Enhancement and Capture of Value

The case of the Venezuelan petroleum industry

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Abbreviations and measures

PDVSA	*Petróleos de Venezuela Sociedad Anónima* (Petroleum of Venezuela)
MEM	*Ministerio de Energía y Minas* (Ministry of Energy and Mining)
MEP	*Ministerio de Energía y Petroleo* (Ministry of Energy and Petroleum)
CPV	*Cámara Petrolera de Venezuela* (Venezuelan Petroleum Chamber)
CVP	*Corporación Venezolana de Petroleo* (Venezuelan Petroleum Corporation)
LOH	*Ley Orgánica de Hidrocarburos* (Organic Law of Hydrocarbons)
LOREICH	*Ley Orgánica que Reserva al Estado la Industria y la Comercio de los Hidrocarburos* (Organic Law that Reserves the Industry and the Commerce of the Hydrocarbons to the State)
SINCOR	*Sincrudos de Oriente* (Eastern Sincrudos)
EPC	Engineering, Procurement and Construction
B/d	Barrels per day
1 Barrel	159 litres
P/b	Per barrel

Introduction

The research question

There are many different approaches to the ongoing processes of the world economy. Authors such as Ohmae (1995) see in globalization the end of all relevance of the nation state and space for economic activity, as global production is becoming increasingly borderless. On the other hand sceptics like Hirst and Thompson (1999) use quantitative measures, such as world trade measured against total GNP, to argue that the world economy is no more internationalized than it was before the outbreak of the First World War, and thus by no means truly globalized. In between these currents there seems to exist a rather wide recognition that the way in which production is organized on a world scale is undergoing a qualitative change. The pivotal point of this shift, how production processes are knitted together on a global basis, is not captured by quantitative measures such as foreign trade and foreign direct investment. Hence, the argument goes, the interconnectedness of the world economy must be approached *qualitatively* in order to understand the ongoing processes (Dicken 1998, Gereffi & Korzeniewicz 1994). In much of the literature that treats the global organization of production transnational companies are seen as the principal actors. And as communications technology advances, permitting an increasing fragmentation of production, these companies maximize profits by internalizing high value-added production processes and shedding off those that are less profitable. While the same technological advances facilitate the surpassing of spatial barriers, the literature suggests, the power of governments to shape the economic activities carried out within their territories erodes.

However, contrary to those that aroused by the power of transnational companies announce the end of nation states, others point to the fact that not only has the state survived the consequences of the increased global interconnectedness of economic activity, in order to secure the common interest of people, the state is actually more crucial than ever (Chang & Rowthorn 1995). Hence, the central issue is not if, but *how* the state shall relate to society to be able to spur development in such circumstances.

Since petroleum was discovered in Venezuela at the beginning of the 20th century the Venezuelan petroleum industry has been enmeshed in structures that cross national borders. However, the power relation between the state and the transnational petroleum companies has not been constant. An important feature of this relation is how the Venezuelan governments steadily increased their presence in the petroleum industry until the nationalization in 1975.

The central idea behind this has been to assure political support through ploughing the riches derived from this non-renewable resource into the different economic and social spheres of society and this way turn Venezuela into a modern industrial society. However, after the nationalization the evolvement of the Venezuelan petroleum industry has taken the opposite direction as the state institutions gradually retired or were displaced by transnational actors. This tendency has coincided with a doubling of the country's poverty rate, from 33% to 66% between 1975 and 1995 and a parallel increment in capital's take of the GDP which implied that Venezuela surpassed the inequality rate of for example South Africa (Riutort 1999, Rodríguez 2000). The scarce contribution of the petroleum industry to the socioeconomic development of Venezuela in this period has been a source of a popular discontent, including various civil and military rebellions that culminated in the election of president Chávez on a radical reform program in 1998. The Chávez government has pointed out the position and power of the both the transnational petroleum companies and the existing state institutions of the Venezuelan petroleum industry as causes of country's underdevelopment. President Chávez has also announced that the state must play a more active role in the petroleum industry and is currently engaged in the enforcement of such activist petroleum policy, something that has sparked resistance both within the industry and internationally.

The topic of this thesis is the global organization of production and the state's role in the economy. And clearly, the Venezuelan case is a point of tangency between the theoretical approaches where the firms largely are seen as the principal movers of a changing economy, and the discussion about state institutions and economic development. The topic of the thesis, thus, is approached through a qualitative case study which seeks to map and explain the scope for turning the Venezuelan petroleum industry into a tool for development by asking the following question:

> -What are the implications of transnational intra and inter-firm relations for the Venezuelan participation in enhancement and capture of value in the petroleum industry, and to how can the Venezuelan government increase this participation?

Key concepts and operationalizations

The Venezuelan petroleum industry is analyzed as a *global production network*. Global production networks are defined as "nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed" (Henderson *et al*. 2002). Production is intimately connected to value. Value is here given the same meaning as the

Marxian concept of *surplus value* and orthodox interpretations associated to *economic rent*, and three central processes that can be identified are: the *creation*, *enhancement* and *capture* of value (Henderson *et al*. 2002). The creation of value is connected to the conversion of labour power into actual labour but can have a variety of other roots. Asymmetric access to key product and process technologies, organizational advantages, inter-firm relationships, brand names and monopoly are emphasized by Henderson *et al*. (2002). In the petroleum industry however, it is the particularly great gap between the price floor, determined by production costs, and the price ceiling, determined by substitute products, that provides the conditions for enormous creation of value (Rodríguez 2000).

The concept of *enhancement of value* is used to explain issues like linkages to other economic sectors and technology transfer; whether interaction between lead firms and suppliers leads to upgrading of the suppliers' product standards; the possible related growth of demand for skilled labour locally; and *the eventual surge of local firms able to create and enhance rent in the above mentioned ways*. Enhancement of value can thus be a crucial factor for development through global production networks.

Capture of value is the ultimate element in the scheme of factors and mechanisms crucial for the distribution of rent. Firm ownership, power relations and government regulations are decisive in this respect (Henderson *et al*. 2002). Importantly, the exceptional gap between production costs and the price of the petroleum gives a powerful political dimension to the question of capture of value from the petroleum industry (Rodríguez 2000).

As indicated above, the creation of value in the petroleum industry is to a large degree dependant on the distinctive characteristics of the petroleum as a commodity. Hence, the in this thesis the focus is not on creation of value per se, but on how the organizational features of the petroleum production influence on the enhancement and capture of value. Enhancement of value is operationalized as the participation of Venezuelan labour, capital and inputs in high value added branches of the supplier sector of the petroleum industry. The operationalization of capture of value is the share of the gross income of the petroleum industry that is appropriated by the Venezuelan state. Evidently gross income does not correspond to the meaning of value as it is defined by Henderson *et al*. (2002). The accurate measure would be the gross income minus production costs. However, the manipulation of production costs is a well known means of transnational companies to evade taxation from host governments, and the profits of the petroleum companies operating in Venezuela are not easily available. Hence, the capture of the gross income is the best available indicator of

capture of value. It must be emphasized, though, that the objective is to analyze the organization of the Venezuelan petroleum industry qualitatively *in order to detect those aspects that can provide explicative power* for the enhancement and capture of value. In other words, *quantifications* of enhancement and capture of value are only important to the extent that they can serve the search for such causal explanations. The analysis is focused on inter and intra-firm relations in the Venezuelan petroleum industry as well as government petroleum policies. Concerning the petroleum policies, the first task is to reveal to what extent these policies have altered the aspects of the organization of production that are deemed crucial for enhancement and capture of value. Secondly, I seek to explain the results of these policies through an analysis of the state institutions of the petroleum industry and how they relate to elite groups of this economic sector.

Structure

The thesis contains 6 chapters. The first chapter provides a historical overview of the Venezuelan petroleum industry that outlines the evolvement of the industry and its relation to the Venezuelan government and other actors. Chapter 2 presents the theoretical framework within which the data is analyzed. The first part is a review of literature on the organization of production centred on the global commodity chains approach and related approaches. The second part treats theoretical approaches to the state in the economy, with emphasis on the debate on what kind of institutional characteristics of a state that facilitate successful intervention in the economy. Chapter 3 accounts for the data material and the methods used to collect it. In chapter 4 and 5 the data material is presented and analyzed in light of the theoretical approaches in order to answer the research question. Chapter 4 extracts the aspects of the organization of production that can explain the capture and enhancement of value in the Venezuelan petroleum industry. Chapter 5 presents and analyzes the policy measures of the Venezuelan government, with emphasis on institution building, and how and why they have altered those aspects of the petroleum industry deemed crucial for capture and enhancement of value in the previous chapter. A brief conclusion is presented in chapter 6.

1. Historical overview of the Venezuelan petroleum industry

The current condition of the Venezuelan petroleum industry is the result of its development dating back to the early 20th century. The first petroleum field was established in 1913, but the real potential of Venezuelan petroleum resources was confirmed in 1922 when the violent eruption of Barroso 2 petroleum deposit drew the attention of the petroleum companies to the country (Mommer 2003, interview Alcántara, CPV) . The petroleum industry has gone through many phases, starting with a long period of impressive increase in the relative importance in the international petroleum market reaching for several years the position as the world's major exporter. From the beginning, foreign petroleum companies played a central role in the development of the petroleum industry, as no Venezuelan company or the state, weak as it was, possessed the technology or the capital necessary for such investments. The relation between the foreign companies and the Venezuelan society was mainly a question of distribution of rents derived from this activity (Rodríguez 2000). Venezuelan companies were only scarcely involved as providers of goods and services of minor importance and in the petroleum companies Venezuelan personnel were largely excluded from any administrative or technological core activity (interview Mommer, MEP).

In 1930 though, the Technical Service of the Hydrocarbons was created within the Ministry of Development in order to assure the fulfilment of the contracts, but also to supervise technical aspects of the production thus preparing the ground for more involvement of the Venezuelan society (Lander & López 2003). This sparked resistance from the British and US petroleum companies who exerted a great pressure on the government through their respective ambassadors. Until then the Gómez dictatorship had been more liable to cede to this kind of pressure, but from now on a more conflictive relation developed between the Venezuelan state and the foreign petroleum companies (Rodríguez 2000).

Although different governments under different conditions have approached this differently, the scepticism towards foreign petroleum capital has prevailed up until today in the Venezuelan society. When president Gómez died in 1935, after ruling Venezuela since the beginning of its petroleum exporting era, the new political freedom combined with the widespread discontent with the behaviour of the petroleum companies sparked a broad public debate of how to make the petroleum riches contribute to the development of the Venezuelan society as a whole. By then Venezuela had become the world's largest petroleum exporter with its 10% share of world output (Rodríguez 2000). The following years the government sought to address some of the difficulties in the petroleum industry by changing tax and

labour laws, but it was the reform of the Law on Hydrocarbons of 1943 that first established a coherent legal framework of the petroleum industry (Lander 2003). All former concessions were prolonged for 40 years, including those close to their expiry, but significantly altered and unified. The State was given a far more central role in supervising the activities of the transnational petroleum companies, and a higher fiscal participation in the income through increased taxes and royalties. On the other hand it renounced its right to make any claim on the transnational petroleum companies for things occurred before the implementation of the reform. While benefiting from the "good neighbour" policy of the USA under president Roosevelt, and the need for secure petroleum supply during the Second World War, the Venezuelan government was also aware of the dangers involved with pushing it too far with the transnational petroleum companies, as happened in Mexico some years earlier, resulting in a devastating US trade embargo (Rodríguez 2000). Of no lesser importance for the development of the Venezuelan petroleum industry was the negotiations celebrated concerning installation of refineries in Venezuela. In what was left of the 1940s the transnational petroleum companies through heavy investments increased the country's refining capacity by 100 per cent (Lander 2003). The next years saw the most accelerated growth of the petroleum industry in Venezuelan history, and the states' incomes from the petroleum production continued to rise steadily all though its relative share of the revenues decreased, as did the transnational petroleum companies' investments in the industry. The Venezuelan private sector that catered to the petroleum industry was growing considerably and a close relation was developed with the transnational petroleum companies during this period. Still many people see the private sector of the Venezuelan supplier industry as a mere annex to the transnationals, thus granting them very little confidence (Rodríguez 2000).

Venezuela had started its active petroleum diplomacy, directed most of all to the new great petroleum exporters of the Middle East, almost ten years earlier, when the drop in petroleum prices in 1959 made a more formal form of cooperation necessary. The Venezuelan minister of Mining and Hydrocarbons, Alfonzo played a key role when OPEC was founded in Baghdad in 1960. In addition to stabilizing the world market prices of petroleum on a level that benefits the production countries by regulating the production, the organization also established norms for the relation between governments and petroleum companies in order to strengthen the position of the former.

After this success on the international scene the Venezuelan State was acting more confidently in its own petroleum industry, something that was manifested in the steps taken

later the same decade. The whole internal market for hydrocarbons was reserved to the newly founded CVP, the first public petroleum company in the country. Measures were taken to assure the good condition of the assets of the concessionaries that were to be taken over by the State at the expiry of the concessions in 1983, while no new concessions were granted. In this situation the petroleum companies substantially decreased their investments and the whole industry was in a state of decline when it was nationalized in 1975. The position of the transnational companies was so weak, as even their traditionally strong alliance with the Venezuelan private sector had been eroded, that nationalization was not seen as the worst option. The whole process was based on a consensus between the parties, and is therefore denominated the concerted nationalization (Lander 2003). All assets in the petroleum industry now became affiliates of the newly founded state company PDVSA. In order to assure operational continuity the organizational structure of the production units was maintained. While the top executives of the transnationals were substituted in the nationalization process, the high and middle rank management remained mostly unchanged, and the former operational units of the transnationals had their individual planning and marketing policies, functioning more as independent vertically integrated companies than as one state company. This was not to change significantly until 15 years later with the centralization of the company. The first years of the nationalized petroleum industry saw a rapid increase in production and refining capacity, partly thanks to high crude prices after the two petroleum crisis, which made the necessary investments possible. More wells were explored, the marketing capacity was expanded and employment in PDVSA increased. As the petroleum prices started to fall after the petroleum crisis of 1979, the OPEC production quotas, meant to stabilize prices, put a limit on the industry's expansion plans. The Venezuelan private sector wanted to take advantage of the opportunities that the nationalization implied and slowly increased their share of the supplier market of the petroleum industry.

A dominant feature of the situation in the petroleum industry after nationalization was to become the confusion of roles between the Ministry of Mining and Petroleum and PDVSA. Before the nationalization the roles of proprietor and capital were held by the ministry and the foreign operators respectively. Now the ministry and the newly created state petroleum company, two public entities ended up in a situation where both considered its competence area larger than what the opponent did. The situation was resolved in a process where PDVSA gradually replaced the ministry as the one capable of de facto shaping the petroleum policy (Lander & López 2003). As the ministry lost influence, it also lost capacity and thus

legitimacy to perform its tasks. Some attempts were made on behalf of the political sector to regain control, but they had little success and were seen as meddling in administrative matters proper to PDVSA, more than public policy formulation (Rodriguez 2000). While there are differing opinions on what was the cause of this development, there is little doubt that the situation in which the state petroleum company claimed full corporate independence, and at the same time practically formulated and carried through the country's petroleum policy was unsustainable.

One of the corner stones of Venezuelan petroleum policy had been its OPEC membership. Pursuing the goal of becoming a world class international petroleum company, PDVSA saw the production quotas of OPEC as an obstacle, and through various mechanisms managed to evade them (Rodríguez 2000). Through an expensive internationalization program, PDVSA also expanded its operations around the world acquiring assets in the USA, Sweden, Germany and other European countries in order to have better access to these markets. This has by many been interpreted as a strategy to export profits out of reach of the fiscal authorities to assure the financial independency of PDVSA from the State. With the opening up of the petroleum industry, a process denominated *la apertura*, the transnational petroleum companies re-entered Venezuela under different modalities of joint ventures. This was justified with a lack of operational and exploration capacity in PDVSA and a need for technology transference and it was referred to the widely discussed article 5 of the 1975 Petroleum Nationalization Law. Here it is stated that the private sector can participate through operating service contracts and association agreements when this is of national interest. This was originally envisaged to the so called marginal fields that PDVSA was not able to operate profitably, and the development of gas and extra heavy crude petroleum deposits. Soon after, though, these modalities were extended to light and medium crude petroleum deposits and outsourcing of none core activities (Rodríguez 2000). Towards the end of the millennium the PDVSA management was pressing for privatization of the company (Mommer 2003).
As the political sector lost influence and monitoring capacity over the petroleum industry, the mass media and the public debate withdrew from the subject of national petroleum policy. However this did not stop the resentment towards the PDVSA and the other institutions of the petroleum industry to grow among Venezuelans. When the former leader of a failed military rebellion, Hugo Chávez was elected in 1998 a great deal of his popular support was due to the fact that he heavily criticized the *apertura* policies and promised more national control of the petroleum industry, in order to increase state revenues and spend them on combating poverty.

All plans on privatizing PDVSA were rejected by the new government that soon took on the task of reforming the petroleum industry. This proved difficult though, as any significant initiative to change the Venezuelan petroleum industry would need the cooperation of PDVSA, where the new government policies met great resistance. In 2001, after the president of PDVSA had been substituted by a new one loyal to the government, the country's opposition organized a protest march that culminated in a short lived military coup against Chávez. The year after, the administrative staff, the management and some of the workers of PDVSA completely paralyzed the petroleum production in a nation wide protest campaign against the government.

The physical evolvement of Venezuelan petroleum reserves is characterized by a gradual exhaustion of the light and medium crude petroleum and a shift towards extra and extra heavy petroleum the last ten years. Especially in the Orinoco Belt that reaches from centre to the eastern part of the country enormous amounts of heavy and extra heavy petroleum have been discovered. These deposits are currently being quantified and certified and are estimated by the Venezuelan government to contain more than 235 000 million barrels of petroleum, which makes it the world's biggest petroleum deposit. The extra heavy crude petroleum requires different procedures to be extracted and transported to a refinery and is somewhat more difficult market. Some of the technology necessary to handle this kind of crude petroleum has been developed in Venezuela, but this is the area in which the investments of the transnational petroleum companies are considered to be most needed.

The Venezuelan petroleum industry has gone through many changes. There are long term tendencies, such as the growth of know-how and human capital, as well as abrupt shifts, such as the changes in the legal framework and the status of the foreign participants in the industry. One feature that can be identified is that the most significant offensives of the State seem to follow abrupt changes in external factors. These can be in the petroleum producing country's favour, such as the Second World War and the foreign policy of the USA at the time, which provided favourable conditions for the claims made in the Law on the Hydrocarbons of 1943. But they can also be adversary, such as the sudden increase in petroleum production in the areas of the Persian Gulf and the dangers of a race to the bottom that this implied, which was a decisive cause of the foundation of OPEC. From the eighties and onwards the tendency of increasing public engagement was reversed for the first time in Venezuelan petroleum history. This was caused partially by the will and power of the executive ranks of PDVSA, but the

internationalization of the petroleum industries of the world was an important precondition. Today's situation is less clear with this respect. The public discontent with pro market petroleum policies and the current Chávez-government's plans for the petroleum industry surged in the late nineties, and the international circumstances were marked by low petroleum prices, OPEC loosing market power and high competition among the producers.

2. Theoretical framework

In this chapter the theoretical framework of the research will be outlined. At the core of this thesis are the relations between the different actors that shape the organization of production. The petroleum industry is deeply embedded in structures that across national boundaries and in section 2.1 I will extract and discuss some central concepts and lines of arguments from the theoretical debate about global organization of production. Within these chosen approaches there are different views on the influence of the state, but the focal point are always the actors directly involved in production, often transnational companies. In section 2.2, the state is the point of departure. Views related to institutional economics and inspired by the Weberian account of capitalist development are discussed and to some extent contrasted to the neoliberal position. The theories and concepts discussed here are mostly concerned with state institutions and their relation to powerful economic groups. Section 2.3 presents some important implications for the analysis of my data in the subsequent chapters.

2.1. Global Organization of Production

This section considers a series of concepts and theoretical approaches that can shed light on these processes related to the global organization of production and its implications for development.

2.1.1. Global Commodity Chains

The global commodity chains approach attempts to model how production is organized across national borders in nodes, representing particular production processes, that are linked by inter and intra firm connections (Gereffi & Korzeniewicz 1994). A variety of different theoretical currents contributed to the development of this approach and it is defined, interpreted and applied in different ways by different authors. Gereffi *et al*. (1994) argue that commodity chains have three dimensions. The *input-output structure* is the functional division of labour in which the final product is created in a sequence of value adding processes. Its *territorial structure* is the geographical spread of the production, and the *governance structure* refers to the power relations that determine the allocation and flow of resources in the chain (Gereffi *et al*. 1994). In the first section I shall outline some central arguments of the theory of global commodity chains, including the two ideal types of governance, producer-driven and buyer-driven commodity chains. This is followed by a section were a selection of sympathetic critics directed to this to certain aspects of the theory

of the commodity chains is presented and discussed, ending with the adoption of the production network as an analytical tool for this project. In world system theory the concept of global commodity chains was introduced to provide an analytical tool fit to improve the understanding of the division of labour and wealth between core and periphery.

> By tracing the networks of these commodity chains, one can track the ongoing division and integration of labour processes and thus monitor the constant development and transformation of the world economy's production system (Hopkins & Wallerstein 1994:17)

A commodity chain is defined as "a network of labour and production processes whose end result is a finished commodity" (Hopkins & Wallerstein 1986:159). The chain consists of nodes, Hopkins and Wallerstein (1994) denominate them as boxes, that are charged with a specific process of transforming inputs to output. A node consists of various firms or units, and is embedded in one or various commodity chains. According to Gereffi *et al*. "the global commodity chains approach explains the distribution of wealth within a chain as an outcome of the relative intensity of competition within different nodes" (Gereffi *et al*. 1994:4).
For Hopkins and Wallerstein (1994) achieving profits goes through monopoly. Hence capital constantly searches for the relatively monopolized nodes. In the world system framework a core-like node within a chain is characterized by low competition and high profits while a peripheral node has a harsher competition and lower profits. Empirically this is supported by, among others, the fact that most transnational companies locate most of their research and development activities and administrative positions in developed countries (Dicken 1998). This pattern is maintained by innovations in the core that transfers competitive pressures to the periphery (Gereffi *et al*. 1994). It is assumed that there is a positive correlation between the level of competition and the geographical spread of the units.

The units of a given node are organized under different modes of ownership. They can be part of a large corporation, autonomous firms or controlled by the same or various non owners under concession agreements or other similar arrangements. Likewise, there is a variety of modes of connection between the units of one node and those of another. Vertical integration means that ownership crosses the limit between two nodes uniting the units in a single firm. An important implication of vertical integration is the abolition of the pure market mechanisms governing the relation between the units of the nodes as prices are set as a result of intra firm decisions. Alternatively, the linkage can be of arms length trade between separate firms in the different nodes. However the pricing in such trade is in many industries

increasingly subject to negotiated agreements based on long term relations, where the market forces of supply and demand constitute only one of many decisive factors (Hopkins & Wallerstein 1994).

A decisive point, though, is the changing nature of the condition of the different nodes and the boundaries between them. These are socially determined, subject to human decisions and as such, of limited duration. Hopkins and Wallerstein (1994) recognize capital's tendency to seek out the highly monopolized nodes, as the main motor for such change. The general pattern is that investments flow into these nodes increasing competition. To defend profits, when competition increases, technological change is spurred among the units constituting the node, potentially leading to a reconfiguration of the organizational limits of the node that restores the anterior degree of competition. Technological upgrading might also lead to a diversification and hence the inclusion of the node into other commodity chains, also counteracting the effects of the harshening of competition (Hopkins & Wallerstein 1994). What, then, are the crucial spatial implications of this dynamism? The abovementioned tendency of capital over time causes the physical movement of those nodes, whose degree of monopoly is not sustained, from core to periphery and an increase in number and spatial extension of the units within it. I chose to call this tendency *peripheralization*. On the other hand, conversely, if technological or organizational innovations within a given node not only maintain or restore the level of monopoly, but increase it, the opposite geographical movement will occur, augmenting profits again.

2.1.2. Producer-driven and buyer-driven commodity chains

Gereffi (1994) treats the aspect of *governance* in commodity chains through the two ideal types: the producer-driven and the buyer-driven commodity chains, as outlined by Gereffi. As such, "buyer-driven and supplier-driven commodity chains are viewed as contrasting (but not mutually exclusive) poles in a spectrum of industrial organization possibilities" (Gereffi1994: 99).

Informed by the historical account of the evolution transnational corporation, Gereffi builds up the argument for the producer-driven commodity chains. The development of this category of commodity chain went through foreign direct investments, where transnational corporations established or acquired assets to improve their access to raw materials and markets overseas. Vertical integration was the main means to achieve this. These investments or acquisitions were often the response to the barriers put on imports as a part of the import substitution policies, especially in Latin-America. In producer-driven networks the producer,

usually transnational companies, exerts control over backward and forward linkages, due to its superior position in the chain. According to Raikes *et al*.

> "Gereffi […] states that power involves the ability to out-source lower value-added (profit for Wallerstein) activities and to retain or incorporate those with higher value-added. In this case, power is exercised through the enforcement of higher standards of quality and reliability in produce flows resulting in reduced risk and investment costs"[1].

The branches in question are typically capital and technology intensive and require highly skilled labour, which means that barriers to entry are high, keeping competition low and profits high (Gereffi and Korzeniewicz1994).

On the other hand the distinctive feature of the buyer-driven commodity chains is not control through integration, but through externalized relations. Stimulated by improvements in transport and communication technology, transnational corporations can and have transformed the spatial and functional configuration of the commodity chains by shedding off especially the labour intensive nodes and relocating them where labour is cheap and abundant. The manufacture industries where these buyer-driven commodity chains are typically found are not capital intensive; barriers to entry are low and price competition fierce, resulting also in a relatively high degree of spatial decentralization (Smith *et al*. 2002). Leading retailers and merchandisers of consumer goods, such as footwear and garments, exercise their power over manufacturers located in export oriented developing countries by setting product and process standards and the ability to quickly substitute one supplier with another.

