BOSTON UNIVERSITY Global Development Policy Center

GREEN FINANCIAL REGULATORY POLICY FOR LATIN AMERICA IN THE AFTERMATH OF COVID-19

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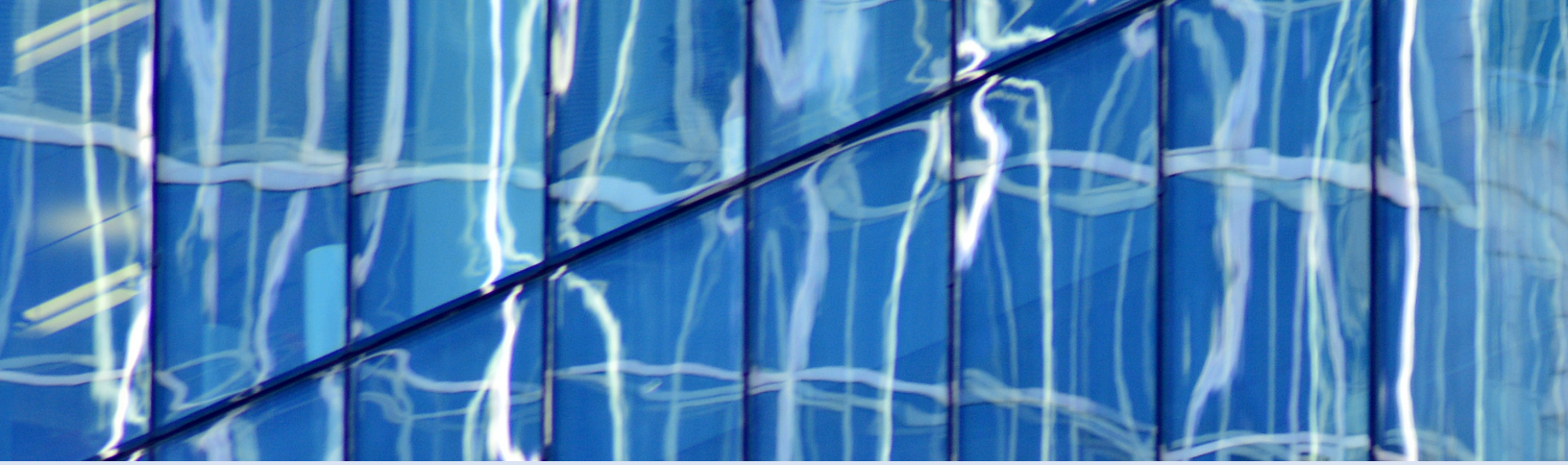

This research has been funded by the International Network for Sustainable Financial Policy Insights, Research and Exchange (INSPIRE). INSPIRE is a global research stakeholder of the Network for Greening the Financial System (NGFS); it is philanthropically funded through the ClimateWorks Foundation and co-hosted by ClimateWorks and the Grantham Research Institute on Climate Change and the Environment at the London School of Economics.

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EXECUTIVE SUMMARY

At the time of this writing (late November, 2020) the economic situation in Latin America is dominated by the crisis caused by COVID-19. However, as soon as this emergency is over, other pre-existing challenges to economic policy and financial regulation policy will reappear, some even more forcefully than before, as a consequence of the general impoverishment caused by the pandemic. These challenges are essentially three: (i) socio-environmental conflicts, (ii) climate emergencies, and (iii) long-term climate change.

To review the implications of this confluence of circumstances, the Boston University Global Development Policy Center convened a Working Group of Latin American bank regulators, development bankers and related experts, to review the toolbox available to regulators and map a way forward.

The need to simultaneously face the exit the pandemic and these other three pre-existing challenges implies the need for an updated design of regulatory policies characterized by its ability to *internalize the multiple externalities* present in the existing circumstances. In other words, it must ensure that financial agents take into account not only the direct effects of their actions but also the indirect ones.

Post-COVID financial regulatory policy must incorporate awareness that its starting point is very unusual and different from that in existence pre-corona. These new "initial conditions" are the following: (a) an economic recession with simultaneous cut-backs in output and consumption *by orders of the government*, (b) large direct subsidies to the population and government guaranteed credits, (c) awareness of externalities as everyone understands that their behavior has consequences for all those with whom they interact, (d) the obvious reality of the existence of externalities, as evidenced clearly in the supply and payment chains, (e) lessons in public administration resulting from the state's having become obliged to step in at a scale unseen in a long time, and, (f) forced innovation of public policy instruments and their application.

The set of financial regulation policies appropriate to this situation requires placing an instrument at the center of the design of financial regulatory policy that effectively internalizes the interdependencies in the actions of the financial system. This instrument is the ESRM - *Environmental and Social Risk Management system*. Originally developed for application to Project Finance, and embodied in the *Equator Principles*, the application of ESRM on a compulsory basis across the whole financial system, ensures that each individual financier include in its evaluation the effect of its activities not only on the enterprise financed but also on its broader economic context. Included in such effects will be impacts on its workers and their families, impacts on the communities in which their workers are housed, impacts on suppliers and customers, secondary impacts from its safety precautions, etc. Also included are requirements for grievance procedures by workers, neighbors and others, as well as commitments for remedial action where socioenvironmental harm can be anticipated.

The ESRM needs to be supported by other traditional measures to reinforce its effects. These *policies to support the internalization of externalities* comprise: (a) specific policies for sectoral transformation, establishing preferential regulatory conditions for lending to climate friendly activities, such as

construction resistant to storms, electric vehicles, renewable power generation; (b) connectivity and inclusion policies, such as establishing favorable regulations for digital accounts on cellphones, fostering interest rate reductions for microcredit, implementing credit mechanisms to reduce transportation costs; and, (c) building institutional social overhead capital to enable the markets to function more effectively on the basis of reliable and widely available information on matters such as deeds of property, powers of attorney, water rights, georeferenced rainfall and temperature data. Each of these supporting policies will have different specificities according to the jurisdiction in which they are applied.

Disaster management deserves special treatment, expanding the scope of what ESRM can accomplish in this regard. In essence, disaster management can be thought of as business continuity planning. Accordingly, it consists of regulations pre-designed for implementation when disaster strikes, from ensuring adequate provision for availability of cash during the disaster through and correct definition of credit worthiness in the recovery phase. Some of these will be for application during and immediately after the occurrence of the disaster. A second group of regulations applies during the recovery phase.

Finally, *recovering from COVID-19* poses specific challenges that also merit specific regulatory treatment, as the pandemic has generated a *sui generis* situation. The main instruments of government financial action in Latin America have been direct subsidies to the population, state-guaranteed loans and extraordinary withdrawals from retirement accounts. All of these require "reabsorption" policies on the way to a new normalcy. But they all need to follow a path consistent with the new socio-environmental and climate objectives.

In addition, it is necessary to redefine what it means to be creditworthy. In a depressed economy on the way to recovery, creditworthiness cannot be viewed, as it is customary, at a micro level. Now, rather, it is necessary to take into account interdependencies; how the success of each depends on the success of the others. Creditworthiness becomes now a sectoral, regional and even national phenomenon. COVID-19 recovery shares this characteristic with the recovery phase of natural disasters.

The Working Group strongly supported ESRM as the core instrument to internalize externalities, manage socioenvironmental risks and include broader considerations in financial decisions, ideally complemented by Prospective Scenario Analysis. Accordingly, the Working Group advocated applying ESRM beyond the Project Finance area, adapting it to the needs of different size institutions and to those other than banks. Furthermore, the Working Group advocated ESRM becoming compulsory to ensure a level playing field, at an internationally uniform level, if possible, to avoid regulatory arbitrage across jurisdictions.

The Working Group also pointed to state-owned development banks as a second channel to embed environmental awareness and environment-friendly practices in the financial behavior of their clients, financial and corporate.

In relation to the self-interest of financial institutions, the Working Group members emphasized that the adoption of ESRM and other pro-environment measures should be integrated with the gradual and increasing understanding by financial institutions of their own interest in taking into account all the relevant elements of the projects they finance, including the externalities. Natural disasters, social conflicts and climate change are *risks that must be treated as such* by financial institutions. In consequence, the operating costs involved in ESRM are an unavoidable part of proper risk assessment and do not constitute an additional cost.

Furthermore, the Working Group opined that the involvement of trade and industry associations in preparing ESRM and other similar protocols ensures a greater understanding of the objectives and mechanisms of the proposed measures, making them more effective and useful for the financial system as a whole.

Finally, the Working Group opined that adopting ESRM and other pro-environmental measures opens the door to new and greater flows of capital, e.g., green, gender and other bonds. This was found to be particularly important in view of contemporary natural disasters and the COVID-19 pandemic.

