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The Latin American Transition from an Inward-Oriented Industrialisation Strategy to a Natural Resource-Based Model of Economic Growth[1]

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Abstract: *Induced by the rapid expansion of world demand for industrial commodities and foodstuffs many Latin American countries have over the past two decades restructured their economies in the direction of a natural resource-based development model. The transition has had a major impact upon the macro and microeconomic functioning of the economy, opening up crucial questions for which received theory – both neoclassical and evolutionary – yet do not provide adequate answers. At the macro level various countries have suffered from the Dutch Disease syndrome, considerably deteriorating their international competitiveness in industries of medium-high technological sophistication and further advancing towards the commoditization of their production structure. At the micro level various episodes of the Tragedy of the Commons indicate that new regulatory institutions and law enforcing capacity from the part of public sector agencies, as well as new forms of 'collective action' from the part of firms exploiting natural resources, are urgently needed in order adequately to deal with long term environmental sustainability and social inclusiveness, both of which have been considerably affected by the rapid expansion of the natural resource exploitation frontier. These aspects are discussed in the paper looking at the recent experience of Argentina, Brazil and Chile.*

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1. Introduction

The transition from a state-led, inward-oriented, industrialisation strategy, to one that is based on the production and exports of natural resource-based industrial commodities and foodstuffs in an open and de-regulated market environment, has deeply transformed Latin American countries over the past two decades.

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Together with non-tradable industries such as banking, the construction sector, telecommunications and the transport system, natural resource based activities now constitute the more dynamic sphere of the economy. Contrariwise, conventional manufacturing sectors, erected during the 1970s and 1980's, have been relegated to a back seat as far as growth and employment generation is concerned. The entry of new firms in natural resource processing activities – oil and gas, the mining sector, the production of timber and pulp and paper, soybean oil and bio-fuel and else - bringing with them modern automated process engineering technologies and new forms of production organization, together with the emergence of new institutions regulating access to, and management of, natural resources, have resulted in a major transformation in the economic and social landscape of many countries in the region.

Neither Modern Growth Theory nor Evolutionary Economics are able adequately to deal with many crucial aspects of this process. Neoclassical growth theory is presented through an aggregate equilibrium algorithm in which the structure of the economy is absent. It therefore loses sight of many fundamental aspects related to structural change. Growth is synonymous with higher income per capita and results from the accumulation of capital, labour and the incorporation of new technology, but the theory does not provide good understanding as to how new technologies are developed and absorbed by different production sectors in the economy. The economy travels along a Pareto optimal equilibrium path in which growth is described through a highly stylised formal model in which markets operate perfectly, economic agents have rational expectations about the future, and maximise profits without being affected by any form of uncertainty. No institutions other than the market are considered in the model. At the empirical level, scholars of this persuasion use the so-called Solow's 'residual' which measures total factor productivity growth (TFP) as that fraction of GDP growth which cannot be explained by conventional factor accumulation. Although widely used in contemporary policy debates the TFP factor should be handled with great care as it hides inside significant inter-industry and inter-regional differences in total factor productivity growth which we badly need to understand.

Evolutionary theory does not provide much help either in explaining the transition of Latin American economies into a natural resource based development model. When growth is based on the exploitation of natural resources many new ecological and institutional questions come to the fore that evolutionary economics has not so far adequately explored, such as how to ensure long term environmental sustainability, the price of environmental services, the role of ´collective action´ and government regulatory and law enforcement capacity to deal with long term preservation of the environment, biodiversity, the rules of law governing the use of scarce water resources,

climate change and else. Much of the conceptual framework so far developed by evolutionary scholars comes from studying manufacturing activities where innovation-based competition of a Schumpeterian nature results in a 'creative-destruction' process, which appears as a major engine of growth in capitalist economies. This analytical framework has permitted evolutionary economists to understand 'catch up' processes in the sphere of manufacturing (Lee and Malerva, 2014; Lee, 2013) but the model is not especially helpful when production is predominantly based upon the exploitation of natural resources and new questions concerning property rights on said resources, or the need for 'collective action' and government regulatory and law enforcement capacity preserving the long term sustainability of the environment, constitute central pieces of our study of development processes. In conclusion: neither neoclassical nor evolutionary models provide adequate tools for the examination of many of the issues we want to illuminate when we come to study natural resource-based processes of economic development.

