

Natural Resources Nationalism and Development Strategies¹

Carlos Aguiar de Medeiros²

Abstract

The institution economics became a predominant analytical perspective for developmental national experiences. The economic success or failure has been predominantly explained by the role played by institutions. This approach has particularly been applied to the national experiences where natural resources are abundant and form their main source of exports. Irrespective of this structural dimension, so follows the argument, countries can escape from the “commodity trap” associated to this resource endowment if good institutions can transform this natural asset in an opportunity to foster investment and spread development to other areas and sectors. In these analyses the good economic institutions are normally considered the set of institutions that were supposed to be predominant in developed market economies. This paper considers critically this analysis building its main arguments in two steps. It will be argued that the consolidation of private interests on production of natural resource limit their use for general development economic purpose but it will be argued also that this possibility exists in oil and gas and other strategic mineral raw material when by geopolitical reasons a national vested interest is formed as predominant economic power. Nevertheless this requires an encompassing industrial policy. These arguments will be illuminated by comparisons between Russia, and Venezuela. (250 words)

Introduction

Initiated in the new millennium, the global commodity prices cycle achieved a high trajectory inverting the terms of trade in favor of the old and new primary producers mainly the producers of mineral, metals, oil and gas. After the intense fall occurred in 2008, this tendency was reaffirmed in the last years. The emergence of China as an industrial producer has enlarged the international market for minerals, raw material and energy. The reduction in transport costs and new technologies brought about a rush and strong competition among the main importers countries and extractive industries and

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² Associate Professor at Instituto de Economia (Economic Institute) at the Universidade Federal do Rio de Janeiro (Federal University of Rio de Janeiro) The author thanks the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPQ) for financial support and Franklin Serrano for his comments.

has stimulated in many resource rich countries a fast export growth. The difference between revenues and extraction cost has extraordinarily enlarged and a huge transference of resources took place in the world economy. In many countries external debt was repaid and external reserves reached high levels enlarging the policy space for public investment opening new possibilities of growth. The limited absorptive capacity that followed this price boom was neutralized in several countries by new sovereign funds.

Like what has happened in 1970s when the oil prices reached high level, *natural resource nationalism* has spread to many mineral rich countries but at the same time the resource dependence has appeared in many of them. In these economies the government revenues became more dependent on natural resource rents, the expansion of the economy became more dependent on imports of capital and modern consumption goods and no other source of growth was autonomously in place. Although some structural and financial problems associated to this model of growth can explain the economic mechanism of this pattern there is a common understanding that its persistence has its roots on the prevailing set of institutions.

This paper contains besides this introduction four sections. In the first some connections between industrialization technical change, and institution evolution are considered, in the second section we examine the specificity of a resource-based development arguing that the perspectives for more diversified economic development are conditioned by the different processes of state formation previous to the commodity boom, by the technological and coordination mechanism associated to the extraction industry and by geopolitical reasons. In the third section, some features of Russian and Venezuelan experiences illustrate this proposition, in the last section some possibilities of industrialization based on natural resources are considered.

Industrialization, Technical Change and Institutional Evolution

Economic development entails a continuous process of structural change. The base of this evolution is the interconnection between capital accumulation,

technical progress, and institution evolution. Technical progress induced by capital accumulation changes productive costs and introduces new goods inducing by its turn new investments and structural changes in production and consumption. This economic dynamic is immersed on social structures and mechanisms of coordination that evolves in correspondence with the challenges created by economic development. This institutional evolution has a feed back on technical progress creating a cumulative causation. This evolution is far from being an automatic process. Social conflict and social tension are intrinsic to the process of change and an intense competition between old and new forms of production and property relations is all in place. The vested interests associated to the older forms and to the preservation of business financial control³ can create institutional resistance to the process of structural change⁴.

From this perspective, institutions are not simply constraints on human agency but they evolve and condition the choices of political actors. By institution we consider two dimensions. The first is formed by the formal structures and informal accumulated social knowledge that are associated to the production process. This form part of the socio economic structure since it is rooted in historical and long lasting processes. The second dimension is the State considered here as the condensed political power that expresses in a market oriented society, the private interests of the business class and creates and enforces their property rights. But to serve this end this encompassing hierarchy is in charge to establish mechanisms of economic coordination, investing in infrastructure, stimulating an adequate level of effective demand,

³ This idea has strong roots in many institutionalists development analysis. For a comparative perspective on Marxist and non-neoclassical institutionalists perspective see Dugger, Sherman (2000). As noted by those authors for Thorstein Veblen the predominant conflict is not from old and new technologies and institutions but by the dichotomy between business (profit motivation activity explored by high positioned individuals and social groups) and industry (production and technology).

⁴. One source of conflict as observed by Chang (2003) comes from economic dislocation: 'As Kuznets (1973) eloquently argued, technological innovations which characterized the modern growth and structural change process inevitably lead to dislocation of productive factors, thus making the process extremely conflictual... when the mobility of certain physical and human assets is limited their owners will face the prospect of "obsolescence, unemployment and income differentials" if they accept the market outcome...When the owners of the affected productive assets do not accept such an outcome, they will take non-market political actions to redress the situation... which will make the process of structural change very conflictual and generate pressures for an explicitly political management of the economy by the state.' (Chang, 2003 p.57)

inducing technological learning and social cohesion in the name of the nation. These two dimensions form a particular social structure of accumulation.⁵

But besides this internal economic and social challenge that depends on social and political conflict, the national state is also challenged by political reason that comes from the complex relations with other states in a perennial political action in order to survive as an autonomous political sovereign state. Thus, is not only the social conflict that may exert a discontinuity on the predominant pattern of development but this can originate from external geopolitical tension.

