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REGIONAL INTEGRATION IN SOUTH AMERICA AND THE ROLE OF ELECTRIC ENERGY

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CONTENT

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Introduction

At a time when a globalization is realigning global power and redefining its underlying paradigms, South America finds itself in a unique position to recast it role on the world economic stage. A window of opportunity is opening for the continent to enhance its ability to compete in crucial international markets and reignite the engines of growth required for economic and social prosperity. The fundamental challenge is to maximize its up to now underexploited comparative advantages: abundant and diverse resources, both human and natural, political stability and social cohesiveness. However, this powerful armory will continue largely idle in the absence of measures to mold an effectively integrated economic space capable of bringing these comparative advantages into play.

For regional economic integration to become a reality infrastructure investment must become a major priority; new transportation, communications and energy connections are the arteries through which the flow of goods, services and capital will make continent-wide economic integration a reality. From any relevant perspectives - economic, demographic, continental or geographic - Brazil is in a privileged position to play a catalytic role in taking forward this challenge.

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[1] SASE 23rd Annual Conference on Transformations of Contemporary Capitalism: Actors, Institutions, Processes Universidad Autónoma de Madrid June 23-25, 2011. The opinions presented in this paper are the exclusive responsibility of the authors and do not represent the points of view of any institution.
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The central goal – and major analytical focus of this paper – is to outline some of these challenges and suggest lines of action to achieve the long held dream of making regional integration a reality. This paper will further posit the catalytic role that demand and supply centers for electric energy in South America can play in this process**.**

This paper is divided into five parts. The first one provides a general overview of the historical background and, more specifically, the adverse political factors that hindered meaningful steps towards economic integration. A second, describes the centrality of physical integration to inducing integration dynamics and a third one reviews the issues requiring priority in this context. A forth, situates integration projects within the wider challenges facing South America, – and while highlighting the critical importance of electric energy as a vector in forging cohesive economic spaces. A fifth and final section suggests that the specific characteristics of the electric industry puts it in an advantageous position to take the lead in integration initiatives and that given its specificities Brazil is in a privileged position to lead this process.

I – Regional integration: from Bolívar to MERCOSUR

The struggle for regional integration begins with independence itself. Shortly thereafter, at an international congress[4] convened by Simon Bolívar, most important leader of the liberation movement, it was proposed that the recently-emancipated nations of the America's set up a continental military alliance to rebuff expected attempts by European powers to gain control over the former colonies in Latin America. While this threat never fully materialized – with the brief exception of Mexico – still these countries would long remain semi-

[4] Held in Panama, 1826.

colonized, at least economically, by overseas imperial powers and, beginning in the late 19th century, by the USA.

Until the economic turmoil of the 1930's, Latin America remained little changed, having largely retained the fundamental structure and bias inherited from colonial times, its economy largely relegated to a subordinate role in the global economic production chain. These countries remained essentially exporters of *commodities*, being thus excluded from the industrializing process that spearheaded the explosive productivity of contemporary capitalist society. For sure, scandalously one-sided trade agreements ensuring privileged access for European manufactured goods to Latin American markets had long been repealed. Yet in practice little had changed. Trade agreements fostering direct and preferential economic integration of Latin American economies with the "new" and old metropoles simply replicated in modern dress the well-trodden pattern of "trade exclusivity" pointed out by Furtado (2007).

Why was this policy of economic subservience preserved? It was Raúl Prebisch[5] that first offered a convincing answer. According to his well-known Dependency Theory, developing countries are subjected to one-sided economic and trade relations with industrial powers. Prebisch started out by noting that historically international trade flows were adverse towards Latin American, dominated by exporters of primary produce without any major added value. The opposite was true for manufactured goods, exported predominantly by advanced economies to the likes of Latin America. The explanation was simple enough: the decolonization of much of the developing world (in Africa and Asia) in the immediate post-war period increased the number of countries supplying these

[5] Prebisch held the post of Executive Secretary of the United Nations Economic Commission for Latin America (CEPAL) between 1950 and 1963. His book "The development of Latin America and its problems" (1949) was a hallmark in launching the Cepal theory of economic development.

primary goods and inevitably depressed the market price for these exports. This economic dead end was reinforced by developing countries' technological backwardness, which inhibited their access to the technical and scientific know-how required to implant a competitive manufacturing industry; neither did they have at their disposal a well-structured capitals market to fund the requisite investments. Inevitably rich countries faced little opposition to preserving their stranglehold on global economic flows. There is no other way of explaining why, well into the twenty-first century, the perverse dynamics of the colonial past still haunts Latin America.