In summary, putting together ESRM and supporting instruments allows assembling a body of financial regulatory policies to assure, on the one hand, a long-term robust financial system and, on the other, to contribute to the evolution of the economy along a path that will be more in accord with the environmental and climate change requirements.

REGULATORY REQUIREMENTS OF THE CURRENT ECONOMIC SITUATION

At the time of this writing (late November, 2020) the economic situation in Latin America is dominated by the crisis caused by COVID-19. Furthermore, economic authorities are under continuous demand by the citizens for financial support related to the pandemic. These demands for bare survival and health in good part juxtapose survival, which requires working and producing, and health, which requires social distancing and thereby impedes many of the economic activities required for survival.

Post COVID-19 crisis regulatory requirements

As soon as this emergency is over, earlier challenges to the economic and financial regulatory policies will resurface, some of which have become aggravated by general impoverishment caused by the pandemic. These challenges are basically three:

1. Socioenvironmental conflicts: where there are extractive industries, this kind of conflict is frequent. COVID-19 has worsened prior conflicts: now the output from such industries is needed even more but the damage to the environment they may cause has also become much more obvious, as is the need for the distribution of benefits of the activity to be regarded as equitable by the population at large.[1,2]

2. Climate emergencies: rain, storms, floods, cyclones, tsunamis and other natural phenomena will not cease to occur now and in the near, medium and distant future. Consequent upon COVID-19, those affected will now have fewer resources to cope with these emergencies.[3]

3. Long-term climate change: global warming did not cease during the pandemic, despite a reduction in air pollution resulting from restricted motor vehicle traffic.[4] Accordingly, the need to restructure the economy has not disappeared, nor its implications for the financial system.

The need to simultaneously overcome the pandemic and rise to the three pre-existing challenges calls for an update to regulatory policy frameworks, with their core quality being their ability to *internalize the myriad externalities* found in present economic conditions. In other words, it must ensure that financial agents take into account not only the direct effects of their actions but also the indirect ones.[5] This circumstance in and of itself speaks of the need for meaningful change in regulatory policy.

[1] Distributive justice obviously is related to taxation, but goes well beyond: It refers to salaries and working conditions, to infrastructure built by the extractive companies and citizens' access to their use, to the overburdening of public services that may be caused extractive companies and their employees (drinking water, sanitation, police, public education, and so on).

[2] For an inventory of such conflicts worldwide, including Latin America, see EJAtlas. For a list of the more than enough causes of conflicts, see Schydlowsky and Thompson (2014)

[3] Natural disasters in Latin America and the Caribbean in the years 2000-2019 include 548 floods, 330 storms, 74 droughts, and 66 landslides. See OCHA (2020) and CRED. A contemporary account is found in Barcena (2020). Previous documentation can be found in ECLA (2014) and in Charvériat (2000).

[4] La Quéré (2020).

[5] See Scitovsky (1954) for the classic exposition of the concept in static and dynamic contexts.

In addition, any such policy should comprise elements that can effectively deal with more than one challenge. The implication is that, in addition to designing a set of policies, secondary effects must be clearly identified. New regulatory policies must also have a capacity to evolve as reality produces new types of socio-environmental conflicts, climate emergencies and long-term climate change, in all of which great uncertainty is the common denominator.[6, 7]

Relation to physical climate risk and climate transition risk

It is necessary to relate the regulatory requirements of Latin America under present circumstances to the two large risk categories into which climate risks is usually divided, namely physical risk and transition risk.[8]

Climate emergencies fall neatly into the physical climate risk category. On the other hand, global warming is normally seen as transition risk, despite the fact that this warming appears to bring with it some physical risks. Environmental conflict risk straddles both categories. For instance, conflict-driven sabotaging of oil pipelines or blocking of roads can be regarded as physical risks. By contrast, when these conflicts lead to agreements to keep rivers and air cleaner, they will affect prices and can, therefore, be regarded as climate transition risks.

From the viewpoint of prudential regulation policy design, differentiating by the type of risk to be addressed is not necessarily useful. Prudential instruments typically have multiple effects and for that reason instruments are bundled together precisely to create a range of effects at the same time. This is particularly true when dealing with internalizing externalities which are not precisely defined, and which can change over time in a way not always easy to predict. Things become even more complicated when the initial conditions are unusual.

The new "initial conditions"

Any post-COVID-19 financial regulation policy must take into account the unusual initial conditions created by the pandemic itself. These "initial conditions" differ from the usual circumstances predating the COVID-19 crisis, including:

Economic recession

This is the first time ever that there is a simultaneous reduction in production and consumption by *government mandate*. Demand for goods and productive capacity have not vanished, but citizens are not allowed to make certain types of expenditures. For instance, they are not allowed to go to the movies, to dine out, or to ride around in a car (driving is permitted only for justified purposes, not

[6] It is important to differentiate risk from uncertainty. In risk we know the probabilities involved or at least we can assign them a value. In uncertainty we do not know these probabilities and most of the time we do not even know the possible alternatives. See Knight (1921).

[7] Imagine for a moment the impact that the discovery of cold fusion would have on whole conundrum of global warming. All of a sudden, we would enjoy zero-cost energy without using natural resources (hydrocarbons or coal). As a result, harmful emissions would drop dramatically. Enormous changes would ensue in the prices of many assets and in numerous relative prices. For instance, the value of assets in hydrocarbon production would fall dramatically, though not to zero, since these assets would most likely continue to be useful for producing certain chemicals. It is hard to predict what other prices would change and to what extent, as the cause behind these changes lies totally outside our experience.

[8] These categories were originally proposed by the Governor of the Bank of England in a classic speech in 2015. See Bank of England (2015). In brief, physical risks are the direct consequences of climate change; transition risks are the effects of the former on prices.

for pleasure). In practice, as a result of not being able to leave home during periods of lock-down, a simultaneous reduction in production and consumption are imposed.

The result is underutilized productive capacity and unemployment. Impacts are very different by sector, with low consequences for those able to implement telecommuting, and large effects for those that are unable to do so. For some industries, like tourism, the impact has been devastating.

At the same time, the repressed expenditure suddenly produces an increase in liquidity among households that did not lose their income, which may very well amount to 15 percent of GDP.[9] This is a huge amount of repressed expenditure. A portion may become expenditure on durables to make lock-down time more bearable (e.g. television sets). The balance has to become purchase of assets, mainly financial, paying back debt, accumulating cash balances, and / or purchasing securities.[10]

This peculiar combination of recession, unemployment and household liquidity constitutes a completely novel financial situation that may, for instance, make possible placing public debt among the country's citizens in previously unthinkable amounts.

Guaranteed government loans

The two main public support instruments benefitting citizens have been direct subsidies and guaranteed credits.[11] The latter were delivered through the financial system and are resident on financial institutions' balance sheets. They typically exhibit soft terms for the borrowers, such as low interest rates, no collateral and longer than usual repayment periods. All of this because of the guarantee of the debt by the state.

But the challenge now is how to handle the transition of this guaranteed portfolio to more normal conditions. Which guarantees should be renewed and under what conditions in order to transition to a healthy long-term economy? How can and should this crisis be leveraged to reduce the cost of credit, especially for SMEs and MSMEs? How can these massive guarantees be used to build more resilient economic structures in the face of climate emergencies and the need for greater responsiveness to future long-term climate change?

Awareness of externalities

One of the most dramatic lessons of the coronavirus crisis is that each of our behaviors does not impact only ourselves, but also has big consequences for other persons with whom we interact. That is why "super-spreaders" exist.

Coronavirus is a glaring case of health externalities. By the same token, it has created a totally new level of awareness of what externalities are and of their importance.

The effect has been that in many decision-making spaces now the effect of own behavior on others is taken into account; the same as vice-versa, taking into account the impact of others' behavior on one's own welfare. As a consequence, social behaviors emerge which take into account interactions that

[9] If household consumption accounts for 70 percent of GDP and the income of 30 percent of the population has been affected, then 49 percent continue to have an income (70 percent of 70 percent = 49 percent). If the consumption prohibition affects 30 percent of expenditures, liquidity increases abruptly by 15 percent of GDP.

[10] Consumption estimates during the pandemic can be found in Baker et al. (2020) and Coibion et al. (2020). See also Reinsdorf (2020) and Feldman (2020).

[11] Inter-American Development Bank (2020).

were not previously considered. A case in point is climate change: what each individual does in their everyday behavior affects the rest of humanity. But this is relevant to the more limited case too, which occurs in socio-environmental conflict. In this case as well, the issue is the effects on third parties.