Whether to make the war or to keep the social prosperity, economic development means the enlargement of the provision of public goods. Thus, in order to follow this endeavor (that includes the preservation or extension of the economic power of the dominant groups) the state is strongly committed to penetrate in society stimulating economic development and creating the material condition for its fiscal expansion. As we can observe historically, this statecraft evolution is very conflictual due to the social dislocation, to the internal resistance of traditional interests and business privileges against new forms of production and to external competition with other states. A crucial developmental task of 'statecraft' is to avoid the institutional bottleneck that eventually may block the economic and social change.

Thus the state is not a fix thing but evolves and its capacity evolves in accordance with these internal and external tasks of coordination of social and economic change. Institutions evolve according to the material necessities and create by its turn, new material necessities.

The complexity of this endeavor as observed by historians of economic development like Gershenkron (1962) or Amsden (2001) is particularly challenging for developing countries distant from the technological frontier and where the prevailing social structures of accumulation are an obstacle to economic and social changes or are inadequate to the diffusion of technical

⁵ See Mc Donough, T.; Reich, M.; Kotz, D. (2010) that follow the institutional tradition opened by Veblen among others. This perspective is very different from the "new institutionalism" (see for instance Acemoglu, D. and Robinson, J. (2012) that considers that economic development comes from the individual propensities of barter, saving, investment and innovate when the properties rights are diffused and guaranteed.

progress. In order to circumvent this obstacle that is proportional to the economic backwardness new institutions are needed. Considering the process of industrialization as pointed out by Rosenstein Rodan (1943) and many others development economists, due to the economies of scale, external economies and complementarities the industrial performance depends very much on clusters of complementary investment that in a developing country requires strong state coordination particularly important for heavy industrialization. The centralization of capital, the provision of an adequate level of effective demand and foreign currency for these industries needs is of the utmost importance. Few large backward countries could surpass this obstacle that include the political veto of traditional private interests; this was the case of the Soviet Union that induced by the military spending created an autonomous capital good sector. The Brazilian or Indian experiences were more limited and were based on foreign investment and foreign technologies; nevertheless in both countries the government was the main inducer of heavy industrialization. A developmental state⁶ was in place solving the complex tasks and problems of a late industrialization, particularly the dependency on foreign currency. South Korea could circumvent the currency bottleneck and the lack of effective demand through manufacture exports and public investment. Despite their national differences in all experiences this coordination required new instruments and selective policies and therefore more or less industrial state capacities.

Structural Change, Institutions and the Dilemma of Resource-Based Development

From this perspective, the most general problem associated with an economic development based on natural resource is the different challenge put on institutions and on State in particular. The exploitation of a natural and fix material production system and simultaneously a rich source of foreign currency, create different demands on state capacity and in many circumstances block the process of structural change. This natural endowment can provide the

⁶ This political formation resulted from the symbiosis between industrial business, public investment banks and 'pilot' government bureaucracies (Amsden, 2001)

income and the hard currency necessary to the economic growth without the political and economic effort associated to the experiences of heavy industrialization in backward economies.

One aspect associated especially to the extractive industries and their infrastructures is the high level of sunk cost. This material condition has many implications not only on government policies and its mechanisms of coordination but on industrial organization, on (space) regional economy and on economic development⁷.

As observed, giving the conflictual nature of structural change, the prospect by the owners of non-mobile physical and human asset of 'obsolescence, unemployment and income differentials' can not be easily solved by the market mechanisms and non-market political actions which makes economic change very conflicting demanding a 'political management of the economy by the state'.

Reductionists and 'human choice approach' analysis see this process as the base of 'rent seek' problems normally associated to the natural resource (petro) state. In this perspective they resulted integrally from public (bad) choices in an anemic civil society. From a different institutionalist perspective we consider that independent of human actions what distinguishes the economic problem of a mineral resource based development is the likely formation of monopolies, oligopolies and collusions⁸. The collective actions of major oligopolies can generate extraordinary privileges revealing the incapacity of the market to coordinate its production⁹.

⁷ 'A basic, but often overlooked, feature of extractive investments is that they are predominately sunk, giving rise to the phenomena of ghost towns and idle capital and human resources; once they are made, their salvage value for alternate uses in situ or in other locales is less than the costs of transfer. This "sunkness" of extractive investments fundamentally shapes the investment decisions and actions of firms and governments, influences the subsequent industrial organization of the sector and its connections to the regional economy, and thus holds major implications for economic development, especially in economies with high levels of dependence on natural resources'. Braddford, B.; Coomes, O. T. (2005, p. 173)

⁸ For Veblen all business is a rent seeker corporation exploiting the possibilities to make profit from market control. In the case of natural monopoly this strategy is assured and therefore the most important mechanism to avoid this predatory outcome is the national and social control.

⁹ To estimate sunk costs... an analyst would find the difference between the value of the original investment and its salvage value (i.e., the value if sold or transferred to another use). Where the salvage value of an investment is high, the sunk costs by definition will be low. Thus, for any given investment

In order to stabilize the intense price and rent volatility that characterizes a homogenous good with high production sunk cost it is necessary to have complex market and state coordination strategies involving national firms and other participants (states and firms) of this market ¹⁰. This endeavor that may demand nationalization of natural resources can limit the risks associated to the inner volatility but can generate and consolidate the immobilization of productive capital through stabilization mechanisms during the downward price cycle and large investment in the upward phase.