How then to overcome this continuing economic imbalance and inequality, which appears to condemn Latin American countries to unending inferiority and poverty at the periphery of the global economy? Prebisch's answer – conceived during his time at CEPAL – was to propose a new economic strategy: Third World industrialization through **import substitution**. The challenge as he saw it was to strengthen a trend already timidly underway in the wake of the two World Wars and the Great Depression of the 30's. During these periods of political crisis and economic dislocation, Latin America's exports to – and hence means to finance imports from - Europe and North America had fallen drastically. The drying up of the flow of imported goods and services encouraged a burgeoning manufacturing boom in the larger Latin American countries. Under Prebisch's proposals, this make-shift nationalization of industrial activity would now become the object of systematic government policy. Tariff hikes on targeted imported wares would force foreign manufactures to invest in local production if they wished to retain access to the growing Latin American market for industrial goods.

Import substitution policy gave a new lease on life to the old integration debate going back to Bolívar. What had previously been an essentially securityorientated military alliance to stave off invasion now was refashioned as an economic and trade block to collectively compete overseas. The relatively small scale of consumer markets in Latin America, as well as technological and financial constraints hindered the emergence of large-scale industrial production and consumer markets in most Latin American countries. This would require major gains in economic scale and productivity. To help establish such a competitive manufacturing platform, individual countries slapped high external tariffs to discourage overseas imports; at the same time a Latin America customs union was proposed to encourage region-wide free trade in goods and services so as to reduce costs. It was hoped in this way to overcome the secular economic and trade fragmentation among countries that still retained privileged trade ties with European powers.

ALALC – the Spanish acronym for Latin American Free Trade Association - was launched in 1960 and oversaw the free trade-related policies aimed at lifting intra-regional ties. Artificial barriers to commerce came down as an incentive to greater economic interdependence and complementarity. However the one-off benefits from a generalized lowering of tariffs soon led to a return to predatory competition among commodity-exporting developing economies for access to US and European markets, by far the largest consumers of Latin American commodities.

Clearly strictly trade-based economic policy tools did not get to the crux of center-periphery dilemma. Attempts to reinvigorate the process included the launching, in 1980, of ALADI – Spanish acronym for Latin American Integration Association – in the belief that greater synergy and integration of chains of production among these bordering economies was the answer to bringing about the desired industrialization. The later emergence of more ambitious sub-regional integration mechanisms (MERCOSUR, Andean Pact, Center-American Common Market) all aimed to overcome these limitations by introducing embryonic supranational trade arbitration courts as well as policies geared to integrating small-scale local production chains into region-wide networks able to deliver significant gains in scale and productivity.

Despite these endeavors to redirecting trade and investment flows inward, most Latin American economies remain fundamentally commodity exporters and integration-inducing regional industrial production chains remain few and with little perspective of gaining global scale and competitiveness. This becomes especially evident in times of economic downturn, when trade and investment among countries in the region tends to fall at a faster rate than flows with overseas partners. The perverse upshot is that precisely when economic integration should serve as a cushion against recession woes, inter-Latin American trade is particularly hard hit, aggravating the worst effects of the slump.

II – Integration of Production Infrastructure as a Transformative Factor

In a world marching headlong towards greater levels of globalization, the challenge remains to transform structurally the regional production base. The very difficulty in making good on the region's numerous and undeniable advantages on the road to integration points to the need for a fundamental revision of traditional strategies. Infrastructure that no longer looks exclusively outward to commodity-buying markets overseas; rather looks inward with a view to developing region-wide synergies in high added-value goods and services. The consequences of the present fragmentation are numerous and perverse:

(i) The region is host to major reserves of both renewable and conventional energy. This notwithstanding, given the high cost and uncertain availability of energy, several countries face continued rationing and uncertainty of supply that hurts living standards and inhibits economic activity in general;

(ii) It is a major agricultural producer with enormous potential to become the world's breadbasket, yet significant numbers of its citizens suffer from malnutrition; and

(iii) Latin America abounds with natural and mineral riches and a large and dynamic working population; yet poverty, highly distorted income distribution and a low human development index are the rule throughout much of the region.