2.1.3. Critique of the Commodity chains approach

Smith *et al*. (2002) point to various weaknesses that limit the usefulness of the global commodity chains approach. Attention will be focused on the criticisms directed to the dualism suggested by the division in supplier-driven or buyer-driven commodity chains; the focus on the commodity; and the problems inherent in the chain metaphor. Then some of the arguments of the global production network approach and related theoretical currents are introduced. The section concludes with the development of additional research questions and a summing up of important concepts for the analysis.

Governance

It is argued that:

> "…Gereffi's ideal types of commodity chains governance force us into rather dualistic notions of buyer-driven and producer-driven commodity chains. This dualistic thinking

[1] (http://www.ids.ac.uk/ids/global/pdfs/GCCs%20and%20filieres.pdf :12).

> limits our ability to recognize that buyer-oriented and producer-oriented relations may coexist within sectors and product markets across diverse national markets and that they may also change (Smith *et al.* 2002:48)

The dualism criticism seems partly unjustified, as it lies in the nature of ideal types that they are not meant to represent all possibilities, but for example, as in this case, the two extremes of what should be seen as a scale that serves as analytical points of reference for a discussion of governance within the chain. What is indeed problematic, however, is the notion of inevitable convergence of the power relations embedded in the theory: the conception that within an industry the principal firms are necessarily located at the same point of the scale reaching from buyer-driven to producer-driven. It is well accounted for that both the spatial and the functional configuration of a commodity chain will vary over time (Hopkins & Wallerstein 1994, Gereffi *et al*. 1994), but the possibility of such variations in similar commodity chains at a given point of time is rather poorly conceptualized or outright neglected (Smith *et al*. 2002). These variations can result from a number of factors. A firm is embedded not only in global production structures, but also in places, including the location of the headquarters, or where it was founded, where cultural features prevail and influence the firm's praxis in other places, making it distinct from other firms. In this respect the state can be a key factor, and a crucial criticism against the proponents of the global commodity chains approach is the exclusion or lack of conceptualization of the state (Smith *et al*. 2002).

But differences can also stem from factors internal to the economic units of the chain. By pointing to cases where the same industry is organized differently across space, and also within the same area, Smith *et al*. (2002) question the notion of homogeneity of the functional division of labour in the commodity chains. *The degree of integration is one of those aspects that can vary according to the strategy of the firms*. The point is that competitive and organizational strategies of firms belonging to the same node are not all equal. Hence there is no reason to assume that within a given node at a given point of time, there will be *one* mode of property relations or that all the units will be linked to the units of other nodes in the same manner. "Rather we would expect a shifting mosaic of organizational structures" Smith *et al*. (2002:49) argue. Within a given industry, then, one cannot exclude the possibility of leading firms governing their respective commodity chains through mechanisms to a *differing degree* coinciding with those associated with the buyer-driven and the producer-driven ideal types. Still, empirical studies suggest, in many cases one competitive strategy, locating lead firms of a commodity chain close to each other somewhere between the two ideal types, dominates (Dicken, 1998).

However, the problems with the concept of buyer-driven and producer-driven commodity chains run deeper than the criticism dealing with the dichotomized presentation of governance. Even if we recognize the possibility of individual differences among the leading firms within the same industry, the scale from producer-driven to buyer-driven is not apt to grasp the possible patterns of power distribution within a chain. The notion of the *one leader firm,* that still prevails after the adjustments made above, means that there is only room for variation in the way these lead firms steer the commodity chains; *where on the buyer-producer scale* these firm are located. Neither the *degree of concentration* of power nor the power relations between the other agents, if not entirely reduced to a question of competitiveness, can thus be properly addressed on basis of these ideal types. Henderson *et al*. (2002) point to a functionalist understanding of the firm as a cause of this determinism:

> The implication of the GGC [global commodity chains] framework seems to be that all firms are principally reflexes of the way given commodity chains are organized and the structural requirements this imposes on their operation in any given location (Henderson *et al*. 2002: 441).

In addition to the abovementioned problems, such a notion of firms reveals an incompleteness that must be overcome for the approach to be useful for an analysis of the Venezuelan oil industry: it leaves no room for discussion of the significance of ownership of firms for national or local development and hence neither the possibilities of for example a public company placed within the same node as private and transnational companies. For the purpose of this investigation such determinism, therefore, is substituted by an approach more open for different rationale and differing driving forces as the causes of the decisions and strategies of the firms. Nevertheless, the insights about how the structure of particular commodity chains renders some choices of strategy more purposeful or likely than others, is still relevant for the research question.

Concerning the applicability of the buyer- versus producer-driven commodity chains model to the Venezuelan oil industry, questions that arise due to these demurs are whether the state owned operator, PDVSA is likely to have the same capacity and power to govern as the foreign based transnational operator companies and if their objectives and strategies, and thus their strategic preferences regarding sourcing versus vertical integration among other things, are similar. As a "yes" to these questions cannot be given a priori, the question derived from Gereffi's idealized model of power distribution in the commodity chains above must be reformulated so that other possible answers are not ruled out. Instead of asking who retains

the power in the commodity chains, implying that this is necessarily one sole leading firm, the questions to be answered in this thesis are:

How is power distributed between the different suppliers and operators in the Venezuelan oil industry? What does this imply for the scope of the reforms and how do these power relations manifest themselves in the results of the reforms?

Value

The focus on the concept of the commodity is also questioned by the sympathetic criticism. A common feature of their contributions is the *deconstruction of the commodity* in order to reveal its social nature and the relations and processes related to it. Instead of highlighting the commodity as such, Henderson *et al*. prefer the term *production*, as this "places the emphasis on the *social processes* involved in producing goods and services and reproducing knowledge, capital and labour power" (Henderson *et al*. 2002:444). Value, or more precisely, *relations of value*, is also a key concept relating to the production commodities that is not sufficiently emphasized in the global commodity chains framework. "Consequently, our attention should be focused on the organization of the production, appropriation and realization of value flows and the various forces that structure these processes…" (Smith *et al*. 2002:41). To capture the processes related to value, Henderson *et al*. (2002) put forward a conceptualization of the creation, enhancement and capture of value. As core concepts of this thesis these three processes are defined in the introduction. The analytical separation of creation, enhancement and capture of value is important because they all contain issues that are central for connecting the organization of production to a broader discussion of development. An important implication of the introduction of the three processes of value is that it reveals how the mere location of a node in a commodity chain, in the core or periphery does not tell the whole story.

The focus on value is especially important when analyzing resource extracting industries. A production process of such an industry might be located in the periphery, but this does not necessarily make it a peripheral activity with its associated characteristics, high competition and low profits. The reproduction of uneven development would in a typical case be assured be flows of value from the periphery to the core, made possible by a transnational company's relative power to capture value resulting from the production of the commodity in question. Importantly, however, an important implication of this critique of the global commodity chains approach is that such reproduction is not given, as it is recognized that both labour and governments can influence the processes connected to value (Dicken 1998, Henderson *et al*. 2002, Smith *et al*. 2002).

2.1.4. Chain or Network?

> A major weakness of the "chain" approach is its conceptualization of production and distribution processes as being essentially vertical and linear. In fact such processes are better conceptualized as being highly complex *network* structures in which there are intricate links – horizontal, diagonal, as well as vertical – forming multi-dimensional, multi-layered lattices of economic activity (Henderson *et al*. 2002:442).

There are convincing arguments for using the network metaphor, to better conceptualize the totality of agents; economic, government, non governmental, local, national and global ones; and the asymmetrical relations between them that affect the production and distribution of value in economic activities. But as the quotation above shows, the chain metaphor is also contested because it makes the visualization of the forms of connections also between the agents directly involved in production difficult. According to Smith *et al*. (2000), one aspect that can easily get neglected because of the linearity suggested by the global commodity chains approach is how the mere existence of potential competitors can have a considerable impact in a commodity chain, also where they are not actually included in the input-output structure. Even though the significance of this phenomenon is just what Hopkins and Wallerstein (1994) point to with his emphasis on the relative degree of monopoly as a determinant factor for profitability within a nodes representing a given production process, the network seems like the more apt metaphor to express it.

However, pointing to the existence of networks does not negate the existence of chains. In fact, Smith *et al*., while criticizing the global commodity chains approach, use the term "chains of commodity production" (Smith *et al*. 2002:51), referring to what equals the input-output structure of their preferred term, "value network". In an attempt to deal with the considerable confusion of concepts between the related theoretical frameworks for analysis of the dynamics of organization of production, Sturgeon (2000) suggests a division where "a "chain" maps the vertical sequence of events leading to the delivery, consumption, and maintenance of a particular good and service, while a "network" maps both the vertical and horizontal linkages between economic actors" (Sturgeon 2000:8). More specifically Sturgeon argues that,

> A value chain can be thought of as a sub-set of a production network, a simplified snapshot taken within the much more complex and dynamic set of activities encompassed by the network. To suggest that a value chain is a more static and limited conceptual tool

> than a production network is not to diminish its usefulness. Within such a snapshot the concrete activities of the key players can be made extremely clear (Sturgeon 2000:8).

When Smith *et al*. (2002) argue that the state is being neglected in commodity chains analysis they alternatively propose a definition of production network in which state action is enmeshed. Dicken uses the term production network, defined as, "the processes connecting 'actors' or 'agents' (firms, states, individuals, social groups, etc.) into *relational structures* at different organizational and geographical scales" (Dicken 2003:14). This is a definition that stresses the interconnectedness of production and society as a whole, in principle without excluding any possibly influential agent and is close to the one adopted in this thesis referred to in the introduction. Henderson *et al*. (2002) claim that globalization has made state-centric approaches obsolete, but at the same time emphasize that *space* is still a relevant factor:

> In order to understand the dynamics of development in a given place, then, we must comprehend how places are being transformed by flows of capital, labour, knowledge, power etc. and how at the same time, places (or more specifically their institutional and social fabrics) are transforming those flows as they locate in space-specific domains (Henderson *et al*. 2002:338).

While this section has focused on transnational flows of value and power, the following section presents some theoretical approaches to how the state institutions can transform these flows in order to stimulate development.

2.2. The state as an agent for economic change

The ancient states surged and were justified as a unit capable of waging war on behalf of its population against external enemies. Its second traditional task is that of assuring internal order, through the monopoly of means of violence. However, for the modern nation states a new task, that of prompting economic transformation, has become increasingly important (Evans 1995).

The state's role in economic development contains many contradicting views, reaching from that of state socialism propagating government ownership of the means of production to that banning the state from the economic sphere of society. However, in the development debate even conventional economists have always doubted the potential of third world elites to drive forward industrialization in their respective countries (Evans & Rueschemeyer 1985). With the surge of Latin-American structuralism, the role of the state in the development towards industrial capitalism was expanded beyond the creation of efficient markets and capital accumulation, which were the main justifications for intervention in conventional

economics and early development theory. In a political context marked by expectations of increased standards of living, the structuralists introduced the issues of redistribution of income and conditioning of foreign investment and trade in order to make capital accumulation through consumption compression viable. With respect to production and trade Prebisch argues that "it is indispensable to modify the geographic structure of the exchange as well as its composition" (Prebisch 1967:15). This section contains some theoretical insights from the debate on how the institutions of the state should relate to society and the economy in order to achieve the objective put forward by Prebisch[2].

2.2.1. The state

Before proceeding with the views on the state's potential to influence economic activity it must be made clear exactly what is meant by the *state*. Based on the Weberian view, Evans and Rueschemeyer (1985) provide a definition of the state as "a set of organizations invested with the authority to make binding decisions for people and organizations juridically located in a particular territory and to implement these decisions using, if necessary, force" (Evans & Rueschemeyer 1985: 46-47). This is a definition that opens for the fact that the state mirrors general social relations working as an instrument of class domination, but, as argued also by Cardoso, that it as such necessarily also needs to be *a network of people constituting an organization with interests of its own* (Evans & Rueschemeyer 1985). The Marxist school tends to put somewhat less emphasis on the state as an autonomous actor, but also within this approach it is argued that neither is the role of the state exhausted in class domination, nor are the expressions of class domination exhausted in the state. The state, thus, is recognized as *neither a completely autonomous actor, nor a mere reflection of social relations in society*. However, this relative autonomy is not a fixed or constant feature of the state.

> "State autonomy" is not a fixed structural feature of any government. It can come and go. This is true not only because crises may precipitate the formulation of official strategies and policies by elites or administrators who otherwise might not mobilize their own potentials for autonomous action. It is also true because the very *structural potentials* for autonomous state actions change over time, as the organizations of coercion and administration undergo transformations, both internally and in their relations to social groups and to representative parts of government (Skocpol 1985:14).

The point is that both the society external to the state and forces and internal agents change over time. This has important implications also for how the ability of independent state action can be evaluated. According to the Skocpol

[2] It is necessary to point out that "exchange" in this thesis is given a wide interpretation, embodying not only foreign trade but any exchange, be it between states or economic agents of different nationality also within the territory of a one given state.

> […]although cross-national research can indicate in general terms whether a governmental system has "stronger" or "weaker" tendencies toward autonomous state action, the full potential of this concept can be realized only in truly historical studies that are sensitive to structural variations and conjunctural changes within given polities (Skocpol 1985:14).

2.2.2. The coordination problem

How can a concerted change be promoted in a complex non-centralist economy? The question requires entering into the dynamics of capitalist development. When the factors of production are interdependent in use but dispersed in ownership (Chang & Rowthorn 1995), problems of coordination result from the possible *discrepancies between individual and collective rationality*. Chang (2003) develops the case for industrial policy pointing to the inability of the market to solve what he calls the *coordination problem*. The argument is that due to market power, the lack of perfect information and the competitive measures applied by firms, some of the real world's many deviations from the preconditions of the perfectly functioning market, an optimal number of competitors, *optimal production and price can by no means be assumed to emerge by itself*.

For example, when firms invest to enter a market, they do not necessarily know the exact number and size of their competitors. Conversely a situation where the amount of invested capital exceeds the amount needed to produce the optimal quantity of the commodity in question might occur, resulting in bankruptcies or idle production capacity. As the invested capital is not liquid it cannot be reallocated without significant loss of value. Hence coordinating the investments in an industry according to projections of future demand can prevent such destructive competition and lead to considerable increase in efficiency (Chang, 2003). Rock and Angel (1995) point to a significant variation in the willingness to trial and error among firms and the resulting unevenness in productivity, an aspect of the same problem.

While neoliberal and neoclassical economists have always been more sceptical towards or outright rejected the possibility of the state as a protagonist for economic growth, also in this group what Lal (1996) terms *the agency problem*, a parallel to the coordination problem, is recognized[3]. For Lal (1996), the problem of spread ownership and management is especially evident and potentially inhibiting in a process of growth. Growth, here meaning entering into increasingly capital intensive production, requires capitalists able to make the necessary investments and summed up by Lal, "[t]he problem is one of maintaining beneficial

[3] I shall stick to the term coordination problem also when referring to what Lal (1996) calls the agency problem

control over resources when there are economies of scale and scope in a firm" (1996:5) in such a situation. But while Lal says that "[the] demise of development economics is likely to be conducive to the health of both the economics and the economies of developing countries" (2000:109), arguing that there is no reason to have less faith in the general assumptions of economic behaviour in developing countries than in the developed world, Evans and Rueschemeyer (1985) emphasise that the characteristics of developing economies require state intervention. Especially interesting for this project is the argument that

> [I]n the Third World countries, where smaller markets and imported technology make oligopolies even more pervasive, the decisions of even the most carefully calculating profit maximizers may not mesh into an optimal strategy for industrialization […]The dominant class is likely to include a tightly knit set of oligopolists, some of whose primary interests are transnational rather than local (Rueschemeyer & Evans 1985:45).

Following the principles of the balanced growth approach, the state must coordinate investments in sectors with demand complementarities to achieve industrialization (Chang & Rowthorn 1995). Due to interdependency of the allocation decisions of the individual firm, and the absence of full information about such decisions of other firms, according to Chang (2003) the free market cannot be assumed to assure optimal resource allocation in the real world. Economic change can be understood among other things as *moving into new economic sectors*. Furthermore, an inevitable implication of the absence of participation in the production of a given good or service is that *little pressure will be exercised in order to facilitate such production*. The argument is that this causes an inherent tendency that inhibits such economic change, and, thus, that active state intervention is needed in order to counteract its effects. More specifically, Chang (2003) calls for an industrial policy, and claims that those who fail to recognize this need do so because of a market fundamentalism that does not permit economic analysis beyond the static realm

Lal (1996) sticks to the static allocation theory of neo-classical economics claiming that even though markets are not perfect, the second best solution is more likely to be reached if markets are operating as freely as possible, than with state intervention. On the other hand, Chang and Rowthorn (1995) not only favour state intervention, but also call for a deeper intervention than what is implied in the balanced growth approach. The claim is that not only should the state establish optimal resource allocation, to counteract market failures. It should be charged with *planning beyond the static sphere and try to facilitate the mobilization of new, formerly unknown and idle resources* latent in the society and this way facilitate a profound transformation of the economy. This means establishing a *vision*; a plan containing

a range of possibilities after which also the different agents of the private sector can navigate and thus overcome the agency problem. It is argued that

> [b]y providing a coherent vision of the future economy at an early stage of the transformation, the state can drive private sector agents into a *concerted action* without making them spend excessive resources in information gathering and processing, political bargaining, and so on (Chang & Rowthorn, 1995:36).

Although no superior ability to point out the best possibility for economic change is attributed to the state, *providing a focus and a direction for the economic evolvement* has proven useful, and as the only actor that can legitimately claim to represent the society as a whole, the state, it is argued, should assume this responsibility (Chang & Rowthorn 1995). In Lal's view, however, the problem of the dispersed ownership has its only solution in the concentration of ownership and management of the productive resources, and the impossibility of overcoming the agency problem through state planning was proved by economists a long time ago:

> Hayek and Mises pointed out that, though such a form of planning might be theoretically feasible in a world where information about resources, technology, and the myriad actual and possible production processes and tastes of consumers could be costlessly acquired by the central planning authority, in the real world it would be impossible (Lal 1996:3).

In other words, for Lal, the impossibility of perfect information is not something that should not be held against the market, but *against the feasibility of any state vision to guide the strategies of private enterprises in a purposeful manner*.

In a situation of change uncertainty tends to increase in the economy. Challenged with the dissolution of established patterns of interdependencies in the economy, Chang and Rowthorn (1995) argue, the establishment *of new co-ordination structures* is instrumental. The point is that,

> the establishment of a new co-ordination structure necessarily requires state involvement. Except in societies where the state apparatus is totally disintegrating, the state has the sole ability to legalize, and the greatest ability to give implicit but effective backing to, the new property rights and the new relations of power (both at the societal and at the enterprise level), which provide an institutional reality to the new co-ordination structure. (Chang & Rowthorn 1995:38-39)

With a vision defined by the state and the economy in a process of transformation, providing such institutional reality, the state is both "responding to *and* shaping the course of changes" (Chang & Rowthorn 1995:39). As an example of overcoming the difficulties inherent in

disperse private ownership, when seeking to achieve a concerted move towards economic development, Wade (1995) point to governments of the successful late industrializers of East Asia. They stood before complex market economies, but managed to combine state *dirigisme* and competition, stimulating considerable sustained industrial growth.

In contrast, the neoliberal solution to the coordination problem is simply that of the laissez-faire approach. Sticking to the East Asian industrialization debate Lal (1996) claims that *the* success of the East Asian economies occurred *in spite of* rather than due to state intervention and that the country that is judged to be most successful of them, measured in the productivity of capital, Hong Kong, is the one in which the market has operated most freely. The World Bank, whose analysis are based on neoclassical theory and whose policy advices are mostly considered neoliberal, has adopted a less categorically negative position on state intervention, as a consequence of the apparent success of public institutions in the East Asian industrialization processes (Chang 2003, Evans 1995). Interestingly, this move away from the purely neoclassical stance, has had no implication for World Bank's policy on petroleum industries, which is based on the following principle: "Strategies for assistance to [oil and gas producing] countries are based on the approach that in the long run the private sector should finance, own, and manage most oil and gas activities, while governments should concentrate on protecting the public interest"[4].

2.2.3. State institutions and class in the process of economic change

However strong the arguments for state intervention may be, Evans and Rueschemeyer (1985) put emphasis in avoiding what they consider the functionalist trap of presuming that the state, because it is considered necessary as a driving force for economic development, will necessarily act in a way that fulfils its functions. A central contradiction inherent in the nature of the state is the fact that the state, in addition to the guardian of common interest, as emphasized by Chang and Rowthorn (1995) above, is also necessary an *arena of class conflict* and "both dominating and subordinated forces will use the state as a means to pursue their interests, and in extreme cases this can lead to a "balkanization" the state apparatus" (Rueschemeyer & Evans 1985:47).

The Weberian view on the state supposes a set of organizations claiming control over a given territory and its inhabitants as well as *the ability to develop and achieve objectives*

[4] http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/0,,contentMDK:20219974~menuPK:463288~pagePK:148956~piPK:216618~theSitePK:336930,00.html

that are not simple reflections of the interests of social groups within that territory. In the words of Skocpol, "Unless such independent goal formulation occurs, there is little need to talk about states as important actors" (Evans *et al*. 1985:9). Once recognized the state's ability to do this, it makes sense to move on to the investigation of the pursuing of these goals "especially over the actual or potential opposition of powerful social groups or in the face of recalcitrant socioeconomic circumstances" (Skocpol 1985:9). The pivotal point of the Weberian approach in this respect is *adequate institutions*. Internal coherence, independence from the social environment, clearly established decision structures and a system that stimulate instrumental rationality are the main features of such bureaucracy. While Weber was engaged in the debate on rationality and capitalist development and saw the state as a central agent in this process, Skocpol (1985) argues that if social redistribution is an objective, it is necessary to move *beyond mere capital accumulation and state intervention becomes even more instrumental*. In a neo-Marxist view initiatives to reshape society through the dismantlement of the domination of industrial, rural or commercial classes, through the state are introduced by Trimberger with the concept *revolution from above*. A main feature of this approach is the explanation of *the depth of socioeconomic change as a function of the relation between the state elite and dominant economic classes*. The argument is that

> "the more sweeping structural changes that Trimberger labels "revolution from above", including the actual dispossession of a dominant class, occur in crisis situations only when bureaucratic state elites are free of ties or alliances with dominant classes" (Skocpol 1985:10,11)

This argument to some extent builds on the Weberian model of the relation between the state and society, where the bureaucracy needs to be insulated from its social circumstances to function well.

Even though Evans (1995) recognizes that a state can achieve economic change through connections with the masses of workers and peasants, such as the example of the Indian state of Kerala, his main point is that *to achieve industrialization a rupture between state institutions and economic elites is not beneficial*. More specifically, in order to foster the development of a dynamic industrial sector, the state needs to have ties to this sector; the autonomy of the state must be an *embedded autonomy*. Again the case of East Asia, where government's sponsored the capital accumulation of national industrialists is used as example (Evans 1985). Within the same tendency Chang and Rowthorn (1995) emphasize *consensus, built on a compilation and negotiation of the different views held by other actors and groups in society*, as the main guarantor for the aptness of a vision provided by the state.

2.2.4. Industrial policy

Connected to the debate about the necessity of state intervention in the economy is the debate on *how* to intervene. Here I shall concentrate on the demarcation of the concept of *industrial policy*. Industrial policy is explicitly or implicitly part of many of the main current debates in the social sciences. However, the term is often not defined, and what is meant with industrial policy varies a lot according to different authors.

Dicken (1998) distinguishes between trade policies, foreign investment policies and industry policy. Trade policy comprises rules that limit or stimulate imports and exports. Limiting imports is achieved through tariffs on imports, which are different kinds of taxes levied on foreign produced goods, making domestic ones relatively more competitive, and non-tariff barriers. Among the latter ones are found import quotas, requirements of import licences, import deposit schemes, anti-dumping measures, health, security and quality requirements, special taxes on subsidized imports, local content and exchange rate among others. To promote exports, financial and fiscal incentives are used as well as credits and guarantees. The establishment of export processing zones, where producers are not subjected to regulations that would apply for similar activities outside the zone, is a much used means to stimulate competitive exports. However included in this category are also measures of the opposite kind. When considered beneficial, certain goods, be they raw materials or capital goods for example, are exempted from normal import restrictions. The objective being to stimulate industrialization, this has been an important component of Latin-American import substitution policies. Conversely, with the same intentions, export bans or limitations can be placed on certain goods so that these are utilized within the country (Dicken 1998).

The basic element *of foreign investment policies* is what regards the entry of foreign capital. Governments create mechanisms to screen investment proposals, limiting the access totally or partially, for example establishing a limit to the degree of foreign ownership of enterprises, in a given sector, all of this with the purpose of achieving certain economic or political objectives. For the sake of creating linkages with local industry, with a favourable effect on employment and creation of value, exigencies on the use of local content are often part of policies regulating the operation of foreign based companies. When added to restrictions on imports for these firms, such regulations are also a way to control the net effect on the country's foreign exchange balance. *The possibility for domestic industrialists to acquire new technology is often a much weighted argument for approving and even encouraging foreign investment*. Particular contracts to assure the assimilation of technology can be made when

individual investments are of considerable size, but more generalized regulations can also serve the same purpose. There is also a range of mechanisms available for governments to limit the repatriation of capital in order to secure the continuity of investments as well as state income. Finally, also labelled investment policy, are measures taken to attract inward foreign investments. When competition for such is harsh, one or more of the above mentioned advantages are likely to be sacrificed in order to secure the investment which is the precondition for all of these potential gains (Dicken 1998).