The reality of externalities

The ban on some, but not all, economic activities has shed light on the importance of the supply and payment chains. The mutual dependence between suppliers and customers has always been there and economic scholars have always known it. What is more, Wassily Leontief earned a Nobel Prize in Economics for his *input-output analysis* which permits an analytic treatment of these interdependencies.[12]

However, it has never been as clear as now how closing a supplier activity affects the entire client chain. For instance, when COVID-19 halts the production of computer components in China, computer assembly in Mexico or the United States comes to a standstill. Likewise, the disappearance of final consumption affects the entire production chain. A clear example is the effect of restaurant closings on wholesale food suppliers, on the truckers that transport the produce from the farms, on the consolidators that buy from the small sellers and, finally, on the farmers that produce the food.[13]

A similar situation occurs in the payment chain. Numerous commercial transactions are closed with deferred payment terms, at 30, 60, or 90 days. When a buyer face reduced cash flows, they will try to compensate for that reduction of liquidity by postponing payment to their suppliers, which, in turn, causes the supplier a reduction in cash flow, and so on and so forth.

In the same way that the interdependence of flows in the real economy is reflected in an input-output table, financial flows are registered in a *flow of funds* flow table.[14]

Usually, recessions and inflation cause problems in the payment chain. The same has happened in the coronavirus pandemic.

The interdependence in real and financial flows are manifestations of the *economic externalities* that are strongly present in the current economic situation.[15]

Lessons learned in governance

In response to the crisis caused by the pandemic, the State has been forced to step in at levels not seen for a long time. In countries like the United States, the public intervention in the economy has not had a parallel since the Great Depression of the 20th century. In Latin American countries, the role of the state has suddenly grown, reversing the trend that has prevailed since the Washington Consensus.[16] It is true that the interventions took a new form, being mostly concentrated on financial measures. Nonetheless, the programmatic reversal has been considerable: what was previously not considered legitimate, has now become clearly necessary, and therefore has attained conceptual,

[12] Wassily Leontief, 1905-1999. Wikipedia (2020); presentations can be found in Christ (1955) and in Input-Output Analysis (2020).

[13] Ellison et al. (2020) examine the different stages from production to consumption and review the losses.

[14] Duesenberry (1962) and Bain (1973) are the classic references. See Tsujimura (2018) for a recent treatment.

[15] See again Scitovsky (1954) for a classic presentation of this concept in static and dynamic contexts.

[16] See Williamson (2004) for an account of this topic.

moral and political legitimacy. A case in point are the omnipresent direct subsidies to the population, as well as credit guarantees.

The new interventions of the State in the economy have required a new level of effectiveness of government management. To distribute money directly to an entire population is not the same as paying pensions to a fraction of seniors registered in the social security system. To guarantee credit massively is not equivalent to operating a national bank or an agricultural bank.

By the force of events, the public sector has acquired skills it previously lacked.[17] This has also happened in the financial sector, both public and private. As a consequence, there are now new action options available, but these new options require regulation as well.

Event-forced innovation of instruments and their application

The requirement for the State to intervene has led to innovation in instruments and in their use. This has been particularly noticeable in the financial domain, since other than health, this is where the important State interventions have taken place. The role of public banks[18] (whether national, development or agricultural banks, etc.) has expanded: they have become mechanisms for the massive distribution of direct subsidies. They have also played a role in funnelling guaranteed credits to SMEs and MSMEs. In turn, the use of government guarantees for credits provided by the private financial system has triggered interventions to fix interest rates (e.g. with reverse auctions),[19] credit terms and collateral requirements.

In turn, these innovations raise questions regarding the convergence of these new instruments or modalities to more traditional practices of the financial system. What is clear is that the event-forced innovation has opened the door to the evolution of the financial system, which, if used well, can lead to meeting the future requirements mentioned above.

This account of the changed circumstances in the post-COVID-19 era clearly points to the need for adjusting financial regulations to the current situation.

[17] Hirschman (1967), Drazen et al. (1993) note how challenges, even unanticipated ones, generate learning.

[18] For a more general discussion of the role that national development banks can play in internalizing externalities, see Schydlowsky (2019).

[19] MEF Peru (2020).

FINANCIAL REGULATION POLICIES APPROPRIATE TO THE CURRENT ECONOMIC CIRCUMSTANCES[20]

The previous section listed the major challenges presently faced by financial regulation. Also reviewed were the initial conditions that any policy design should take into account. The dominant element in this set of objectives and circumstances is *the overwhelming role of externalities.* Never before has interdependence been so ubiquitous. Therefore, it is appropriate that, in the process of designing financial regulation policy, we place at the core an instrument that can effectively internalize the interdependencies in the workings of the financial system. This instrument is ESMR, *Environmental & Social Risk Management.* However, the ESRMS needs to be buttressed by other traditional measures to reinforce it. These are the *supporting policies to internalize externalities*. In addition, *disaster management* deserves special treatment, expanding what ESRM can achieve in this area. Lastly, *recovery from COVID-19* poses specific challenges that also warrant a specific treatment, since it involves unique situations. Let us take a closer look.

General policy to internalize externalities – ESRM

Environmental & Social Risk Management is a mechanism that is established by means of a regulation issued by the regulator of the financial system.[21] It compels banks and other regulated financial institutions to implement an *enhanced due diligence* in those operations with their clients that might entail sizeable socio-environmental effects.[22] It goes without saying that this function should be incorporated in the institutions' general risk assessment. Specifically, financial institutions must gather information on the possible effect of the financing that goes beyond traditional economic returns. Enhanced due diligence should include from the water that might be used in industrial or mining facilities, to the effects on air quality resulting from fumes or dust from their operations, through the pressure on urban facilities resulting from their worker's presence in surrounding communities, to the hygene conditions in which financed company employees work.[23] In other words, financiers should be very clear about the direct and indirect impacts of the projects they finance. This requires *making externalities explicit*. ESRM requires financiers to receive from their clients prevention and remediation programs to address the socio-environmental problems identified, complete with a grievance procedure and the consequent resolution protocol. The borrower must inform all of this to the financier who, in turn, must inform the supervisory authority.

[20] An account of pro-green policies prepared before the COVID-19 crisis can be found in Frisari et al. (2019) and AFI (2020b). However, these reports could not take into account the requirements of the current crisis and its influence on policy selection.

[21] ESRM represents the regulatory culmination of the *Equator Principles* (2020), in turn inspired by the International Finance Corporation (IFC *Performance Standards*, 2006 and 2012). By moving from voluntary agreements to mandatory regulations, the ESRMs change the terms of competition in the terms of socio-environmental requirements, create "a level playing field" and raise the awareness of the effects of individual activities on the community. This process has been gradual and varied in different jurisdictions, resulting in varying levels of coverage in scope and in regulatory strictness. The role of bilateral and multilateral development banks in supporting this evolution has been important.

[22] Both IFC and Peru implement a normal minimum threshold of US$10 million, but with upward or downward adjustments for exceptional cases. Honduran regulations, on the other hand, set a qualitative threshold, i.e., "whatever has a significant impact".

[23] For a useful list, see Annex 1 of the Honduran Commission on Banking and Insurance (2020).

In other words, the financier must foresee the impact of what is being financed on society, not only on the profits of the respective enterprise.

In turn, the bank supervisor must verify that the financier meets its obligation as a trustee of the common good.

From the standpoint of a financial institution, ESRM involves cost and effort, but it *mitigates* risk. Therefore, in the medium and long term, setting up ESRM schemes is in the individual and collective interest of the financial institutions themselves.

From a competitive point of view, it is in the interest of each financial institution *that the others* also put in place and operate their ESRM, since otherwise competition may degrade environmental stewardship. That is why the large banks that operate in Project Finance created the Equator Principles, seeking to ensure a competitive *level playing field* between them. The same rationale argues in favor of making ESRMs obligations clearly defined by the Regulator.

It should also be pointed out that the ESRM, as a mechanism to internalize externalities, is, in essence, a multipurpose instrument. It will be as effective in internalizing the negative externality of pollution from a river, as internalizing the more generalized challenge of reducing emissions harmful to the atmosphere.

ESRMs have been implemented in several Latin America countries, to wit: Brazil and Peru in 2014, Paraguay in 2018 and Honduras in June 2020. Colombia operates a Green Protocol since 2012. Panama explicitly recognized environmental and social risks in its regulations in 2017 and its banks adopted a Green Protocol in 2018.[24]

Supporting policies for internalizing the externalities

ESRM operates through the management function of financial institutions, often centralized under the Risk Manager. By comparison, the general regulation that governs the financial system operates through regulations including capital requirements, loan provisioning, permitted operations and their mechanisms, permitted charges, etc. These regulations need to be aligned with the ESRM policy to internalize externalities, so as to establish a comprehensive regulatory policy to address the current economic situation and its evolution over time. In this regard, it is useful to distinguish three categories of support to the internalization of externalities: first, specific policies of sectoral transformation, second, policies of connectivity and inclusion, and third, policies to create institutional overhead capital.