Economic development is more than just a higher income per capita. It involves structural change, institution building, the creation of new technological and social capabilities in the economy and also the gradual ´construction´ of new forms of interaction between firms, public sector agencies and a host of other organisations such as universities, trade unions and political parties - some of which do not even normally act in response to conventional market rules. Not all that we observe in the economy constituters a response to conventional price signals. There are different "brands" of capitalism in the world. The US is capitalism, but also Canada, South Korea, New Zealand, Israel and Brazil are capitalist economies in their own right and have their own country-specific institutions and forms of social and economic organisation. When it comes to the use of natural resources each country develops its own set of rules to preserve and safeguard the environment and creates 'localized' institutions to monitor the preservation of said resources. Countries vary enormously in the way they use royalties and cannons in compensation for the use of natural resources or have Public Sector Research Organizations carrying on 'location specific' R&D efforts to understand resource 'loading capacity' i.e. optimal degree of resource utilization, in different ecological regions of any one given country. There are enormous ecological differences between the Amazon region and southern Brazil, for example, that we need to understand before moving into policy design and implementation concerning natural resource based development.

This article explores some conceptual and policy questions related to natural resource-based economic growth. In Section 2 we examine the macroeconomic impact of growing on the basis of natural resources. Natural resources have been considered as a 'curse' for economic development and as the source of the so called 'Dutch Disease' syndrome in the writings by Sachs

and Warner (1997), Krugman (1995) and others. Latin American countries have historically been affected by what Ocampo calls ´Balance of Payment Dominance´ in reference to the recurrent boom and bust cycle the countries in the region suffer as a consequence of their exposure to the trade and financial cycle of more developed industrial nations. The Dutch Disease syndrome has affected various countries in Latin America over the past decades negatively affecting their international competitiveness, their rate of innovation and long term productivity growth. The appreciation of the exchange rate and having an open capital account have led in many cases to high macroeconomic volatility and uncertainty and to more 'defensiveness' from the part of local entrepreneurs, negatively affecting investment and innovation behaviour.In spite of rapid economic growth in the recent past –compared with the 1980s - and historic high terms of trade, many Latin American economies have been negatively affected by uncertainty, by the severity of the 2009 international financial crisis and by the lack of adequate countercyclical monetary, fiscal and exchange rate policies (Ocampo, 2007; Frenkel and Rapetti, 2011; Ffench Davis, 2010) which could successfully protect them from external shocks.

Section 3 examines micro and institutional aspects associated with natural resource-based economic growth. As the resource exploitation frontier is pushed outwards to new geographical locations, many new questions arise. Some of the new natural resource locations to be brought into production are ecologically more fragile than others, and bring about more problems of desertification, 'green house' effects and climate change than others. Cutting down natural forests to plant highly profitable new soybean acres involve many of the above mention effects. Natural resource exploitation activities are affected by the 'horizontal transmission' of pathogens, viruses, and plagues, which are common in agriculture, aquaculture, forestry and fruit production. Production is frequently associated to the use of 'commons' where there is a natural tendency for the resource to be overexploited, as described by the so called 'Tragedy of the Commons' parable. 'Collective action' and public sector regulatory and law enforcement capacity - addressing issues of resource long term sustainability play an important role keeping resource overexploitation at bay, but adequate ´collective action´ and public sector regulatory action are hard to come by in conventional market environments. Exploitation of scarce water resources, desertification, protection of biodiversity, greenhouse effects and climate change require government intervention as market forces appear to be incapable of adequately signalling what the optimal degree of resource utilization should be. These topics have remained badly under-researched so far throughout Latin America.(Katz and Iizuka, 2012).