However polemic the subjects of trade and investment policies may be, it seems like the terms mean more or less the same to most people. Not so with industrial policy. Dicken (1998) continues the account of the three policy areas, briefly summing up some common state policies directed to industry. Among them figure investment incentives which can be capital- or tax-related, technology policies, labour policies, small firm policies, tax policies, company legislation, merger and acquisition policies and environmental policies. Related to more direct involvement are state enterprises, procurement policies and technical and product standards. Although not explicitly defined, Dicken's concept of industry policy is clearly one that embraces much of what others such as Chang (2003) rather call economic policy. Both general regulations for economic activity and regulations applied to specific sectors, firms and areas are included. As can be observed, many of the types of regulations that fit within this category are similar to those of trade and foreign investment policy, which is why Dicken (1998) argues that *with the internationalization of economic activity, it is increasingly difficult to separate the mentioned policy areas.*

The tendency in the literature to enclose a large range of regulatory policies and measures in the category industrial policy is strong, but not all-encompassing (Chang, 2003). Without denying the significance of macroeconomic policy for industrial development, by asking the rhetorical question, "why should all policies that constitute preconditions for the success of another policy be treated as components of the latter?" (Chang 2003:111) the meaningfulness of such wide definition is questioned. Chang (2003) proposes to *limit* the category to "policy aimed at particular industries (and firms as their components) to achieve outcomes that are perceived by the state to be efficient for the economy as a whole" (Chang 2003:112). Originally this conception of industrial policy serves the purpose of defending industrial policies in general from the criticism based on neoclassical economy and neoliberalism. Industrial policy is thus defined in *contrast to free market economics, but also to central planning as in Soviet socialism*. Obviously, by excluding macroeconomic, labour and educational policies among others, as these are usually applied on a general basis for all

economic activity, this conception of industrial policy is not alone an adequate tool for a debate on how to industrialize. It might also be demurred that emphasizing the *intention* of and the *scale* on which a measure is applied can be problematic as this might be perceived to imply that their actual content and consequences are considered less important.

However, *firstly* it must be taken into account that this definition surged in a debate on whether or not bureaucrats are able to gather information about the functioning and the actors of the industrial sectors and resist pressure from interested parties, sufficiently so that they can be expected to carry through economic policies for the best of the country. Logically, this challenge appears quite differently when one is to *intervene beyond a general regulatory framework* and for instance pick specific branches or even firms to support. While Lal (1996) goes as far as to exclude the possibility that government agencies possess sufficient knowledge to intervene in the economy in a way that spurs economic development, the Weberian approach assumes a more open, though not particularly optimistic view on the subject. It is argued that "the existence of an adequate bureaucratic machinery depends on a more delicate, long-process of institution building, which makes it much less probable that a given state will have the bureaucracy it needs when it needs it" (Evans & Rueschemeyer 1985:49). On the other hand, Chang (2003) qualifies as a myth the common argument that such selective industrial policies, as they are often termed, require an exceptionally skilled bureaucracy to achieve satisfying results in supporting industrial progress. Still, though, it is evident that the challenges for the state apparatus implied by such industrial policies are different from those connected to free market policies, something that justifies the concession of a category of its own for the former.

Secondly, the link between the sector-wise and macro level is present in the sense that industrial policies although they are directed at specific sectors and firms, are developed in order to achieve results for the whole economy. Interestingly, this also opens up for the existence of conflicting interests of a given particular industry subject to state intervention and the economy as a whole, and the possible favouring of the latter to the detriment of the former as a part of industrial policy (Chang 2003).

2.3 Concluding remarks

In this section I shall expose the most central aspects from the theoretical approaches discussed above. From the theories centred on globalization and the functional integration of production a concept that stands out as essential for this thesis is that of *functional*

configuration. This concept leads the attention to the different ways in which different nodes of what Hopkins and Wallerstein (1994) denominate global commodity chains are *linked* together: arms length trade, vertical integration and intermediate links of long term relations between firms that are not solely based on based on the market mechanism. The search for the most profitable nodes and the tendency to what I chose to denominate *peripheralization*, implying increased competition in a given node related to lower profits and relocation to the periphery is considered a motor of change by the Hopkins and Wallerstein (1994). So is the opposite tendency where innovation increases the exclusivity of a node and augment profits counteracting peripheralization. These mechanisms might shed light on the evolvement of the Venezuelan petroleum industry. Gereffi (1994) introduces the producer-driven and buyer-driven commodity chains as two ideal types that highlight the governance and distribution of power between the different nodes. However, proponents of related theoretical approaches emphasize that these concepts do not comprehend the possibility of variations in the rationale of the companies and that power to govern might be more or less dispersed between the nodes and not necessarily concentrated in one. Hence, although the ideal types of producer-driven and buyer-driven commodity chains ideal types can serve as references, the analysis of governance in the Venezuelan petroleum industry will not be *a priori* locked within these two rather narrow options. The sympathetic criticism also argues that focus should be moved from the commodity in itself to the process of creation, enhancement and capture of value related to production. Furthermore, the global commodity chains approach is also questioned as it carries with it certain determinism and impedes the conceptualization of the causal power of other actors than the firms directly involved in the production of the commodity in question, such as the local context and, most importantly in this thesis, the state. The network is a metaphor that more apt for the visualization of the relations between the different actors that influence the organization of production. Hence, the concept of global production network, forwarded by Henderson *et al*. (2002) is adopted for this thesis, and the functional configuration and governance structure of the Venezuelan petroleum industry will be analyzed with focus on how they influence the enhancement and capture of value. The global production network approach takes into account the state as a potentially influential actor in the economy and does open up the possibility of development in the periphery. However, to analyze the effort of the Venezuelan government to reform the petroleum industry, other conceptual tools are needed.

The state is conceptualized as a set of organizations that are influenced by class relations in society, but that also has its own interests and a *relative autonomy* and capacity of

autonomous action. When the state seeks to intervene in a non socialist economy it is faced with the *coordination problem*. This means the challenge of stimulating a coordinated move of an economic sector where the means of production are distributed between and managed by various firms but interrelated through the linkages of the production network. In contrast to the neo liberal view that claims that even an imperfectly functioning market is more likely to give an optimal resource allocation than state intervention, other approaches included here argue that the state has the potential to cause a qualitative leap towards economic development through coordinating the actors of the economic sector in question. Here the question is how the Venezuelan government approaches the coordination problem.

The previous section also brought some arguments on the debate about how state institutions should relate to society in order to spur economic development. One view sees the possibility for efficient reformation of the economy as an inverse function of the strength of the ties to dominating classes, while the other emphasize consensus and an embedded autonomy, which means stimulating the relation between the state and industrialists. The question that arises is how the success or failure of the Venezuelan government in altering the structures of the petroleum industry can be attributed to the relation between the state and economic elites that are implicit in the institution building entailed by the reform policies. Chang (2003) defines industrial policy as measures directed at particular industries aimed at obtaining results considered beneficial for the economy as a whole. This proves a purposeful demarcation of the government policies included in the analysis of this thesis, as it is easily delimited in the sense of the scale on which measures are applied, and at the same time broad in the sense that any measure that is directed particularly at the petroleum industry is included.

The two theoretical issues discussed in this chapter relate to transnational flows of power and value connected to production and state-society relations on the national level, respectively. A crucial aim of this thesis is to capture the *dialectic relationship*, as sketched by Henderson *et al*. (2002), *between such transnational flows* in the form of intra and inter-firm relations *and space specific factors* in the form of government industrial policies in the Venezuelan petroleum industry.

3. Method

The purpose of this chapter is to outline and justify the methodological approach to the research question.

3.1. Qualitative case study

The subject of the thesis is investigated through a qualitative approach. Qualitative research is, contrary quantitative research, based on non-statistical data that is analyzed in a non-quantitative manner. The qualitative method was developed to provide explanations of social phenomena. While quantitative method that was developed in the physical sciences can imply taking the object of study out of its physical environment to carry out experiments, a crucial feature of qualitative research is that the phenomenon that is sought explained shall be studied within its physical environment. This often implies that the researcher intervenes physically in this environment in order to collect the data. Hence, qualitative research entails the acknowledgement that the researcher's data does not simply mirror, but to some extent also *construct* reality. Also the fact that interview and observation constitute common ways of collecting data implies that the interpretation of the researcher becomes particularly important (Sayer 1992, Kvale 2001).

The view on causality is a decisive factor for social sciences. Non-positivist approaches to knowledge such as critical realism distinguish between the real world and our experience of it. According to Sayer (1992) our perception can capture events, but they cannot observe the mechanisms that cause them. Mechanisms, hence, can only be discovered through their effects. However, the society is an open system where many mechanisms coexist and depending on the circumstances a mechanism may or may not produce an observable event. An important implication of this is that a phenomenon does not have to be quantitatively significant in order to be relevant as a research object. Hence, studying qualitatively what at a given point of time might be unique can uncover mechanisms that exist elsewhere, only that because of different conditions there, they do not produce the same outcome and might not come to the surface in a way that draws the researcher's attention to them (Sayer 1992). As any social phenomenon constitute open systems, which means that they are connected to other social systems from which they cannot be disconnected through experimental methods, the research object must be investigated in its real context. The *case study*, which means a thorough study of one or few units of investigation, thus, is a meaningful way to study social

phenomena. The point is that although a qualitative case study does not produce results that are statistically generalizable, it can contribute to develop better conceptualizations that facilitate the understanding of the case in question as well as other related cases.

Critical realism sees structures as internally related objects and practices that can exist in a macro level, such as the international division of labour and on a micro level in the form of an individuals mind set. These structures are constant under certain external changes, while other external changes might cause them to change. A basic point in critical realist research is that the social structures at a given time and the society are contingently related. This is an important recognition as it strengthens the idea that actual social structures can be changed and hence also the idea of human liberation as a possibility and a purpose for scientific activity (Sayer 1992).

Somehow, the research question of this thesis implies a hypothesis that there is a relation between 1) *the organization of production* in the Venezuelan petroleum industry and 2) the government policies and the outcome for the Venezuelan state in terms of capture and enhancement of value. The task however is to detect exactly which aspects of the organization of production and government policies that have *causal power* to influence the capture and enhancement of value. This has been a guideline while elaborating the research question, choosing sources of information and developing the questions to be used during the interviews as well as for the analytical framework.

The subject of this thesis also has methodological implications. It is claimed that "[a]long with other macrosocial phenomena that do not repeat themselves [at the same time] in each nation, states require cross-national or cross-time comparisons if they are to be studied analytically" (Evans *et al*. 1985:348). The comparative element of this thesis lies in the time-dimension, more specifically the analysis of the organization of production in the Venezuelan petroleum industry before and after the reforms of the government.

3.2. The field study

My interest for the subject of the Venezuelan petroleum industry was sparked during a stay in the country, partly spent at the Universidad Católica Andrés Bello studying sociology in 2003/2004. This implied a possibility of getting some concept of the ongoing process in the Venezuelan petroleum industry as well as learning the language and getting to know the culture.

The fieldwork of this thesis consisted of a four month stay in Venezuela, from February to June and a three weeks stay in December 2005.

The capital Caracas was a natural choice for me since this is the centre of administration of the petroleum industry, most importantly the MEP and PDVSA and most of the transnational petroleum companies and their suppliers have their head quarters here. The petroleum production, though, takes place mainly in three different zones all of them several hundred kilometres away from Caracas. I conducted a four days trip to Puerto la Cruz, which is an economic centre of the eastern part of the country, close to several petroleum production and upgrading units, among them those of SINCOR. During the fieldwork I carried out 11 qualitative interviews with informants from different firms and institutions of the Venezuelan petroleum industry that constitute the core of the data material of this thesis. I also attended to a relevant course at the University of Venezuela and gathered information through secondary sources. During the stays in Venezuela I also got an overview of the secondary sources that I later used to monitor the evolvement of the reform process in the petroleum industry.

3.3. The data material

3.3.1. Public documents

Public documents that are relevant for this thesis include the Venezuelan constitution the former petroleum regulating law LOREICH of 1975 and the LOH of 2001 and other law decrees that are directed to regulate the petroleum industry. Other government decisions are also referred to as well as other reports from the MEP and CPV. The previously annual publication, PODE (petroleum and other statistical data), usually one of the most cited sources of information about the Venezuelan petroleum industry, has not been published since 2006 (statistics dating from 2003), something that has sparked widespread speculation. Though these are all indispensable sources of information they leave the researcher with many questions. These texts are written in a juridical tongue not always easily understood for a social researcher, and in order to understand their practical implications it was necessary to turn to other sources of information.

3.3.2. Qualitative interviews

The conversations with the informants took the form of semi structured and open ended qualitative interviews. The qualitative research interview provides an opportunity for the researcher to get first hand interpretations of a phenomenon that he himself cannot observe.

The objective is to extract specific descriptions of events and situations rather than general opinions or quantitative information. The relative openness of a semi structured interview gives the interviewee the opportunity to express nuances, complexity and contradiction in his answers in a way that would not be possible in a closed interview. On the other hand, given the relatively intimate form of interaction that is characteristic for the qualitative interview the researcher will necessarily exercise influence on the answers. Hence, it is up to the researcher to apply his skills as an interviewer and his beforehand knowledge of the research question, in a way that keeps the conversation centred on the phenomenon in question, while avoiding that his influence predetermine the answers given by the interviewee (Kvale 2001).

In general, openness and transparency are not the features most commonly associated with the petroleum industry. During my stays, there was hardly a day where some news about PDVSA, almost exclusively negative ones, would not appear on the front page of one or more of the country's main newspapers. For this reason the MEP and PDVSA were applying quite strict procedures regarding public relations. Time is also a scarce resource and this was one of the principle impediments when private companies or potential informants in the MEP or PDVSA could not concede interviews in the course of the fieldwork. A blend of insistence and patience was necessary and a fluent Spanish and knowledge of the Venezuelan way of social interaction acquired during my stays proved to be indispensable tools in order to gain the trust and convince the informants to concede time for an interview.

As one informant put it, "the Venezuelan petroleum industry is really a small world where everyone knows everyone" (interview Alcántara, CPV). The "snowball method", where already established contacts help the researcher to get in contact with potential informants with whom they are connected, can be very useful in such circumstances (Halvorsen 1997). Where such door openers did not personally address themselves to other possible informants, referring to them helped a lot to take away some of the initial scepticism that I met as I contacted these companies by telephone. At repeated occasions, though, appointments were postponed or broken by the informants, usually because of a tight time schedule.

The questionnaires were all prepared before I contacted the interviewees. Some of those I contacted asked to have them sent over by e-mail in order to decide whether to accept an interview or not, while others took the decision after a brief description of my research project. Before I contacted possible informants information about the companies or institution

in question was gathered from folders web pages and the like. This served the purpose of introducing me to their activities and necessary to make an informed decision about whether or not it would be purposeful to conduct an interview. It also proved useful for learning some of the branch specific vocabulary and preventing me from giving the impression of being a complete outsider to the petroleum industry.

All the informants were presented the option of anonymity. But only in a few cases the informant did not wish that his/her or the company's name should be connected to certain phrases or parts of the interview.

The interviews were recorded on a mini recorder; with three exceptions were the interviewees did not accept this. In those cases the information was written down during the interview. It became clear, however, that using the mini recorder had its significant advantages. While permitting the interviewer to concentrate all his attention on the informant it also allows him/her to prepare follow-up questions and the like. This was essential in order to assure the reliability, by, among other things, seeing to it that the interviewee interpreted the questions the same way as I did. The technique of letting the informant speak quite freely makes it extremely difficult to write down all the information and at the same time maintain the flow of the conversation. Not prioritizing to keep a hand on the steering wheel of the conversation means less chance of extracting the most relevant knowledge possessed by the informant, while not writing down everything that is said implies the risk of loosing data whose importance would be realized first after the interview. Fortunately, the three interviews without tape recorder were all conducted at a later stage of the fieldwork, when my experience from the former ones made it easier to get concise and adequate answers to my questions.

All the interviews were conducted in Spanish and translated to English during the transcription phase. This was done as soon as possible afterwards. That way, I still had the interview situation and the visual component of the communication in my memory, something that facilitated a more complete interpretation of the answers.

As is usually the intention in qualitative research, the idea is to investigate a process or causal relation, on basis of different interpretations of the matter in question. Selecting my informants I made sure that the views of both state and private actors, national and transnational agents and suppliers and petroleum companies were represented. In the following I shall present a brief description of the informants.

MEP/PDVSA

The MEP is the entity charged with the authority to develop policies for and supervise the Venezuelan petroleum industry. Mommer is the vice minister for Petroleum of the MEP. He is also a known as a leftist intellectual and has published a series of books and articles about the Venezuelan petroleum industry. Mommer also participated in the elaboration of the LOH which is the most important legal basis for the current Venezuelan petroleum policies. Contreras is in charge of the Department of Planning and Economy of the Hydrocarbons. This entity is charged with the medium term strategy of the petroleum industry. Contreras tasks consist of analyzing concrete problems in the petroleum industry and design policy measures specifically meant to attack these problems. The informants were pointed out by the department of Public Relations of the MEP to answer my questions, after revising the questionnaire and confirming that the subject was of their competence. Both informants had qualified opinions about the functioning of the Venezuelan petroleum industry, the relations between the different actors and the government petroleum policies.

PDVSA is the operative arm of the MEP and since the nationalization of the Venezuelan petroleum industry in 1975 the only company entitled to the petroleum reserves of Venezuela. Contreras has a long trajectory in the Venezuelan petroleum industry behind him working among other places in PDVSA, where was still employed at the time of the interview. Thus Contreras was specifically qualified to inform about how PDVSA acquires goods and services and the relation between the petroleum companies and the suppliers in general.

The Transnational petroleum companies

The Norwegian petroleum company Statoil has developed a series of projects in Venezuela. These are the LL-652 petroleum field near Lake Maracaibo, the strategic alliance SINCOR in the Orinoco Belt and the Deltana Platform which is off-shore project still in its exploration phase. I was assigned the company's senior accountant Schmilinsky that was in charge of acquisition of goods and services for the Deltana Platform. This meant that he was well informed about different aspects of the relation between a petroleum company and the suppliers. However Schmilinsky did not comment on any issue directly related to the petroleum policy of the Venezuelan government.

SINCOR is a strategic alliance that operates in the Orinoco Belt. SINCOR consists of the French petroleum company Total, PDVSA and Statoil. The investment of SINCOR

amounts to more than 5 billion USD[5]. The duration of this strategic association is 35 years from 2002. My SINCOR informant was head of the buying office Cafaro. Cafaro had a long experience in the petroleum industry where he had worked in PDVSA among other companies.

Suppliers

The supplier sector to the Venezuelan petroleum industry is diverse and consists of a great number of companies. Choices had to be made about which companies to include in this thesis, in part based on my own preferences, but mostly depending on who would be willing and able to sacrifice the necessary time to answer my questions. Among the suppliers that became my informants though, there are companies ranging from those of 100 percent foreign capital, providing goods produced abroad, whose only national component is that of a marketing unit in Venezuela, to those of national capital depending to a lesser degree on foreign imports. The bulk of my informants in this group offer a combination of products, mostly produced by a third party, and services on the petroleum installation. All though it was impossible to get access to any of the very few Venezuelan industrial producers that deliver directly to the operating companies, the suppliers I interviewed provide a wide range of different technical equipment, which means that they constantly search for the most competitive providers of such goods. Hence they possess useful knowledge about the situation of these producers in the country. All of the suppliers compete with other companies that are either more or less "national" then themselves. In that sense, their relative performance to some degree reflects the reforms process´ influence on national participation in the industry. All of the suppliers, with one exception, had both SINCOR and PDVSA as customers or considered them potential customers. In that sense both changes in buying pattern of the state petroleum company and regulations affecting the transnational operators are likely to be perceived by the informants among the suppliers. My informants from this group were the following:

Conind de Venezuela: The main activity of this USA owned company is distribution of control valves, regulators to the petroleum companies. The informant Planas was in charge of sales in the central region of Venezuela.

5

http://www.statoil.no/STATOILCOM/svg00990.nsf?opendatabase&lang=no&artid=3F1C15C29F3ABDB3C1256F0B0023F096

Geohidra Consultores: This Venezuelan owned company carries out geophysical and geotechnical investigations and provide consulting services such as project planning for the petroleum companies. My informant was the executive manager Gonzalez.

MCL Control: This Venezuelan owned company specializes on automation and control of production processes in the petroleum industry. It offers own products as well products procured from other companies. My informant Stassi was in charge of marketing and sales.

OTEPI Greystar: This is a company mixed capital from the USA and Venezuela and carries out core activities under outsourcing contracts. My informant Soutullo was responsible for the contact with the petroleum companies.

Vertix Instrumentos: This is a Venezuelan owned company that specializes on control and measurement of pressure temperature and quality of flows of petroleum from the petroleum field to the refineries and up-grading units. My informant Maestre was responsible for the company's customers in Anzuategui Norte, which includes the industrial complex of Jose.

Vetco: This company of Venezuelan capital offers security materials especially customized for the petroleum industry. Vetco does not offer engineering services but can procure "everything from a needle to an oil tanker" according to my informant, the general director Segura. Segura had worked for transnational petroleum companies during ten years before the nationalization in 1975. He had also worked in the supplier sector for more than 25 years and provided important perspectives on many aspects of the Venezuelan petroleum industry.

CPV

Petroleum Chamber of Venezuela was founded in 1978 after the nationalization of the country's petroleum industry. It organizes the Venezuelan private sector of the petroleum industry, promoting their interests negotiating with public institutions and national and foreign operating companies. The objective is that the Venezuelan private sector participates in as much as possible of all activities in the petroleum industry. The almost 900 member companies, most of them medium sized, cover a wide range of activities, from services to production. My informant, Alcántara, was one of the founders of the organization and has been working in the Venezuelan petroleum industry since before the nationalization of 1975.

3.3.3. Secondary sources

Petroleum policy has again entered the political scene of Venezuela the last years, and one is as likely to come across a heated discussion on the subject outside the liquor store in a slum neighbourhood as in the media and the universities. Observing and participating in such debates provide unique opportunities for collecting observations and judgements of what is going on in the country's petroleum industry. While it is true that the polemic nature of such sources of information might overshadow the complexity of the matter, it is no less true that they also tend to *expose the major discrepancies between the different existing interpretations*. In a field work, that in my case implied a lot of waiting for response from potential interviewees, this turned out become very useful in order to take full advantage of the somewhat limited access I had to sources such as statistical data and first hand information from participants in the industry.

More business related information, such as news about the construction of new plants, growth or recession in one of the branches of the Venezuelan supplier sector to the petroleum industry is even more crucial than the above mentioned kind of information, but far less accessible. With some exceptions, this type of information was only acquired by seeking it actively through contacts in the industry.

I had the privilege of being admitted to participate as a guest student in the classes on the subject "Transformation of the Venezuelan Petroleum Industry" a part of the masters program in Sociology at the Universidad Central de Venezuela (UCV) of the sociologist Martínez. In 2003 and 2004, one year before the first fieldwork was conducted, I was a student at the masters program in sociology at la Universidad Católica Andrés Bello. The courses of political sociology with lectures by professor López and that of economic development with lectures by professor Henríquez were of special interest for the subject of this thesis. In sum, the knowledge absorbed through the mentioned secondary sources while being present in Venezuela served the double purpose of preparing the ground for collecting data from the primary sources and at a later stage in the process interpreting them.

In between and after my stays in Venezuela I constantly monitored the evolvement of the reform process through internet. The most important sources were the websites of the MEP, PDVSA and the CPV as well as a variety of Venezuelan and international newspapers, magazines and other petroleum related websites.

3.4. Reliability and validity

Reliability and validity are of crucial importance when considering methods for social research. The concepts, however, are often connected to quantitative research and associated with the positivist view on science (Kvale 2001). On the other hand, the same concepts can also be accommodated in order to capture the problems related to qualitative research.

3.4.1. Reliability

Reliability can be seen as a matter of consistency (Kvale 2001). According to Bayley (1987) the central criterion is that repeated measurements would produce a different result if and only if the concept being measured has changed. Yin (1994) focuses on how reliability can be assured in qualitative research. Firstly a data base of the data material can be established. This way the data material is open for scrutiny from other research. Secondly, the researcher can build a chain of evidence. This means that the researcher must apply analytical skills in the interpretation of the data. Both postmodernist and critical realist methodology reject the idea of absolute truth (Sayer 1992). Given the fact that the researcher inevitably influences the outcome of the interview, key factors to ensure reliability are contextualization and the researcher's awareness of his position in the interview situation (Kvale 2001).

The aim of this investigation is to understand some aspects of the relation between operating companies, the institutions of the Venezuelan state that relate to the petroleum industry and the Venezuelan supplier companies that cater to the petroleum companies. As my main source of data was the agents themselves, some questions occur concerning the reliability of the data. First, will the informant not tend to be biased in his answers? The current situation in the Venezuelan petroleum industry is marked by an unprecedented polarization, between those who support and benefit from the reforms initiated by the government and those who oppose them. On one hand one could imagine that the informants would use the interview situation to propagate their view. On the other hand, companies might also be reluctant to give information that makes the government appear in less fortunate ways, because they depend on contracts with the state owned PDVSA. During my stays in Venezuela, I gained knowledge about certain words, phrases and ways to express oneself that tend to trigger political reflexes or weariness, some of which are not at all obvious for a foreigner. Walking into those traps usually either leads to a response that fiercely defends or condemns the government, or a strong unwillingness from the informant to touch any subject that can be even remotely related to politics, thus severely limiting the scope for gaining interesting information the rest of that interview. I believe the technical rather than political

terms used in the questionnaires were of crucial importance to prevent such reactions from the informants. In the few cases were an informant did not wish to have his name connected to one or two of the answers during the interview, they simply asked for this, and did not hesitate in relying on my confidential treatment of those statements. I believe that the danger of letting biases or a perception of the research subject as controversial influence considerably on the answers given was omitted to such a degree that the reliability of the data was assured.