Even in a situation where this *coordination problem* was successfully administered, what distinguishes a pattern of growth based on natural resource is the weakness of the connections between capital accumulation, technical progress, structural change and institution evolution. Thus the commitment to solve this coordination problem does not lead to the creation of a developmental state. Here there are two main economic arguments, one 'micro-structural' and one 'macro-structural'. The first, creatively explored by Innis (1930) and Hirschman (1958) stress the productive linkages associated with the value chain of the mineral extraction. Different from industrial activities that are permanently challenged by technical progress and the manufacture sector which evolves from low to high articulate production systems with high externalities

a wide range of reversibility can exist: from "full reversibility", where sunk costs are zero because the salvage value equals the original investment, to "full irreversibility", where sunk costs equal the full value of the original expenditure because there is no salvage value to the investment' Op. cit p. 163. Thus, the private financial solution can generate strong effects on income and employment due to some external effects is the "Same Boat Effect" that 'occurs when simultaneous efforts by firms (or individuals) to sell off similar investments drives down salvage values, thereby increasing the level of sunk costs. Such conditions are most likely to arise when downside risk is realized (e.g., a sharp price drop) and widely felt across an industry or across an economy, prompting firms to sell off their investments and secure their salvage value'. P. 179

¹⁰ 'sunk costs, when combined with uncertainty about future net revenue streams, can lead to socially inefficient investment outcomes, i.e., either too little or too much investment, depending on the interactions of markets and public policies in these industries.' 'Historical evidence of this fundamental limitation in coordination among prime exporting countries in resource industries abounds...' Thus 'the capability of developing countries to build strategic advantage over scarce reserves seems inherently hamstrung by coordination problems. Sunk cost and strategic capacity investments continue to be dominated by multinational firms.' Op. cit p 183

and spill over, the industry linkages and technical change induced by extraction industries are weaker. In the extraction industries the control of the land access and market to sustain the rents level is the major economic and political objective and the spill over of extraction industries within the value chain are limited. Although the *technological and sector linkage problem* is in general valid it depends on the product, on the extraction technology, on its localization, on its system of transport and so on. It can be more or less enclave-oriented. One crucial difference is the degree that the investment originated from rents is destined to others poles of development and technological institutions.

The 'macro-structural' dimension of a pattern of growth based on natural resource entails two different arguments. The first consider the income impact of the commodity exports on internal markets. This 'income linkages' depends on the level of effective demand originated from these exports. This linkage is higher (lower) where income distribution and social spending is higher (lower). The second argument is the external fragility and the low and unstable growth associated with this pattern. The most common formulation is the '*Dutch disease*'¹¹ an economic problem that comes from the export specialization in natural resource. The structuralist version of this problem does not assume full employment and considers the deindustrialization its main negative consequence. The major mechanism considered in this analysis is the real exchange rate that tends to be set in a level where the national industry cannot compete (Bresser-Pereira, 2010). During the periods of bonanza and high growth induced by priced natural resources exports this uncompetitive exchange rate facilitates income distribution favoring the wage share mainly in non-tradable and services activities. This is more likely to occur when the spending of rents enlarges the internal market. But despite this positive effect on demand and on unemployment the tradable sector is not benefited due to a

¹¹ There are different formulations of this problem. The neoclassical formulation was developed by Corden (1984), an structuralist analysis of some of these pattern based on the Venezuelan case was originally developed by Celso Furtado along the 1950s (Furtado, 2000) For a review and an applied analysis to Russia see (Oomes, N.; Kalcheva (2007) for a general analysis applied to many peripheral countries see Bresser-Pereira (2010). Here we consider the external heterogeneity' as a structural and financial pattern that distinguish those economies. The main similarity and differences with the 'Dutch Disease' syndrome is explained in this section.

higher propensity to import and low incentives to export. During the price downward period the investment in non- resource activities is badly hit. In the long run it is assumed that the dominant effect is the replacement of domestic producers by foreign suppliers. Thus, follows the argument, this kind of economy will achieve a lower growth than a resource poor economy and the deindustrialization is a likely scenario.

However compelling, this argument has to sustain that due to the replacement effect, the exports of natural resource do not correlate with industrial production or the replacement effect due to the Real Exchange Rate (RER) has to be too strong to dominate the positive effect originated from natural resource exports. There are three main failures in this argument. First of all as we argue in this paper considering the cases of Russia and Venezuela, there is no solid historical evidence on this. The second failure is to attribute a dominant influence of exchange rate on export specialization and on the allocation of resources to tradable and non-tradable activity. Finally is very difficult to separate the effects that come from this production structure – export concentration in few natural resource- from the financial dimension and financial markets.

Thus instead to follow the etiology of the so-called ‘Dutch disease’ we can consider a situation of ‘external heterogeneity’ (Medeiros 2011) in which there is a contrast unbalance between the productivity of export sector and the rest of the economy. This economy can sustain high levels of economic growth induced by natural resource extraction and exports but this possibility is very conditioned by their external prices and economic policies. As we argued, in these economies the most several limits is the financial dependency that chronically it entails.

This argument considers the great volatility of the commodity prices (that occurs even when the coordination problems above mentioned are well managed) on hard currency availability and consequently on import capacity and the disturbing role played by deregulated financial markets. This second dimension is not a corollary that comes from the price volatility but has an autonomous existence. The ‘loan push’ and capital inflows to peripheral countries correlate with low US rate of interest, higher income growth in world

economy and speculative investment in commodities. Historically the common pro-cyclical external financial behavior generates an upswing pressure on exchange rate and amplifies the external solvency and liquidity problems that frequently interrupt this cycle. The likely intense fluctuation generates strong negative effect on the levels of investment and on technological spillovers and consequently on manufacture productivity. Thus the problems associated to the commodity exporters are partially derived from the (external) *financial dependency* that may provisionally sustain or enlarge the upswing effects of the commodity cycle. One side effect of this unstable pattern of growth is the low investment rate in non-resource based industries ¹².