Natural resource-based industries reflect a situation in which demand for the commodity expands in certain parts of the world - China or India,

for example – inducing the expansion of production in natural resource rich countries in, say, Latin America. The expansion of world demand induces the latter to increase the rate of exploitation of their rich natural resources. For such purpose they could bringing new geographical locations into production and also increase the degree of exploitation of geographical locations already in production, incorporating new technologies and new forms of production organisation in said locations. Both options have different implications in terms of production costs, environmental impact, the knowledge base upon which the resource is to be exploited, economies of scale, resource depletion rates and natural rents. Geographical locations are different from one another, some more ecologically frail than others. Agronomic and environmental research is needed in order to understand these differences.

The expansion of the natural resource exploitation frontier also brings to the fore new questions related to the role of institutions protecting the environment and the public/private dialogue concerning property rights, royalties and cannons to be charged on environmental services and firms compliance with environmental protection rules. The allocation of quotas and exploitation permits involve a complex political process which different countries solve in different manners, mostly in an empirical way, without much theoretical foundations to it. Government agencies and municipal authorities play a major role in this respect, like in the case of fishing quotas being allocated to artisanal and industrial fisheries, or water rights being given to the mining industry and to agriculture.

Different intermediate inputs and production services are employed in natural resource based industries. The outward expansion of the resource exploitation frontier frequently demands many new investments in roads, docks, transport facilities, waste disposal plants and more. Also intangibles such as international trade treaties and consular services are needed supporting exports of domestic natural resource producing companies. Many of these public goods are needed in order to attain global competitiveness. Concomitantly with the above and if the exploitation of natural resources is to be carried out in an inclusive and equitable manner allowing local communities fairly to participate in the benefits of expanding the natural resource exploitation frontier, a host of other public goods are also needed such as schools and healthcare facilities, infant care wards and transport or internet facilities in the regions where the resource is being exploited. The need for many of these public goods is frequently forgotten by metropolitan authorities that tend to think in terms of macro fundamentals, exports and fiscal revenue, but are less concerned over issues of inclusive development and quality of life at the local level. Local communities are frequently negatively affected by poor planning of the expansion of the natural resource exploitation frontier.

The concept of the 'infant industry' frequently used in the sphere of manufacturing activities could be usefully brought to bear in this context, justifying the need for a temporal subsidy during a certain period of time to a given 'infant region' which has a natural comparative advantage for the production of a specific raw material but requires to be assisted until it can develop technological and institutional capabilities of its own to become capable of efficiently competing with other natural resource producing regions. It is not only process technologies that are needed for this to occur, but also a vast array of public goods which would ensure production takes place in a socially inclusive manner allowing local communities adequately to share in the distribution of the benefits of the expansion of the resource exploitation frontier. These questions we address in Section 3 of the paper.

2. The Macroeconomics of Natural Resource-based Economic Growth

The Mundell-Fleming theory describes the optimal growth path – and the policy agenda - for a small open economy. It tells us that governments face a 'trilemma' (Nassif et al., 2011) in choosing between different degrees of autonomy in monetary policy, exchange rate management and the way they manage the capital account. The logic of the model tells us that the choice of the exchange rate regime affects the way in which domestic prices and macro fundamentals of the economy are maintained in equilibrium. As Nassif et al., (2011) argue: [...] in an ideal world with free capital mobility it is assumed that a floating exchange rate regime can absorb external shocks without affecting the level of international reserves making the country less vulnerable to exchange rate crisis and speculative attacks.

With an open capital account and a floating exchange rate regime, the authorities can stabilise the domestic price level through monetary policy by manipulating the interest rate and aggregate demand, but they cannot at the same time keep under control the value of the local currency. If the RER (Real Exchange rate) appreciates, it might affect the structure of the economy by diminishing the competitiveness of other export sectors, in particular more knowledge-intensive activities, which presumably are further away from international productivity frontier.

