate prices — the existing carbon credits arising from already implemented projects, which makes it necessary to create new mechanisms for establishing a link between carbon markets and financial markets.

Despite the diminishing of Rio de Janeiro's financial market in the 1980s, a niche of highly skilled and creative institutions remained behind. Indeed, staying and proliferating in Rio were investment banks and “asset management” companies, staffed by very highly qualified professionals. These investment boutiques specialized in structured finance operations, the calibration of risk levels and creation of frameworks to define ratings of financial assets and investment funds, along with the structuring and management of such funds.

Rio de Janeiro, therefore, already has all the conditions necessary to develop and set up the link that is apparently missing so the funds available in the financial markets — both domestic and international — can flow to the incipient environmental asset market that BVRio is developing during this phase of uncertainty.

To understand this opportunity, however, we must first classify the various types of funding needs to be able to develop the assets and appropriate market mechanisms.

Simply put, funding requirements could be classified into three main categories: the first, which relates more directly to the carbon credit markets (both traditional projects regulated under the Kyoto Protocol and REDD projects), refers to the need to monetize existing carbon credits arising from projects already implemented as well as the future flows from expected emission reductions, both from the implemented projects and from those that will continue to generate credits, along with new projects in the building phase. The second is to raise funds to cover the opportunity costs of environmental preservation projects that, although they do not generate emission reductions in the strict sense of the term, do require resources for their maintenance. And finally, the third category would be the need for funds to finance implementation of new investments — that is, the need for access to funds whose application costs and deadlines are compatible with new project profitability and maturation periods.

In this section, where we are dealing with the possibility of creating links between the environmental assets market and the financial market and the opportunity to develop these new markets in Rio de Janeiro, we will cover only the first two funding categories and leave the third to be addressed in a specific section.



3.1 | THE OPTIONS MARKET AS A LINK BETWEEN THE CARBON MARKET AND THE FINANCIAL MARKET

As noted above, the carbon market is undergoing a phase of regulatory uncertainty that coupled with the financial crisis that impacted the global economy at the end of the last decade and the reduced economic activity levels in developed countries, also strongly depressed prices due to contraction of demand.

In recent years, the only active carbon market, on the demand side, was the voluntary market. On the supply side, traditional projects, with methodologies accepted under the Kyoto Protocol, also saw their numbers reduced due to the market's softness. The only projects that were targets of attention and sparked a regulatory effort worthy of mention were the REDD projects, that is Emissions Reduction Projects through Deforestation Avoidance.

The market for this type of emissions reduction is still nascent, since either domestic nor international legislation is fully completed and there are questions in the air regarding the acceptance, or not, of credits that could be used to compensate targets, when these are established as expected at the upcoming UN meeting in Paris in December.

There is also the possibility that the credits from such projects could be used for compensating emission reduction programs established by sub-national governments; and also there are a number of funding donor countries that have stimulated the development of such projects, driven by the conviction of their relevance to the preservation of native forests, especially tropical forests.

Brazil, because of the Amazon rainforest, is the country with the greatest potential supply of this type of Emission Reduction credits and some Amazonian states have invested significantly to preserve their forests, such as the state of Acre, which currently is the world benchmark for this type of initiative.

The preservation of forests requires continuing expenditures of funds for preservation purposes, ranging from transformation of traditional production processes — particularly in the agricultural sector — through to continuous monitoring and control of deforestation, which requires preventive and emergency actions.

The credits from such projects constitute the only source capable of generating an annual flow of funds to cover the running costs and continued need for investments to replace the machinery and equipment used in the deforestation control and monitoring programs. Moreover, also stemming from this source are funds used to repay environmental services to communities that help preserve the forests, such as indigenous communities and those that sustainably exploit forest resources.

These projects suffer as a result of the current regulatory transition phase and, consequently, the apathy that permeates the carbon markets in general, because some states already have a significant number of credits that need to be monetized to ensure the continuity of their forest preservation efforts.

For this reason, it makes sense to develop a link between the carbon credit market and the financial market in order to speed the flow of necessary resources to ensure the continuity of these kinds of projects until regulations are established and the carbon market is able by itself, to monetize these credits.

The traditional way of advancing funds to the financial market is through the securitization of receivables. And the way to create receivables when there is no spot market in the present is through a derivative transaction, that is by trading futures contracts.