What is it that keeps the region from transforming this economic potential into revolutionary social achievements for its citizens? Conventional rhetoric has it the region is blessed with few significant conflicts, religious, ethnic or social. Yet though the region faces no major armed conflicts, it cannot be ignored that even today Latin America is hostage to many of the border disputes, political rivalry and ideological confrontations in the wake of regional fragmentation at the end of the 19^{th} century wars of independence. In the face of these secular stumbling blocks, political voluntarism and vapid goodwill gestures, appeals to cultural affinities and the rhetoric of continental solidarity will take us only so far. Without reversing the perverse logic that feeds this spiral of distrust and prejudice, half-hearted measures on trade will hardly bring about the hoped for integration of the countries in Latin America.

The question bedeviling past and present endeavors to foster regional integration is simple enough: how to ensure that all feel effectively participants and beneficiaries of integration? This is especially important as concerns the smaller nations, which cannot compete with larger neighbors in terms of economic scale and access to technical expertise and technological know-how.

In fact, in the absence of effective options, the benefits accruing from the opening and merging of local markets into a larger regional ones tend to favor disproportionately the larger economies, already more robust and competitive. It is no coincidence that Brazil, for example, boasts a trade surplus with almost all its regional partners, to whom it exports largely manufactures goods and services while ironically importing low-value commodities. The fact is that Prebish's dependency theory is alive and well. Without putting right this fundamental distortion, differences and rivalries inherited from the past will continue to haunt the present and make naught of attempts to promote greater regional coordination and solidarity.

Answering this dilemma requires coming to grips with the fact that successful regional integration must begin with reorganizing the production infrastructure. If a new integrated economic space is to emerge it must be anchored in economic rationality. The production logistics must mirror the dynamics of how national markets are expected to interconnect and interact to form a regional whole. Only thus will the highly centripetal forces that traditionally favor economic fragmentation of the region be reversed. In other words, regional infrastructure must cease to encourage the flow of goods, services and energy almost exclusively to overseas markets, leaving in its wake a human and economic wasteland in the continent's underdeveloped heartland. Without redrawing the transport, communications and energy matrix for manufacturing and distributing goods and services, continent-wide integration makes little economic sense and therefore stands even less chance of happening.

This is what the European Union's post-war experience suggests. Its success derives from its strategic medium and long-term vision focusing on physical integration projects that encouraged the development of truly amalgamated production chains and consumption networks on a supra-national level. An eloquent example of this was the setting up of the Coal and Steel Community, which acted as the European Union's initial catalyst. It took to heart the core lessons from the fratricidal rivalry that had historically opposed France and Germany: to make war economically irrational. By integrating the production of these two critical inputs - coal and steel - for the economy of both countries, a new economic rationality based on cooperative integration came into being. It can be said then that the integration of Western Europe's production base was at the heart of the European Union's success.

Today a similar challenge confronts Latin America, which shares many of the political and economic challenges facing immediate post-war Europe. It comes as no surprise therefore that many view skeptically proposals to invest in the continent's physical infrastructure, so as to make integration projects the catalyst for revolutionizing intra-regional relations. What is the use – many ask - of building a transcontinental highway linking Brazil's extreme West (Acre State) to the Peruvian seaboard? Does it not amount to simply linking "nothing with nowhere"? Yes, but only if one ignores the enormous potential for trade and economic development that such a thoroughfare could bring. But, how to finance such an investments when local traffic is presently too thin to justify a toll-road building scheme or any of the other modalities of funding presently available on the financial market? [6] The answer is to be found in developing the required long term funding tools via public policy instruments that foster strategic public-private partnerships. There is no other path to breaking the perverse cycle by which the lack of adequate infrastructure discourages productive investments and vice-versa.

III – Priorities in the Integration of Production Infrastructure

Three key dimensions must guide attempts to reshape the economic orientation of any given regional space:

[6] Project finance is the most common modality; it provides that profits accruing from the services rendered by a project once it is operational will be employed in paying down the loan contracted to finance the project.

i. Energy;
ii. Transport; and
iii. Comunications.

These three components are crucial in that they offer opportunities for significant cost reductions along the production chain. They translate into high productivity for the vast majority of economic activities, which overwhelmingly depend on some form of infrastructure platform. This means economies of scale, synergies and, by turn, greater competitiveness for local markets and the wider integration dynamics itself.