Thus, considering the coordinating problem, the low productive linkage and the 'external heterogeneity' and financial dependency the like outcome of a pattern of growth based on natural resource is a low capacity to introduce technical progress and structural change. But although challenging all of these problems can (theoretically) be avoided if comprehensive economic and industrial policies are in place through tax, capital control, subsidies, directed credit and income policies and public investment. Thus, the persistence of this pattern has to be explained by institutions and political economy reasons.

As put by Jessop (2002) the building of the State is the building of a tax system. What distinguish natural resource export countries is that this asset is not only the main source of fiscal revenue but also the main source of hard currency. Thus the diversification of tax source that is historically a solid base for the state building can be systematically circumvent. In addition, the building of sovereign debt backed by these revenues is very fragile as examined above.

In fact, the most common political economy critique to this model of growth based on natural resource is that the State, the only hierarchy capable to break the path dependency that block structural change, is strongly dependent on rents taxation and therefore on the continuation of this model. The inducement to structural change and tax diversification is weak during the price upswing phase when other distributives priorities take place. During the

¹² From a kaldorian perspective the main reason for a lower rate of growth associated with Dutch disease problem, as observed by Oomes and Kalcheva, is the higher technological spill over of manufacture activities that is specially affected by temporary contractions in investments.

downswing phase this necessary inducement is very difficult to occur due to the effects of the budget constrained on public investment. As far as States can appropriate the rents to finance their budget without the efforts to diversify the economy and forms of taxation, the political inducement to change is weak. Thus, there is a vicious causation mechanism that based on *fiscal rent dependence* problems locks in the state capacity (that becomes endogenous to this dynamic) to introduce the necessary industrial policies to change this model. Nationalization of natural resources can facilitate the coordination's problems above considered and can diminish the State dependency on the private business interests but can not solve this dilemma.

The table bellow summarizes the dilemmas heretofore discussed.

Problems of Resource-Based Development

	Problems	Consequence	Challenge/Policies
Sector coordination	High sunk cost in a homogenous goods	High risks of 'obsolescence, unemployment and income differentials', collusion between producers and political dispute and management by state	Coordination of domestic and international producers/ Nationalization
Technological and sector linkage	Low upstream and downstream linkage and technological evolution	Low spill over on other activities and innovation system	Sector industrial policies along the productive chains and technological policies
External heterogeneity (a) Sector unbalance	Industrial uncompetitive exchange rate	Low export diversification	Exports tax on commodities, differentiate income tax and subsidies allocated to the manufacture sector. Industrial policies
External heterogeneity (b) Volatility and financial external dependency	Sudden changes in external solvency and pro cycle debt	Low manufacture investment rate, low increase in productivit	Capital controls, public investment banks and Sovereign funds. Industrial policies
Fiscal Rent Dependency	High dependency of fiscal revenues on resource rents, pro cyclical spending	High fluctuation in government spending and low inducement to industrial diversification	Diversification of public investment to other activities, industrial policies

It is necessary to distinguish two different historical paradigms. The first is formed by the nations where previously the export orientation in natural resource had built a modern state and a diversified economy. This historical

situation was the base of the ‘Dutch disease’ narratives. The primarization of exports generated negative consequences for manufacture production, as occurred in Nederland, Norwegian or England when they exported oil and gas during the 1970s. But the modern state with its diversified sources of finance and technological institutions were all in place coordinating this sector and partially neutralizing this effect through economic policies. This “good government” so explored by World Bank literature was not the outcome of rational and impartial (let alone market) actions but originates from a long historical construction led by a strong connection between industrialization, structural change and institutional evolution.

The second paradigm is formed by the nations where the building of the sovereign State was from the very beginning dependent on the revenues from mineral rents. In this paradigm the export sector assumed an enclave orientation with few productive linkage with other activities. The common narrative that attributes a ‘curse’ to the abundance of natural resource is normally applied to these countries. But very improperly this ‘external heterogeneity’ situation can be associated to the problems observed in the first paradigm since there was no industry to be dismantled. Here as typically in many African or small Latin American countries since the XIX century and reinvigorated in the last decade of the present century, no other developmental strategy was consistently taken nor has the coordination mechanisms established the basis for a modern development state. The high-income concentration that distinguishes these countries constrained the income linkages associated to the exports¹³. The specialization of exports of natural resources and the *finance dependency problem* associated to it generated an economic trap. The wealth and public investment that came in during the bonanza was systematically dilapidated during the bad times in a vulnerable and unstable economy. National income growth became largely pro cyclical widening in consequence the resource dependency. The “bad government” and the rentier state was not the outcome of entrenched elite in an inefficient rent state but this (patrimonial and clientelist)

¹³ Although these problems constrain the future economic evolution one may argue that the underdeveloped countries that don’t have these resources are even more immersed in the ‘poverty trap’. I thank Franklin Serrano for this comment.

political setting was the historical consequence of extremely concentrated activity in the mist of poverty¹⁴.

An intermediary situation occurred in some late industrialized countries where the abundance of natural resource were the main export activity but given external and internal circumstances the industrialization followed an internal dynamic and heavy industries were created along the production chain of the natural resource or otherwise. Shifts in these external and internal circumstances enlarged the dominant position of this primary sector that became largely autonomous from the needs of industry previously created. In many historical circumstances countries as diverse as like Mexico, Indonesia and Russia performed this intermediary situation. Although Venezuela is not a small country and had historically developed a light manufacture industry for its internal market, she never created an articulated manufacture sector and the exports of oil did not generate a heavy industry.