In the specific case of carbon credit markets from REDD projects, where there are resource donor countries interested in ensuring the continuity of these projects, the contracts for put options appear to be the most appropriate because the donor countries could make put options rather than donate resources in kind. As a result, their ability to help these projects would be much larger because they commit to buy credits in the future, but they may not need to contribute any funds in the future if the market rebounds, as hoped for after regulation. In fact, if the owners of the credits find prices higher than the strike price in the market, they may prefer not to exercise the put options that donor countries have granted them, and prefer to sell their credits in cash, on the market.

These put options, however, until their exercise dates (and a series of future exercise dates can be created for future maturities several years in advance) are excellent receivables in terms of the level of risk, and can easily be discounted in the financial market.

This means a link between the carbon market and the financial markets can be established that permits the anticipation of resources to continue REDD projects, at low cost, since the interest rates involved in resource anticipation of operations, with this quality of credit risk, will be very low. (The risk actually is the sovereign risk of countries such as Norway, England, Germany, etc., that are now of resource donor countries for this type of project).

This link, in fact, is nothing more than the creation of new financial assets (bonds, notes, receivables funds, etc.) backed by carbon derivatives (Put Options contracts) that can be offered both in the domestic market and in the international market. In addition, the placement of these instruments in the financial market can be done through auctions, where the winner will be the one that offers the lowest interest rate.

Call Options contracts, in turn, can also be used to meet the current needs of the market, for both foreign companies and domestic companies, or even speculative investment funds that have expressed interest in taking defensive positions or simply buyers, as a function of the possibility that in future the market may offer significant increases in prices.

These contracts may be auctioned or sold on the stock exchange and the revenue will come from sales; first from the options price (premium) and second, the payment of the option exercise price. As the sum of these

two values must be greater than the price that could be obtained today, in cash, by these carbon credits, depending on the current market situation, the options market not only allows issuers to protect themselves against a future increase in prices, but it also permits the holders of these credits to obtain more income than they might otherwise have had if they had chosen to sell their credits today on the spot market.

Even outside the options market, forward contracts also enable the conclusion of purchase and sales contracts for future settlement and are available to be used for construction of receivables flows. The difficulty with these contracts is that to protect current owners of the credits (the sub-national states), would have to choose reference prices for future delivery, since in the absence of an active spot market the forward price is indeterminate, because, by definition, the forward price equals the spot price times a factor which represents the interest rate during the contract period.

These three types of contracts (Put Options, Call Contract Options and Forward) are the most efficient way of creating carbon credit derivatives by creating financial assets that can serve as a link between the carbon market and the financial market in this uncertain environment. And Rio de Janeiro, due to its enviable “curriculum” of international events on environmental issues, has a plentiful supply of highly sophisticated financial institutions and principally for being considered a pioneer in the implementation of an Environmental Assets Exchange, BVRio has all of the comparative advantages for the establishment of the headquarters for these new markets.

3.2 | THE ENVIRONMENTAL RESERVE QUOTA MARKET

Rio de Janeiro also pioneered the launch of a platform for marketing CRAs – Environmental Reserve Quotas - through BVRio. Quotas are securities belonging to owners of rural properties that have excess legal reserves and can be used to offset the deficits for other properties. According to the New Forestry Code, all rural properties must maintain a certain percentage of the area in native vegetation, depending on the biome where it is located. Those with surplus forest areas can trade or sell them to the owners who do not have sufficient reserves.

This market is particularly useful, as it resolves the problem of compensation for the opportunity cost of land that is voluntarily kept in native vegetation cover in excess of the minimum required by environmental legislation.

BVRio already has a significant amount of hectares (in quotas) that can be sold, but the market is still suffering from a lack of demand due to the slow pace of implementation of existing regulations and the consequent lack of supervision and penalties to owners who cut and cleared the forest in excess of that permitted by law.

It is hoped that this monitoring and enforcement of legislation are streamlined with the implementation of the Rural Environmental Registry, which will reduce the cost of monitoring of deforestation through the use of satellite images.

This promising market is another example of the importance of regulations and their effective implementation and collection as a way of generating liquidity for

environmental assets. However, as has been happening in the carbon markets, also in a transitional phase due to lack of regulation, the market for CRA's can begin operations immediately once links are set up with the financial market.