Specific policies of sectoral transformation

An important part of the loans made by the financial system finance construction, mortgages, personal and work vehicles, as well as power facilities. All these assets can be more or less resilient to natural disasters, more or less environmentally friendly, more of less adaptable to climate change and more or less likely to become involved socio-environmental conflict. This means that credit conditions can influence what assets are acquired and their nature.

In turn, by regulating credit modalities the regulator influences their potential rates of return. Regulators determine capital requirements, provisions, required collateral and credit worthiness and may also set maximum terms and/or interest rates.[25]

All this provides the Regulator with the means to support its policies for internalizing externalities by suitably aligning its credit regulation policy. Some representative cases will be exposited below.

Policies of connectivity and inclusion

An economy's ability to adapt to changes as large as climate change, as well as its resilience to socio-environmental conflicts and natural disasters, depends largely on how well its society is integrated and the degree of effective inclusion of its members. Integration and inclusion create flexibility in the face of change and the ability to bounce back from disasters.[26]

The payments system is a key element in the functioning and integration of an economy. As a result, financial inclusion has acquired increasing importance in the agenda of financial supervisors in recent years.[27] The great promise in this regard has been the digital wallet on the cellphone. Therefore, the

[24] See Banco Central do Brasil (2014), Superintendency of Banking, Insurance and AFPs (2015a), Central Bank of Paraguay (2018), National Commission of Banking and Insurance (2020), Government of Colombia et al. (2012), Republic of Panama (2017), Panama Banking Association (2018)

[25] Meenan et al. (2019) present a very exhaustive list of the instruments available to financial authorities. NGFS (2020) has a specific discussion on the use of capital requirements.

[26] Vasseur et al. (2015) discuss the importance of resilience.

[27] The Alliance for Financial Inclusion (AFI) (2020) is the organization that emblematically champions this cause. Membership includes 90 developing and emerging economies. Statistics on progress on this topic can be found in World Bank (2020).

development of payment systems on cellphones is an important supporting element in a policy of internalizing externalities.

Furthermore, expensive credit is tantamount to non-existent credit. Consequently, financial inclusion means not only people having a bank account or its use as a means of payment. It also means the availability of loans to the lower deciles of the income distribution at reasonable interest rates and credit terms.

Connectivity is also affected by communication and transportation costs. As mentioned earlier, the assets involved are mostly funded by the financial system, be they wireless transmission towers, transmission lines or buses. The potential impact of the financial system on communication and transportation costs is considerable. Consequently, the regulations pertaining to these credits has a significant additional impact on the economy's adaptability and flexibility in the face of the potential challenges that it might have to face.

Policies to create institutional overhead capital

Any financial system requires an institutional framework. This is a type of social overhead capital not easily provided by the private sector.

In face of the challenge posed by the new regulatory requirements of the current economic downturn, it turns out to be very important to strengthen certain institutional components that will make achieving the proposed objectives substantially easier.

On the one hand, there is the need for easy and reliable access to legal information on deeds to property, on powers of attorney, etc., all of which affect operating costs, the risk of any transaction and the possibility of getting insurance coverage. Just as material is the information about creditworthiness, with broad coverage.

On the other, there is a wide range of data that mitigates business risks: microclimates, temperature and rainfall records, availability of water supply; georeferenced power and communications connections, georeferenced agricultural yields, population density of towns and cities, sanitation systems, etc. Some of these data can lead to structuring parametric insurance coverage, which will make them even more important.[28]

The existence of a wide range of reliable data provides the support fabric for the proper functioning of markets. If these data are not provided to all economic actors in an egalitarian manner, the result will be temporary monopolies and/or inefficiencies of duplication that will consume resources in a non-productive way.

Disaster management policies

When a natural disaster hits, prompt responses are needed. In the absence of a pre-designed contingency plan, improvisation will occur and the response will be far from optimal. Once a disaster hits and its worst impact is over, the time for recovery comes. That also requires planning in advance for a good management of the recovery.

[28] See Brettler et al. (2020)

Prudential regulatory policy for contingencies arising from natural disasters must range from assuring the availability of cash in the affected areas, through enabling emergency access to the financial resources of those affected, to the opening of special credit lines related to the emergency, both for private individuals and for public agencies in the affected areas.

Prudential recovery regulation policies obviously must be linked to the policy in place for facing natural disasters. Consequently, it should include elements to provide extraordinary access to own resources, provide rehabilitation credits, permit quick disbursement of public and private insurance compensation, and a redefinition of creditworthiness.[29]

It is worth noting that the economic consequences of socio-environmental conflicts resemble natural disasters in many respects. They also often burst onto the scene without much warning. However, socio-environmental conflicts are a central point of ESRM since their components are situated predominantly in the private sector. This is not the case with natural disasters, which is why they require specific regulatory actions.

COVID-19 recovery policies

The mobilization of the state in support of its citizens has changed the relationship between public and private action in all the economies of the world. If previously the importance of the role of the state was a matter of debate, the pandemic has required acting through the big instruments of government. Even where national (federal) governments have been reluctant (USA, Brazil), financial authorities have acted. The same has occurred with subnational governments.

In Latin America, the main instruments of financial action have been direct subsidies to the population, state-guaranteed loans and extraordinary withdrawals from retirement accounts. All of these require "reabsorption" policies on the way to a new normalcy. But this new reality should follow a different path, consistent with the new socio-environmental and climate objectives.

In addition, it is necessary to redefine what it means to be creditworthy. In a depressed economy, creditworthiness cannot be viewed, as it is customary, at a micro level. Now, rather, it is necessary to take into account the interdependencies, and how the success of each depends on the success of the others. Creditworthiness becomes now a sectoral, regional and even national phenomenon. We find ourselves, again, in the presence of an important externality.[30]

[29] Meenan et al. (2019) and Schydlowsky (2020) provide complementary approaches on this topic.

[30] Consider, as an example, the case of a refrigerated truck company for the transport of perishables. It holds a 50 percent market share among restaurants in the capital. The extent to which restaurants reopen will critically affect their cash flow, and thus their ability to pay and their creditworthiness. But the company has no influence on public health policy. For the company, it is a pure externality.

ESRM (ENVIRONMENTAL & SOCIAL RISK MANAGEMENT) IMPLEMENTATION POLICY: DRILLING DOWN

The Goal of ESRM[31]

ESRM aims to make financial institutions project their purview beyond the financial performance of a company they are financing and consider its wider impact on its environment. The justification for this is that the medium- and long-term financial health of an enterprise depends on its impact on the environment in which it is situated. Neglecting that impact means not taking into account significant risks resulting from the socio-environmental effects of the enterprise,[32] as well as from long-term climate change.

ESRM operates through the management structure of financial institutions and broadens the spectrum of risks that should be taken into account. Furthermore, it also establishes the need to not only identify the risks involved, but also to create a strategy to mitigate them as part of the respective project. ESRM does not require that projects with socio-environmental or climate risks not be financed, but rather that mechanisms be put in place to prevent, mitigate or contain such risks and thereby reduce them.[33]

A succinct summary of the ESRM requirements imposed on financial institutions regarding the projects they finance includes:

- Comprehensive description of the project to be financed: identification of its area of influence and the relevant economic, social and environmental conditions present therein;
- Ability of the enterprise financed to manage likely socio-economic and socio-environmental challenges posed by the project;
- Environmental regulations applicable to the project;
- Evaluation of potential socio-economic and socio-environmental impacts such as on air and water quality, on conflicts over land and water use, on sustainability of natural resource use, on involuntary resettlement of populations, on effects on indigenous populations, and others;
- Physical mitigation measures: engineering works to counter landslides, assurance of labor safety and health, measures to control contaminating elements, emergency response plan;
- Mechanisms for participation and consultation: effective involvement of the populations in the area of influence in an ongoing, structured and effective manner;
- Grievance mechanism: structured, effective and with verification of outcomes, duly communicated in advance as part of the participation and consultation mechanism.

[31] It should be noted that ESRM may originate at the initiative of the regulators (top down), at the initiative of the regulated or their trade associations (bottom up), at the amicable suggestion of development finance entities (sideways) or by some combination of these. The most desirable, for sure, is that they be adopted by consensus.

[32] See Davis et al (2014) for a sobering account of these types of conflicts.

[33] In this regard, ESRM follows the Guiding Principles for Business and Human Rights of the United Nations (2011).

An important element of the *enhanced due diligence* implied by the ESRM is to ensure that the entrepreneur executing a project is properly qualified to address potential risks to which both the manager and the project itself are exposed. This is important for the financial institution since socio-environmental risks tend to propagate and therefore can quickly contaminate a whole portfolio. If the lender finds that the borrower lack sufficient capacity to address potential risks, require additional training may be required or the loan may be refused.[34]

Requirements for banking and other included financial Institutions[35]

The financial institution operating an ESRM regime shall necessarily have an organizational structure that incorporates socio-environmental risk considerations. Generally, the Board of Directors is charged with supervising compliance with the ESRM requirements and to ensure that the general manager deploys the necessary operational structure.