In the Mundell-Fleming model, the economy is described through an aggregate algorithm in which the structure of the economy is not present and therefore there is no room for exploring inter-industry differences in response to changes in the exchange rate. The perception that the appreciation of the real exchange rate might have a stronger negative impact on industries that lag further behind from the international productivity frontier, affecting their efforts to catch up with said frontier, has led Brazilian economist L.Bresser Pereira, and M.Diamand from Argentina, to argue that economic authorities

ought to consider the possibility of having more than one equilibrium exchange rate, as suggested by the Mundell-Fleming model. (Bresser Pereira, 2010; M. Diamand, 1972).

Looked at as from a policy perspective we might argue that a Stable and Competitive Real Exchange Rate (SCRER) might not be sufficient to induce firms in more knowledge-intensive activities – which presumably lag further behind of the international technological frontier – to undertake the efforts, and absorb the uncertainties, associated with catching up with the frontier. If a SCRER is insufficient to encourage catching up efforts from the part of local firms the government can utilise sector-specific instruments in support of such a goal. The history of the Korean or Taiwanese 'catch up' efforts in the 1980s can be viewed as from this perspective, as Alice Amsdem has forcefully argued in her path breaking book on Korea (A.Amsdem,1989). According to Amsdem sector-specific subsidies and incentives - and a strong government surveillance mechanism of company behaviour in order to discourage opportunism and ´free ridding´ from the part of firms - were used in addition to a SCRER, to encourage Korean firms to make sound decisions regarding investment, innovation efforts and exports.

In contrast with the Korean experience Latin American governments have been reluctant during the past two decades to adopt a policy mix of that sort favouring catch up with the international technological frontier in specific areas of the economy. They have instead resorted to 'neutral' price incentives - such as for example across-the-board tax reductions on R&D expenditures – to induce firms into more R&D expenditure. Unfortunately, there is little evidence suggesting that these neutral interventions have succeeded inducing Latin American firms to invest more in R&D and innovation. The difficulty Argentina, Brazil, or Chile currently face in improving total factor productivity and in attaining progress in knowledge-intensive manufacturing activities can be interpreted as the response to the fact that governments have been reluctant to break away from the prevailing Washington Consensus orthodoxy and to proceed into more pragmatic policy interventions favouring ´catch up´ in more knowledge intensive sectors.

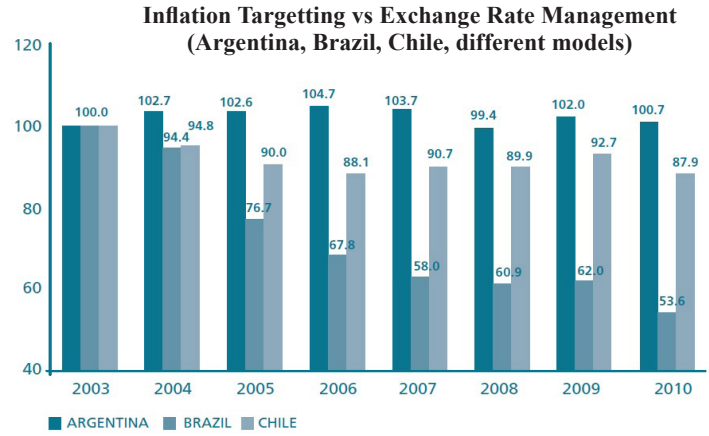
Instead of following such route many Latin American countries have over the past two decades opted for an inflation targeting regime aiming to keep inflation at bay. They also attempted to maintain an open capital account trying to comply with the prevailing orthodoxy. This involved accepting a floating exchange rate and abandoning active industrial policy interventions.

An important exception was Argentina which, after devaluing its currency in 2002, opted for a fixed exchange rate regime. On leaving the Currency Board Regime - which Argentina maintained for nearly one decade - the country opted for a competitive and stable exchange rate (SCRER) after devaluing the peso from 1:1 to 1:3 in 2002. This had a strong positive effect on GDP growth,

exports, employment as well as in the accumulation of foreign reserves. The impact of such policy mix was strongly felt in the economy from 2002 to 2008.

In contrast, Brazil and Chile floated their exchange rate allowing for their currencies to appreciate. The appreciation was stronger in Brazil than in Chile, nearly 40% and 15% respectively.