Incidentally, this is one of the most important functions of financial markets: to invest resources in the present, in assets that serve to finance activities that will generate returns in the future. In the case of the CRA market, a transitional or temporary demand from investment funds, can help provide resources to landowners that set aside larger percentages of their forests than those required by law, until the regulation is in fact in force and the funds begin to earn their profits by selling their shares or the assets themselves to the final borrowers, ie, to landowners who cleared their property in excess of the established limits.

Rio de Janeiro, as indicated above, has a number of specialized institutions for managing investment funds and in this case, this new type of fund is quite suitable for installation in a city that has a natural vocation to become the center of an international financial market, specializing in environmental assets. This type of fund may be very attractive for certain niche foreign capital funds seeking good prospects for profitability with an environmental footprint.


04

O RIO DE JANEIRO

AS CENTER FOR A NEW COMPLEMENTARY INTERNATIONAL FINANCIAL SYSTEM

As indicated earlier, even when fully operational, carbon markets are not designed to provide the necessarily huge amount of resources in sufficient amounts needed to finance the implementation of a sustainable development model on a global scale. They can enhance the profitability of sustainable projects, making them more attractive, but are not able to provide the principal capital amount that needs to be invested. These resources have to be obtained from the capital and financial markets.

The Kyoto Protocol, by establishing the principle of “common but differentiated responsibilities”, by imposing targets for reduction only to developed countries and to allow these countries to acquire carbon credits from projects that were to be deployed in developing countries, tried to create an incentive for capital flows to move away from developed countries to be applied in developing countries. It was hoped that by with reduced marginal costs of emission reduction, as a function of the lower technological content of its production processes, it would be more attractive to implement sustainable projects in developing countries, thus making it easier to generate low cost carbon credits.



However, this effect was not observed, not even during the period in which the carbon markets worked properly. In practice, what we observed was that the sustainable projects implemented in developing countries originated from local financial efforts and not from a massive in-migration of capital flows, capable of a global redistribution of the development process and transform production processes.

Discussions on the establishment of Sustainable Development Goals (SDGs), such as those that took place in Rio de Janeiro during the course of the Rio + 20, and which resulted in a long list of goals, give an idea of the magnitude of the volume of investments needed to reverse the process of concentration of greenhouse gases in the atmosphere, clean up rivers and oceans, restore and preserve tropical forests, not to mention the need to replace the energy matrix, redevelop cities, treatment and disposal of residual waste, supplying potable water, sewage and sanitation etc.

The investment needed to meet the needs of only the items listed above, globally, are measured on the scale of trillions of dollars which creates a question that will not go away: how to finance these goals?

The discussions of the SDGs are important because identifying the numerous problems we have to solve, serve to orient the priorities for the development of technologies and programs that will help solve diverse environmental, economic and social issues. In this sense a comprehensive list of targets, such as SDGs, is commendable. But the question will always remain: how should work on all these fronts be financed?

In fact, the implementation of a new environmentally sustainable economy, more socially just and more evenly distributed globally, resembles conception of a new living organism, where the construction of an independent circulatory system - its own financial market - is essential not only for survival but also for the harmonious growth of its various organs and members.

For this reason, even if we are able to list all of the hidden points of these social, environmental and economic areas, there will always be a lack of a center, the heart of the system. In an economy, this heart is the financial market, from which flows the energy that permeates everything. And the financial market, this blood is called MONEY.

Indeed, many of the problems that discussions attribute to “capitalism” are actually derived from questionable channels through which the primary injections of currency are processed. Balance of payments bottlenecks generated by liquidity crises; poverty resulting from the lack of investment in both physical and human capital; excessive concentration of wealth, which is behind the social upheaval, in short, all these problems could be substantially mitigated if more attention were given to the criteria for emission and the channels for monetary expansion.

Money has the strange power to generate income wherever it circulates. As a spotlight in the center of a circle, it spreads in all directions until it reaches all points of the circle, generating income and prosperity.

The liquidity bottlenecks or excessive concentration are not due to ideology. These are mistaken and originate in the design of their own source of emission and architecture of the monetary irrigation canals.