Since this is a new function, its implementation may be entrusted to a specialized unit, typically a Socio-environmental Risk Sub-Directorate, within the institution's risk management structure. This inevitably creates tension with those traditionally entrusted to manage the financial risk of the institution, as well as with those in charge of business development, both of whom may consider the new sub-directorate to be a hindrance to their activities. Therefore, it is recommended that the Board of Directors and senior management initiate an awareness-raising campaign to get the entire management team to understand that the success of the institution depends in the medium and long term on their ability to accompany the process of adaptation to a more sustainable economic development at all levels. At the operational level, this is goes along with the eventual inclusion of socio-environmental risk into the general risk assessment exercise, in order for both types of risk to be assessed simultaneously in a single process. Furthermore, at a later stage, institutions' core management departments must also be imbued with the logic of appropriate management of externalities, so that they will promote undertakings consistent with a more sustainable development from the outset.

The inclusion of socio-environmental risk into the financial institution's risk assessment also has implications for the type of information the institution needs to collect. No longer does it suffice to know how the client is doing in microeconomic terms. Now it is important to know what dangers threaten the sector, the region, the suppliers, and the entire external environment that can affect the client's business. However, this implies an analysis that goes beyond the boundaries of microeconomics to encompass sectoral and regional levels and a socio-environmental analysis in order to have early warning of potential socio-environmental conflicts and the impact of climate change.[36]

Some of these information requirements have levels of complexity and cost exceeding what individual financial institutions can handle, especially if they are small or medium sized. Therefore, they must be carried out either by trade associations, or by the financial supervisors and regulators themselves, as part of institutional social overhead capital creation.[37]

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[34] The vision of a representative regulator can be found in Superintendencia de Banca, Seguros y AFPs (2015b).

[35] A very informational review of the current situation in regard to the incorporation of socio-environmental topics in the hemisphere's banking industry can be found in CAF-UNEPFI (2020).

[36] Scenario analysis becomes useful in this context, as it permits running a range of simulations. However, the complexity of generating these instruments and the information they require can easily exceed the capacity of financial institutions to carry them out. This implies, as noted below, that the financial supervisor must generate a simulation framework to which the system's institutions can have recourse to when making their own specific analysis.

[37] See 3 c. and 4 c. *infra*.

Banking supervision requirements

The banking and financial supervision function has always required a broad perspective with an understanding of the country's macroeconomic situation as well as its growth outlook. But it is also true that the specific function of bank (or other financial institution) inspection has traditionally had a strong microeconomic perspective. Individual entities have been inspected vertically, almost as independent silos. It is also true, at the same time, that progress in *off-site* inspection and the comparisons between institutions made possible by this, have been denting this tradition.

The COVID-19 pandemic has by itself forced viewing the health of the financial system holistically and then to *situate each financial institution within this aggregate*. This has required, for example, consideration of how each member of the financial system has been exposed to the crisis in the travel and tourism industry, especially hard hit by the coronavirus pandemic. Yet, for this same reason, it has become necessary to take into account others affected collaterally, such as suppliers of hotels or tourist resorts including the food sector and, indeed, workers.

The adoption of ESRM regulations significantly expands the role of supervised institutions themselves in understanding the systemic functioning of the financial system as well as its role in the economy as a whole. This is extremely healthy since it leads to a much greater integration of purposes, goals and incentives. But it also imposes new oversight and analysis requirements on Regulators.

The new supervision requirements arise directly from what the ESRMs demand of the lending institutions. Consequently, regulators need to train their officials to engage in proper follow-up and ensure that the institutions effectively implement the ESRM schemes.

However, there is a greater role for them: to ensure the existence of the information infrastructure necessary for the institutions to implement ESRM well. This is part of the required institutional social overhead capital. Although this subject will be dealt with in greater detail below (see 4 c infra), it should be noted here that it is the Regulator's responsibility to consolidate the information from various financial institutions and then send the aggregate back to each institution for its own use. This will include, for example, the system's global exposure to sectoral and regional risks, the implicit linkages in the supply and payment chains, and other similar elements useful for good decision-making. It also implies doing the groundwork and developing the relevant *stress* tests.

Finally, the supervisor has an additional role in fostering a team of trained technicians to provide the knowledge that financial institutions will require to properly implement the ESRM schemes. Large institutions may be able to include a major part of the required technicians in their permanent staff, but medium and small institutions will need to have recourse to specialized external consulting teams. The same will occur with companies and communities that will need to interact with financial institutions in response to ESRM requirements. The development of independent professionals available for hire will also have the desirable consequence of ensuring the quality of the respective analyses.

Benefits of adopting ESRM

Adopting ESRM creates a number of benefits:

- Internalization of externalities, including socio-environmental and climate externalities. This is the most suitable mechanism for aligning the incentives of the financial system to the requirements of recovery from COVID-19, the challenges posed by socio-environmental conflicts, the potential dangers of climate disasters and the long-term effects of climate change.
- Beneficial effect on economic growth. Incorporating externalities makes all of economic management more efficient and consequently raises the rate of growth.
- Beneficial effect on distributive equity. Taking into account externalities automatically leads to inclusion of distribution considerations; preventing, mitigating and containing conflicts significantly reduces disputes arising from the distribution of income.
- Important effect on the reduction of socio-environmental conflicts. Creating awareness of socio-environmental externalities and requiring effective consultation and fair grievance mechanisms, ESRM allows conflicts to be resolved through negotiation rather than confrontation.[38] The savings in resources of all kinds that this entails translates into enhanced economic productivity and a more equitable distribution of the product.
- Lower sovereign risk as the result of international recognition that an effective conflict resolution mechanism is in place.
- Lower interest rate on external debt due to lower sovereign risk[39] and, as spill-over, a reduction of the domestic interest rate.

[38] See Davis et al (2018) regarding the cost of conflicts to the companies involved.

[39] Suppose the interest rates on foreign debt drops from 8 percent to 7 percent and that the debt / GDP ratio is 30 percent. So, a 1 percent reduction is equivalent to 0.3 percent of GDP saved. If the state absorbs 20 percent of the GDP, that 0.3 percent

- Greater attraction for foreign direct investment as a result of lower country risk that translates into a higher expected return on investment.[40]
- Incentive for the involvement of national and multilateral development finance entities as they increasingly adopt socio-environmental and climate risk management requirements in their contracts.
- If ESRM is adopted by neighboring or linked countries, as would be the case with countries in Central America or countries of the Pacific Alliance, its effect is strengthened for a number of reasons.
- In this case, a level playing field is created in the financial systems of these countries, reducing the possibility of regulatory arbitrage.
- The operation of financial institutions of each of the adopting countries in the other countries is made easier.
- Consideration of externalities in third countries is facilitated.
- It reduces the danger of offshore operations seeking a competitive advantage by paying less care to the negative externalities that ESRM is designed to avoid.[41]

means a higher possible budgetary expenditure of 1.5 percent. With public investment at possibly 7 percent or 8 percent of GDP, that 1.5 percent is equivalent to a 5 percent increase in public investment.

[40] Here several elements combine: (i) lower direct operating costs due to less conflict-related expenses; (ii) lower cost of borrowed funds due to lower sovereign risk; and (iii) lower opportunity cost of capital, again due to a lower sovereign risk. The end result is an increase in pure rent.

[41] There are still international financial entities that have not subscribed to the Equator Principles and therefore feel free to compete on the basis of paying less attention to socio-environmental and climate risks. This undermines local economic and regulatory policy, a behavior that requires minimization through proper and careful drafting of regulatory instruments.

SUPPORTING POLICIES FOR INTERNALIZING EXTERNALITIES: DRILLING DOWN

Specific policies for sectoral transformation

A significant part of the financial system's loan portfolio consists of financing construction sites and then granting long-term mortgages on the structures built. Therefore, the lender has a say on the environmental characteristics of what is built: what materials are used, how the roofs are anchored, whether the windows resist strong winds, whether solar heaters are installed, etc. This influences the resistance of the construction to climatic disasters in the short term, as well as to climate change in the long term. By the same token, the quality of construction affects the durability of the asset financed, and, therefore, its value as collateral. Regulation greatly influences the financial terms applicable to real estate financing, whereby it can have considerable impact on the choice of the technology used in construction. Consider, for example, a regulation that differentiates between the provisioning required for structures that are resistant to natural disasters and those which are not. Evidently, this will create a financial incentive to construct buildings that are resistant to natural disasters. In turn, the authorities responsible for building codes will have an incentive to "modernize" their codes and thus receive cheaper finance in their jurisdictions.[42]

The same occurs with the financing of vehicles, whether for freight or passengers. The respective environmental impact depends essentially on the type of fuel used, whether diesel, gasoline, natural gas or electricity. What is more advantageous for the user to buy depends in good part on the financing available. This in turn is affected by the provisioning that the regulations prescribe. Consequently, appropriately matching up provisioning requirements and environmental policy will lead to more attractive financing terms for the type of vehicle that least damages the environment.[43]

A third iconic case is the production, supply, and use of energy. Clearly, burning coal to generate electricity is highly polluting, followed by the use of oil and then natural gas in open cycle and finally in combined cycle. Hydropower is non-polluting. As are solar and wind energy. What the financial system funds and on what terms, greatly affects the energy generation matrix and therefore its distribution and use. Consequently, the rules governing lending to this sector will impact on how the economy will respond to future climate change.[44]

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[42] An interesting variant to this approach has been proposed for rental housing in the UK. See Bank of England (2019), p. 27. The Central Bank of Hungary is testing the use of green home loans that require meeting certain building standards. See NFGS (2020), Box 24, p. 50. The Sociedad Hipotecaria Federal de México (2020) also has introduced an innovative program to this end.