In the development pattern where 'external heterogeneity' and 'financial dependency' prevail is very difficult to break it out opening the way for new pattern of growth since the whole institutional structure including the state is endogenously originated from this particular social structure of accumulation. Historical evidences show that only external or internal great ruptures and social conflict can undermine this pattern and social structure of accumulation opening new opportunities.

The Crimean War in 1853-56 where the Tsarist Russia was defeated by a coalition led by England and France was an essential event to the late industrialization in Russia. During its existence the large natural resources in Soviet Union although necessary for exports to west countries in exchange for hard currency were principally used to support heavy industrialization in the country and on East Europe.

In Latin American economies, the 1929 crisis dismantled the old pattern of growth based on commodity exports opening political space for a new strategy based on industrialization. However, this did not happen in Venezuela

¹⁴ For a similar conclusion of this point see Karl (1977).

that could achieve an exceptional position in the new external situation to grow based on oil exports.

Although one may expect that structural change in natural resource rich countries is more likely to occur when the evolution of the terms of trade is negative, the historical experience is less assertive. In Venezuela during the 1970s, despite some intentions for a 'big push natural resource-based' (Di John, 2005), there was no significant structural change and occurred an impressive debt accumulation backed on oil. In Mexico, a far greater economy, thanks to the discovery of big oil reserves the high oil prices corroborate to postpone (as it could be expected) a heavy industrialization strategy; as in Venezuela the Mexican crisis in 1982 was essentially a financial crisis, during the nineties with low oil prices Mexico started a new strategy of accumulation based on exports of labor intensive manufactures in a 'shallow' trade specialization.

The present international circumstance contains a paradox. As a reaction to the extreme liberalization measures taken in the 1990s many countries induced by social tension and social conflict 'brought back' the State in for a more active and interventionist economic policy. The strong recuperation of terms of trade by its turn brought high rate of growth but reinforced the export specialization in commodities. The combination of both tendencies resulted in a national strategy that could be named as the '*natural resource nationalism*', the control and coordination of the natural resource by the state. In these political and economic circumstances it is suggestive to consider the possibilities and the dilemmas for a wider developmental strategy led by state. Lets briefly in the next section consider the cases of two energy producers Russia and Venezuela.

National Resource Nationalism and State Building in the New Millennium

In a suggestive chapter on Russia's oil and gas, Tompson (2006) asked if Russia was becoming a 'frozen Venezuela'. In fact, despite huge social and economic differences both Russia and Venezuela two of the largest oil and natural gas reserves in the world became quite specialized in energy exports.

They were strongly benefited by the price upsurge in oil and gas occurred since the beginning of the new millennium. In fact, after an acute external crisis, intense industrial contraction, income concentration and low and unstable growth that occurred in both countries in the 1990s, this new external circumstance caused a radical discontinuity with the previous external situation. Government spending, employment and wages increased mainly in service sector and both economies had a strong growth. This was led by exports of energy but the 'income linkages' were high not only for the service but for the manufacturing sector as well.

This new external circumstance was not the only important shift. Internally, new tax regimes were created to enlarge the rent share captured by government, the decision to prepaid debt (in the case of Russia) and the creation of Stabilization funds (in 1998 and restructured in 2005 in Venezuela, in 2004 in Russia) played important role in macroeconomic stabilization and sovereign autonomy. In both countries public investment in infrastructure increased. In Russia after the radical increased of the 1990s the wealth and income inequality stabilized and in Venezuela inequality and poverty were reduced.

Although diffused this pattern of growth was unbalanced; an appreciation of exchange rate took place generating a strong growth in imports much faster than non-resource exports. Russia became a larger importer of machines, automobiles, pharmaceutical and electronic goods in exchange for oil and gas¹⁵. This same pattern that was historically registered in Venezuela was reinforced in the last decade. The drop in the oil prices in 2008 badly hit both countries particularly Russia that additionally suffered from high short-run financial investment and strong reversal in capital flows in the aftermath of the crisis.

As we observed in the last section, financial inflows are very common to happen during the upward commodity cycle, in this particular circumstance carry trade investments strongly enlarged corporate and public debt, the reversal occurred in 2008 generated a strong credit crunch (Schutte, 2011). But thanks to the large pool of reserves previously achieved, this sudden stop was very different from the 1998 experience and when the energy prices recovered economic growth was recovered as well.

¹⁵ This pattern was not new but follow some structural characteristics inherited from the Soviet Union.

In Russia and Venezuela the *natural resources nationalism* became an encompassing ideology led by political leaderships that emerged as a backlash of neoliberalism and from great social tension¹⁶. In both countries the extreme political fragmentation was ended and a more centralized state emerged. The state monopolization in Venezuela or the nationalization of the energy as occurred in Russia¹⁷ became a dominant government strategy of state building. In both countries nationalization gave great political and fiscal autonomy to their States in relation to the private and international interests that prevailed during the liberalization reforms of the 1990s.

Based in this political process (normally considered by public choice analysis as the formation of a rent-seek petro state) that Tompson (2006) asked if Russia was becoming a frozen Venezuela. He concludes that she is not; according to him Russia has resisted the ‘political pathologies common associated with resource-based development’ (Tompson, 2006 p. 209)

As we observed in the previous section the crucial political problem of these resource-based economies is the process of state making and not a pathology that could be avoided if ‘global standard institutions’ friendly to markets were in place. But there is in fact a great difference in the control of energy resources in both countries. Due to its military might and central position on the world and regional geopolitical setting, in Russia this nationalism was much more based on security concerns involving complex geopolitical and technological challenges where the main actors are the SOE and private big enterprises in energy and on military industry. In Venezuela although some regional and political challenges were in place the national resource nationalism was mainly geared to break with social exclusion and private privileges. Besides PDVSA and some other SOE, priorities relied more on small-scale business and cooperatives (Di John, 2005).