To achieve consistency it is crucial that the informant and the interviewer understand the concepts and terms equally. The petroleum industry has its own jargon which tends to be somewhat strange to the social researcher, as it is to be functional in the technical and business spheres, rather than in academic ones. Another potential challenge is the language. It proved beneficial that I had learnt my Spanish in Venezuela, as not even the headquarters of the petroleum ministry or the transnational petroleum companies are free from “criollismos”, words and phrases particular for the Caribbean dialect spoken in most of Venezuela. However, the informants happily provided explanations and definitions of concepts whenever I asked for that. Some even interrupted themselves while talking in order to see to it that I was familiar with certain terms, when these were of what the informants regarded a, for me, rather obscure technical nature. The informants were not reluctant to ask for clarifications themselves, when not sure how to interpret a question. Neither did they seem embarrassed to admit this, in those cases where they could not give any satisfactory answer. On these grounds, it seems likely that the main concern of the informants was that I captured as much as possible of their understanding of the matters in question. In conclusion, what I consider a surprising honesty and openness from the informants in an industry where transparency is the exception rather then the rule, contributed to the reliability of the data material used in the analysis.

3.4.2. Validity

Yin (1994) introduces three different types of validity in order to adapt the concept to the requirements of qualitative research. These are construct validity, internal validity, and external validity.

Construct validity relates to the question of whether or not the researcher is actually investigating the object of the research project. More concrete, this means asking if the researcher is asking the right questions to the right persons. One way of assuring construct validity is through the use of multiple sources of information, such as different kinds of

interviews, documents or observation (Yin 1994). In order to understand complex social phenomena it is important to include informants that experience or observe the phenomenon in question with different points of departures or from different angles. This facilitates cross examination of the data and is referred to as triangulation (Sayer 1992).

One problem that appeared was that the transnational petroleum companies were not willing to comment on their relations to the Venezuelan government apart from affirming that they always acted in compliance with the existing regulations. The considerable public discontent with these companies and the Venezuelan government's critical attitude toward the way they operated in the country implies a risk that the researcher will only see one side of the matter. To compensate for this I sought to include information from mainstream Venezuelan and international media and the informants from the supplier sector, that are generally considered much less critical toward foreign investment and free market policies. Another problem was that the monitoring of newspapers and other sources available on the internet that was necessary to follow the latest evolvement of the relation between the Venezuelan state and the transnational petroleum companies did *not* provide much information about the supplier sector. Hence the latter subject is followed through a shorter period of time. As seen in section 3.3 I have sought to achieve an understanding of crucial aspects of the Venezuelan petroleum industry through a variety of sources that are connected to it in different ways. Hence, in spite of the abovementioned weaknesses, I consider the construct validity of this thesis satisfactory.

Internal validity is especially important for this thesis as the explanation of causal relations is a main subject. Yin (1994) claims that in order to assure the internal validity of such explanations a possible solution lies in what he calls explanation building. This means developing a series of causal relations connected to the explanation of the phenomenon in question. It is also necessary to take into account all the factors that might influence on the research object. In this thesis the enhancement and capture of value is sought explained by finding the causal powers of inter and intra-firm relationships and the characteristics of state institutions.

The *external validity* of a qualitative research project refers to the relevance of its findings in other contexts (Yin 1994). As mentioned in section 3.1 qualitative research does not produce statistically transferable data. However, analytical generalizations might be made on basis of causal relations revealed by the data. Such findings can contribute considerably to the

development of theory and conceptualizations that can be applied in other cases (Sayer 1992). The transferability of the findings of this thesis will be discussed in the conclusion.

Overall, I believe that the data material and the way it was collected, interpreted and used assure the validity and reliability of this thesis.

4. Organization of production and capture and enhancement of value

"*We are talking about complex structures and networks between individuals, enterprises, ministries and governments that have been developing since around 1914*" (Interview Alcántara, CPV).

In this chapter I present data that reveals some important characteristics of the Venezuelan petroleum industry. The point is to explain how the functional configuration and the governance structure that has evolved during the last two decades have shaped the possibilities for the Venezuelan participation in the *enhancement and capture of value*. The chapter is divided in three sections. Section 4.1 investigates the organization of the *core activities* at the time of my fieldwork in 2005. The concept of core activities in this thesis comprises what the LOH denominates primary activities, which includes "[t]he activities related to the exploration in search for deposits of hydrocarbons included in this Law Decree, to the extraction of them in their natural state, their recollection, transport and initial storage" (LOH, article 9). Statistical data is presented to give an impression of the relative importance of the following forms of production; *operating agreements and strategic associations*, both cooperation agreements between PDVSA and transnational petroleum companies, and *PDVSA's own production*. Outsourcing is also included in this section, although no such statistics were available for this production form. Thereafter the mentioned production forms are analyzed emphasizing the functions of the companies involved; the leverage implied in relation to other actors and the implications for the distribution of value, with emphasis on the Venezuelan state.

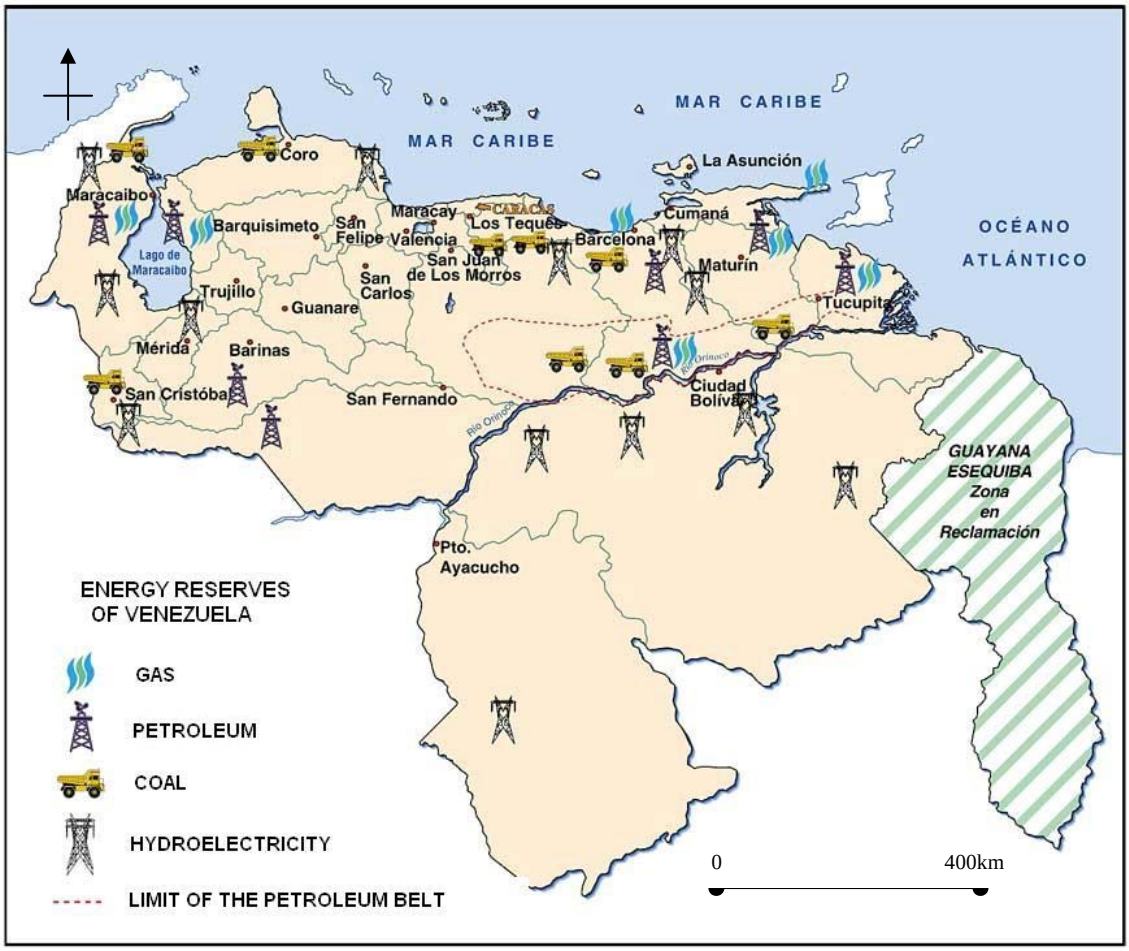
Section 4.2 discusses the supplier sector of the Venezuelan petroleum industry as this was organized by 2005. The main point is to analyze the *way it is linked to the nodes of the core activities*, and the qualitative aspects of these linkages that facilitate and impede value enhancement.

The arguments and conceptualizations of the theoretical framework are decisive for the analysis of the data in section 4.1, 4.2. However, the discussion of the relevance of the theories is mostly left for section 4.3. This is because many of the lines of argument are best discussed when taking into account the findings about both the core activities and the supplier sector.

4.1. Core activities: organization of production and capture of value

In this section I present the main organizational modes of the core activities in the Venezuelan petroleum industry at the time of the fieldwork in 2005:

1) PDVSA's own production
2) Operating agreements
3) Strategic associations of the Orinoco Belt
4) Outsourcing



Map 1. The location of the energy reserves of Venezuela. Source: Based on PDVSA.

With the nationalization of 1975, established in the LOREICH, also called the nationalization law, PDVSA got the exclusive right to explore extract and market the Venezuelan petroleum (Rodriguez 2000). However, as pointed out in the chapter 1, through a series of production forms introduced in the era of the *apertura* policy foreign petroleum companies entered Venezuela again to produce a significant proportion of the country's petroleum. The

following part of the LOREICH describes under what circumstances and conditions this can be done:

> In special cases and when it is in the interest of the public, the National Executive or the abovementioned entities [entities of public property] can celebrate association agreements with private entities in whichever of the mentioned activities with such a participation that guarantees control on part of the State and with a determined duration. For the celebration of such agreements the prior authorization of the Chambers in joint session is required, within the conditions they might determine once they have been properly informed by the National Executive about all the pertinent circumstances (LOREICH, Article 5).

The information from the tables below indicates the composition and production level of the operating agreements and the strategic alliances.

Table 1.1 Operating agreements 2003

Operation Agreement	**Associates**	**Participation**	**Barrels per year**
Guárico Oriental	Teikoku Oil de Venezuela	100%	943,000
Monagas Sur	Benton Oil & Gas	80%	7,347,000
	Vinccler	20%	
Pedernales	Perenco	100%	2,755,000
Boscán	Chevron	98%	36,112,000
	IneBoscán	2%	
Colón	Tecpetrol Venezuela	43.7%	6,216,000
	CMS Oil & Gas	43.7%	
	Coparex	12.6%	
DZO	BP Venezuela Holding	100%	6,055,000
Falcón Este	Vinccler	100%	132,000
Falcón Oeste	West Falcon Samson	100%	186,000
Guárico Occidental	Repsol – YPF Venezuela	100%	32,000
Jusepín	Total Oil & Gas de Venezuela B:V	55%	10,797,000
	BP Venezuela Holdings	45%	
Oritupano – Leona	Petrobras	45%	14,026,000
	Union Pacific Resources	45%	

	Servicios Corod de Venezuela	10%	
Quiamare-La Ceiba	Repsol – YDPF Venezuela	75%	4,914,000
	Ampolex	25%	
Quiriquire	Repsol – YDPF Venezuela	100%	6,192,000
Sanvi Guere	Teikoku Oil de Servi Guere	100%	1,328,000
Urdaneta Oeste	Shell de Venezuela	100%	16,599,000
Acema	Petrolera Carril	14%	831,000
	Petrobras	86%	
Ambrosio	Perenco	90%	2,902,000
	Petróleo y Gas Inversiones P&GI	10%	
B2X-68/79	Nimir Petroleum Company	80%	652,000
	Ehcopek Petróleo	10%	
	Cartera de Inversiones P&GI	10%	
B2X-70/80	Nimir Petroleum Company	90%	1,114,000
	Ehcopek Petróleo	10%	
Boquerón	BP Venezuela	60%	3,249,000
	Preussag Energie Gmbh	30%	
	Petróleo y Gas Inversiones P&GI	10%	
Cabimas	Preussag Energie Gmbh	90%	2,094,000
	Suelo Petrol	10%	
Caracoles	China National Petroleum	100%	3,497,000
Casama-Anaco Open	Cartera de Inversiones Venezolanas	50%	648,000
	Cosa Ingenieros Consultores	30%	
	Rosewood North Sea	18%	
	Phoenix	2%	
Dacion	Eni Dacion B.V	100%	18,409,000

Intercampo Norte	China National Petroleum	100%	6,049,000
Kaki	Inemaka	60%	586,000
	Inversiones Polar	30%	
	Petroleo y Gas Inveriones p&GI	10%	
La Concepción	Petrobras	90%	4,363,000
	Williams Companies	10%	
LL-652	ChevronTexaco Global Technology	63%	3,754,000
	Statoil	27%	
	Petroleo y Gas Inveriones p&GI	10%	
Mata	Petrobras	86%	1,670,000
	Petrolera Mata	14%	
Maulpa	Inemaka	60%	286,000
	Inversiones Polar	30%	
	Petroleo y Gas Inveriones p&GI	10%	
Mene Grande	Repsol – YPF Venezuela	100%	4,716,000
Onado	Corporación General de Combustible	65.01%	984,000
	Banco Popular del Ecuador	20.89%	
	Korea National Oil Company	14.10%	
PetroUCV			153,000
JoboUDO			469,000
Total			**170,060,000**

Source: MEP

Table 1.2 Strategic alliances of the Orinoco Belt 2003

Strategic Alliance	Associates		Barrels per year
Petrozuata	Conoco	50.1%	37,961,000
	PDVSA	49.9%	
Cerro Negro	Exxon-Mobil	41.67%	36,763,000
	PDVSA	41.67%	
	Veba Oel	16.67%	
SINCOR	TotalFinaElf	47%	57,626,000
	Pdvsa	38%	
	Statoil	15%	
Ameriven	Philips	40%	24,297,000
	PDVSA	30%	
	Texaco	30%	
Total			156,647,000

Source: MEP

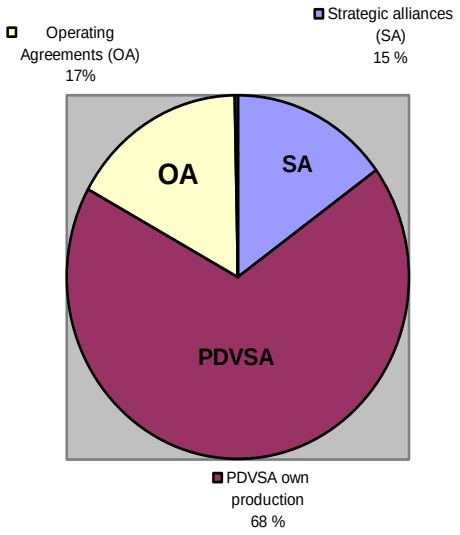


Figure 1. Distribution of petroleum production 2003. Source: MEP 2006.

According to MEP Venezuela produced 2.8 million b/d totally in 2003 of which and PDVSA produced 1 913 000 b/d. The statistics from table 1.1 and 1.2 show that the operating agreements produced slightly more than 170 million barrels and the strategic associations of the Orinoco Belt, in the following referred to as the strategic associations, more than 156.6 million barrels, which means an average of approximately 466 000 b/d and 429 000 b/d respectively. Accordingly PDVSA produced 68% and the operating agreements and strategic associations 17% and 15% respectively. However, even more important is the fact that the shares of the operating agreements and strategic associations have been augmenting from zero since the first operating agreements were signed in 1992 (Rodríguez 2000). Preliminary numbers offered by the minister of Energy and Petroleum, Ramírez indicate that the production of the strategic associations reached 620 000 b/d in 2005 meaning a 45% increase in two years, while the production of the operating agreements has increased at a very modest rate[6]. According to the estimates of the MEP, PDVSA also increased its production with approximately 10 % to about 2.1 million b/d. Importantly, the political turmoil in the country in 2002 and 2003, including the shutting down of the whole petroleum industry for several weeks, an event that will be commented later, influenced negatively on the production of 2003. According to the MEP in the five-year period 2000 to 2005, with the exception of that particular year, the petroleum production has oscillated around 3 million b/d.

In 1981, out of a historical maximum of 19 700 million USD in gross income from the petroleum sector the share of the Venezuelan state was13 987 million USD, which amounted to 71% of the total. In 2000, however, when the gross income reached a new maximum of 29 300 million USD, the share of the Venezuelan state was only 11 427 million USD, or 39% (Mommer 2003). In other *words the Venezuelan state's capture of value from the petroleum industry was almost halved in relative terms*, and despite of the great increment in gross income, its take also diminished in absolute terms. The organization of production is determinant for the distribution of value. However, the abovementioned quantitative information about the different organization forms of the core activities does not explain *the causes* of this deterioration. Hence, in the following subsections, these production forms are analyzed with emphasis on those characteristics that are decisive for the state's capture of value.

[6] (Ramirez http://www.menpet.gob.ve/noticias/recientes/2006-09-12_discurso_ingles.php)

4.1.1. PDVSA own production

PDVSA is a 100% publicly owned and managed integrated petroleum company, which according to its statutes is the operative arm for the realization of the values of the hydrocarbons of Venezuelan state. The staff of PDVSA is close to 100% Venezuelan and its statutes do not permit outsourcing of core activities (interview Contreras, MEP/PDVSA).

As indicated above, PDVSA's own production in 2003 was between 2 and 2.2 million b/d, constituting approximately two thirds of the approximately 3.2 million b/d of petroleum produced in Venezuela. The production volume of PDVSA is determined according to the directions of the MEP, but abiding to Venezuela's production quota decided by OPEC. As owner of PDVSA the state receives dividends, tax and royalties from the company.

PDVSA is also in charge of the financial aspects of the operative agreements and participates as a minority owner of the strategic associations. Now, the cost-efficiency of PDVSA as a petroleum company is obviously a determinant factor for the Venezuelan state's income from the petroleum industry. However, this falls outside the scope of this thesis. Here, the crucial point is that PDVSA's own production *permits* the state complete governance over the core activities and the values constituted by its output, not how this power is administered.

4.1.2. The Operating agreements

Formally the operating agreements did not imply that PDVSA ceded the ownership of the petroleum to other companies. In stead, the mainly transnational petroleum companies that extract petroleum under this contractual framework are only providing PDVSA a *service* for which they receive remuneration from the latter. As pointed out in the historical framework, while the justification applied by PDVSA and former Venezuelan governments to open up for private petroleum companies in Venezuela after the nationalization in 1975 was the need for capital, technology and experience to handle the extra-heavy petroleum, soon after also medium and light petroleum qualities were included in these policies. Many of these petroleum deposits, mostly located around the Maracaibo Lake were assigned to the operating agreements.

As can be appreciated in table 1.1 most of the companies of the operating agreements are transnational petroleum companies with headquarters outside Venezuela. However, this does not tell the whole story about their connection to Venezuela. Statoil, for example was eager to express that the company was undergoing a continuous process of "venezuelanization", which means that an increasing share of the company's staff in Venezuela on all levels are Venezuelan citizens (interview Schmilinsky, Statoil). This opinion

was shared also by the CPV that claimed that the tendency to employ an increasing number of Venezuelans in the intermediate and executive ranks was also present among the operating agreements in the country in general (interview Alcántara, CPV). Schmilinsky also pointed out that "Statoil is more than happy to operate in accordance with national regulations, and contributes to the development of the Venezuelan petroleum industry by transferring as much authority to take decisions and as many tasks as possible to the staff in Venezuela" (interview Schmilinsky, Statoil). The increasing number of Venezuelans in the operating agreements could indicate that these are gradually growing more and more independent from the headquarters of the foreign associates. This tendency is relevant here because it *could* imply a greater loyalty to Venezuela, potentially facilitating the government's effort to achieve what it considers a reasonable share of the values created in the petroleum industry.

According to the informant of a private company of mixed Venezuelan and US capital that performs core activities normally executed by the petroleum companies themselves, "the main interest of a petroleum company is to manage the reserves and to commercialize the petroleum" (interview Antonio Soutullo, OTEPI Greystar). The contractual framework of the operating agreements, reserved the ownership and management of the reserves, as well as the commercialization of the petroleum, to the state represented by PDVSA. The amount of petroleum and the spatial extension of the petroleum deposits to be exploited were determined by the state (LOREICH). Seen in light of the testimony of OTEPI, the formal contractual relationship between PDVSA and the operating agreements, thus, granted the control over the most crucial aspects to PDVSA.

On the other hand, *PDVSA was not physically involved* in the production on any way on the petroleum deposits operated by the operating agreements. According to the MEP, the petroleum companies that retained the majority participation in these agreements and controlled the extraction of the petroleum have also exceeded both the territorial limitations and the volume limitations established in the contracts (interview Mommer, MEP).

Also, the remunerations paid to the operating agreements by PDVSA were calculated as a function of, among other factors, *the market value* of the petroleum (Rodriguez 2003). In the words of the vice minister

> In this situation PDVSA on average pay the operating agreements 60% of the market value of the petroleum they extract for us and in some cases more than 100%, causing net losses. Under such circumstances it is very difficult to talk about the transnational petroleum companies of the operating agreements as mere service contractors (interview Mommer, MEP).

An important fact that supports the vice ministers point is that many of the USA based petroleum companies that participate in the operating agreements have the petroleum reserves of the fields that are assigned to them registered as their *property* in the U.S. Securities and Exchange Commission (SEC) (interview Contreras, MEP/PDVSA). SEC is an entity whose objective is to protect the interests of American investors[7]. The Venezuelan minister of Petroleum and Energy Ramírez stated that:

> By means of these wrongly named operating agreements, private petroleum companies in practice became petroleum producers within the area granted to them, in contravention of the Nationalization law. This fundamental fact, however, was masked by legal sophistries which had the concept of "services" at their core[8].

The status as service contracts meant the exemption from important fiscal burdens for the companies of the operating agreements. The operating agreements were originally not subject to the petroleum related tax rate of 50%, established in the legal framework that was in force when the contracts were signed, but the 34% valid for all non petroleum activities. The royalties applicable to the production of the operating agreements were paid to the state by PDVSA. In Mommer's words

> This arrangement constitutes a fiscal shield, which excludes the Venezuelan state from the distribution of the values derived from the petroleum resources. When petroleum prices rise and more and more money is transferred out of the country into the accounts of the transnationals [petroleum companies], the only possibility to retain some of those values within the country, which is increasing the royalties, is blocked because these are paid by PDVSA (interview Mommer, MEP).

Importantly 90% of the operating agreements reported losses to the Venezuelan tax bureau, SENIAT, and did thus, not pay taxes at all. This was considered particularly serious and unfair as these companies had the advantage of exploiting the diminishing reserves of light and medium crude petroleum, which are less costly to extract and easier to market (interview Mommer, MEP). The minister of Energy and Petroleum describes some other financial aspects of the operating agreements concerning the capture of value in this way:

> Some other so-called contractors [operating agreements] received "incentives" amounting to 1 million USD a day in payment for having reached a certain production level. Thus, by the year 2004, whereas the production cost of PDVSA's own production amounted to no more than 4 USD p/b, the production cost of oil extracted under the operating services agreements [a longer term for operating agreements] reached 18 dollars p/b, and

[7] http://www.sec.gov/about/whatwedo.shtml
[8] http://www.menpet.gob.ve/noticias/recientes/2006-09-12_discurso_ingles.php

> PDVSA had to disburse more than 3 000 million USD by ways of fees, stipends and incentives[9].

As the production costs of the operating agreements were paid by PDVSA, the high costs inflicted serious economic losses for the Venezuelan state. This is pointed out also in the report of the accountant superintendent of PDVSA for the years 1999 and 2000. The same report also emphasized the severe difficulties in exercising control functions on behalf of the share holder of PDVSA, the Venezuelan state, especially in relation to the different forms of payments and remunerations to the operating agreements (Ramirez 2004).

Another important aspect of the strategic associations is that the contractual framework guarantees that in the case of a possible cut in production decided by OPEC, *these companies will not be affected* (Mommer 2003).

In sum, the most crucial implications of the operating agreements is that PDVSA ceded the physical control of the petroleum reserves to the private petroleum companies of the operating agreements, while both operating costs and fiscal obligations were transferred to PDVSA. The fact that PDVSA *formally* owned the petroleum reserves exploited under this production form was not enough to ensure sufficient control and transparency so as to protect the economic interests of the Venezuelan state. This has undoubtedly contributed to the fall in capture of value from the petroleum industry of the Venezuelan government.

4.1.3. The strategic associations

The four strategic associations, situated around the Orinoco river in the area denominated the Petroleum Belt on map 1, differed from the operating agreements in the sense that the participants had the *formal right to the petroleum*. In all of the strategic associations PDVSA participated as a minority owner, while one or more transnational petroleum companies were the majority owners. On the other hand, formally PDVSA is a part of the decision structure also in operational aspects.

A closer look on the organization of the strategic association SINCOR provides some insight in the degree of articulation with the national economic environment in this production form. When asked about the division of labour within this strategic alliance Cafaro emphasized the unity, rather than division, of the associates:

> Although Total has certain strength because of its majority PDVSA and Statoil participate on all levels. Decisions are mostly based on consensus, and SINCOR really works as a

[9] http://www.menpet.gob.ve/noticias/recientes/2006-09-12_discurso_ingles.php

> whole and derives its advantages from the synergy that is created between its three associates" (interview Cafaro, SINCOR).

SINCOR also emphasize what they call the "venezuelanization" of the company, in terms of personnel, in the sense that all levels, from key executive positions to labour, are increasingly occupied by Venezuelans (interview Cafaro, SINCOR).