At the South American level, UNASUR[7] was launched in 2008 to set up the institutional scaffolding required to pursue the goal of an integrated regional space. An Infrastructure and Planning Council (CIP) was established to work along fundamental lines off action, ranging from cultural and social cohesion to infrastructure and energy integration. It offers high level institutional and political guidance for developing strategies for infrastructure integration, previously under the purview of the South American Infrastructure Initiative - IIRSA (now folded into the CIP as a technical forum). Progress is undeniable, over 80 projects having been financed and additional proposals approved to the tune of roughly $US 8 billion in South America and US$ 1,8 billion for Central America and the Caribbean (See Chart 1, where a list of projects is presently for each country). Brazil has contributed directly to this effort by offering financing for projects via either MERCOSUL – via FOCEM – the Structural Convergence Fund[8] – or directly by means of BNDES.[9]

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[7] Spanish acronym for Union of South American Nations; it distinguishes itself from MERCOSUR, set up in 1991 with the more limited goal of establishing a customs union.
[8] The over R$ 1 billion available in this fund is earmarked for initiatives that favor structural convergence among the highly asymmetric economies in the block. To this end it funds projects that foster competitiveness and social cohesion in the smaller economies.
[9] Acronym for the National Economic and Social Development Bank, responsible for soft loans to major infrastructure projects both domestic and overseas.

Chart 1
Funding for Infrastructure Development Projects for selected Countries

Country	Project	Value (in US$ millions)
Argentina:	Building and enlargement of gas pipeline network:	1,9
	Export of 20 EMB-190 airplanes	646
Bolivia:	San Ignacio de Moxos-Villa Tunari Highway	332
	Hacia Norte-Rurrenabaque-El Chorro Highway	199
	Tarija-Bermejo Highway	179
Chile:	Export of buses	350
Cuba:	Mariel Port	381 *
Equador:	San Francisco Hydroelectric Dam	242,9
Guiana:	Bridge over the Tacutu river (operational)	17,1
Nicaragua:	Tumarin Hydroelectric Dam	342
Peru:	Assis Brasil-Iñapari Bridge	17,1
Dominican Republic:	Duarte Highway	100

Source: BNDES

(*) proposed funding of over US$ 300 million under evaluation

The wide range of the projects, the significant volume of investments involved, as well as their regional scale all underscore the fact that South American integration is underway, and that it is powered fundamentally by a more robust regional market, improved funding tools, and the growth and development that it fosters.

IV – The Role of Energy in South American Integration

In the brave new world of globalization a window of opportunity opens regional integration among developing countries. And the place to start is without a doubt South America.

To begin with, at a time when global competition for efficiency and productivity intensifies, the region's comparative advantages in terms of food production (availability of land, sunlight and water) and biodiversity (for use in pharmacology and bioengineering) are a valuable asset. None of this potential will come to fruition however without access to secure sources of energy, especially clean and renewable ones, such as hydroelectric power and biomass, of which the region has of the one of the world's greatest reserves. Beyond ensuring the conditions for sustainable development, these renewable sources have the added advantage of being literally inexhaustible, in contrast with those of mineral origin. Nor do they excite the same level of nationalistic suspicions that long motivated many of the territorial disputes in the region and which even today undermine endeavors to foster regional integration.

Secondly, South America has shown its commitment to this virtuous cycle by which domestic economic growth enables and encourages regional market integration through the financing of regional infrastructure projects that benefit all segments of society. The political, social and economic factors which enabled the more vulnerable segments of society to benefit directly from this rapid growth - average GDP growth of 5.5% over the last decade (highest rate since the 1960's) - explain to a large degree the undeniable improvements in the quality of life of these previously marginalized classes, itself helping to feed the growth cycle. In explaining South America's robust reaction to the 2008 crisis, many long-held paradigms about the challenges and prospects for sustainable growth are now being scrutinized:

i. in contrast to past historical experience, South America and other developing regions were not the cause of this crisis, but in fact helped speed world recovery through their vigorous growth;

ii. the Cepal thesis requires some degree of revision. In time of rapid growth in developing countries, the economic rise of large segments of previously impoverished populations does not lead to the inexorable relative loss of value of primary goods *vis à vis* products with higher added value, such as manufactured goods;

iii. the performance of South America during the crisis underscores the importance of two crucial policy decisions for relatively vulnerable and uncompetitive developing economies: a) the role of the State in strategic planning remains irreplaceable, offering a necessarily complement to often unruly local and international free market forces; and b) the domestic market retains a central as a motor of domestic growth, given the vagaries of international trade dynamics; and

iv. South America has an important competitive edge in areas where the world community is facing crucial challenges: food and energy crisis and climate change, all associated to a large degree with the rapid growth undergone by emerging economies.