As we briefly argue in this section three main reasons explain this different strategy of development associated with the increase in energy prices: the previous industrialization level and technological institutions achieved before the commodity boom, the technological problems and coordinated mechanism associated with

¹⁶ Vladimir Putin was appointed prime minister in 1999; in that same year Hugo Chávez became president of Venezuela.

¹⁷ In the new government Slavnet, Russneft, Yukos and Sibneft were bought by Gazprom and other state owned enterprises

production, transport and distribution of energy in both countries and the geopolitical conditions and challenges associated with this strategy.

Despite the deindustrialization process and huge structural change that occurred after the collapse of Soviet Union, Russia inherited not only vast oil and gas and other raw material resources but also an industrial and a technological system formed by areas of high technology in the military industrial complex and space sector. An old heavy and scale intensive industry not only survived but also had a fast growth in the last decade. In fact, despite the “external heterogeneity” problem including growing imports of electronic and capital goods the non-energy manufacture sector did not shrink (Oomes, Kalcheva, 2007). As we previously observed, there was in Russia as well as in Venezuela a positive correlation between favorable terms of trade of natural resource exports and industrial production. The problem in both countries was the growing export specialization. In the case of Russia, the tax reform introduced by the new government favored the non-energy sectors that additionally were benefitted by the energy prices that were kept in a lower level than the international prices (Schutte, 2011).

In Russia, after the chaotic ‘dismantling period’ of the 1990s when the broad coordination system based on central command was replaced by a deregulated and poor articulated market system, the formal institutions necessary to regulate and coordinate the economy and the industrial sector were rebuilt with strong presence of the state. The organizations in innovation system were not totally dismantled in the military industrial complex, and despite the growing technological gap in other science-based industries, the social capabilities historically created and diffused through the educational system and technological institutions were alive.

National resource nationalism was a national security strategy developed since the beginning of the Vladimir Putin’s government and was based in his analysis of the strategic importance that the control of oil and gas had in Russian history and on the asset strip that in the nineties gave to few oligarchs the ‘commanding heights’ of the economy. During the Soviet period, the exports of oil were the only valuable resource in exchange for badly needed hard currency required for imports of technology. The enlargement of production and transport of oil and gas demanded high investments and drilling technology not easily available in the country. Precisely for this reason the strategy led by the American president Ronald Reagan in the eighties included the contention of oil prices and prohibition of the technology

necessary to build a natural gas pipeline from West Siberia to Germany.

After the Soviet period the geopolitical strategy of energy strongly increased in Russia due to several reasons. The American geopolitical strategy in the region intended to reduce the (so considered) threat of Russian energy, the largest supplier to Western Europe¹⁸. This is particularly important in the case of the natural gas. Due to the high sunk costs in pipeline, once it is built the 'salvage value' is too low and the consumer market cannot move to other sources. The American strategy includes incentives for alternative pipelines in Caucasian corridor exploiting eventual non-cooperative policies by intermediary's countries that ship gas to West Europe (like Ukraine and Belarus)¹⁹. Thus, the Putin's strategy to transform Russia in an energy superpower had strong geopolitical dimensions that required active international and regional policies and mechanisms of regional coordination and, simultaneously, the development of technology and new investments. This strategy has many risks and therefore is connected with national security concerns. Russia has many security dilemmas. Military, a constant American and NATO pressures to build missiles defenses is considered a direct threat, politically the West alliance supporting the 'color revolutions' in CIS countries in 2003-4, and particularly the complex relations with Ukraine are paramount important. The episode of Georgia war in 2008, revealed the resolute decision of the new Russian government to control its borders from external challenges. In this context the existence of an overextended frontier creates many poles of conflicts including separatism, thus the protection and influence on the 'near abroad' assumed a resolute priority. Also this strategy has to consider that Russia's underperformance in many high techs areas like engineering, information technology, and machine tool manufacturing.

As we observe in the previous section, given the high sunk costs of energy production, sudden changes in prices can cause intense fluctuation on production and income and the property control by few oligopolies may create huge privileges. This was exactly what happened in the nineties when the Russian oil production controlled by few groups originated from the 'loan for shares' privatization process stagnated.

¹⁸ For a discussion see Brzezinski (1997) and Mazat and Serrano (2012)

¹⁹ This is the case of the Nabucco pipeline project, a western initiative to get access to Azerbaijan and Central Asia gas without the Gazprom pipeline South and Nord Stream (For details, see, Schutte, 2011 and Goldman, 2005)

Given the low oil prices in this decade new investments became less attractive and a huge capital outflow took place. The contraction of oil production was an important component of the depressive macroeconomics of those years. When the prices started to grow the increase in the 'salvage value' created great capital gains for private owners. Thus, the nationalization of natural resources was a progressive strategy necessary to stabilize the main source of income, fiscal revenues and hard currency and at same time was a political device against the political power of a small group of oligarchs.

Historically Venezuela achieved a relative high GDP per person based on oil exports and non-competitive light manufacture and agriculture industry (Medeiros, 2008a). During the 1970s oil and iron industries were nationalized but as we observed in last section, Venezuela's strategy based on chemicals and basic metals was not successful and did not change its economic structure but cumulated large external debt. After the external shock of 1979/1981 made strong switch in its policies especially during the nineties dismantling the initiatives for industrialization and national control of oil by the state owned PDVSA. In this decade the government's strategy was to open the hydrocarbon sector for foreign investment. Several association agreement and profit sharing agreements were established with major oil companies to explore the reserves in the Orinoco Oil Belt. Since 1999, a strong and progressive nationalization policy of oil and capture of rents was implemented. If in Russia the state control of energy was a reaction to the asset strip and to the negative impact of a private and non regulate monopolist sector, in Venezuela, the strike of PDVSA managers and high skilled technician was the main factor to enlarge the government control on oil and for the strategy of full national sovereignty over natural energy reserves (*Plan Soberanía Plena*)²⁰.