The opening up for foreign capital in the Orinoco Belt was embarked upon because of the special challenges associated with the extra heavy crude oils that are found there (Rodriguez 2000, Mommer 2004). In addition to the extraction process, the main problems with these petroleum deposits are the marketing and transport. Although this petroleum is liquid under atmospheric circumstances and temperature of the subsurface, when it reaches the surface it assumes a non-liquid form and has a high content of sulphur and other contaminants. Also, the low API value[10] of this petroleum, generally below 10, makes for a lower price and more unstable demand in the world market (Martínez 2002, interview Contreras, MEP/PDVSA). For these reasons, among others, the decision was taken to construct upgrading plants on site where the petroleum is transformed into lighter crude petroleum qualities of between 17° and 32° API (Mommer 2004). The upgrading process, thus, is of key importance for the valorisation of this extra heavy petroleum and according, to SINCOR, the main strength of this strategic association. According to Cafaro

> When the executive board of PDVSA took the decision of inviting to make a consortium in 1999, it was because this special experience in handling extra heavy crude was needed. Statoil for example is known for having that kind of know-how. We are the only one of the strategic association that can transform the dirty sulphurous extra heavy crude of the Orinoco Belt into a crude as light as the Zuata Sweet [a non-sulphurous crude oil of 32° API], and this is very attractive in the market. PDVSA did not have the technology or the experience to do this. As far as I know that has not changed and that is why we have the position that we have today (interview Cafaro, SINCOR).

Interestingly this reveals that the initial emphasis on the unity of SINCOR, is not an exhaustive description of the relation between the participants of this production form. The production form of the strategic associations does imply a *formalized division of labour*, in the case of SINCOR defined as follows:

> The manager of operations is from our French associate Total, while the manager in charge of technical services and quality control is from Statoil. One of the most important things is our skills in horizontal drilling which is mostly a speciality of the foreign associates of SINCOR. However, PDVSA is present in all phases of production and upgrading, but most of all production (interview Cafaro, SINCOR).

[10] The API value of petroleum indicates its weight. API is the abbreviation of the American Petroleum Institute that also grant quality standards to companies and institutions involved in the petroleum industry

According to the MEP, the strategic associations left the government with little control over important parts of the operative aspects of the petroleum extraction and up-grading (interview Contreras, MEP/PDVSA). The appreciation of the informant from the MEP is supported by the following comment from a company that cooperates closely with SINCOR: “The strategic associations, even though PDVSA participates, are really transnationals [petroleum companies]. SINCOR for example is really operated by Total. Total controls its reserves” (interview anonymous).

In spite of PDVSA’s participation in the strategic associations, in terms of distribution of value this production form had many features similar to those of the operating agreements. Importantly, the royalties paid to the state were decreased to 1%, the minimum established in the LOREICH, and the profits subject to the non-oil tax rate of 34%. Before the nationalization of the petroleum industry in 1975 the taxes levied on the transnational petroleum companies ranged between 50% and 60%, while the LOREICH established 50% as the petroleum industry related tax rate, from which , as mentioned, the strategic associations were exempted (LOREICH).

The practice of importing costs from the foreign headquarters and exporting profits was in the view of the government a common characteristic that diminished the basis on which the profit tax is calculated (interview Mommer, MEP). According to the vice minister “in this situation Venezuela is practically receiving nothing but some temporal employment in return for our most valuable and non renewable natural resource” (interview Mommer, MEP). SINCOR, though, emphasizes that “SINCOR is 100% in line with all kinds of regulations. Our contract with PDVSA limits our production so our presence is regulated strictly by Venezuelan legislation” (interview Cafaro, SINCOR). However, when asked in what ways the extra heavy crude oil deposits of the Orinoco Belt was attractive for the foreign associates of SINCOR the SINCOR representative answered that “As this project seemed to offer attractive margins, the capital needed was easy get on good terms” (interview Cafaro, SINCOR).

Like the operating agreements, the strategic associations were also protected against possible cuts in the Venezuelan OPEC production quota, which means that if the OPEC takes such a decision, PDVSA will have to assume the entire production cut alone (interview Cafaro, SINCOR, interview Mommer, MEP). As the national income from PDVSA’s own production is greater than that of the strategic associations and operating agreements, this means that the economic loss for the Venezuelan state in the case of a production cut is more than proportionate with the size of the reduction.

While the petroleum production has increased little the last five years, the strategic associations of the Orinoco Belt have increased their share rapidly. Even more important is the fact that while the reserves of the light and medium petroleum deposits are diminishing, Venezuela's major reserves are those of extra heavy crude petroleum of the Orinoco Belt (Martínez 2002). The MEP has calculated the petroleum reserves of the Orinoco Belt to 236 billion barrels, and if these numbers are approved by OPEC, the Venezuelan petroleum reserves will surpass those of Saudi Arabia as the world's greatest.

The numbers illustrating state's diminishing take of the value created in the petroleum industry, exposed in section 4.1 refer to the years before the strategic associations were producing any significant amount of petroleum. However, with the increasing dependence on extra heavy petroleum, which is currently exploited almost exclusively by the strategic associations, the characteristics of this production form is crucial for the Venezuelan state's capture of value from the petroleum industry. My findings clearly indicate that the lack of physical control and the fiscal conditions implied in the contractual framework of the strategic associations are conducive to further deterioration in this respect, much in the same way as the operating agreements. One difference is that the strategic association also formally granted the transnational petroleum companies ownership of the petroleum reserves

4.1.4. Outsourcing

While the transnational petroleum companies tend to expand their share of the production, another tendency makes the picture of the functional division of labour in the Venezuelan petroleum industry more complex; the *increased use of outsourcing*. Between the nationalization and the *apertura* epoch this production form was not in use among the core activities of the Venezuelan petroleum industry and the legal framework still does not permit outsourcing of core activities for PDVSA (interview Contreras, MEP/PDVSA). The operating agreements and the strategic associations, however, faced *no restrictions* in this respect. The companies that carry out core activities in the petroleum industry on outsourcing contracts are subject to the none-oil profit tax of 34%. The royalties are paid by petroleum companies that contract them.

OTEPI Gresytar is a company with 50% Venezuelan and 50% US capital, registered as a Venezuelan enterprise, and that claims to be "the largest oil and gas facility contract operator in Venezuela" (interview Soutullo, OTEPI Greystar). The company periodically performed core activities under outsourcing contracts for a wide range of operators in the Venezuelan

petroleum industry, including SINCOR and the other three strategic associations of the Orinoco Belt as well as some of the operating agreements. According to CPV, in 2004 there were six Venezuelan companies performing core activities in the Venezuelan petroleum industry on outsourcing contracts and the market for these companies is growing (interview Alcántara, CPV). The account of the entry and development in the Venezuelan petroleum industry of OTEPI Greystar reveals many important features of the structures of the Venezuelan petroleum industry. When asked how the outsourcing surged in the Venezuelan petroleum industry the companies manager of finances answered that "OTEPI Greystar, for example, was created in 1997 as a response to a need that surged in a petroleum deposit operated by Repsol, a company who entered the petroleum industry through an operating agreement during the *apertura* epoch" (interview Soutullo, OTEPI Greystar). More specifically, the core activities performed by OTEPI Greystar consisted of extracting the petroleum and operating and maintaining the superficial installations of the production plant. What are the motives of for outsourcing? Soutullo explains:

> Normally these tasks are carried out by the operators, but sometimes they lack the capacity for some reason or sometimes they need to cut costs. Our advantages are our flexibility and high degree of specialization. And of course the low costs. The need for labour is varies a lot and our flexibility saves the petroleum companies from loosing money on idle work force. In addition we offer advantages related to liquidity and savings of interests, as we charge the petroleum company after the job is done (interview Soutullo, OTEPI Greystar).

This informant also emphasized the difference between a company operating a petroleum installation under the conditions established in an outsourcing contract and the petroleum companies:

> We act as an operator company, but for a limited time and always under the supervision and following the instructions of the executives and managers of the petroleum company. Even though the difference is not that big in terms of the tasks we perform and the skills that are required, the profitability of an outsourcing company is not comparable to that of an integrated petroleum company that is entitled to the production. The mere extraction is in terms of incomes not so different from the provision of any relatively high value added service in the petroleum industry (interview Soutullo, OTEPI Greystar).

The reference to the *apertura* above means that the surge of companies that perform core activities under outsourcing contracts is the result of a *political decision* made by previous Venezuelan governments. However, a look at the way OTEPI Greystar established itself and competes in the Venezuelan petroleum industry uncovers the importance of structures whose extension is not limited to the Venezuelan territory. The company was created when the USA

based Greystar associated with Venezuelan capital and founded OTEPI Greystar as a Venezuelan registered company, as required for any entity performing economic activities in the country by the legal framework, with equal participation. Greystar has long experience in operating petroleum fields in the Mexican Gulf and obtained so-called *global contracts* with transnational petroleum companies like ChevronTexaco, Exxon and the consortium TotalFinaElf[11] before entering Venezuela[12]. When asked what the involvement of the US associate meant for OTEPI Greystar in Venezuela Soutullo answered that

> At first it was very important in bringing experience, technology and capital. Experience in a technical sense related to production, but most of all experience in cooperating and *maintaining connections with the petroleum companies*. Many of those who came here first had been working in the Mexican Gulf with the leading American petroleum companies. (interview Soutullo, OTEPI Greystar my italics).

According the CPV, the connections with the petroleum companies previously established through cooperation *outside* Venezuela, can be the decisive factor when two companies compete for an outsourcing contract (interview Alcántara, CPV). The fact that most of these companies that perform core activities are associations with foreign capital supports the statement above.

The legal framework that inhibits PDVSA from outsourcing core activities implies a ceiling to the expansion of this form of production. However, this upper limit depends on the size of the production of the operating agreements and strategic associations, which, as we have seen, *tended to increase*. The most important implication of this production form for the distribution of value is the cost saving achieved by the strategic associations and operating agreements, through the externalization of labour and capital costs. For the Venezuelan state the production form of outsourcing had no direct effect in terms of capture of value, because the royalties applied to the company that acquire the service from the outsourcing company and because both the petroleum companies and the outsourcing companies are subject to the non-oil tax rate of 34%.

[11] I refer to this consortium as Total, as this is the norm in Venezuela.

[12] (http://www.otepi.com.ve/index.php?module=pagemaster&PAGE_user_op=view_page&PAGE_id=26&MMN_position=41:10:19).

4.2. Enhancement of value through backward linkages

The participation of Venezuelan supplier companies is a form of *enhancement of value* created in the petroleum industry and constitutes the main subject of this section. The national petroleum company PDVSA; the transnational petroleum companies established in Venezuela through operating agreements and the strategic associations and the companies that perform core activities under outsourcing contracts all constitute a market for goods and services. I will focus the suppliers of the EPC category and. The main sources are the petroleum companies that acquire the services and the EPC suppliers themselves. However, both sources have first hand experience with the suppliers of machinery and equipment, the EPC suppliers through the procurement part of their portfolio and the petroleum companies as buyers. Hence this branch of the supplier sector is also analyzed, from the buyers' point of view.

National participation

When asked about the national participation in the supplier sector of the Venezuelan petroleum industry both my MEP/PDVSA informants gave quite vague answers. One affirmed that "it might be about 50% or 60% depending on how you measure it" and the other said "it is relatively high" (Interview Contreras, MEP/PDVSA). The executive advisor of the CPV that organizes approximately 900 Venezuelan suppliers of goods and services in the petroleum industry said the existent statistic material is inaccurate, but estimated the participation to be somewhere between 30% and 50%. On the other hand, the informant from the strategic association SINCOR estimated their use of national suppliers to around 80% (interview Cafaro, SINCOR). The discrepancy between the answers can to a large extent be attributed to the fact that all companies that operate in Venezuela must be registered as Venezuelan companies, and that SINCOR's estimate includes everything that is not imported directly by SINCOR, while the estimate of the MEP take into account the fact that many of the Venezuelan registered suppliers are mere importers of foreign produced goods. The head of SINCOR's buying office also says that "obviously, most of the materials and spare parts that we need for our plants comes from abroad and we buy a lot of it through Venezuelan companies that import it" (interview Cafaro, SINCOR).

The informants' appreciations of the current state of the national participation in the supplier sector seem rather opaque. However, their testimonies gave a clear impression that Venezuelan value enhancement was *increasing* in the EPC sector of the petroleum industry. The CPV was founded in 1978, two years after the nationalization of the Venezuelan

petroleum industry with the objective of promoting the Venezuelan private participation in this sector. According to the executive advisor of CPV Dr Alcántara, who was one of the founders of the organization, “there is a clear, although not at all very strong tendency to increased national participation, which has been more or less stable since the CPV was founded in 1978”. This opinion is shared also by Mommer who affirms that in general “the multiplier effect of our petroleum industry on associated economic sectors in the country is increasing and, in relative terms, satisfactory, of course when you compare with countries at a more or less the same developmental level as Venezuela” (interview Mommer, MEP).

4.2.1. Facilitating factors for the participation of the suppliers

The *apertura* policy: market expansion and technology transfer

According to SINCOR, Statoil and many of the EPC suppliers, opening up for foreign companies in the core activities of the Venezuelan petroleum industry has lead to increased production and an expansion of the market for the goods and services of the suppliers. In the case of MCL Control, the transnational petroleum companies Total and Petrobras constitute 30% of the demand for goods and services, which makes it a typical example of the importance of the backward linkages entailed by the *apertura* for the Venezuelan EPC suppliers in quantitative terms (interview Stassi, MCL Control).

Many of the suppliers also point to the importance of the apertura in the sense that new technology entered the Venezuelan petroleum industry. The ambitions of the CPV of building a strong Venezuelan supplier sector is partly built on basis of the know-how accumulated by among others the founders of the CPV through employment in the transnational petroleum companies (interview Alcántara, CPV). Many of the informants of the Venezuelan supplier companies reported that they had their background in the transnational petroleum companies. In addition to acquiring important technical and technological know-how, having worked in a transnational petroleum company can prove useful as this experience provides advantages when dealing with these companies as clients (interview Stassi, MCL Control).

However, many of the highly skilled employees of the suppliers had experience from PDVSA. In the engineering company Geohidra Consultores the majority of the employees had worked as engineers in PDVSA, and the informant of the company considered this equally relevant as working with the transnational petroleum companies (interview González, Geohidra Consultores). This process of accumulating know-how among the EPC suppliers, thus, cannot be attributed solely to the entry of the transnational petroleum companies.

But the transfer of know-how and technology from the transnational petroleum companies is not limited to the employment of Venezuelans that later join Venezuelan supplier companies or form their own enterprises. According to the CPV the majority of the companies of this organization belong to the EPC category (interview Alcántara, CPV). It is common that these companies interact tightly with petroleum companies, often on the latter's production installations. This provides another opportunity to become familiar with new foreign technology and know-how (Barriles No. 81. 2004). The executive advisor of the CPV provides an example of the process of technology transfer caused by the interaction with the transnational petroleum companies:

> When we are going to build the platforms of the Orinoco Delta, Venezuela must acquire the technology that is necessary for construction in deepwater. So we get the technology from abroad and let foreign experts do the job, but we [the Venezuelan private and public sector] will be present during the construction. And the next time we need to install a deepwater platform, even though we might not be able to do it alone, we will at least advance and execute more tasks than the last time (interview Alcántara, CPV).

According to Schmilinsky, it is in Statoil's interest to develop an efficient and modern supplier sector in Venezuela, because that contributes to the petroleum company's efficiency. Further, he argues that one of the most significant advantages of Statoil with respect to the benefits for national participation in the Venezuelan petroleum industry is the way the company interacts with its local suppliers.

> The attitude of Statoil is different. We do not make the same distinction between us, as an operator, and them as suppliers or contractors. Our experience in team work is unique and stems from a Norwegian non hierarchic business culture. And this is transferred not through teaching it but through practicing it. Before the take off of a project we have brain storming meetings and we let our contractors use our locals. I mean how often do you see contractors wander around in the offices of PDVSA? (interview Schmilinsky, Statoil).

At two points in the interview Schmilinsky called persons who walked by and presented them as representatives of a local contractor company and of PDVSA, respectively, to prove his point.

The four suppliers that were most focused on engineering services reported a certain progress and pointed to increased competitiveness of the Venezuelan suppliers in this branch. The head of the buying office of SINCOR corroborated this notion saying that "as much as

about 85 per cent is done by Venezuelan companies and with Venezuelan labour power and capital as well, not just a Venezuelan registration number".

Typically, the Venezuelan suppliers in the category EPC provide equipment for the different phases of a petroleum deposit, from exploration, through construction to the extraction and maintenance. If the product provided is some kind of machinery the supplier also see to it that the machinery works properly and provides instructions as well customer's support maintenance and replacements when necessary for a given period of time after the installation (interview Alcántara, CPV). MCL Control is a 100% Venezuelan owned company of this category that "specialize in packaged automation solutions for gas and steam turbines, boilers and furnaces, gas and air compressors, emergency shutdown systems and petroleum productions in general" (interview Stassi, MCL Control). Also typical for the Venezuelan EPC companies, MCL Control has a total of 40 employees, including 20 engineers and 10 programmers. Interestingly, this company, that formerly only provided imported goods or goods bought by other producers in Venezuela *now offers its own products*. The manager explains:

> Through the accumulated experience from assessing the needs of the petroleum installations, procuring, installing and initiating the use of the imported merchandise, in 2002 the we were able to develop our own software solution for visualization and control of valves and compressors for the petroleum industry (interview Stassi, MCL Control)

Stassi also believes that the fact that many of the employees formerly worked for its current clients was important for understanding their needs and requirements.

Brand names and transnational contract networks

A factor much mentioned among the EPC suppliers to explain their relative success was the quality of the merchandise produced by manufacturing suppliers that they offer to the petroleum companies. Conind is a 100% USA owned but Venezuelan registered company of the Puffer Sweiven group with affiliates in the USA and Colombia. The main strength of Conind, according to the sales director, is derived from the quality and world wide recognition of the brands provided by the company. Among the most important products are valves that control and regulate the flows of petroleum (interview Planas, Conind).

Total signed transnational contracts with the Puffer Sweiven Group that provides Fisher products. As the representative of the latter, Conind is the only Venezuelan supplier that offers Fisher products. Hence, when SINCOR, where Total is the major investor and is in

charge of operations, requires replacements, maintenance or reparations of Fisher equipment, the only company to turn to in Venezuela is Conind (interview Planas, Conind). The point is that through *already existing cross-border connections* between renowned manufacturing suppliers and the transnational petroleum companies, the EPC suppliers in Venezuela can benefit from the recognition of brand name products and link up to the petroleum companies, especially when they obtain status as exclusive representatives of the brand names of the manufacturing producer.

Externalization

The major market expanding factor for the EPC supplier sector of the Venezuelan petroleum industry is the rapidly increasing *externalization of non-core tasks* among the petroleum companies. This is closely connected to the *apertura* policies, as the transnational petroleum companies are considered to have advanced further than PDVSA in the process of shedding of engineering services of various kinds. The increasing relative importance of the strategic associations exposed in chapter 4.1, thus, means new possibilities for the EPC suppliers. According to SINCOR the company's focus on the core activities implies new opportunities for local suppliers.

> You will find no plants that produce machinery or installations, no security companies or anything like that with the name of SINCOR or that of any of its associates. For example maintenance of an upgrading unit is something that many petroleum companies would do themselves, or a least they all used to do it themselves. SINCOR, however, wants to give local companies an opportunity and recently signed a huge long term contract with a Venezuelan consortium. (interview Cafaro, SINCOR).

SINCOR's focus on the core activities and externalization of non-core activities correspond with the general trend among the transnational petroleum companies (Ryggvik 2000). According to OTEPI, a company that carries out both core activities and none-core activities in the Venezuelan petroleum industry, one of the crucial factors for the company's increased output was *the withdrawal of the operating agreements and strategic associations from an increasing number of production processes.* This has expanded the total demand for the services of the EPC suppliers (interview Soutullo, OTEPI Greystar).

At the beginning of the *apertura* epoch PDVSA was a large vertically integrated state petroleum company focused on administering the national petroleum resources. As outlined in the background chapter, the company then embarked upon a process of large scale vertical

integration internationally, acquiring refineries located in Europe and USA, whilst simultaneously withdrawing from a lot of non core activities within Venezuela (Rodriguez 2000). Important examples are the transport fleet, where the ships were sold and the tasks taken over by a private Venezuelan contractor and the internal information system that was outsourced to a USA based informatics company (interview Cafaro, PDVSA/MEP).

The EPC suppliers conceive this development to be mutually beneficial, and point to the cost saving opportunities for the petroleum companies implied in outsourcing. The EPC companies usually offer highly qualified and specialized petroleum engineers. The demand for this kind of labour of each petroleum company is highly cyclical, depending on the stage of the petroleum deposit that starts with exploration, followed by construction, production, maturation, deterioration and closure. The same goes for equipment. Thus, the cost of maintaining idle relatively expensive labour and capital is externalized and transferred to the EPC suppliers. These companies are often not subject to the same labour standards as the petroleum companies. Importantly all of the EPC suppliers emphasized their flexibility as one of the advantages for the petroleum companies that acquire their services (interviews EPC suppliers).

4.2.2. Impeding factors

In spite of a certain growth in the use of Venezuelan suppliers, there are branches of the supplier sector, mostly the production of advanced equipment that I will call the *manufacturing supplier sector*, in which the Venezuelan participation is stagnant, declining and even totally absent. In the following some of the causes of this situation will be identified. Although the suppliers whose activities are strictly EPC related do not fabricate their own products, the informants considered themselves qualified to give their opinion about the manufacturing sector that produce the goods that they buy, sell and install for the petroleum companies operating in Venezuela. Together with the testimonies of the petroleum companies their appreciations will shed some light on the causes of the situation of the manufacturing supplier sector from the buyer's angle.

MCL Control was mentioned previously because as a supplier of the EPC category *it managed to move into the production of equipment.*

Here, the case of MCL is important because the existence of the possibility to make such qualitative leap means that the accounts of those suppliers of the EPC category that are *not* able or willing to expand the same way can reveal some of the factors that *impede* such a development. The reasons given for not carrying out such a leap, thus, represent the view

from the angle of one branch of the potential producers which will be discussed below in this section.

Technological dependency

The bulk of the advanced equipment, machinery and installations that are required by SINCOR are produced outside Venezuela. In the view of Cafaro "this is caused by a technological dependency that constitutes a ceiling; an upper limit for what can be achieved by Venezuelan companies on the short and medium terms" (interview Walter Cafaro, SINCOR).

The technological deficit is especially manifested in the production of heavy machinery for the petroleum installations. Here, the tendency has been rather the opposite of what is expressed as the general development towards higher national participation.

Technology transfer was mentioned as a facilitating factor in the previous section, but on a general basis, the inaccessibility of necessary technology is also much referred to. The executive advisor of the CPV describes the situation as follows:

> The transnational petroleum companies and their associates are not here to transfer technology but to make money, just like any company in any part of the world. They will not give away their technology for free, because the technology is one of their major competitive advantages. I mean you would not give away your competitive advantage so that your competitors can chase you out of the market (interview Alcántara, CPV).

As a member state of the WTO Venezuelan authorities are responsible for the implementation of international patent rules, which rules out the possibility of copying technology.

To some extent the difficulties of acquiring new technology for the Venezuelan owned companies can also be attributed to the lack of access to funding. Stassi explained that among the advantages of the foreign competitors, or competitors with a certain foreign participation, in the EPC category was the financial strength. He says that "in difficult times, when the market contracts temporarily, the headquarters keep them alive, while Venezuelan competitors perish". He also pointed out that in some cases regional authorities provide tax discounts or tax holidays to attract foreign companies with new technologies, augmenting even more their relative financial strength. As a consequence of the Venezuelan companies' lack of financial strength, in many cases the consortia made with foreign companies are not that beneficial for the Venezuelan associate in technological terms (interview Alcántara, CPV).

Industrial recession

Until the liberalizing era that began in the 1980s Venezuela had a significant heavy industry concentrated in the central region with the big cities around the capital and the metallurgic industrial complex in the province of Bolívar. However, the ambitious plans that initially characterized these state owned industrial projects gradually faded as poor performance and adverse circumstances lead to stagnation. A process of large scale privatization was embarked upon and subsequently the close-down of factories.

When asked about the competitiveness of Venezuelan producers of equipment for the petroleum industry, the manager of finances of OTEPI Greystar answered as follows:

> Well, since approximately 20 years ago the Venezuelan market has been increasingly penetrated by the globalization. This meant that many inefficient producers went bankrupt. Whole industries disappeared because they were not able to produce efficiently. This means that those who survive do so because they are efficient and produce high quality equipment at competitive prices (Interview Antonio Soutullo).

As a result, the mentioned metallurgic industries now produce mostly raw materials. An illustrative example is the steel that is exported and returns in the form of off-shore platforms for the Venezuelan petroleum industry (interview Contreras, MEP/PDVSA).

MCL Control, although the company launched its own software products, still mainly works with equipment produced by industrial companies. Out of this 70% is imported and 30% is produced in Venezuela. Stassi explains:

> It is our policy to buy as much nationally produced equipment as possible, so what we import is almost exclusively goods that no Venezuelan company produces. Regarding the 30% that we buy in Venezuela, such as tubing and the like, these are things that have been produced here as long as MCL Control has existed (interview Stassi, MCL Control).

According to Stassi, the industrial branch of the supplier sector in Venezuela has lost competitiveness because "since 1989, as long as we [MCL Control] have been in the business, these companies have not been willing or not been able to renew themselves continuously, try out new solutions and adjust to the future as the market requires" (interview Stassi, MCL Control). López (lecture) claims that the Venezuelan business culture is of a highly rentist character and stands out in this respect, even within the Latin American context.