Figure 1: Macroeconomic Management Regimes: Argentina, Brazil, and Chile, 2003-10



Source: Katz and Bernat (2011)

The different macroeconomic policy regime clearly induced different responses in the economy, particularly as far as manufacturing production and exports are concerned. Argentina considerably increased manufacturing exports vis a vis Brazil and Chile. The cumulative export growth between 2003 and 2010 was 59.4% in Argentina, 34.0% in Brazil and 24.4% in Chile (Katz and Bernat, 2011).

The declining competitiveness of Brazilian and Chilean exports and rapidly expanding Chinese imports in both countries considerably affected the growth performances of domestic industrial firms. In effect, the industrial sector posted an 8.1% annual growth rate in Argentina between 2004 and 2008 while for both Brazil and Chile it was 3.8% over the same period. In addition, the expansionary impact in Argentina was more evenly distributed across industries, while this was not the case in Brazil and Chile. Only a few medium-high technology sectors, and the vehicle industry, managed to grow in Brazil, while much of the industrial structure remained stagnant. Shoes and garments, which were successful exporting industries in Brazil could not respond to the joint impact of the exchange rate appreciation and the entry of cheap Chinese substitutes. They both contracted strongly. (Katz and Bernat, 2011).[2]

On the other hand, Argentina did not implement adequate monetary and fiscal policies trying to keep inflation at bay. The expansion of profits

during the growth bonanza of 2002-2008 did not bring about more pro-active investment and innovation efforts from the part of local entrepreneurs, nor did the government try to induce local firms to invest in more updated production facilities. Thus, it can be argued that the devaluation of the local currency and the maintenance of a stable and competitive exchange rate significantly increased firms´ rates of return but was not enough to encourage Argentine industrial companies to catch up with the international productivity frontier. It can be said that the country failed in those years to take advantage of the new 'window of opportunity' it was then facing and it opted instead for not implementing pro-active catch up policies. It did not follow the Korean strategy in the 1980s which used a competitive exchange rate and sector specific industrial policies to induce both rapid industrialisation and the narrowing of the productivity gap with the international productivity frontier.

The 2008-2009 financial crisis strongly affected Argentina. Instead of reducing public expenditure the government abandoned the SCRER regime and opted instead for financing aggregate demand expanding money supply. From 2008 onwards, the economy slowed down and the rate of inflation increased substantially.

Brazil and Chile handled the Dutch Disease problem differently. Both countries saw their international competitiveness in manufacturing decline, with the industrial sector reducing its participation in GDP. However, non-tradable activities grew rapidly. World prices and Chinese demand for copper, iron and steel, pulp and paper, soybean oil remained high, but an increasing 'commoditisation' of the export mix could not be avoided. Although both countries succeeded in keeping inflation at bay (as differently from Argentina), they could not avoid the appreciation of the currency and the adverse effect this had on the economic structure of the economy and its international competitiveness.

The SCRER regime enabled Argentina to attain rapid GDP growth between 2002 and 2008 and employment and exports responded strongly. The industrial sector recovered its dynamism and its share of GDP. More than 3 million new jobs were created during this period. There was high demand for labour in the vehicle, textiles, pharmaceutical and foodstuff sectors (i.e., low- and medium-tech industries), but said favourable climate did not induce the erection of more sophisticated and modern production facilities which would have permitted the country gradually to close the gap with the international productivity frontier. Rather, 'old' production facilities were revitalised after the currency devaluation in 2002. Thus, even with a high and competitive exchange rate entrepreneurs did not respond by investing in new production facilities or doing more R&D efforts. They opted instead for keeping their pharmaceuticals that significantly. expanded exports show a steady decay in their external trade balance. The 2009 international financial crisis forced Argentina to abandon the SCRER regime.

In summary, it can be said that Argentina missed an excellent opportunity in those years to implement a more dynamic industrial and technological policy trying to close the international gap in industries of higher technological sophistication.