Different from Russia, United States is its major market and there is not the same coordination challenges involving complex geopolitical national and regional strategies. But the nationalism of natural resources in Venezuela, one active OPEP

²⁰ In fact, as analyzed by Pascal (2009), as a consequence of this strike that occurred in 2002-3 currency controls were created and in the new presidential turn initiated in 2006, Chavez pushed international investments out of Orinoco Belt or reduced their stakes as part of a overall nationalization strategy.

member, involves also strong international initiatives mainly towards Latin American countries²¹.

Considering the possibilities of structural change, what distinguishes Venezuela from Russia is the fact that she has never developed a complex and diversified industrial and technological system and the institutions necessary for its coordination that could be the basis for a modern industrial policy. Some initiatives as the 'Plan Siembra Petrolera' ('Oil Sowing Plan') taken in 2005 as a developmental strategy involves a large investment block but it is essentially an effort to expand and coordinate investments in oil extraction, pipelines, transports refineries and others infrastructure investment. The same happens with natural gas with several projects for offshore gas extraction. This infrastructure can be used for other non-oil purposes and may be the seeds for regional and social development in underdeveloped regions but the institutions necessary for industrial upgrading are not there.

Final Notes: Structural Diversification?

A resource-based development generates a particular social structure of accumulation that may block structural change. This occurs because economic growth can be episodically achieved without the technological efforts to change the prevailing specialization. Nationalization can subordinate the vested private interests and can give autonomy for State investment in public good but cannot change this pattern.

The necessity to change is dissolved when commodity prices, financial inflows and fiscal rents are high and the economy grows, when the prices and capital inflows are low the inducement to change gains more legitimacy but the capacity of change is limited, the macroeconomic problems dominate the economic policy agenda and the institutions and the state that could lead this change were not build and a different developmental strategy is not politically and socially backed. The risks for 'obsolescence, unemployment, and income differentials' are high, demanding complex mechanisms of coordination. 'External heterogeneity', financial dependency and fiscal rent dependency and

²¹ "PetroAmerica" is an energy integration proposal forming part of ALBA (Bolivarian Alternative for the Americas), a PetroCaribe is other Venezuelan initiative (Pascal, 2009)

weak stream linkages may explain the low performance of this model of development. Under this circumstance only major external or internal event can break out this path dependency.

We consider in this paper the 'natural resource nationalism' as a surrogate strategy of development. As we observed, nationalism of natural resource as followed in Russia and Venezuela has been a strategy to rebuilt the state after the strong discontinuity and rupture occurred in the nineties. As long as this strategy brings satisfying rate of economic growth and reduction in poverty this model may be socially sustainable in the near future but based on historical experiences and on the problems here examined it is very unlikely that this scenario can predominate in the long run. In Russia or Venezuela the export specialization in natural resource predominates and there is not much space for export diversification.

The perspectives to use the present circumstance to launch a new strategy of development centered on structural diversification, industrial upgrading and new social structures of accumulation are nevertheless not clear.

Here we can consider two different ways. The first is the autonomous action of a developmental state neutralizing the incentives that perpetuate the specialization in natural resources exports and inducing through industrial policy new specializations. The second strategy is based on the exploration of industrial possibilities along the value chain of natural resources.

Although Russia may have some of the state capabilities to follow the first path, and has the inducement that comes from her geopolitical position it is important to consider that the challenges for technological evolution are now different from the previous industrial experience centered on the promotion of 'national champions' and state owned enterprises in vertical integrated sectors. In most high-tech industries the control of productive chains through national and proprietary technologies is essential. This demands a concentrated effort in innovation, industrial coordination that coupled with modern physical and human infrastructure investment form the modern basis for industrial upgrading. Russia is making some efforts creating state companies and holdings in high tech industries like spacecraft, strategic weapons, shipbuilding and

nuclear industry, (Fujita, 2009) but has not initiated a comprehensive change in industrial policy along this line.

Even if it was desired this challenge is more difficult in Venezuela where the inexistence of a previous process of heavy industrialization did not create the industrial development institutions. Without this experience the provision of new institutions necessary to a modern industrial system seems an insurmountable task. Despite some positive efforts to promote investment in non-oil industry there is a bottleneck in the State capability to make an autonomous process of structural change.

The second route, the exploration of the possibilities along the value chain of natural resource is in place in the two countries. As we considered the national coordination problems and the structural linkages are very different in the production even of the same commodity. The territory, the transport system and the technologies necessary to the exploration puts different challenges and open different opportunities for diversification. Thus, in Russia, the exploration of the gas in the arctic region, the new frontier of gas reserves, requires new technologies. These reserves can be a new 'prime mobile' for high tech investments²², technological research and if comprehensive industrial policies favoring domestic suppliers of machine tools for these oil and gas production were in place new technological opportunities may be created. If there is not such policy and the technology and the main suppliers were imported these new opportunities of production will generate more exports and energy rents with a positive impact in the economy but without any other technological or structural effect.

In Venezuela, the exploration of oil in Orinoco oil belt does not entails such technical difficulties but given the backwardness level of the Venezuelan industries, hardly the investment in new production will bring about downward linkages for domestic investment.