Excluding network structures

Another evident problem for the Venezuelan suppliers is the access to the petroleum companies. When the Venezuelan petroleum industry was nationalized in 1975, the state took

over the assets and petroleum deposits of 23 mostly transnational petroleum companies. However, as pointed out in the background chapter, the administrative structures to a considerable degree remained intact. While this prevented an operational rupture that could possibly be caused by a more profound organizational change, it also conserved the purchasing policies of the former concessionaries that now constituted PDVSA. The executive advisor of CPV provides an example from the nationalization of Creole, a US petroleum company where he used to work:

> The people in Creole, when this company was nationalized and turned into Lagoven, [a PDVSA entity] maintained their habits. For example, when new tubing was required they continued calling their supplier in the USA. But we said "hey, stop. There are tubing companies here in Venezuela". But they did not know who or where or how. And when the operators do not invest the necessary time to get an overview of the local supplier it is up to us to reach them. And that is not an easy task (interview Alcántara, CPV).

While PDVSA has been a Venezuelan company since 1975, the transnational petroleum companies that entered Venezuela during the 1990s to form the strategic associations and the operating agreements have had even less time to establish linkages with Venezuelan suppliers, and one of the suppliers commented that it was more difficult to get in touch with the operating agreements and the strategic associations than with PDVSA.

> Sometimes these companies [operating agreements and strategic associations] do not take our offers into consideration. Even in cases where we feel we can offer the best quality and competitive prices, sometimes we hear about a project after they assign it to a foreign supplier (interview Stassi, MCL).

Interestingly, while most of the suppliers of this thesis reported to benefit from the externalization of the petroleum companies, this statement came from the only one of them that provided its own products, not only procurement and other services. This indicates that Venezuelan companies expand more easily in labour intensive and less capital intensive branches of the supplier sector.

Conind was mentioned as a foreign owned EPC supplier that managed to benefit from the brand names as an affiliate of the transnational consortium that distributes these products internationally. The statement below exposes the flip side for the Venezuelan owned EPC suppliers of the established between transnational producers of equipment and the transnational petroleum companies.

> When SINCOR was founded in Venezuela the whole system of all kinds of valves was bought from Fisher. The deal was made in France, I think, mainly because of Total's [the majority owner of SINCOR] contracts with the Emmerson Group that distributes Fisher globally. And since we, as part of the Emmerson Group, are the only authorized provider

> of Fisher in Venezuela, when SINCOR needs a replacement for a valve they go through us (interview Planas, Conind).

In the case of Conind the relation between a transnational petroleum company (Total) and a transnational consortium that provides advanced equipment for the petroleum industry (Emmerson Group) is imported to Venezuela. Interestingly it also illustrates how the producer of the equipment retains the control over the distribution and the benefits derived from the brand name through its Venezuelan registered affiliate (Conind). This implies that in a hypothetical case where PDVSA wishes to contract a Venezuelan owned EPC supplier to install, replace or repair, for example, a control valve produced by Fisher, that choice is not open because the American owned Conind is the only authorized provider of Fisher in Venezuela.

The requirements of the petroleum companies

The requirements of the petroleum companies also represent a huge challenge for any supplier that wish to enter such a production network. The interconnectedness of the different processes, the vulnerability of certain nodes and the enormous values that are at stake make quality prevail in a way that makes considerations of national participation relatively less significant than in many other industries. In the words of the executive advisor of CPV ”there is an exceptionally great need for precision and any incident of inaccuracy in any node of the petroleum industry will cause a chain reaction, possibly a catastrophe of enormous dimensions, humanly, economically and ecologically” (interview Alcántara).

Quality standards such as ISO 9000 a quality standard of the International Organization for Standardization, (ISO) are mentioned by many of the suppliers as a barrier to enter into some branches. However, many also said to be in the process of acquiring these standards. For the company Vetco, that supplies specially customized security equipment for personnel, in the petroleum industry, the quality standards are mentioned as one of the reasons why the company imports 90% of the equipment even though Venezuelan producers provide many of the types of equipment in question. According to Segura

> [T]he API [American Petroleum Institute], ASTM [American Society for Testing Materials] and the ANSI [American National Standards Institute] standards get you a very long way in this branch, because securing your personnel you only go for the best. And the security matter is becoming more and more important in the petroleum industry every year (interview Segura, VETCO).

Conversely, the Venezuelan producers that are not able to obtain these quality standards are deemed to lose ground. In the case of Vetco the imports have increased at the cost of existing Venezuelan fabricators.

Time is also a considerable element in this respect. Although the spatial rigidity inherent in the petroleum industry might benefit the Venezuelan producers in this respect because of their proximity to the petroleum deposits, there are other industry specific factors that work in the opposite direction. The reasons given for the importance of quality in any node of the petroleum industry are also relevant in this aspect as any rupture caused by delays in deliveries can provoke enormous economic losses as all the subsequent nodes that are dependent on the input in question might be paralyzed as a consequence. The point is that as a consequence of this, in big projects, be it exploration, construction or the operation of an petroleum deposit, goods and services are often needed quicker and in larger quantities than what Venezuelan suppliers can offer. Statoil, SINCOR and PDVSA put great emphasis in flexibility and delivery time on goods and services from the suppliers (interview Schmilinsky, Statoil; interview Cafaro, SINCOR; interview Contreras, MEP/PDVSA). According to the executive advisor of CPV "giants such as Halliburton and Schlumberger have the financial liquidity and a capacity in terms of specialized labour and equipment that gives them a flexibility that no company operating in only one country can achieve" (interview Alcántara, CPV). Some of the suppliers considered the requirements of productive capacity and flexibility on part of the operators as significant impediments for their opportunities to gain access to the projects of the operators and claimed that if they were notified in an earlier phase they could prepare better and compete better with their foreign competitors. All of the informants from the EPC supplier companies clearly stated that they preferred long term contracts were this is possible, "because it makes it easier to make the right investments and acquire adequately skilled personnel" (interview Maestre, Vertix Instrumentos; interview Gonzalez, Geohidra Consultores). However, even though they believed that this also benefits the company that acquires the good and/or service in question, this is not easily obtained

> […]because often the petroleum companies prefer something close to spot market transactions were we sell the goods with the post transaction services [installation, maintenance and replacement] for one year included in the price, which means that we are not guaranteed that they will call us the next time they need something (interview Planas, Conind).

In other words, when the petroleum companies' and the EPC suppliers' references do not coincide the choice of the petroleum companies tend to prevail.

4.3. Theoretical perspectives

4.3.1. Peripheralization

A crucial tendency in the Venezuelan petroleum industry uncovered by the findings in section 4.1 and 4.2 is the transnational petroleum companies' increased physical control over the petroleum reserve and the parallel displacement of PDVSA through the expansion of the operating agreements and strategic associations. This tendency was revealed by the qualitative investigation of the petroleum industry's *functional configuration*.

There can also be identified a process in which Venezuelan owned suppliers of the EPC category slowly expand their presence in the petroleum industry, providing goods and services to the petroleum companies. Importantly, though, the findings showed that this expansion took place mostly in labour intensive and to some extent also knowledge intensive nodes representing production processes such as engineering, procurement and assembly or installation of equipment and machinery. One of the major causes is a process where PDVSA, the operating agreements and strategic associations increasingly *externalize* these operations. The Venezuelan EPC suppliers were not only displacing foreign suppliers but expanding their participation in production processes that are externalized by PDVSA, operating agreements and the strategic associations. The motivation for withdrawing from the nodes, now taken over by the EPC suppliers, was externalizing costs and increasing flexibility, something that is especially important given the cyclical demand for certain types of labour and capital. This is crucial because it means that to the extent that the Venezuelan suppliers of the EPC category are augmenting their participation in the Venezuelan petroleum industry, this is taking place in a process that resembles the tendency that I chose to call *peripheralization*, where the decrease in technological exclusivity means that low barriers to entry make for high competition as companies of the periphery enter and low profits, as outlined by Hopkins and Wallerstein (1994). Importantly, as the characteristics of the tasks in question require proximity to the petroleum wells, the process is not manifested in relocation of the production, but in the ownership of the companies that execute them.

Following the same argument, what can inhibit such a process from taking place in a given node, or a given production process, and maintain its degree of monopoly is *the exclusivity of the technology* in use (Hopkins & Wallerstein 1994). The testimonies of the informants indicate that this is an adequate explanation for the stagnation of the national participation in the manufacturing supplier sector connected directly to the petroleum companies or via the EPC suppliers in the Venezuelan petroleum industry. The examples of

technology transfer given by the suppliers are mostly limited *to know-how about the use of technologies*. While this know-how has contributed to increased efficiency it is *also* contributes to the maintenance of the *technological dependency* in the sense that it is related to the use of technologies that is only possessed by foreign companies. Logically, core technology is not given away. The EPC suppliers estimated that the Venezuelan manufacturing suppliers' share of the goods that they procured for the petroleum companies was diminishing slightly. Also other sources such as the petroleum companies confirm that the transnational manufacturing suppliers have achieved an oligopoly-like situation in many branches. This is attributed to a *lack of the constant renewal and innovation* that is required to compete successfully with foreign manufacturing suppliers. The EPC suppliers emphasize that those companies that are displacing the Venezuelan competitors certainly *have* managed to renew and develop their products. In sum, while the transnational petroleum companies moved out of labour intensive non-core production processes, they simultaneously increased their control over the nodes of the core activities through operating agreements and strategic associations, displacing PDVSA. In other words the transnational petroleum companies withdraw from nodes characterized by a harshening competition and lower value added, and expand in nodes with less competition and higher profits. This supports the argument of Hopkins and Wallerstein (1994) that the motor of change in the global organization of production is *capital's search for the relatively monopolized production processes and withdrawal from those in which competition increases.*

4.3.2. A producer-driven commodity chain?

To what extent can the patterns of governance and distribution of value be understood through the ideal types, buyer-driven or producer-driven commodity chains?

If the question of governance in an industry is to be approached through the ideal types, producer-driven and buyer-driven commodity chains, the central tasks are to identify the lead firm or firms of this industry, their characteristics and how they exercise power over other participants through backward and/or forward linkages. The search for the lead firms in the Venezuelan petroleum industry is complicated by the fact that there are three main forms of production of petroleum; PDVSA's own production; the operating agreements and the strategic associations.

The physical control over the petroleum deposit was retained by transnational petroleum companies in the strategic associations and the operating agreements, and by PDVSA on the petroleum deposits operated under the modality of own production. In the

cases of the petroleum deposits operated by PDVSA and the strategic associations, the commercialization of the petroleum was vertically integrated and controlled by the operator. The operating agreements, on the other hand, imply a formalized division of labour. As mentioned, in this production form the transnational petroleum companies are in charge of the extraction of the petroleum, but PDVSA is still the owner of the resource and the only entity attributed with the right to commercialize it, *and formally PDVSA remunerates the associates of the operating agreements only for a service*.

By looking at the operating agreements, where these two roles are occupied by different agents it might be possible to decide where the power to govern lies. The question is whether PDVSA as the *formal owner of the petroleum* and the one that commercializes it is the lead firm under this organizational form, or if the transnational petroleum companies' technology and know-how and the power derived from *controlling* the petroleum deposits give these more leverage than PDVSA.

In a buyer-driven commodity chain the low barrier to entry in the production nodes makes for high competition, and the realization of the value created by the producers depends on factors such as the access to markets, brand names or design, giving the buyer the upper hand in the power relation between the two (Gereffi & Korzeniewicz 1994). Although the operating agreements imply a separation of the physical production of the commodity from its commercialization, a feature of the buyer-driven commodity chains as they are described by Gereffi (1994), the data indicates that PDVSA does *not* have a privileged position in this production form. On the contrary, the petroleum companies of the operating agreements managed the forward linkages in a way that produced an outcome that is more favourable to them than to PDVSA that buys and commercializes the produce. The exclusive physical control over the petroleum deposits gave the transnational petroleum companies of the operating agreements the opportunity to report losses diminishing the basis on which taxes were calculated and transfer production costs to PDVSA. PDVSA, on the other hand, had to pay the royalties levied on the production of the operating agreements by the state in addition to remuneration and incentives p/b charged by the operating agreements. In sum, in the case of the operating agreements, *retaining the control over the operational aspects of the petroleum production implied a great leverage over economic aspects as well*. The financial aspects of the operating agreements sketched above, clearly indicates that PDVSA, as the buyer, was the weaker part compared to the transnational petroleum companies.

How well, then, does the Venezuelan petroleum industry fit with the ideal type, producer-driven commodity chain? In a producer-driven commodity chain the producer does

not only control the forward linkages, as pointed out above, but also the backward linkages. PDVSA, as mentioned, mainly carries out and controls the production in its entirety on the petroleum deposits it operates. This, however, is not the case with the operating agreements and strategic associations. These were increasingly splitting up the core activities by *outsourcing* the petroleum extraction and maintenance to private companies. Importantly, only the operation of the already mounted installations and equipment was being outsourced, which means that the companies such as OTEPI Greystar that operate under this contractual regime *only provide labour*, and that the *intention of the petroleum companies is to increase the flexibility and cut the cost of labour* but still govern the way these tasks are carried out. As a consequence the companies performing core activities on outsourcing contracts receive profits more comparable to that of the EPC suppliers than the profits of the petroleum companies. This way the petroleum companies still control the access to the resource and retain the biggest profits.

Motivated by the scope for externalizing the costs as well as increasing the flexibility of labour, all the petroleum companies, including PDVSA, are shedding off also non core labour intensive production processes, changing the functional configuration of the Venezuelan petroleum industry. The suppliers of the EPC category experienced a harshening competition, partly because the barriers to entry are relatively low in these nodes. The externalization of these production processes does not mean that the petroleum companies renounced their power to shape them. The petroleum companies still exercised governance through the establishment of quality standards and price and delivery time requirements. When the transnational petroleum companies established in the Venezuelan petroleum industry they brought with them already established connections with supplier companies. When Venezuelan suppliers are excluded because of such pre-established relations this can be seen as *excluding network structures that impede value enhancement*.

In sum the focal point of the Venezuelan petroleum industry is the control over the petroleum deposits and the petroleum companies exercised considerable influence over backward and forward linkages, much in accordance with the definition of a producer-driven commodity chain (Gereffi1994).

4.3.3. Global commodity chain or production network?

So far in this section I have pointed out aspects of the dynamics of the Venezuelan petroleum industry where Wallerstein's argument about capital's search for monopolized nodes and the ideal types of governance provide relevant explanations. These arguments and concepts all

belong within the framework of the global commodity chains (Hopkins & Wallerstein 1994, Gereffi 1994). However in section 4.1 and 4.2 there are also data that do *not* fit that well with these conceptualizations. In the following this data will be discussed in light of the criticism directed to the global commodity chains. The question will also be asked if the *production network* offers more explicative power with respect to these issues.

Within the framework of the global commodity chains, the driving force of growing presence of the transnational petroleum companies as operators in Venezuela must be the low degree of competition and hence high profitability of the nodes occupied by these companies. The low competition again would be caused by high barriers of entry, and the power resource of those companies that obtain the control over the petroleum deposits would be the possession of core-technologies. When considering the case, though, it must not be forgotten that the entry of the transnational petroleum companies was possible due to *political decisions* taken by Venezuelan government. In line with the official justification of the *apertura* policies of the 1990s, SINCOR emphasizes the technological superiority of its foreign integrants and claims that PDVSA would not be able to extract and up-grade the extra heavy petroleum efficiently. However, it is a fact that many petroleum deposits were being operated by PDVSA profitably before they were assigned to the operating agreements, even with the low petroleum prices of the 1990s. While this by no means is a reason to disclaim the argument about companies' search for monopolized nodes, it does mean that the *access to capital and superior technology are not the only reasons* or even the main reasons why the transnational petroleum companies were able to increase their control over the core nodes of the Venezuelan petroleum industry.

The global commodity chains approach, with its heavy focus on the decisions of the companies and neglect of the social and political context cannot explain why PDVSA was withdrawing from these very profitable petroleum deposits if the official argument of the company's inaptness is not accepted. One of the most important criticisms against the global commodity chains approach is that it fails to recognize that the strategies of companies are not solely determined by the structural requirements of the commodity chain in which it is enmeshed. In order to analyze the strategies of companies, the *structures of the regional or national context* where their headquarters are located can also be of crucial importance (Henderson *et al*. 2002). The contractual framework of the strategic associations and the operating agreements entailed elevated economic losses for the Venezuelan state if it decided to cut production levels. Moreover, some of the petroleum companies that participated in this production form exceeded their production quotas. This limited the possibility of the

Venezuelan government and OPEC to influence the price of the petroleum. Petroleum is an energy resource of strategic importance, and the majority of the transnational petroleum companies operating in the country are based in net petroleum importing countries that benefited from this situation. The point is that the conduct of the transnational petroleum companies cannot be understood in isolation from the interests of the net petroleum consuming countries in which they are based. PDVSA on the other hand, according to its statutes, is neither profit maximizing nor responsible for the interest of the net consumer countries, but the tool of the Venezuelan state to assure that the petroleum resource is exploited in a rational way to the benefit of the country's development. Hence, to explain the fact that this state company chose to withdraw from the most profitable node of the Venezuelan petroleum industry, other factors, such as factors related to the *social and political reality of the Venezuelan state apparatus,* must be considered.

The ideal types of the buyer-driven and producer-driven commodity chain can be a purposeful point of departure for an analysis of the exercise of power between the companies in the Venezuelan petroleum industry. But as argued by the critics, the assumption of *the one leading firm* proves a serious limitation (Smith *et al*. 2002). This criticism is supported by the findings of section 4.1 and 4.2. It is pointed out that the high grade of competition between the suppliers of the EPC suppliers gave the petroleum companies a high grade of influence over this node. However, also the producers of equipment and machinery that cater to the EPC suppliers in Venezuela exercised considerable power. The case of Conind provides an illustrative example. Here the producer of the equipment internalized the EPC supplier node through registering an affiliate, Conind, in Venezuela and *monopolized the advantages of its brand names and transnational connections with the petroleum companies*. Venezuelan owned EPC suppliers were precluded from such advantages, as Conind had the exclusive right to provide the merchandise in question.

The difference between Conind and the other EPC suppliers that were Venezuelan owned and with a looser connection to the companies that produce or distribute these products internationally shows that also within the nodes of the petroleum industry where national political context is assumed to have less influence than in the core activities, the organizational modes vary. Importantly, though, also the Venezuelan owned EPC suppliers are influenced by the backward linkages through quality and other requirements from the producers of equipment and machinery that they buy. The point is that even though this is in line with Dicken's argument that the character of the linkages between two given production

processes *tend to converge*, it also supports the criticism of the *necessity of the existence of one leading node* implied in Gereffi's ideal types. In sum the assumption that the power to govern is *necessarily concentrated in one node* overshadows important power relations between other agents and somehow excludes the possibility that companies in the same position can apply different strategies.

Smith *et al*. use the metaphor "a shifting mosaic of organizational structures" as an alternative to the rigidity implied in the global commodity chains (Smith *et al*. 2002:49). This seems to fits well with the organization of the Venezuelan petroleum industry. The criticisms directed to certain aspects of the global commodity chains approach treated in this project, are all based on theoretically related approaches and enmeshed in a debate about the aptness of different variants of chains or networks as the ideal conceptualization of global organization of production.

The data presented in this chapter leads to the conclusion that as basic metaphors the two options are not necessarily mutually exclusive. While the chain facilitates the visualization of the production of a commodity in the vertical dimension, which has been useful to expose relations of power in cases like that of Conind, the network also includes the horizontal dimension and thus provides a more real conceptualization of the production sphere where various chains share many of the same actors and are enmeshed in other societal structures (Sturgeon 2001). However, as a totalizing theoretical framework, the *production network* offers better possibilities to analyze the power relations in the Venezuelan petroleum industry. Even though the enhancement and distribution of value in the Venezuelan petroleum industry, as it appears in this chapter, to a very large extent can be explained within a framework in which the firms are the principal movers of the economy, the importance of arrangements made with the transnational petroleum companies as a part of the *apertura* policies illustrates the crucial importance of the political and institutional factor. The Venezuelan government's attempt to reshape the petroleum industry is analyzed in the next chapter and the findings exposed will be used to elaborate further on theoretical discussion in section 5.8.

5. Government intervention

How can the flows of value steered by transnational companies in a global production network be influenced by governments?

As revealed in chapter 4, the Venezuelan petroleum industry is complex network of interconnected actors with a varying degree of externalized and internalized linkages between different production processes. Since the election of president Chávez in 1998, the Venezuelan government has embarked upon a reform process intended to revert the tendency of declining capture of value and what it considers insufficient enhancement of value. This task constitutes an example of the coordination problem, whose essence is the challenge implied in attempting to steer in a particular direction an industry in which the factors of production are *interdependent in use, but dispersed in ownership*. In this section I will present data on how this problem is approached by the government. The point is to find out if the measures taken by the government succeed in altering those aspects of the production network deemed crucial for the capture and enhancement of value. Analyzing the current processes in the Venezuelan petroleum industry I will focus on *institution building* and also point out factors that work against the realization of the objectives of the government in this respect.

In the current Venezuelan political context, generally characterized by numerous and radical reforms, the number of public policies that might affect the functioning of the petroleum industry is almost infinite. Hence, in accordance with the concept of industrial policy, as defined by Chang (2003), I chose to focus on those that are specifically directed to the petroleum industry. Some of the major reforms that had recently been announced during my field work in Venezuela were actually effectuated after I had left the country. I have included as much as possible of these events in this section. The analysis is based on interviews with the government, the state petroleum company and representatives of the private sector as well as written sources, such news agencies, magazines and law texts.

5.1. The principal guidelines for the reform process

As accounted for in the historical overview, when the Chávez government came to power the political elite and the PDVSA management had already embarked upon a process of *privatization* of the petroleum industry as a part of the policy called *apertura*. President Chávez' discourse confronts this policy, denouncing the meagre share of the petroleum riches that contributes to the solution of Venezuela's problems of underdevelopment. Contrary to the prescriptions based on neoliberal theory such as that of Lal (1996), in the face of the

coordination problem the Venezuelan government has opted for *more state intervention* and institutional changes in order to improve this situation, and has launched an integral *vision*, as recommended by Chang (2003), in order to guide the transformation process.

The reforms in the Venezuelan petroleum sector is part of a wide reaching social and political reform prompted by the government of president Hugo Chávez and the political and grassroots movements that support him. This is a diverse movement that shares the common goal of achieving social justice in a society ridden by extreme inequality. The overall development strategy adopted by the Venezuelan government is called *endogenous development* and is aimed at diversifying the economy through diminishing the dependence upon imports through entering into production of new high value added goods and services (Dietrich 2005).

The writings and practice of the Venezuelan born Simón Bolívar, who lead the independence wars to victory and liberated the territory later to be split up in Bolivia, Colombia, Ecuador, Panama, Peru and Venezuela from Spanish colonial rule provide the ideological ground for the reform process that president Chávez terms *the Bolivarian revolution*. After the independence, Bolívar saw the local oligarchies as the main obstacle to social and economic progress in the region. He also warned against the signs of a coming North American imperialism, and proposed the uniting of the whole Latin-American continent and the Caribbean in order to change the power balance in the disfavour of the USA. A regional integration project, called the Bolivarian Alternative for the Americas (ALBA) is a part of the current Chávez government's geopolitical strategy to complete the decolonization that Bolívar started. This means *undermining the dominance of the local elites as well as their foreign allies*, especially the government of the USA, which were involved in the failed military coup against the Venezuelan government in 2002 and other acts of destabilization in the country[13]. (Dietrich 2005). Importantly, Bolívar also established *all underground natural resources and mines as public property* after the independence. At this time petroleum was not discovered in Venezuela, but this measure is seen as a legal predecessor to the later development of nationalist and state oriented petroleum policies (Contreras 2003, Interview Mommer, MEP). Since 2004 the word socialism, more specifically socialism of the 21st century and Bolivarian socialism, have taken a more and more prominent place in the discourse of the president. However, it remains to see what exactly what will be the characteristics of this socialism. The political economist Fukuyama

[13] http://www.venezuelanalysis.com/articles.php?artno=1270

considers the Venezuelan model a populist "postauthoritarianism", that "caters to real social needs"[14]. On the other hand, the sociologist Petras see president Chávez as an expression of the numerical superiority of the poor classes, but at the same time a pragmatic politician "…closer to Franklin Roosevelt's New Deal than Castro's socialist revolution"[15].
The principles of the reform process in the Venezuelan petroleum industry can thus be denominated a *Bolivarian vision*.

The Constitution of the Bolivarian Republic of Venezuela, introduced by the Chávez government and approved by the electorate in a national referendum in 1999, is a document that comprises many of the principles behind the current attempt to reshape the Venezuelan society. The article 156 (16) establishes the governance and management of mines and hydrocarbons as an *area of competence of the national public power*. Article 302 further states that:

> The State reserves to itself, through the pertinent organic law, and for reasons of national expediency, the petroleum industry and other industries, operations and goods and services that are in the public interest and of a strategic nature. The State shall promote the domestic manufacture of raw materials deriving from the exploration of non-renewable natural resources with a view to assimilating, creating and inventing technologies, generating employment and economic growth and creating wealth and wellbeing for the people (Constitution of the Bolivarian Republic of Venezuela 1999, Article 302).

Even more crucial for the petroleum policies is the new petroleum law LOH valid from 2001. This law further specifies the activities of the petroleum industry that are reserved to the state.

> The activities related to the exploration in search for deposits of hydrocarbons included in this Law Decree, to the extraction of them in their natural state, their recollection, transport and initial storage, are denominated primary activities for the purpose of this Law Decree. In accordance with what is established in article 302 of the Constitution of the Bolivarian Republic of Venezuela, the primary activities that are initiated, as well as those related to the works that their handling requires, are reserved to the state in the terms established in this Law Decree (LOH, Article 9. My translation).