[43] COFIDE, Peru's development second tier bank (2019) has an active system for converting vehicles to natural gas since 2006. An evaluation carried out by Macroconsult in 2020, still confidential at this writing, documents the very large benefits of this program.

[44] Solar and wind renewable energy pose the disadvantage of their fluctuating nature. The sun does not shine at night; winds blow with variable force. This requires additional forms of storage and batteries do not yet have enough capacity. The most readily available solution is reversible hydroelectric plants, which pump water up when renewable energy is abundant and release it when it is lacking. For the respective Australian policy, see Government of Australia, (2020).

There may be other cases with meaningful impacts. For instance, it is known that traditional flood-irrigated paddy fields are the source of major methane emissions, a gas that is 40 times more harmful than CO2. Installing drip irrigation in rice fields may have significant environmental impacts. But this necessitates financing, which makes the intervention mechanism all the more obvious.[45] Another known case is the beef and dairy industry where cow digestion is a source of methane gas.[46] In this case, the technology to capture that gas and prevent it from spreading into the atmosphere is not yet standardized, but it will certainly also require funding, which may definitely be affected by financial regulation. Lastly, it is worth mentioning the deforestation occurring in many countries. The respective agricultural enterprises, when medium or large, are financed by formal financial institutions. Ensuring rational reforestation then becomes a specific task of this type of credit.

Connectivity and financial inclusion policies

The operational cost of payments between e-wallets is practically zero and cellular phones do not even have to be "smart" as e-wallets also work with standard mobiles. Consequently, building an effective e-wallet network integrated into the retail trade is an extremely important building block to create resilience and adaptability in any economy. It also solves an important problem created by natural disasters that compromise the traditional payments network.

Also of great importance for financial inclusion is the availability of formal credit at "reasonable" prices. When large companies in the capital city of the country pay international interest rates (now three percent p.a. or lower) while small companies or individual entrepreneurs in the interior pay up to 10 times more, economic integration is impaired and recovery from disasters is hindered, as well as long-term adaptation to climate change. Recall that excessively expensive credit is tantamount to getting no credit at all.

One of the main tasks of the financial regulator is to improve the financial system. By granting government-backed guarantees the differential in interest rates paid by large and small enterprises has been reduced, but only temporarily.[47] It is necessary to explore the possibilities of economies of scale in microfinance[48] as well as adopting some fintech mechanisms to reduce risks and operating costs.[49]

The third important element of connectivity and inclusion is the cost of transportation. No country can be viewed as a single dot; all comprise geographic extension. Therefore transportation costs impact absolutely everything.

In turn, the cost of transportation is affected by various factors, all of which include a financial component, namely the cost of vehicles, the cost of fuel, the cost of building a fuel supply network, the cost of financing the repair shops and necessary spare parts, etc.

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[45] See Netafim (2020), Hmielowski (2019), Rao et al (2017).

[46] See World Economic Forum (2019).

[47] See the use of reverse auctions for this purpose. Cf. https://gestion.pe/economia/reactiva-peru-2-bcr-subasta-s-2645-millones-a-tasa-promedio-de-166-noticia/

[48] Outsourcing and consolidating operations in the cloud may protect small operations from large diseconomies of scale. But this requires overcoming concerns of commercial confidentiality, as well as regulations that often force the processing of national data within the borders of the respective country.

[49] Remarkably, in two countries as different as Sweden and China the use of cash in transactions by the public has practically diappeared.

It was already noted above that financing can affect both the composition of the vehicle fleet and the type of fuel used. The same applies to the other elements of the cost of transportation. Prudential regulation policy therefore has a supporting role in financial inclusion through a mechanism not yet taken advantage of.

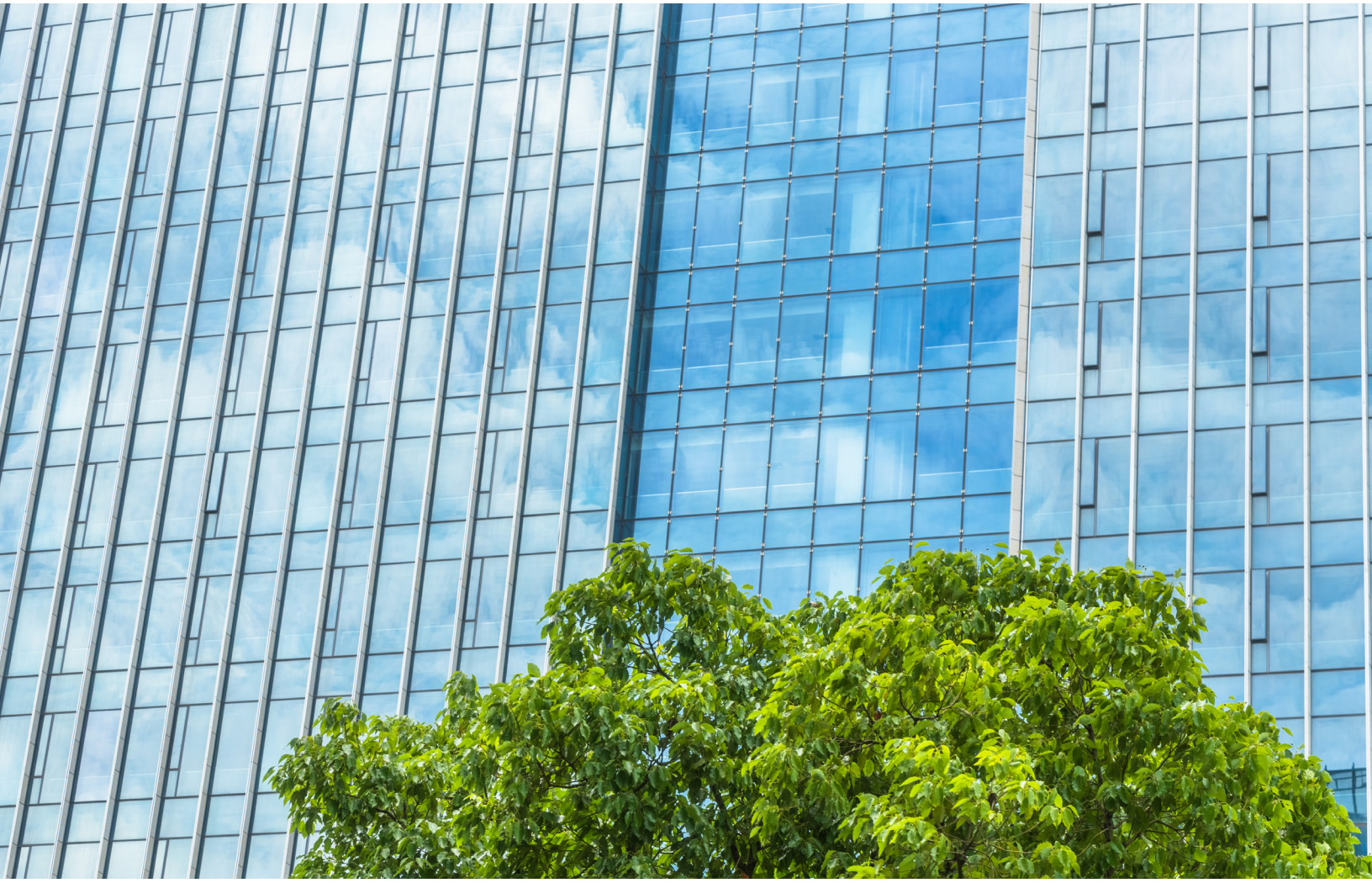
Building institutional social overhead capital

The importance of institutional social overhead capital for the proper functioning of the financial system was noted above. It was also noted that the essential quality of institutional *social* overhead capital is that it has to be generated by the public sector; the private sector is not well equipped to undertake this endeavor.