Thirdly, South America is already committed to electric energy as the most promising option to promote regional integration. Its multiple comparative advantages are well known: low cost, use of well-known or either innovative and sustainable (wind and solar) technologies. The technical specificities associated with electric energy favor the use of networks of relatively low cost transmission lines that allow for continuous and uninterrupted supply over long distances.

Additionally, this enables large socially excluded or geographically isolated groups to gain access to the economic opportunities that modern technology can offer. One example is the "Light for All" Program developed by the Brazilian government.[10] In the process of extending access to electric energy to even the most remote corners of the country, hundreds of thousands of individuals previously not even on the civil registry gained access to modern comforts – such as TVs and refrigeration - and basic public health and education services most people take for granted. These investments allowed large number of previously disenfranchised individuals into the consumer market, helping fuel economic activity. Even more important, it represented unimaginable gains in worker productivity for individuals whose lives were constrained by candlelight and animal-traction. Unsurprisingly regions benefiting from the "Light for All" program have shown a general increase in productivity by making all activities less time-consuming, more regular and predictable – all key parameters in establishing levels of economic efficiency and competitiveness. Continent-wide electric energy integration helps prepare Latin American economies and enterprises for the challenges of the 21th century global competition. The "Light for All" program does not let us forget however that ultimately it is always individuals and their families that stand to benefit most from investing in the production, transmission and distribution of electric energy.

[10] The National Program on Universalization of Access and Use of Electric Energy guarantees electric energy connections to all families living in rural areas at no cost. Presently more than 13 million individuals have already been benefited. Concerning the Light for All Program, see for example http://www.brasil.gov.br/noticias/arquivos/2010/12/16/luz-para-todos-tem-90-da-meta-cumprida.

Both factors are illustrated by the gradual phasing out of non-renewable and highly polluting energy sources introduced in South America during the 1990's.[11] Electricity's financial, economic and environmental advantages leave no doubt that clean and renewable energy sources are both efficient and lucrative. This means prices that are at once accessible, sustainable and stable.

V - Brazilian Leadership

South America celebrated the bicentennial of its independence movement only a few years ago. Yet the struggle for full emancipation is ongoing despite the remarkable progress made in recent years in dealing with poverty, uneven growth and political instability. Overcoming these persistent ills has become even more urgent as the region comes to grips with the challenges of a new globalized and highly competitive world.

As South America moves from rhetorical solidarity to effective regional integration, Brazil has a critical role to play. Firstly, it must actively contribute to review regional integration policies that have benefited it disproportionately. This means evening the playing field so as to make the synergies of a common economic space work for all, especially smaller partners. Secondly, Brazil can be a catalyst in putting in place policies that foster effective integration of the production infrastructure in the region. After all, it borders on 10 of its 12 continental neighbors. Thirdly, energy integration – and more specifically, electric energy - as we have seen, is on the vanguard of this process. And South America has several major hydrological basins, most of which converge in the Brazil territory. Fourthly, Brazil has a cutting-edge experience in modeling long distance electric energy generation and distribution systems, in this way creating and integrating a national electric system of continental proportions that still offers services at moderate rates. Not to mention the rich diversity of an energy

[11] On this question, see CASTRO, 2010.

generation matrix that combines and integrates alternative and above all renewable energy sources. Just as important, Brazil pioneered electric energy integration with its immediate neighbors, including Argentina, Paraguay and Uruguay. And even with countries with which it has no borders, as is the case of Nicaragua, in Central America, Brazil is helping, both financially and technically, bring on stream a hydropower plant that will emancipate that country from its dependency on expensive and highly polluting fossil fuels.

Thus, given its strategic location, in both geodesic and geographic terms, and by force of its technological and management expertise in the field, Brazil is in an enviable position to make electric energy play its unique role in making integration and social and economic development reinforce each other. Brazil, through its long partnership with electric energy, will help fostering integration at its best: among countries - previously dispersed and disconnected – and within societies – historically divided.

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