Any possible initiative to privatize PDVSA wholly or partly is ruled out by the constitution:

> For reasons of economic and political sovereignty and national strategy, the State shall retain all shares of Petróleos de Venezuela, S.A. or the organ created to manage the petroleum industry, with the exception of subsidiaries, strategic joint ventures, business enterprises and any other venture established or coming in the future to be established as

[14] http://www.washingtonpost.com/wp-dyn/content/article/2006/08/04/AR2006080401768.html
[15] http://www.venezuelanalysis.com/articles.php?artno=1270

> a consequence of the carrying on of the business of Petróleos de Venezuela, S.A (Constitution of the Bolivarian Republic of Venezuela, article 303).

This confirms the status of PDVSA as a 100% public enterprise, but still opens for the various forms of joint ventures with the transnational oil companies and other private enterprises. According to the constitution, all disputes between the different participants of the petroleum industry must be resolved through Venezuelan arbitration.

Many of these principles, that are meant to recover the national sovereignty over the petroleum resources, which in the government's view was lost during the *apertura* epoch, are previously established in the LOREICH. However, the polemic article 5 of this law opened up for the forms of cooperation analyzed in section 4.1, which are seen as detrimental to the interest of the nation (Lander 2003, interview Contreras, MEP/PDVSA, interview Mommer, MEP). According to the government and some analysts, the PDVSA staff actively took advantage of this in order to increase the foreign participation in the Venezuelan petroleum industry, while at the same time internationalizing their operations with investments in refineries in Europe and the USA, both in the form of takeovers and construction of new ones (Rodriguez 2000, Lander 2003, interview Mommer, MEP). The vice minister of the MEP sums up the official view on some central problems in the oil sector that are targeted by the current reform process:

> Behind the backs of the people the management of PDVSA, which were the same individuals that had been working for the transnational petroleum companies before the nationalization, handed over entire oil wells to the transnationals [petroleum companies] violating Venezuelan law. Contracts were made that lowered the royalties and accepted that disputes between the Venezuelan state and the transnationals [petroleum companies] be settled by foreign courts. The national sovereignty over our most valuable resource was practically annulled. In addition to taxes and royalties evaded by the transnationals [petroleum companies], unimaginable amounts of money were transferred by the PDVSA management to foreign banks under the excuse of increased production costs resulting in deep misery for the true proprietor of the oil, the Venezuelan people (interview Mommer, MEP).

Reversing this situation is a principle objective for the Venezuelan government.

According to the former general secretary of the CPV, Viergutz, achieving growth for Venezuelan private enterprises in the petroleum sector has always been an outspoken objective of Venezuelan governments the last decades. However, neither the past Venezuelan governments nor the managers of these enterprises have approached the problem in a purposeful way. The current government, he claims, is the first one that

shows sufficient political will to take the necessary steps in order to fulfil the promise of granting the national supplier sector in the Venezuelan petroleum industry (Viergutz 2003).

The main problem with the *apertura* policies, as seen by the government, thus, was the loss of operative and fiscal sovereignty of the government both in relation to the transnational petroleum companies that constitute the strategic associations and operating agreements and in relation to PDVSA that acted against the national interests. The new legislation referred above is designed to reverse this tendency and turn the petroleum industry into a manageable tool for the transformation of the Venezuelan society in pro of industrialization and social development.

5.2. The petroleum industry in the society

Within the government's reform process, the petroleum industry is seen as *a means to achieve development* for Venezuela. A passage of the LOH sums up the basic principles of how the petroleum industry is to benefit the Venezuelan society as a whole:

> The incomes that the Nation receives from the Hydrocarbons is prone to finance the health, the education, the formation of macroeconomic stabilization funds and the productive investment, so that an appropriate connection of the petroleum with the national economy is obtained, all in function of the welfare of the people (LOH, dispositions. My translation).

In accordance with this objective, the creation of the so-called "missions", *large scale nation wide social programs* providing health care, basic and higher education and food to the poor majority, is financed directly by PDVSA. *Upgrading the physical infrastructure* with roads railways and bridges connecting Venezuela with neighbouring countries as well as metros and other modern urban transport systems in the biggest cities are also planned executed with direct financing from PDVSA (interview Mommer, MEP).

When it comes to the foreign and private participants in the petroleum industry, there is a *shift in focus from voluntary donations to compulsory contributions*, and the new tax regime is designed to levy higher taxes and royalties and limit tax evasion. This, however, does not mean that there are no more donations on part of the private actors. Rather the legal framework and the MEP encourage and seek to play an important role in developing projects based on donations from the private firms (LOH). Contreras explains the government's view:

You construct a refinery, and lots of people in the nearby village are employed. After five years it is completed, and people lose their jobs and are left to themselves in poverty. Any investment anywhere must now be accompanied by a social investment and a long term plan to develop the place (interview Contreras, MEP/PDVSA).

Although neither the MEP/PDVSA informants nor those representing the transnational petroleum companies said this directly, one analyst (interview anonymous) and Martinez (lecture) estimate that such donations currently play a significant role in the bidding process when exploration or production is to be started on a new petroleum field.

The petroleum industry has long been seen as a potentially *"industrializing industry"* in Venezuela. Increased value enhancement through growth in economic sectors connected through backward and forward linkages constitute the main focus in this respect, in addition to the financial contribution of PDVSA to industrial development in general. The strengthening of forward linkages is envisaged through the expansion of refining capacity and the gradual substitution of crude petroleum for refined products (interview Alcántara, CPV, interview Contreras MEP/PDVSA, interview Meastre, Vertix Instrumentos). The concrete actions taken in relation to backward linkages will be treated more thoroughly in 4.3.6.

The Venezuelan government also seeks to establish a new production paradigm in which the workers and the government play a more decisive role. The financial strength needed for the initial phase of this shift is currently being derived from the petroleum rent (interview Contreras, MEP/PDVSA, interview Maestre, Vertix Instrumentos). In addition to the industrial push, PDVSA is also sponsoring a land reform intended to increase agricultural production through the redistribution of idle land possessed by the landed elites. The idea is partly inspired by the famous heading of the editorial in a Venezuelan newspaper in 1936 "sowing the petroleum" in which the author warned against the consequences of the extreme dependence upon the petroleum income of the Venezuelan economy and the *need to invest the petroleum rent in new productive economic activities* (Ahora 14.07.1936, interview Contreras, MEP/PDVSA). The point here is not to analyze the effects on the rest of the society of the way the petroleum industry now is being used to create development, only to affirm that the petroleum industry is now given such a role.

5.3. International petroleum diplomacy

As indicated in the historical overview, the external conditions seem to be an important factor for the possibility of the Venezuelan government to control the petroleum industry. In a historical perspective nationalization of important resource extracting industries in Latin-

America tends to cause negative reactions by the principle buyers of material in question, especially the USA. According to Svorstøl (1968) the scope of action of Latin-American governments that intend to increase control over such industries depends on the international power balance. This is exemplified with the Cuban revolution that could expropriate USA capital mostly without compensation due to the alliance with the Soviet Union, while the nationalization of the petroleum industry in Mexico entailed large compensations to foreign capital because of the lack of such international backing (Svorstøl 1968).

But is this necessarily a one-way influence from the international to the national level? According to Chang and Rowthorn (1995) through institution building a government is not only adjusting to, but also *shaping* the process of changes. In line with this argument it is necessary to investigate how the Venezuelan government seeks to *change* the international circumstances through international diplomacy directly related to the petroleum industry. I chose to interpret these initiatives as *international institution building* and as such a means to achieve the objectives regarding distribution and creation of value in the country's petroleum industry. What, then, are the main components of these cross-border initiatives?

The *revitalization of OPEC* is a cornerstone of the attempt to strengthen Venezuela's position as a net exporter of petroleum. In 2000, the year after he was instated, president Chávez visited all the OPEC countries, including Iraq, as the first head of state to do this since 1991 and in clear defiance of the USA whose isolation of Iraq at that time prepared the ground for the later invasion. The same year the Venezuelan government convoked the first international OPEC summit with the presence of the heads of state of all the member countries since 1975 (Washington Post 10/08-00).

Venezuela is one of the OPEC's founding members, but distanced itself more and more from the organization during the 1990's. According to Mommer (2003) the *apertura* policies and PDVSA's internationalization programme was not compatible with OPEC membership. The shift in Venezuela's role in the petroleum market has been pronounced in this respect and is recognized internationally (Fortune No. 17. 2005). While the country's representatives in OPEC during the last governments were dubbed "Pinocchio" for notoriously exceeding their export quotas to the detriment of the petroleum prices, it now opts for a strict quota policy within the OPEC to keep prices high, for which it is now qualified as a "price hawk" by consumer states, especially the USA. OPEC has realized various production cuts the last years and Venezuela has publicly supported this more active price oriented policy of the organization (Lander 2003, interview Mommer, MEP, Fortune No. 17. 2005, Washington post 04/12-06). A short time after president Chávez and the minister of

energy and petroleum, Ramírez visited Angola with an agenda heavily focused on petroleum related matters this African country announced its intention to join OPEC[16]. The Angolan petroleum production of 1.8 million b/d is second only to that of Nigeria on the African continent. Ecuador's newly elected leftist president Correa has also publicly expressed his wish to discuss a re-entry of Ecuador in OPEC with president Chávez (BBC 28.11.2006, El Nacional 21/12-06). The decision to join the OPEC is taken by the Ecuadorian and Angolan governments respectively and in exercise of their national sovereignty. Hence it can of course not be attributed to Venezuela solely. However, it must also be remembered that the possibility to join the OPEC has been there since the founding of the organization in 1960 and I find it reasonable to assume that the active petroleum diplomacy of president Chávez has had at least some influence.

Venezuela is also increasing its cooperation with countries such as China and India, world economy majors whose oil consumption is increasing rapidly, and is expected to accelerate as their economic growth continues. China is increasing its presence as a trading partner and investor in Latin-America and the Caribbean, and the Asian country is showing more and more interest in Venezuela and the Venezuelan petroleum deposits (interview Contreras, MEP/PDVSA). While China National Petroleum Corporation and Petrochina Fuel Oil Company won a bidding round on a heavy oil field of the Orinoco zone, president Chávez has on several occasions warned the USA with cutting petroleum supplies in the case of any economical or military aggression. The USA acquire approximately 15% of its energy consumption from Venezuelan petroleum exports, which constitutes 60 percent of the latter and president Chávez has shown increasing interest in developing new transport methods to facilitate petroleum exports to China (Fortune No. 17. 2005, Prensa Mercosur 04.11.2006). The Vice minister of the Hydrocarbons explains about the petroleum relation with the USA and China:

> We do not want to boycott anyone, but anyone who knows anything about trade would be reluctant to accept such a dependency on one customer as is currently our situation. As we consider the Chinese as good as any country both as a trading partner and as an investor in our petroleum industry, logically we seek to expand this cooperation (interview Mommer, MEP).

While some consider substituting completely the USA as export market for petroleum with China as unviable because of geographical factors, the ambition of the Venezuelan government to serve the rapidly growing Chinese petroleum demand is also an integral part of

[16] http://www.angolapress-angop.ao/noticia-e.asp?ID=494750

the government's effort to find new markets for the currently unexploited reserves of the Orinoco Belt. It also shows that the current dependence on the USA as a market is not necessarily unchangeable (interview Mommer, MEP, Lecture Martínez, Fortune No. 17. 2005).

The increased OPEC involvement also includes extending cooperation with the OPEC members *beyond what are the principle functions of OPEC as a world oil market actor*. At the Third OPEC International Seminar held in Austria in 2006 the Venezuelan petroleum minister, Ramírez emphasized the need to coordinate also the relation between the governments and the transnational petroleum companies. As mentioned in the historical overview, this was an important component of the petroleum diplomacy that surged when the large and easily exploited petroleum reserves of the Persian Gulf threatened to alter the power balance between the producer states and the petroleum companies in the 1960s to the detriment of the former. The speech of the Venezuelan petroleum minister Ramírez at this meeting was emphatic about the need to strengthen the government's position in the petroleum industries and capture a larger proportion of the petroleum rent, to be able to channel it into social spending and productive investment aimed at creating employment. The basic idea is that the governments are more likely to achieve success challenging the transnational petroleum companies if this is done in *a coordinated way*[17]. In sum the revitalization of OPEC has a *quantitative aspect*, which consist of the inclusion of a higher share of the world's petroleum output in the quota regulations through new member countries, and a *qualitative aspect*, which means a tighter, higher level and more binding cooperation between the members stimulating discipline towards the quotas and more willingness to agree on production cuts in the face of decreasing prices.

The strong Venezuelan focus on regional petroleum integration is also aimed at strengthening the position of the governments in relation to the transnational petroleum companies. An important initiative taken by the Venezuelan government is the proposal to create a 100 % state owned multinational holding company, Petroamerica, integrating the petroleum industries of the continent. Although this company has still not been founded, important concrete steps are being taken that according to the Venezuelan government paves the way for the realization of Petroamerica. In the words of Contreras

> You cannot just found a company like Petroamerica. It takes practice in cooperation and mutual confidence to take such a drastic step as integrating our petroleum companies into

[17] http://www.opec.org/home/Multimedia/videos/2006/OPEC%20Seminar/HERafaelRamirez.htm

> one, but Venezuela is forging ahead. Currently PDVSA is carrying out important gas exploration projects with Petrobras in the Venezuelan-Brazilian border zone and we [PDVSA] are negotiating with Argentina to invest in gas stations in the country. These initiatives constitute important achievements in terms of regional integration themselves, but they are also bringing the day Petroamerica will be created nearer (interview Contreras, MEP/PDVSA).

In some cases, such as with the gas development project of PDVSA and the state owned petroleum company Petrobras of Brazil, aimed at developing gas deposits of the border area of the two countries, the cooperation is mostly *operative and commercial*. In the case of Bolivia, however, the energy cooperation has taken a more *political* form. In 2005, the newly elected socialist government of Bolivia announced its intention to nationalize the country's gas industry and a profound cooperation programme is developed with Venezuela. Mommer, who had just participated in a Venezuelan delegation to Bolivia, explains:

> We have been fighting for six years against internal and external opposition to take control of our petroleum industry, so when Bolivia today announces its will to follow a similar path towards national control, we gladly share these six years of accumulated experience of ours with them. It is of course in our interest as well, that other producers of fossil energy establish an institutional framework apt to negotiate with the transnational companies. A race to the bottom, a disloyal competition between brother nations that only gains the transnational companies in impoverishes our peoples must be avoided at any cost (interview Mommer, MEP)

The former Ecuadorian government started negotiating to refine the country's petroleum in Venezuela, and the newly elected leftist president Correa has subscribed several treaties with president Chávez about extending the petroleum cooperation between the two countries within the framework of the Bolivarian integration project initiated by the Chávez government (El Nacional 04/01-07).

The planned project of connecting the countries through a continent wide network of gas and oil pipelines is another important component of the Latin American petroleum integration (Lander 2003, Interview Mommer, MEP, Bull 2006). Exploration contracts for the Orinoco Belt, have been signed with public petroleum companies of Uruguay, Paraguay and Chile and during the 2007 South American Energy Summit held in Venezuela, for the first time with the presence of 12 heads of state, president Chávez publicly announced that he welcomed all the countries of South America as investors in this area that is estimated to be the worlds greatest deposit of extra heavy petroleum (Ultimas Noticias 18/04-07, El Nacional 18/04-07). However, until this moment the concrete cooperation between Venezuela and other petroleum producing countries in the region *has not transcended the bilateral level*, but the process of integration between the

continent's state petroleum companies is advancing and this strengthens their position towards the European and USA based transnational petroleum companies.

International technological cooperation is also crucial for the effort to strengthen Venezuela's position. Foreign enterprises and institutions play an important role in the technological development of the Venezuelan enterprises. According to Alcántara "the petroleum industry is not exactly known for its openness and generosity when it comes to availability of new technologies" (interview Alcántara, CPV). For this reason the new legal framework contains elements meant to stimulate technology transfer from all companies that invest in the Venezuelan petroleum industry, a subject that will be discussed below. Here, however, the point is that Venezuelan government is reorienting towards new countries to coordinate technology transfer on a "*government state to state level*" (interview Mommer, MEP). Contreras emphasizes that a distinctive feature of the technological cooperation of the current Venezuelan government is that "we are a lot more open minded to foreign producers from countries that are not our traditional trading partners, but who are more willing to let us use their technology to develop our own products" (interview Contreras, MEP/PDVSA). He mentions Iran as a country with which Venezuela is expanding petroleum cooperation.

> Iran is an interesting country for us because its petroleum industry was totally destroyed during the war with Iraq, and ten years later they have the most important petrochemical industry in the world. How was this possible? We are currently increasing the contact between scientists and technicians between our two countries to learn from the recuperation of the Iranian petroleum industry. (interview Contreras, MEP/PDVSA).

The interest in the Iranian recuperation experience is due to the fact that Venezuela, after the devastating petroleum sabotage campaign of 2002/2003, like Iran after the war against Iraq that ended in 1988, faces a situation in which reconstruction of the petroleum industry was the main challenge. Moreover, according to the MEP the contracts on exchange of technology are very beneficial and "much more generous than what we can ever expect from the western petroleum companies" (interview Mommer, MEP).

The Venezuelan government has evidently realized that in the face of an internationalized petroleum industry and trade, any attempt to alter the functioning of the industry within Venezuela requires institution building on an international level. There are many indications that this effort has had important effects. Although many other factors influence on the petroleum prices, the revitalization of OPEC as an organization capable of exerting market power by controlling the supply of petroleum on the world market has

contributed to the increment in prices that oscillated around 24 USD p/b in 2000 and reached 62 USD in 2006. Not only has this increased the Venezuelan state's income from the petroleum industry in absolute terms. It has also given the government increased leverage in relation to the transnational petroleum companies in the sense that the rising incomes can be used for investment in technological up-grading and augmented production capacity, making foreign investment less indispensable. Interestingly, when the news that president Chávez had been taken prison during the short lived military coup in 2002 reached the international media, the petroleum market reacted immediately and the prices sunk. Hence, even though it is difficult to tell exactly how influential the Venezuelan petroleum diplomacy is, this anecdote clearly demonstrate the world market's recognition of the Chávez government as an important cause of the rising petroleum prices (Boué 2003, lecture Martínez, interview Mommer, MEP, Fortune No. 17. 2005). But rising petroleum prices, which redistributes value from the consumers to the proprietor of the petroleum, in this case Venezuela, is not the only important parameter of the international institution building. A regional integration project that counts on governments also interested in safeguarding the interests of the peoples also provides a better scope for counterbalancing the power of the transnational petroleum companies through coordinating national petroleum policies. Increased taxation of the hydrocarbon sectors of Bolivia and Ecuador, realized in Bolivia and officially announced by the government of Ecuador, constitutes favourable regional circumstances for the reform policies of the Venezuelan government, as it makes a race to the bottom-like situation in terms of taxes less likely and imposes more favourable conditions in terms of distribution and enhancement of value more likely. In the next section the efforts to realize such measures that can be considered crucial to alter the structures described in chapter 4 and materialize the Bolivarian vision will be analyzed. *Here*, the point is that the coordination of the petroleum policies of producer countries on a regional and world level, which I call international institution building, in which Venezuela undoubtedly plays a crucial role, increases the government's leverage also Venezuelan petroleum industry.

5.4. The new legal framework

When the government of president Chávez was instated in 1999 it soon initiated the process of developing a new legal framework to give constitutional backing to the reform process. The constitution contains some important paragraphs concerning the national sovereignty over the petroleum industry. The major legal tool for the petroleum reform process, however, is the LOH. The following passage of the introduction to the LOH describes how the

complicated legal situation of the petroleum industry that justified the creation of a new legal framework:

> As can be appreciated, in the historical-legal antecedence, the rules that actually guide the activities of the hydrocarbons in Venezuela are dispersed in different laws; a dispersion that has obstructed its application, because of the existence of conflicts between some of them and because of the formal or unspoken derogation of several of the mentioned rules. This situation alone justifies the need to pass an Organic Law of the Hydrocarbons that puts into order and harmonizes in one single text, the rules required by the matter. That will prevent the frequent and complicated legal interpretations that consume so much of the time of the public and private management, with the following delay in decisions and projects (LOH, Justification of the new legal text. My translation).

After the nationalization of the petroleum industry in 1975, the division of labour between transnational petroleum companies and the national PDVSA was regulated by the LOREICH, the organic law that established the nationalization, while the fiscal regime belonged to the tax law, and all other legal aspects of the petroleum industry were regulated by the petroleum law of 1943 and some later modification to this law. Under such a complicated legal framework the apertura policies of liberalization and partial privatization that lead to the situation outlined in chapter 4, PDVSA could surge as the prominent political actor and impose the apertura that reversed the nationalization *without changing the laws* (Rodríguez 2003). Thus, with the LOH, the lawmakers sought to create a more lucid and coherent legal framework.

> The Law on the Hydrocarbons of the 13th of March of 1943, reformed partially by the Law on the Partial reform of the Law on the Hydrocarbons of the 10th of August of 1955 y that of the 29th of August of 1967; the Law on the Goods to be Reversed of the Concessions of the Hydrocarbons of the sixth of August of 1971; the Law that Reserves to the State the Domestic Market of the Products Derived from the Hydrocarbons of the 22nd of June of 1973; the Organic Law that Reserves to the State the Industry and the Commerce of the Hydrocarbons [LOREICH] of the 29th of August 1975; the Organic Law of the Opening of the Domestic Market of Gasoline and other Fuels Derived from the Hydrocarbons for Utilization in Vehicles of the 11th of September of 1998; and whichever other legal disposition that collide with the present law decree are abrogated (LOH, derogatory dispositions).

According to Contreras the fact that the two crucial legal documents for the petroleum industry, the constitution and the LOH, where developed within a relatively short time span was positive because it made it easier to relate to the actual problems of the petroleum industry in a coherent way.

The opaqueness of the LOREICH that permitted the apertura policies did not come to the surface until the end of the 1980s, almost 15 years after it was passed, which indicates that

the aptness of the current legal framework could not be fully appreciated in terms of its consequences at this stage of its application (Rodriguez 2000, Rodríguez 2003). However, in the words of Mommer

> […] with the Bolivarian constitution and the LOH the negotiations with the transnationals [petroleum companies] is armed with an adequate tool. Remember that even with the old legal framework the foreign majority ownership of these companies was really illegal. But there was always a small opening in the legislation that could be exploited by the cunning lawyers of the former PDVSA management and the transnationals in order to evade the law. I cannot see how such evasion can be possible with the current legal framework without flagrantly breaking the law (interview Mommer, MEP).

Neither Statoil nor SINCOR commented on this subject, but according to the CPV the LOH has created a more transparent and easily apprehensible totality of rules. It is emphasized that an important factor for the aptness of the new legal framework is the broad participation in its making. "We, the CPV, offered our competence and experience on behalf of the private sector, the suppliers, and we feel that our point of view was taken into account and is mirrored in the final result, which is the LOH" (interview Alcántara, CPV). Still, of course, other laws, such as labour and business legislation, do influence the working of the petroleum industry, but it is broadly recognized that with the LOH the Venezuelan petroleum industry counts on a more coherent and lucid legal framework (interview Alcántara, CPV, interview Mommer, MEP).

Also the final law text of the Bolivarian constitution is a result of a wide societal participation, and neither the constitution nor the LOH have been targeted by the otherwise frequent and fierce antigovernment criticisms of the opposition and the private media. This could be interpreted as something at least close to consensus a consensus about the petroleum policies. However, other data that will be discussed in the following sections renders this unlikely.

5.5. Taking control of the institutions

In this section I shall analyze how the Venezuelan government approached the two most important public institutions of the petroleum industry, PDVSA and the MEP when after it assumed power. A crucial point for the viability of a state in the Weberian view, also in steering the economy towards development, is internal coherence in its institutions. However the state is also an arena of class conflict (Evans & Rueschemeyer 1985). I shall therefore also focus on the resistance towards the reform policies from within these institutions.

That ability to collect and process information is a crucial factor for the viability of state intervention in the economy is recognized both by proponents and opponents of such policies (Chang & Rowthorn 1995, Lal 1996, Chang 2003). What has been the institutional approach to this problem in Venezuela? As outlined in the historical overview the monitoring capacity of the major public institution charged with the responsibility of governing the Venezuelan petroleum industry, the Ministry of Energy and Mines (now MEP) had been deteriorating gradually since the nationalization in 1975. The current vice minister, Mommer outlines the situation that met the Ministry of Energy of Mines of the Chávez government when it assumed power this way:

> The first thing we needed to do was to get an overview of the situation of PDVSA and the industry. But the PDVSA management denied us all the vital information, not only about PDVSA, but also about the operating agreements and strategic associations. PDVSA had become a state within the state and the Venezuelan people had no idea what was going on in the petroleum industry; where all the money went; the relation to the transnational petroleum companies; who produced what…nothing… That is why someone came up with the expression "the black box" to describe it. The Venezuelan petroleum industry was like a black box; no one could open it, nobody knew what was inside, what went in, what went out (interview Mommer, MEP).

The total lack of transparency described above partly caused by a lack of resources and the erosion of the mandate of the Ministry of Energy and Mines. While the mandate was clarified and strengthened by the approval of the LOH in 2001, before the real restructuring of this vital institution could begin, the government was faced with the organized resistance of the PDVSA management. According to Lander and Lópes (2003) this group openly opposed and refused to adjust to the new petroleum policies.

If the relation between the PDVSA administration that had previously pushed through the *apertura* policies, the private enterprises of the Venezuelan petroleum industry and the traditional political and economic elite was complicated and unstable in the past, there is no doubt that these groups closed their ranks and merged into *one powerful political-corporate movement* after the Chávez government launched a comprehensive vision for the reformation of the petroleum industry with the approval of the LOH (Rodriguez 2000, interview Mommer, MEP, interview Contreras, MEP/PDVSA).