Several ideas have been proposed in the first sections of this paper that stressed the importance of establishing links between the carbon market and traditional financial markets. However, as indicate in the preceding paragraphs, the magnitude of the task is not likely to be resolved with these expedients alone. It is essential to create a New Complementary Financial System, specifically focused on the financing of sustainable projects, and capable of providing resources on a scale consistent with the size of the problem that has to be solved.

In this final section of this paper, in which we discuss the opportunity to re-introduce Rio de Janeiro as an International Financial Center, it would be interesting to encourage discussions aimed at rethinking innovations to the International Financial System. One proposal², presented at the Rio + 20 conference, suggested an initiative complementary to the current system based on the creation of a new currency, backed by US Public Debt Securities, which now make up part of the international reserves of emerging countries.

²Gibon, V. “Real Green” Publisher C
â mere Books, 2012.

The idea emphasizes that it is not necessary to perform any economic ca-theterization to diagnose the size of the clot representing the American public debt. The proposal indicates that US\$ 18 trillion is the amount of resources that, stagnant, can certainly kill. But gradually put into circulation, it is undoubtedly capable of generating positive impacts on a large scale and in alternative sectors that have a difficult time accessing the traditional market. However, an objective analysis of the consequences, in terms of the global economy, of a sterilization capability of this magnitude, is rarely seen in the economic debate. The American public debt securities are the main source of financial investment (so far considered low risk) of global savings.

However, the enormity of that debt and sterilization of the securities in the assets of banks and investment funds and the international reserves of most economies eventually block the recirculation of these resources, constituting a true clot that dramatically reduces the capacity to realize productive investments.

A New Currency, which is issued exclusively for the funding to facilitate the implementation of sustainable projects in poor and developing countries, does not disrupt or do harm to the current global financial structure. Rather, it complements the current Financial System that has not been able to channel resources on a scale proportional to the magnitude of the task that lies ahead if we are to continue to inhabit this planet.

The sustainability criteria that would guide the projects to be funded by the issue of a new currency and even the institutional structure and governance should be established to oversee the new system.

In this sense, the proposal suggests that the new currency be initially issued by a body that leverages the features and capabilities of existing institutions as a way to speed up your deployment process and to avoid the need for setting up another heavy bureaucratic structure.

While we are discussing the feasibility of reintroducing Rio de Janeiro as the center of a new International financial system, for the financing of sustainable projects, it is worth mentioning that Rio de Janeiro is still the headquarters of the BNDES, an institution with an excellent team of technical experts in the analysis of new project financing proposals, that could

take over the management of the new organization, at least in its initial phase, during which the proposal suggests the establishment of a pilot project as a way to demonstrate their viability and attract the attention of international partners, that would be invited to join the new body at a later time.

The attraction of international partners would, under the proposal, in stages, in which the first would be to invite only the shareholders of IBSA (consisting of only three countries, India Brazil and South Africa), in order to streamline its operation because nothing prevents the entry of other countries also have reserves in US securities in the body in not too distant future, to the extent that there is an increase in the supply of projects. The first natural expansion of the number of members would preferably with the admission of the two countries, along with Brazil, India and South Africa, make up the BRICS group which already has a development bank created for the same purpose, but has not yet found a means of capitalization proportionate size to the task for which it was created.

However, it should be stressed that it is important that the Fund incorporate a growing number of members, including members of the OECD, since the goal is to create a new body designed to provide financial support, in which the participation of each country be proportional to their savings efforts (expressed by the amount of reserves that has accumulated) and not a body controlled by groups with hegemonic pretensions.

The proposal, therefore, that Rio de Janeiro develop pilot projects that demonstrate the viability of this new sustainable project financing mechanism seems to make perfect sense and its proximity to the sea, which is the link that unites us with the rest of the world, can serve a source of inspiration. Indeed, one of the most serious problems that our city will face in the near future is the crisis in the water supply. The state government of Rio de Janeiro has already announced its concern over the issue and reportedly has discussed the possibility of deploying a seawater desalination plant. This process presents no technological problems, as has been deployed in various parts of the world. Here is the suggestion to test the new funding model as a way to make it viable.