It is useful to distinguish three types of institutional social overhead capital that merit being installed:

1. General purpose institutional social overhead capital:

   It comprises elements of the socio-legal functioning that fosters the reliability of contracts, provides information of general applicability and usefulness, and creates equality of opportunity for the citizenry. Examples are easy and inexpensive access to the identification registers of persons



and companies, easy and inexpensive access to the property registries and those of powers of attorney, records of georeferenced locations across the country, records of water levels in rivers and of rains, records of production and productivity, records of individuals' and company financial solvency, and others of similar nature.

2. Institutional social overhead capital especially relevant to socio-environmental conflicts:

   In this category we have the inventory of potential conflicts at different levels of acuteness, so that the entire financial system is duly informed; the forecast of possible consequences of such conflicts; the measures being taken to abate them (but without identifying the organization(s) involved); and the financial system's exposure to such conflicts. The objective is to gather information from diverse sources, combine and confirm it where possible, anonymize it where appropriate, and then provide the system with the resulting aggregate.[50]

3. Institutional social overhead capital especially relevant to climate change:

   In this group resides the summary of information of what lies ahead specifically regarding climate change and projections of its potential consequences at a sufficiently disaggregated level to be useful as input to financial sector decision making. Again, government agencies are the most capable of collecting this information and rendering it into a format that is useful for financial system decision-making.[51] However, financial institutions also receive large amounts of data through their networks of branches that have a high level of granularity. These data need to be consolidated and anonymized to be of use to the system as a whole without infringing on the confidentiality applicable to commercial information. Also relevant in this context are the efforts under way on classification and typologies to identify what is "green", "not green", or "partially green".[52]

[50] The gathering of information on socio-environmental conflicts includes the monitoring of media information, collecting information from NGOs, including those focusing on human rights, information required from publicly listed companies and others. Much of this information is in the public domain and readily available, but not compiled in a usable way.

[51] Determining the format of the information that should be "publicly available" is not an easy task. Difficulties of definition and measurement are involved. Then there is the uncertainty of the consequences predicted. Under these circumstances, the wise recommendation is to "do no harm" and move in the direction that appears to be the most correct and with the flexibility to be able to make adjustments along the way.

[52] To this end, the Financial Stability Board set up its Task Force on Climate-Related Financial Disclosures, TCFD.

DISASTER MANAGEMENT POLICIES: DRILLING DOWN

Contingency policies for business continuity in the face of natural disasters

1. Emergency access to cash. The purpose is to be prepared for automatic teller machines not to work due to power outages or other circumstances. The most effective alternative is the electronic wallet, but banking agents can also be effective, as long as they themselves are not affected by the disaster.

2. Access to own funds. In this case, the issue is suspending regulatory limits to withdrawals of savings or term deposits. It may also refer to allowing early withdrawal of pension accumulations.

3. Advance payment of government transfers. Under this rubric fall advance payment of pensions and conditional cash transfers. Advance payment of amounts due to government suppliers could also be included.

4. Immediate partial payments of insurance benefits. In this case the intent is to achieve an immediate payment of 20 percent to 25 percent of insurance compensation, with the final settlement to be made after the usual loss appraisal.[53]

5. Emergency loan programs for individuals, SMEs and MSMEs on preferential terms with minimum collateral or with state guarantees. [54]

6. Lines of credit to local governments, which will be required to undertake extraordinary expenses for immediate clean-up and repairs.[55] These funds might even be used to hire catastrophe victims to carry out these tasks and so provide them with much-needed earned income.

Contingency policies for natural disaster recovery

1. Recovery loans. These loans should have special characteristics under the circumstances. They may therefore require specific authorization.[56]

    a. Length of terms: consistent with the underlying project(s) or with the likely date when a debtor returns to paid work.

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[53] These payments should be distinguished from those that occur when parametric insurance is operative. Regarding the latter, see Brettler et al (2020).

[54] The experience acquired with state-backed guarantees to rescue the economy during the COVID-19 pandemic provides significant progress in the design of this instrument.

[55] It is important to design the support mechanism in advance, as it tends to trigger political disputes, especially if the different levels of government are managed by authorities from different political parties.

[56] It may also simply be the need to modify customary banking procedures.

b. Flexible payment dates: especially in rural credit to incorporate fluctuations of when the harvest comes in and possible communication difficulties.

c. Interest rates: ensuring that the underlying project can bear the financial burden. Likewise, incorporate the positive externality of the simultaneous recovery of all affected parties.[57]

d. Repayment periods: in order to incorporate the uncertainty of the recovery calendar, incorporate at the beginning the option to postpone repayment of some installments, with pre-established periodicity and costs.[58]

2. Refinancing of the emergency loans. Once the crisis is over, the loans written during that period will need to evolve towards more normal conditions. But this will surely require special treatment, depending on the nature and severity of the natural disaster. The considerations listed in the preceding point will also be relevant for this case.

3. Creditworthiness in the recovery phase. The same customary solvency as before cannot be required following a natural disaster. Moreover, it is necessary to bear in mind that an entire sector of the economy will recover at the same time. This means that each economic unit in that sector will support the solvency of the others with their own solvency. This externality should be taken into account and clearly requires regulatory intervention because it is a systemic effect.

4. Collection of data to create a database for future insurance. It is impossible to procure insurance without a base of actuarial data. The corresponding database is part of the institutional social overhead capital. In some cases, it could support parametric insurance.[59]

5. Creation of a financing framework for municipal and regional governments. Natural disasters will create demands for financing that subnational governments must address. In this situation, financial mechanisms should be created to at least allow distributing the burden throughout years when different levels of prosperity are experienced.[60]

As will have become evident during the reading of this section, managing a business continuity policy in the face of natural disasters is not an easy task. Moreover, COVID-19 can be considered an extreme case of natural disasters and it would not be surprising, therefore, that some of the measures outlined in this section have been implemented in the face of this pandemic.

[57] When a range of industries recover simultaneously, as will happen in an area affected by a natural disaster, the greater solvency of each economic agent taken separately increases the economic solvency of the others, as they are their mutual clients, suppliers or simply each others' consumer households. Thus, the solvency of the whole is greater than the sum of the individual solvencies without taking into account the interdependencies.

[58] Proceeding *ex ante* has the advantage that extensions of the repayment term will not be formally considered rescheduling or renewal, thereby precluding any negative effects on the customer's credit rating. It also saves administrative costs to the financial institution.

[59] See a description of how this insurance works in Brettler et al. (2020).

[60] One possible mechanism is to create trusts for local authorities into which they deposit their annual revenues for disbursement on a moving average. The problem of predicting the moving average in the future does not disappear, but conservative management will allow building reserves for emergencies. Furthermore, these trusts may be authorized to borrow from the public or the central bank in pre-established situations.

The direct subsidies to the citizenry as well as the expansion of credit with public funds have required financing with an increase in public debt. But unlike other economic situations, the depression caused by the coronavirus itself has created space for a "Keynesian" expansion of public spending. Furthermore, the lockdowns have created forced reductions in consumption, the counterpart of which, i.e. savings, opens new opportunities for internal financing of public debt.[61] The regulatory implications of this development need to be determined.

In addition, government guarantees for bank loans to companies and individuals have been made with interest rates and repayment periods significantly more favorable than those customary heretofore in the market. This will unavoidably impact the market in the future. But what is desirable is not to go back to the *previous state of affairs* but rather to financing conditions more favorable to small companies and to companies friendly to climate transition. Again, a definition of a transition policy suitable to this goal is in order.

Finally, it is important to take into account the linkages in the economic system, both those coming from the real side of the economy (input-output linkages) as well as those coming from financial flows, especially trade credit (cash flow and payment chain linkages).[62]

Managing increased public debt

A previous section noted that one of the effects of locking down the population is the appearance of forced savings. These savings constitute a financial mass that initially flows into the banks. Thereafter it can flow directly into the purchase of public debt by the public or the same effect may result from the purchase of public debt by banks with the funds coming from those same forced savings. In both cases, there is a transfer of savings from the private to the public sector.

It is important to highlight, however, that this forced saving *takes place only once*. As a result, it allows financing a temporary fiscal deficit but not a sustained deficit.[63] It could be desirable, therefore, to generate a special bond issue, called, for instance, "national recovery bond" and yielding an attractive interest rate. These bonds would be sold only during the COVID-19 crisis period and would help to pay a significant proportion of the subsidy provided to the population for their daily survival expenses.[64]

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[61] See detail *infra*.

[62] In small and uncomplicated economies, medium and large-sized companies may have extensive information on their supplier and customer networks. The larger the economy, the more diversified it is, and the denser the inter-industry fabric, the less information companies will routinely have about their more distant linkages.

[63] The savings rate is likely to remain higher after the pandemic for two reasons: (i) the discovery by citizens that they do not really need some of the things they bought, and, (ii) the conviction that it is better to be more cautious and increase savings for what might come in the future. In any case, "forced" savings do not last.