Hence, macroeconomic policies aimed at keeping the macro fundamentals in equilibrium appear as a necessary but not sufficient condition if the aim is to close the productivity gap with the international state of the art. A SCRER and sector-specific industrial policies seem to be needed if the policy objective is that of 'catching up' with the world's technological frontier.

3. Natural Resource-based Growth: The Need for New Institutions

Natural resource-based industries are quite different from conventional manufacturing activities. They exert a major impact upon the ecology affecting public resources such as lakes, forests, the ocean front, mines and agricultural land. Their expansion has a long term impact upon biodiversity, soil fertility and erosion, climate change and 'greenhouse' effects, among others. The 'horizontal transmission' of pathogens, vectors, viruses and plagues constitute a recurrent phenomena in many natural resource based activities, and the environment has to be seen as a 'moving target' constantly changing in response to ecological forces and to human intervention. When two aquaculture firms cultivate salmon in the same coastal area, they share on the use of water, i.e. a 'common'. There is no way of stopping the 'horizontal transmission' of vectors and pathogens among them. Public sector regulation and 'collective action' for the protection of the sanitary and environmental sustainability of commons, becomes a major issue in situations of this sort. Profit-maximising firms and a weak regulatory environment favour the overexploitation of the resource leading to 'Tragedy of the Commons' episodes in which individual profit maximisation, ´free ridding´ and company opportunism can lead to industry failure. These markets demand sector-specific institutions, 'collective action' from the part of firms exploiting the resource and a strong regulatory environment and law enforcing capacity from the part of government agencies monitoring the long term sustainability of the resource if its exploitation is to be done in a socially adequate form. Issues of intergeneration significance become important in cases of this sort.

In Latin America various questions remain unanswered as far as the exploitation of natural resources is concerned: What is the equilibrium price for environmental services when the environment is simultaneously used by natural resource processing industries, by the tourist industry and by original aboriginal communities which have been leaving in oil-rich lands or in lake districts since pre-colonial times?. How should royalties be used to ensure that local communities engaged in the exploitation of the resource get a fair participation in the benefits of its exploitation?. How should we account for

the loss of biodiversity, the decay in soil fertility, or the increase in greenhouse effects? In many of these areas, we do not yet have good answers on the basis of which to proceed, let alone adequate policy instruments and information. As E.Ostrom has pointed out:

> […] these resources are embedded in complex socio-ecological systems, composed by multiple subsystems in which scientific knowledge is needed, but ecological and social sciences have developed independently and do not combine easily (2000)

In-depth research and greater local community involvement are needed to better understand how to deal with these complex emerging new issues. Biological, health and environmental forces interact in complex manners that we still scarcely understand and new forms of public/private dialogue are needed to attain progress on this front. We know very little as to how to develop collective action to protect the environment and also how to price environmental services which have different value for different stakeholders in the community. We are also far away from having comprehensive environmental protection laws capable of ensuring long term environmental sustainability.

4. Concluding Remarks

As a result of market-oriented reforms inspired on Washington Consensus principles, Latin American countries underwent a major structural transformation in 1990s and 2000´s. This transformation involved the abandoning of inward-oriented industrialisation policies and the gradual return to natural comparative advantages.

Economic growth based on an increasing exploitation of natural resources introduces a complex set of new questions that demand urgent examination. Some of these questions belong at the macro level and demand policy interventions dealing with the 'Dutch Disease' syndrome and its impact upon the structure of the economy and international competitiveness. Equally important is the set of issues related to the micro functioning of the economy in aspects such as long term environmental sustainability, biodiversity, desertification, the use of water resources, 'green-house' effects and global warming. The interaction between economics and the ecology is still an area about which we know and understand very little.

In terms of macroeconomic management, most countries in Latin America have in recent years opted for inflation targeting regimes, a floating exchange rate, and an open capital account. They have done so out of fear of inflation as well as attempting to develop a 'sound´ local institutions on the basis of which to attain international reputation to attract foreign investment. Putting the accent on short term financial equilibrium has, however, resulted in currency appreciation and macro volatility which has ended up affecting the rate of

investment and the structure of the economy. The impact has been even more strongly felt in more knowledge intensive activities which lagg further behind from the international technological frontier.