But even in the alternative where there are opportunities to be explored, the major fragility of this model of industrialization based on the energy or other

²² In a very different country like Brazil this same opportunity can happen in pre-salt oil production. The deep sea oil extraction technology was a remarkable achievement of the state owned PETROBRAS

commodity chain is the great dependency on its unstable price, on its structural financial vulnerability and the constant challenges created by technical progress. Thus, in the case of Russia, the cheapening of liquid natural gas that can be shipped to West Europe from diversified sources or the shale gas that in United States became available after new technologies on hydraulic fractures can greatly diminish her bargain power with major consumer markets. (Serrano, Mazat, 2012)

Although the nationalization of these resources created more defenses against the risks of ‘obsolescence, unemployment and income differentials’ these risks associated with the financial dependency problem that is intrinsically connected with this pattern are still present constraining state capacity to induce new patterns of growth.

References

- . Acemoglu, D.; Robinson, J. A. (2012) *Why Nations Fail*, New York: Random House;
- . Bradford L. Barham; Coomes, Oliver T. (2005) ‘Sunk Costs, Resource Extractive Industries, and Development Outcomes’ in Paul Ciccantel; David Smith, Gay Siedman *Nature Raw Material and Political Economy*, Amsterdam, Boston, London: Elsevier, p. 159-187;
- . Bresser-Pereira, L. C. (2010) *Globalização e Competição*, Rio de Janeiro: Elsevier;
- . Brzezinski, Z. (1997) *The Grand Chessboard. American Primacy and its Geostrategic Imperatives*. New York: Basic Books;
- . Corden, W. Max, (1984) ‘Booming Sector and Dutch Disease Economics: Survey and Consolidation’ *Oxford Economic Papers*, Vol. 36 (November), pp. 359–80.
- . Chang, Ha-Joon (2003) *Globalization, Economic Development and the Role of the State*, London and New York: Zed Books;
- . Di John J. (2005) Economic Liberalization, Political Instability, and State Capacity in Venezuela *International Political Science Review*, Vol. 26, No. 1, 107–124;
- . Dugger, W.; Sherman, H. (2000) *Reclaiming Evolution*, London and New York: Routledge;
- . Fujita, H. (2009) ‘A Study of Russian High-Tech Policy’ *Discussion Paper 667*, *Kyoto Institute of Economic Research*;

- . Furtado, Celso [1957](2008) *'Ensaio sobre a Venezuela: subdesenvolvimento com abundância de divisas'* Rio de Janeiro: Contrapont/ Centro Internacional Celso Furtado;
- . Gershenkron, A. (1962) *Economic Backwardness in Historical Perspective: A Book of Essays*. Cambridge, Mass: Harvard University Press;
- . Goldman, M. I. (2008) *Putin, power and the new Russia: Petrostate*, New York, Oxford University Press;
- . Hirschman, A. (1958) *The Strategy of Economic Development*, New Haven and London: Yale University Press;
- . Innis, H. A. (1930) *The Fur Trade in Canada: An Introduction to Canadian Economic History*. Toronto: University of Toronto Press;
- . Karl, Terry L (1977) *The paradox of Plenty, Oil Booms and Petro-States*, Berkeley, Los Angeles, London University of California Press;
- . Kuznets, S. (1973) 'Innovations and Adjustment in Economic Growth' in *Population, Capital and Growth*. London: Heinemann
- . Mazat, Numa; Serrano, Franklin (2012) 'A Geopolítica das Relações entre a Federação Russa e os EUA: da "Cooperação" ao "Conflito" mimeo;
- . Mc Donough, T.; Reich, M.; Kotz, D. (2010) *Contemporary Capitalism and Its Crises* New York: Cambridge University Press
- . Medeiros, Carlos (2011) 'A Economia Política da Transição na Rússia' in Andre Gustavo Pineli Alves (org.) *Uma Longa Transição, Vinte Anos de Transformações na Rússia*, Brasília, IPEA, p. 13-39;
- . Medeiros, Carlos A. (2008a) 'Celso Furtado na Venezuela' in Arquivos Celso Furtado, *Ensaio sobre a Venezuela, Subdesenvolvimento com Abundância de Divisas*, Rio de Janeiro: Contraponto, Centro Internacional Celso Furtado, p 137-157;
- . Medeiros, Carlos A. (2008) 'Financial Dependency and Growth Cycles in Latin America' *JPKE*, vol. 31, No 1, Fall 2008 p 79-101;
- . Medeiros, Carlos. A. (2011) 'The Political Economy of the Rise and Decline of Developmental States' *Panoeconomicus*, vol 1 p 43-56
- . Oomes, N. ; Kalcheva, K. (2007) 'Diagnosing dutch disease: does Russia have the symptoms? Washington, DC, *IMF Working paper*, 07/102
- . Pascal, Larry, B. (2009) 'Developments in the Venezuelan Hydrocarbon Sector', *Law and Business Review of the Americas*, Vol. 15 p 531-573
- . Rosenstein-Rodan, P. N. (1943) 'Problems of the European East and South East Industrialization' in *The Economic Journal*, June-September 1943;

- .
- . Scutte, Giorgio Romano (2011) 'A Economia Política de Petróleo e Gás: A Experiencia Russa' in Andre Gustavo Pineli Alves (org.) *Uma Longa Transição, Viente Anos de Transformações na Rússia*, Brasília, IPEA, p. 81-137;
 - . Tompson, William (2006) 'A Frozen Venezuela? The Resource Curse and Russian Politics' in Michael Ellman (edited) *Russia's Oil and Natural Gas, Bonanza or Curse?* London and New York, Anthem Press, p 189-215