[64] The placement of bonds to absorb "forced" savings does not preclude the sale of bonds abroad or in the local financial market to foreign investors.

This mechanism to ring-fence the extraordinary expenses incurred due to COVID-19 permits managing the emergency in a separate fiscal account, thereby avoiding the disruption of the normal austerity or moderation guidelines.

Buyback of government credit guarantees

Two aspects need to be differentiated: repayment of the loans themselves and long-term effect of interest rate reductions on small borrowers.

In the first, care should be taken to adapt the repayment terms to the conditions of the real economy, above all its recovery rate. The recovery will probably be uneven among sectors. We know for instance that the tourism industry will recover more slowly than others. This means that the government guarantees should continue in force for the tourist industry longer than for other sectors.

However, the issue of economic interdependence will immediately arise. What treatment should sectors supplying the tourism sector receive? There is no easy answer to this question and the required information related to interdependence on the real side and in the payment chain is usually not readily available.

An issue of great importance in this context is the care of the "payments culture." The guarantees provided by the state have most likely weakened this culture which is essential for the proper functioning of the market. Not just for the credit market, but for the entire market: without the certainty that the recipient of goods or services will pay for them, any market comes close to becoming barter: merchandise for hard cash. This is certainly not viable in a modern economy; hence the process of exiting from state guarantees must be accompanied by a strategy of strengthening the payments culture. [65]

[65] In "normal" circumstances, the payments culture is strengthened by records of creditworthiness that track whether a debtor was a good payer to financial institutions. But it is already well known that the willingness to pay varies by creditor, so a first step is to include in the credit records the payments made to the electricity, gas, telephone and municipal utilities. A second extension comes from electronic payment records: credit cards and electronic money (digital) accounts. A third extension applies to self-employed street vendors: their location can be tracked by means of the GPS on cell phones. This helps ensure that their information is reliable. Expanding the coverage of information and documenting individuals' credibility is an effective way to foster reliability and indirectly the payments culture. Developing extended records such as those suggested, then, meets several objectives simultaneously.

The issue of the interest rate for the "small borrower" is of structural import. The higher the interest rate, the more investments with gestation periods will be avoided and commercial operations with quick payback periods preferred. The consequence is that improvements in agriculture are prevented, from small irrigation improvements, through adoption of technological change leading to drip irrigation. Crop patterns also become skewed to the detriment of semi-perennial plantations such as fruit trees, sugarcane or the like, which have initial yields only after three or four years. It also discourages transitioning to the use of small machines to move from cottage production to achieving economies of scale. The small borrower is consequently excluded from engaging in profitable ventures which the big borrowers access without much difficulty. The cumulatively regressive impact on the distribution of income and wealth becomes increasingly noticeable.

Government- backed loans for small borrowers have pushed interest rates down, substantially below what was previously customary. Now the challenge is to reform the cost structures of origination, monitoring and collection, as well as the competitiveness of the market, so that a reasonable approximation to these rates becomes sustainable.[66]

Redefining creditworthiness

It is clear that the COVID-19 pandemic has destroyed the creditworthiness of a significant part of the economic agents in all jurisdictions. But it is also true that the recovery will restore this creditworthiness for many agents as a simple byproduct of economic recovery. Once again, the interdependence of sectors will come into play. Tourism industry suppliers will not recover their creditworthiness as quickly as mining industry suppliers. It is important, then, to distinguish between the intrinsic quality of business management and the effect that the economic environment can have on an individual or a corporation.

Consistent with this approach, the aggregate risk of the portfolios of banks and other financial institutions will have to be defined differently. To continue with the example of tourist industry: the debt portfolio weighted towards the tourism sector and its suppliers should be considered riskier than the debt portfolio weighted towards the mining sector and its suppliers. To the extent that the suppliers of both sectors overlap, it will be important to understand the mechanism for reallocating supplies from one industry to the other.[67]

Last but not least, it is important to point out that what is required to understand the risk that COVID-19 signifies for a bank portfolio is not very different from what is required to understand the risk created by a major socio-environmental conflict.

[66] As noted previously, outsourcing can reduce accounting costs by moving them to the cloud. The expanded use of digital bank accounts (on cell phones) can reduce collection and operational costs. Better credit risk assessment mechanisms, mentioned in a previous footnote, can lead to lower perceived risk. Authorizing digital banks, with no physical office, can also contribute to cutting costs. Many of these innovations will result automatically from market evolution, but they will take time. It may be important to accelerate them with a judicious intervention by the Regulator.

[67] Portfolios always have covariances. If these are negative, the portfolio is less risky than the sum of its parts. If they are positive, the opposite happens. Therefore, it is recommended to reduce risks through diversification. But there are phenomena where diversification is difficult. A good example is precisely COVID-19, with universal impacts.

SUMMARY AND CONCLUSIONS

The COVID-19 pandemic has created new challenges and temporally obscured old ones. But these challenges will resurface again once the most immediate crisis has been resolved.

However, the context for regulatory policy has changed considerably. In particular, there has been a strong recognition of externalities. This leads to the requirement as well as the possibility of adopting a regulatory policy suitable for dealing with environmental and climate change issues. It also allows moving forward with the inclusion of the consideration of socio-environmental risk in the day-to-day management of financial institutions.

Since ESRM is the instrument that at the same time can respond to the requirements of the externalities of climate change and to the *desideratum* of reducing socio-environmental conflicts, it becomes evident that dissemination of this instrument among the regulators in Latin America is highly desirable.

At the same time, ESRM should be supported by other regulatory policy instruments suitable for addressing particular issues. This is important for the short, medium and long-term environmental and climate policies as well as for the policies concerned with natural disasters. Recovery from the COVID-19 pandemic also requires designing specific policies that take into account the particular economic circumstances that this pandemic has created.

Putting together ESRM and suitable more traditional instruments allows the assembly of a body of financial regulation policies that can ensure, on the one hand, the long-term soundness of the financial system and, on the other hand, contribute to the sustained evolution of the economy on a path more consistent with environmental requirements and climate change.

MEETING OF THE WORKING GROUP ON BANKING SUPERVISION AND SUSTAINABLE DEVELOPMENT IN THE AMERICAS

Monday, November 9, 2020

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CONSENSUS CONCLUSIONS: KEY TAKE-AWAYS

1. It is essential to have a mechanism to internalize externalities, to be duly taken into account in financial decisions.
2. ESRM in its various forms is an appropriate instrument to manage environmental and social risks.
3. ESRM can and should be applied outside the Project Finance area.
4. ESRM can and should be complemented with Prospective Scenario Analysis to better capture the elements of macro climate evolution, and their relationship and connection with financial risks.
5. ESRM applies as well to financial sector institutions other than banks but requires adequate adaptation.
6. ESRM should have versions suitable for different sizes of institutions and diverse circumstances, including microfinance and microfinance institutions.
7. Initially ESRM may operate on a voluntary basis but must devolve to mandatory status in order to ensure a level financial playing field.
8. Opening the door to regulatory arbitrage, either between financial sectors, by differentiated application of voluntary ERSMs, or by competition from "off-shore" institutions not subject to the same norms, distorts the objective of internalizing externalities and may undermine any system implemented.
9. The broader and more uniform the scope of ESRM implementation, the more effective it will be. Therefore, implementing it throughout Central America should prove beneficial.
10. Natural disasters greatly increase the urgency of putting in place ESRM and other mechanisms of relevance to environmental policy.
11. State development banks constitute a second channel to embed environmental awareness and environment-friendly practices in the financial behavior of their clients.
12. Positive discrimination in favor of "green" finance helps to adopt environment-friendly financial practices, beyond its effect on the finance itself.
13. The adoption of ESRM and other pro-environment measures should be integrated with the gradual and increasing understanding by financial institutions of their own interest in taking into account the externalities of the projects they finance.
14. The involvement of trade and industry associations in preparing ESRM and other similar protocols ensures a greater understanding of the objectives and mechanisms of the proposed measures, making them more effective and useful for the financial system as a whole.

15. ESRM is implemented in the interest of the financial institutions themselves, to ensure that they take into account all relevant elements when evaluating the projects they fund. Therefore, the operating costs involved are an unavoidable part of proper risk assessment and do not constitute an additional cost.

16. Awareness about externalities, environmental and social impacts and climate change should be part of the process of adopting ESRM and other pro-environment measures so that this vision will permeate the institutions and their clients.

17. Natural disasters, social conflicts and climate change are risks that must be treated as such by financial institutions.

18. Adopting ESRM and other pro-environmental measures opens the door to new and greater flows of capital, e.g., green, gender and other bonds.

19. ESRM and scenario analysis are not a substitute for, but a complement to, a national environmental policy.

20. Pandemics, such as the current COVID-19, must also be considered when internalizing externalities.

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