An alternative strategy - adopted by Argentina after abandoning the Currency Board Regime and devaluating its currency in 2002 - initially succeeded in attaining faster GDP growth and boosting exports across a wide range of industries, but inadequate monetary and fiscal management and the lack of sector specific industrial policies impeded the country to benefit from the 'window of opportunity' that opened up in the early part of the 2000's. Neither the inflation targeting regime – adopted by Chile and Brazil among other countries in Latin America - nor the Argentine heterodox SCRER policy regime adopted in 2002's succeeded in encouraging local entrepreneurs to invest in new production facilities and in innovation and R&D activities.

In the case of Brazil and Chile, the inflation targeting regime led to currency appreciation and discouraged investment and innovation other than in natural resource industries, which have been quite successful. As for Argentina, although the SCRER regime enabled the country to restore its growth and export capacity in manufacturing activities it was not strong enough to encourage local firms to invest in more modern production facilities and in R&D. Lack of an adequate strategy combining monetary and fiscal policies - which could keep inflation at bay and reduce macro volatility and uncertainty – and sector-specific industrial policies to induce firms into knowledge intensive sectors and production facilities provide a likely explanation as to why the opportunity was lost for gradually reducing the gap with the international technological frontier in industries of medium-high technological sophistication in the early years of the 2000´s.

In her study of the Korean economy, Amsdem (1989) explained how the combination of effective macroeconomic management and sector-specific industrial policies permitted Korea to catch up in industries which were more knowledge intensive. Firms such as Samsung, LG, and Hyundai were strongly supported by the Korean military regime inducing them, through subsidies and regulation, to catch up with global standards. Between 2002 and 2008 Argentina tried through a SCRER regime to induce rapid GDP growth, increased manufacturing exports and the creation of more jobs in industry, but did not succeed in sustaining the expansionary dynamics resulting from the currency devaluation. Thus, at the end of the day the SCRER regime was not sufficiently strong as a policy instrument to induce domestic firms into closing the gap with the international productivity frontier.

If closing the gap and promoting domestic innovation and R&D efforts in the economy is given priority we conclude that the option between an inflation targeting macroeconomic policy regime, and a SCRER regime, looks as a

somewhat myopic debate. Established theory in this field is based on general equilibrium principles and does not consider the fact that large productivity differentials prevail across industries in Latin America and that neutral market signals – like the SCRER - cannot by itself take care of said differences becoming an adequate incentive mechanism pushing firms of more knowledge intensive sectors into long-term investment and innovative efforts. A SCRER might bring more exports and employment, but catching up with the frontier involves innovation and investment efforts which require pro-active industrial policies and an appropriate set of institutions for this purpose.

Focusing on microeconomic aspects of natural resource based growth we notice that issues of long term environmental sustainability and of social inclusiveness associated with the expansion of the natural resource exploitation frontier become of major importance. How to deal with the management of 'commons', how to induce ´collective action´ from the part of companies exploiting natural resources, how to strengthen government regulatory and law enforcement capacity in the environmental protection front, constitute major questions that have not as yet been adequately addressed in Latin America. These are major policy issues that demand urgent consideration. Building collective action, increasing public/private cooperation in relation to long-term environmental sustainability, ensuring fair treatment to the regions and localities in which the exploitation of resources is taking place – particularly so with original people that have been living in many of these ´commons´ since pre-colonial times - are areas where Latin American public policies have yet to improve. These are not attributes that countries can import. They need to be patiently constructed locally through unavoidable political processes of trial and error.

Notes

1. A previous version of this paper was presented in 2013 at a seminar on Neo-structuralism held at the Economic Commission for Latin American Countries (ECLAC), Santiago, Chile in honour of Dr. R. Prebisch.
2. It is important to mention that some of the larger Brazilian shoemaking companies moved their manufacturing activities to China, but keeping the product design in Brazil. An interesting piece of research on this topic is presently being carried out by Cintia Kulzer at the University of Oxford as part of her doctoral dissertation.

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