On the other hand, Rio de Janeiro also has, due to its privileged geographical situation, all the comparative advantages to become, along with

New York, Washington, San Francisco, Miami, Chicago and London a center of global fiber-optic connectivity. Accordingly a project, called NAP –a Network Access Point - has already been presented and approved unanimously by the Legislative Assembly and the Municipal Government of Rio de Janeiro that even made a grant of land, in the 1990s, and continues to wait for implementation, since the global crisis, which erupted in 1999, delayed the start of the project. The idea to revive Rio de Janeiro as the center of a New Complementary International Financial System sheds new light on this initiative, because the need for a powerful global connectivity system seems to be essential for a city that has the international vocation of Rio de Janeiro. So here is another suggestion for an interesting pilot project for discussion.

Finally, despite the prominence of Rio de Janeiro, this proposal recognizes the importance of the relationship between the city of Rio de Janeiro and the Federal Government. In fact, most of the issues related to economic and financial liberalization discussed here depend on an alignment with Federal Government policies. Thus, Rio de Janeiro could function as an initial pilot project that could be used to offer a positive impact on other Brazilian cities.

CONCLUSIONS

Rio de Janeiro, unlike what happened in the decade of the eighties, appears to have all the conditions for the location of an International Financial Centre aimed at channeling financial resources for the implementation of a new economy based on sustainable projects.

Indeed, on the one hand, with the giant urban infrastructure projects and investments associated with the implementation of new oil hub have assured an activity level that would attract, even during the current cyclical adjustment phase, a sophisticated financial services industry sector, such as reinsurance, which would also benefit from the industry's process of opening to foreign capital. Reinsurance is a paradigmatic case, since its recent opening of the process has positioned it as a positive example of this movement, by exposing the sector to technical improvements and efficiency gains that tend to accompany increased competition.

On the other hand, the presence of sophisticated financial institutions and the pioneering spirit of the BVRio Environmental Stock Exchange, are highly conducive to the development of the much sought link between environmental assets markets and the traditional financial market, that can provide liquidity to a significant stock assets that, at this point in time reflect the regulatory uncertainties carbon markets.

Finally, due to its privileged geographical location and natural beauty that transformed it into the world headquarters for major international conferences on climate change and environmental protection, Rio de Janeiro has all the conditions, in addition to housing the headquarters of the BNDES, to be at the center of a New Complementary International Financial Market, similar to the idea mentioned in this paper, which was presented at the Rio + 20 meeting. Indeed, the magnitude of the environmental

problems that afflict the world today requires a solution that goes beyond the capacity of traditional financial mechanisms.

Like the Marshall Plan, when the dollar pegged to gold, became the currency that made the reconstruction of a Europe destroyed by war possible, the creation of a new currency, aimed at financing sustainable projects, backed by American public debt securities, can also help in rebuilding the global economy, threatened by poverty and about to be destroyed by climate change.

Rio de Janeiro, has all the conditions to host, as suggested above, pilot projects with this new type of financing in order to demonstrate the feasibility of the new mechanism thus beginning the implementation of a new Complementary International Financial System, without which the objectives of sustainable development, listed at Rio + 20, will continue to exist as a list of priorities looking for resources to finance it.

The intense political and economic crisis through which Brazil is currently experiencing will make the decision-making process foggy to say the least, reducing the chances for advancing major structural reforms in the near term. However, the beginning of a deeper process of change in the economic model of the country is beginning to be perceived. The recent decision to correct policies that lead to distortions, for example, can be interpreted as the first step of this process.

The recent history of Brazil shows that it is in these moments of crisis that paradigm shifts occur. We are living in this moment now.

ABOUT CEBRI

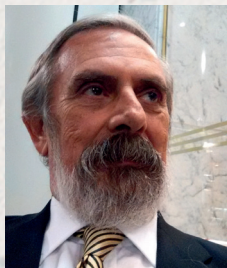
Founded in 1998, CEBRI is a think tank that aims at developing knowledge and promoting debates on topics concerning international relations. It also seeks to foster the dialogue amongst different players, both in the public and private sectors, aiming at a better understanding of the international agenda, as well as Brazil's role in the global scenario.

Located in Rio de Janeiro, the Center was conceived by a group of diplomats, entrepreneurs, academics and it has an independent, multidisciplinary and non-partisan structure. CEBRI is a Civil Society Organization of Public Interest – OSCIP. The Center's by-law contains provisions that assure transparency and responsibility for all its actions.

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