The first serious action taken was the military coup in April 2002 that with the active and declared support of the PDVSA management forced president Chávez, the elected government and the parliament from power for 48 hours before a popular rebellion restored democracy. Prior to the coup the management and middle ranks of PDVSA, with the support

of an anti-government labour union, CTV and the main employers organization FEDECAMARAS initiated a so-called "*paro indefinido*", a strike/lock-out without temporal limitations. In addition, the opposition rally that marched towards the presidential palace the day of the coup parted from outside PDVSA's headquarters. According to the minister of petroleum and energy, Ramírez, the coup was partly financed by the PDVSA management, although it has been impossible to prove or refute this due to the lack of access to PDVSA's financial data for that period. Interestingly, during the coup, when the self-proclaimed president Carmona had officially instated a dictatorship he revoked both the constitution and the LOH. (Lander & López 2003, Ramírez 2004, interview Mommer, MEP/PDVSA). The maximum expression of this *ad hoc* political-corporate alliance, however, was *the petroleum sabotage campaign* that was initiated in December the same year. As the PDVSA management, with the exception of the company's president and a limited number of other managers, and parts of the middle and lower ranks closed down most wells, petroleum production fell from 3.2 million to 200 000 b/d for nine weeks (interview Contreras, MEP/PDVSA, Fortune No. 17. 2005). The shortage of gasoline paralyzed public transport and as other businesses initiated a concerted lock-out campaign and the alimentary oligopolists stopped providing all the basic food staples, hunger broke out in among the poor population especially in urban areas. Economically the direct losses of PDVSA are calculated to approximately 14 billion USD and the long term effects were still present in 2005 as PDVSA struggled to repair damages on wells and equipment caused by the sabotage. Rising production levels to the normal 3.2 million b/d took over a year according to the official numbers (lecture Martínez, interview Alcántara, CPV, interview Mommer, MEP, Fortune No. 17. 2005). Some analysts though claim that the level of the petroleum production has not even reached half of what the official numbers indicated (El Universal 22/05-02).

The most prominent proof of the fusion between the political and industrial sector is the one and only condition, declared several times in Venezuelan and international media, on which petroleum production and other production would be started again; the stepping down of president Chávez and a legally binding document prohibiting his participation in Venezuelan politics for the rest of his life (Globovisión 09/01-03, interview Mommer, MEP, Fortune No. 17. 2005, speech Ramirez Third OPEC International Seminar).

None of the transnational petroleum companies publicly supported the sabotage action, but the government and some analysts suggest that some of them exploited their influence over the PDVSA management and their common interest in inhibiting increased government intervention in the industry and provided financial resources to the initiative

(Lander & López 2003, interview Contreras, MEP/PDVSA). This, however, has not been proved. The government of the USA, country of origin of transnational petroleum companies such as Exxon, Mobil, Chevron and Texaco supported the both the military coup and the petroleum sabotage (Lander 2003, Golinger 2005). However, like the military coup, the petroleum sabotage was defeated by the Chávez government. Nine weeks after the action was initiated, the government managed to take control over the petroleum installations with the help of workers and engineers from the petroleum industry and the military, and the general lock-out dwindled as pro-Chávez mass mobilization, especially from poor urban areas, evidenced that the action failed to turn public opinion against the government (Ramírez 2004, interview Contreras, MEP/PDVSA, interview Mommer MEP).

Apart from appointing the president of the company, the government had been reluctant to take measures affecting the personnel policy of PDVSA. After the petroleum sabotage action, however, many of those who had used their position in the company to try to topple the government, including executive and middle rank management as well as engineers and workers, amounting to approximately 20 000 altogether, were not allowed to return to their jobs. According to the political opposition in Venezuela this has affected the productive capacity of PDVSA severely and many claim that still by 2005 the production level had not reached 3 million b/d (Fortune No. 17. 2005). However, this massive dismissal also allowed the president of PDVSA to employ personnel loyal to the government induced reform process (interview Contreras, MEP/PDVSA, interview Mommer, MEP). It also opened up for increased transparency in PDVSA, and Mommer argues that

> [I]t was first after the great petroleum sabotage was defeated by the Venezuelan people and the armed forces and a significant number of saboteurs from the old management were laid off, that the MEP got access to the information of PDVSA. If we had not achieved that, it would have been impossible to advance with the reform process. Now, while reconstructing what the so-called meritocracy [the former PDVSA management] had destroyed, our ministry entered into a phase where we collected information about the functioning of the industry at an accelerated pace and start to take significant steps developing institutions apt to pursue our objectives (interview Mommer, MEP).

As outlined in the historical overview, the working of the petroleum industry after the nationalization in 1975 was characterized by an increasing disarticulation of PDVSA from the MEM, where the former increasingly displaced the latter as the institution capable of imposing its agenda. In alliance with the transnational petroleum companies PDVSA forged ahead this process. According to some informants the PDVSA management was secretly negotiating the sale of several PDVSA units with American petroleum companies at the time

when the current government came to power, and the former PDVSA president, Pietri publicly advocated the privatization of the company (lecture Martínez, Rodriguez 2003, interview Contreras, MEP/PDVSA, Agencia Bolivariana de Noticias).

To reverse this process in which the petroleum industry moved out of reach of the political sector and to avoid the reappearance of such a situation, an important measure taken by the executive is the decision to *combine* the presidency of PDVSA and the minister of energy and petroleum mandate in one single person, a similar model as in many petroleum producing Arab countries (interview Mommer, MEP). Although this practice is not written in any law text or other legal document, it is clearly established as an unwritten, but nevertheless important, rule. The individuals who have been appointed to the minister post of the MEM and later the MEP, and the PDVSA presidency by the Chávez government are not recruited from the management of the transnational petroleum companies operating in the country as has often been the case in the past. In addition, all of them have been critics of the liberalist petroleum policies during the *apertura* epoch; proponents of a more restrictive approach to the presence of the transnational petroleum companies, all in order to increase the national sovereignty and incomes from the industry, and belonging to the political left of Venezuelan politics (Lander 2003, interview Contreras, MEP/PDVSA). The current minister of Energy and Petroleum, Ramírez has been a significant figure in the Venezuelan petroleum industry and an outspoken proponent of nationalist petroleum policies (Ramírez 2004).

The way the government institutions of the petroleum industry relate to the society is also an important aspect of the reform process. In a speech to the higher, middle and lower ranks of the PDVSA management, the company's president and minister of Energy and Petroleum, Ramírez declared that "PDVSA is red, very red", referring to the colour of the Chávez government and its revolutionary connotations, and demanded that

> [E]very level of PDVSA, every single worker, engineer and manager must be prepared to defend the national sovereignty over our petroleum against any destabilization attempt. Petroleum imperialism is very real, those of you who might think it is just a phrase, look to Iraq […] and remember the sabotage [the petroleum sabotage action of 2002 referred to above] that brought our country to it's knees" (Speech Ramírez).

The meeting was private with no media present. PDVSA president Ramírez was secretly recorded by one of the invited managers, who remains unknown, and the video was first exposed by a former PDVSA manager during an opposition rally before the presidential elections in December 2006 in order to prove the lack of political freedom in PDVSA and undermine the support of the Chávez government (Globovisión 02/11-06). However, contrary to the aspirations of the opposition, the public reacted so positively to the content of the

speech that the words “red, very red”, as pronounced by the PDVSA president, became one of the most used slogans of president Chávez’ electoral campaign that ended with the his re-election with 63% of the votes (Diario Vea 03/11-06, Ultimas Noticias 04/12-06).

While the content of the speech evidences the effort to prevent new attacks from within PDVSA and assure the company’s commitment to the directives of the MEP, the aftermath illustrates that the political viability of the current reform policies relies more upon popular sentiment and than the consent of the traditional technocrat elite of the petroleum industry.

The MEP has also been moved from one part of Caracas to another, and is now located in a larger building with more modern facilities. More importantly, however, the same building also houses PDVSA, which means that *the intended re-articulation of PDVSA and MEP has been given a physical dimension*. According to Contreras

> Now, the employees and management of the two institutions [the MEP and PDVSA] arrive through the same door, use the same reception and have lunch at the same canteen. I believe this physical proximity contributes to the democratisation of the industry; the indispensable alliance with the Venezuelan people; and increases transparency (interview Contreras, MEP/PDVSA).

Interestingly Contreras is employed both by PDVSA *and* the MEP, which is in itself another example of the effort to link the two institutions tighter together.

The mandate of the MEP is *also clarified and strengthened* through the LOH, which states that:

> This organic law decree grants the competence of administration of the hydrocarbons and the right and obligation to realize, plan, monitor, inspect and supervise all the activities that are realized with said substances to the Ministry of Energy and Mining [now MEP]. The law decree also develop the right to supervise the operations the cause taxes, prices and contributions established within them, as well as the accountancies of the persons who realize them. The Ministry shall be endowed with the resources necessary for the fulfilment of the functions attributed to it (LOH, introduction)

The official Gazette nr 38.111 of the 20th of January 2005, article 19, establishes the following tasks as proper to the MEP:

1. The regulation, formulation and monitoring of the policies, planning, effectuation and supervision of the activities of the national executive matters related to the hydrocarbons and energy in general;
2. The development, utilization and control of the non-renewable natural resources and other energetic resources, as well as the electric and petroleum industries;

3. The studying of the market and analysis and pricing of the petroleum products and electricity services;
4. The prevention of the contamination of the environment derived from the energetic activities and of the hydrocarbons, in coordination with the Ministry of Environment and of the Natural Resources;
5. The others that are attributed to it by the laws and other regulations.

Rodriguez (2000) points to the *poor resource endowment* of the MEM in comparison to PDVSA as a crucial cause of this institution's lack of capacity to formulate and impose a public petroleum policy in the 1980a and 1990s. According to the government the MEP is actually being reinforced through increased budgets, which made it possible to raise salaries and improve working conditions to attract qualified personnel (interview Contreras, MEP/PDVSA, interview Mommer, MEP).

In 2005 the Ministry of Energy and Petroleum, MEP, was created through a presidential decree that separated the responsibility of the mining industry that was included in the Ministry of Energy and Mining from that of the rest of the energy sector. The fact that this has not implied a reduction in the resources nor personnel means that more attention can be dedicated to the petroleum industry, and the MEP and PDVSA informants both claimed that the ministry's capacity to monitor the petroleum industry is increasing (interview Mommer, MEP, interview Contreras, MEP/PDVSA). The informants from the private sector to some extent agreed that the government seems to be investing more resources in the MEP capacitating its staff and providing it with a clearer mandate, although most of them were reluctant to give any clear opinion, referring to the subject as beyond their knowledge and competence (interviews EPC suppliers and petroleum companies).

The many back tax-claims presented to the petroleum companies since 2005 by the authorities constitute a concrete indicator that the government's effort to augment its capture of value from the petroleum industry. However, according to Contreras the number of economic crimes committed in the Venezuelan petroleum industry during the *apertura* epoch is "as good as indefinite" and still the MEP and the new PDVSA is struggling to overcome these problems:

> [t]ax evasion, corruption, unfaithfulness to OPEC compromises, neglecting also requirements for the use of national suppliers, secrecy and unconstitutional behaviour in general have flourished in the Venezuelan petroleum industry for many years, even decades, and only now we are beginning to uncover it. As we continue digging in the past we are prone to find unpleasant surprises for many years to come (interview Contreras, MEP/PDVSA).

The internationalization program of PDVSA that was developed simultaneously with the *apertura* policy is also highlighted as a main cause of the low fiscal contribution of the company to the state. According to Rodríguez the overseas affiliates were successfully used to transfer profits out of reach from the MEP and the tax bureau and point to the fact that many of them cause direct losses to PDVSA, meaning lower dividends paid to its proprietor, the state, and lower profit tax base (Rodríguez 2003).

In 2005 Total, one of the participants of SINCOR, paid a billion USD back-tax bill. This is due to an increased activity also from the Venezuelan tax agency, SENIAT, that seeks to recover as much as 3 million USD applying the tax rate of 50% retroactively on the profits of the petroleum companies of the operating agreements back to 2001. Transfer pricing, a mechanism to diminish the basis on which taxation is calculated is also attacked by this institution in cooperation with the MEP (Associated Press, Reuters, Fortune No. 17. 2005). For the first time since the nationalization of 1975 the offices of transnational petroleum companies have been raided and closed down by the tax authorities in such an effort.

Although PDVSA is an institution of the Venezuelan state, it is the values transferred from PDVSA to the Central Bank of Venezuela and other funds destined to public spending that is crucial, not the company's gross income. However, as the operating agreements and strategic associations continued augmenting their share of the total Venezuelan petroleum production until the end of 2005, in relative terms, the fiscal contribution of the petroleum industry continued deteriorating, even as the MEP and SENIAT stepped up the effort to increase taxation. According to the official numbers of PDVSA, out of the 85.73 billion USD gross income, 25.377 billion USD, was transferred to the central bank and public funds for social spending (Radio Nacional de Venezuela 05/10-06). This means that while the fiscal contribution of the petroleum industry more than doubled from that of 2000, referred to in the introduction to this chapter, in relative terms it sunk from 39% to 30%.

5.6. The mixed enterprise model

While PDVSA is being drawn nearer the political authorities and made answerable to the political mandate of the MEP, the company is given a more active leading role in the production sphere petroleum industry. As seen in 4.3.1 the article 303 of the constitution leaves the possibility open for cooperation between the state and private enterprises also in what is defined as primary activities, which equals what I chose to term core activities, in the petroleum industry. However, the LOH specifies the terms and conditions of such cooperation

establishing that it can only be realized "[…] through enterprises were the state holds the control of the decisions by maintaining a participation of more than 50% of the capital, who for the purpose of this Law decree are denominated mixed enterprises" (LOH, article 22.).

The first implication of these changes is that the operating agreements and strategic associations are no longer legal production forms. The LOH was valid from 2001, but it was not until 2005, however, that the government proceeded to announce publicly the imminent revocation of these contracts, some of whose validity extended until 2017. The process begun with the 32 operating agreements that were converted into 21 mixed enterprises where the Venezuelan state through PDVSA and its affiliates now owns 60% or more in may 2006 (Gaceta Oficial No. 38426). The strategic associations followed the first of May 2007, also here with PDVSA retaining 60% or more of the ownership of the new mixed enterprises. What are the organizational characteristics of this production form? Most importantly the mixed enterprise model grants more control to PDVSA. Three out of five, including the president, of the board of directors are appointed by PDVSA. "This evidently means increased control and involvement in all the phases of the production, including up-grading and refining", says Contreras (interview Contreras, MEP/PDVSA). This means a considerable change both in the cases of the operating agreements, where PDVSA was not involved in the production and in the strategic associations where the important up-grading process has been left to the foreign participants. As outlined in 4.1.3 the up-grading process that transforms extra-heavy petroleum into lighter synthetic blends is of key importance because this is how most of Venezuela's unexploited petroleum reserves probably will have to be processed before being marketed.

The mixed enterprise model also has important direct economic consequences. All the mixed enterprises shall pay the petroleum related profit tax of 50% and royalty is set at 30%. When the characteristics of the petroleum substance make exploitation unviable at the 30% rate, the royalty can be lowered to 20% if the petroleum deposit is at a so-called mature stage or if the petroleum is of the extra heavy quality, or to 16.6% in the Orinoco Belt. In any case, this means a substantial increase as the strategic associations of the Orinoco Belt has only been subject to a 1% royalty. The mixed enterprises are also subject to a tax of 10% of the value of the hydrocarbons they use in the production, mostly the insertion of gas in the petroleum deposits to increase the pressure and facilitate the extraction, calculated on basis of the market value of the resource (LOH, interview Mommer, MEP). In addition, all the mixed enterprises must pay a 3.3% royalty directly to social projects managed by the Venezuelan government.

5.7. The private sector in the reform process

Part of the reform process is the objective of increasing national participation and control over the petroleum industry as a *whole*. The new legal framework industry establishes the positioning of Venezuelan enterprises in all nodes of the supply chain as a priority:

> The national executive shall adopt measures that are conducive to the formation of national capital to stimulate the creation and consolidation of operating and service enterprises and the fabrication and supplies of goods of national origin to the activities planned in this decree law. In that sense, the State, the entities and the enterprises that are referred to in this decree law, shall incorporate in their contracting processes the participation of enterprises of national capital in conditions that secure the optimal and effective use of goods, services, human resources and capital of Venezuelan origin (LOH, Paragraph 18. My translation).

The intention of increasing the national participation in the petroleum industry is grounded, as mentioned, *in the need to create employment; facilitate transparency and taxation* in order to attend the government's social responsibility and as a part of a general strategy of development. However, a series of events that occurred during the final phase of the mentioned petroleum sabotage action also contributed to augment the recognition of the government of the strategic importance of the supplier sector. Contreras explains:

> A few weeks after the petroleum sabotage was initiated, the majority of the workers started taking over the production units left or blocked by the PDVSA management, in order to avoid the disastrous damages on the wells that follow when production is shut down improperly and for a long time. After all, most of the workers had voted for Chávez and saw no reason to strike in order to topple him. However, the company that provided the informatics services for PDVSA, by pressing *one key* at their centre of operations in the USA, knocked down the communicational system and blocked the whole effort. The workers stood helpless in that particular case because a trusted supplier decided to join the effort to topple our democratically elected government (interview Contreras, MEP/PDVSA).

Other similar things occurred, such as a transport blockade by the captains of the oil tankers fleet. According to the vice minister of the MEP, the most strategic services such as transport and the mentioned communication system are being integrated in PDVSA. However, as a consequence of the mentioned events Venezuelan suppliers are also more trusted than foreign ones. Mommer is emphatic, though, that foreign participation is not seen as necessarily harmful. Rather, the strategy of the government is to *redefine* its role, not to substitute it completely, in order to give more possibility for private national capital in the supplier sector of the petroleum industry.

> Our goal is increasing the national participation in all sectors of the petroleum industry, in absolute and relative numbers. In down stream activities there are great opportunities and we are already advancing. We have three groups of Venezuelan private companies in the process of making refineries in this very moment. Of course also backed with state capital. Private investors often have the productive capacity but not the capital needed for such investments. In up-stream activities it is more difficult. I do not consider this process very accelerated. In the service sector, though we are already quite advanced and our universities educate an increasing number of skilled professional, so that this way we can continue growing in this part of the supplier sector (interview Mommer, MEP).

The general picture of the situation of the Venezuelan supplier sector expressed above does not contradict what was expressed by the suppliers themselves in section 4.2.

The government has at its disposition a series of tools to increase the national participation in the supplier sector. One is the legal framework that as mentioned above, establishes this as an important objective. In general the informants of the EPC suppliers were reluctant to give any general opinion about the effects of the government's petroleum policy. However, the CPV the LOH constitutes a better legal support for the growth of the Venezuelan suppliers and equips the government with a better legal tool to ensure the participation of these companies than the old legal framework (interview Alcántara, CPV). The same opinion is expressed by Viergutz, a former president of CPV (Viergutz 2003).

One of the advantages emphasized by the CPV was the possibilities of *increasing technology transfer*. According to Alcántara, the legal framework establishes that any foreign company that brings a new registered technology to Venezuela must facilitate the diffusion of this technology in the country. This is to be assured by the obligation of these companies to permit the presence of Venezuelan personnel in the application of the new technology. Mostly those who participate in this mechanism are engineers from PDVSA, Venezuelan private companies, for example EPC suppliers or the national universities. Although the technology itself remains the property of the foreign company, the point is that if a Venezuelan supplier decides to acquire the technology after observing and participating in its application, the personnel will already be familiar with its use (interview Alcántara, CPV). However, only three of the informants from the EPC suppliers had knowledge of this mechanism. Geohidra Consultores a company that specializes on geological research and consulting services confirmed to have been invited to engage in this mode of technology transfer, but for various reasons could not attend. The informant, though, confirmed that "this could be interesting in the future" (interview Gonzales, Geohidra Consultores). For another company, the measure had little relevance at the moment, because the technology used in its main tasks of measuring pressure and temperature, the last decades had not changed in a way that required any

substantial effort to adjust to it. The only EPC company that had engaged in this kind of government supported technology transfer was MCL Control. The general director of the company claims this was an exceptionally successful experience, and emphasized that the possibility to learn the use of the technology from the USA based company Compression Control Corporation, was instrumental for the development of the company's own software products:

> being present on the petroleum installations together with people with different qualifications, using new and different technology made it possible to adjust and specialize our products so that they can be adequate for a wide range of customers [petroleum companies] (Interview Stassi, MCL Control).

Interestingly, two of the informants from the EPC suppliers, commented that the reason why technology transfer could not always take place through this mechanism was that *the MEP was not in a position to impose it*. One informant explained this difficulty as follows:

> If a Venezuelan supplier gets the opportunity to participate in a project where a foreign company introduces a new patented technology, but the foreign company does not wish to provide the conditions for such a learning process, the supplier company would most likely accept this without making any fuss, without reporting to any public authority and there is very little anyone can do (interview anonymous).

Also the CPV recognized that establishing this kind of transfer of know-how was just a step in the right direction and that it *can* be omitted (interview Alcántara, CPV).

Another way to increase the national participation in the supply chain is through *measures directed towards the petroleum companies*. Although no specific percentage is established as a minimum, the MEP is monitoring the petroleum companies' use of suppliers. The parameter applied to measure the inclusion of national capital, labour and inputs in the supply chain of the petroleum companies is denominated *nationally aggregated value* (NAV) (interview Contreras, MEP/PDVSA). Since all the companies that are active in Venezuela must be registered as Venezuelan companies, the concept of NAV is not based on the nationality of the suppliers, but on the national content of the *specific product or service provided by the supplier*. This is calculated on basis of the nationality of the capital invested in the company, the labour force, the inputs used in the production of the good or service in question.

> This means that in the case of Venezuelan registered companies that are mere distributors of imported goods and thus to a very limited degree contribute to the inclusion of Venezuelan capital, labour and inputs in the supply chain of the petroleum companies it caters to, the Nationally Aggregated Value is low (interview Contreras, MEP/PDVSA).

The following sequence of the interview with the head of the buying office of region East of SINCOR, shows how the government's attempt to increase the use of Venezuelan suppliers was experienced by a transnational petroleum company.

Q: *How is the use of suppliers monitored by the authorities?*

[Head of buying office]: The MEP and Pdvsa collect the statistics. In March every year we hand in a paper with all the information about the acquisition of goods and services the foregoing year, and estimates on how it is going to be the present year. They also check our statistics against what the suppliers say, so they feel confident that the numbers are correct. Personally I agree with this. The idea is that when foreign companies invest in the natural resources of Venezuela, this has to be mutually beneficial, and maximizing the use of Venezuelan human capital and suppliers is instrumental in that respect.

Q: *How does the current legal framework restrict the use of foreign suppliers?*

[Head of buying office]: It does not really put restrictions upon us. It establishes the intention and provides directions for maximizing the use of local suppliers and labour power. But there is nothing like economic incentives given to us in the form of money as a reward for using Venezuelan companies. But they [MEP] do require documentation that we use Venezuelan suppliers and they verify it and so on.

Q: *In negotiating contracts with the government, what role does the use of national suppliers play?*

[Head of buying office]: This is a norm. Maximizing the use of national suppliers is a norm established by PDVSA, and one that we follow easily. I mean as far as I know there is not even any percentage or anything, but it is a norm and it is as relevant for us as for any other consortium […] Anyway the Venezuelan suppliers are much more present now then they used to be, and we only use foreign suppliers when the local ones cannot provide a given service or a given material. Our doors are always open for the national companies when operations are put out to tender. But there is no pressure from any authority, regional or national, to convince us to use this or the other company. I mean as long as our NAV [nationally aggregated value] is as good as it is now, the authorities see no reason to intervene more.

Q: *Has the practice of the government changed in this respect over the last ten years?*

[Head of buying office]: I do not think so. I worked 11 years for another transnational [petroleum company], and the procedures were the same. Of course, the ministry and PDVSA are aware of the fact that a lot of the material is imported, and it is like that because here in Venezuela we do not have the technological capacity to produce those things. Because the plants cannot just stop producing. PDVSA as well has to import a lot of materials to guarantee the continuity of their plant's operation. No, in my opinion the behaviour of the authorities has not changed in this respect.

Q: *In a hypothetic case where it is discovered that SINCOR is using a foreign supplier when a Venezuelan one could have been used, what happens?*

[Head of buying office]: The authorities do not really enter into details. Because our NAV is good, logically they do not bother making a fuss about one small contract, or something bought once at the spot market.

Q: *And if the NAV were, say 50 percent...?*

[Head of buying office]: Then I am sure we would be warned and given a chance to rectify the situation.

In SINCOR's appreciation of the situation the government has not applied stricter measures to increase the use of Venezuelan labour, capital and inputs. This is attributed to the way the company appreciates its inclusion of Venezuelan capital labour and inputs in its supply chain. Statoil in Venezuela did not wish to express any kind of opinion about the decisions of the Venezuelan government, but emphasized that the policy of the company is motivated by its own interest in the development of a local supplier industry. The view that the government policies had not changed the petroleum companies' procurement habits in any way that would improve the situation of the Venezuelan supplier sector largely coincides with the view expressed by the EPC suppliers. They all considered the legal reforms adequate and mainly attributed the lack of fast progress in this respect to causes not directly connected to government policies, such as technological dependency, industrial recession, excluding network structures and the strict quality requirements of the petroleum industry.

In addition to measures directed to the petroleum companies, the government also seeks to augment the nationally aggregated value, through assistance to the suppliers. INTEVEP, the Venezuelan Technological Petroleum Institute, is an affiliate of PDVSA with the responsibility for technical supervision and assistance; development of new technology and environmental matters that also cooperate with the supplier sector. According to coordinator of the Department of Energy Planning and Economy of the MEP, "the institution is currently more involved with the suppliers than ever" (interview Contreras, MEP/PDVSA). When asked about their experience with the government policy aimed at aiding the Venezuelan supplier sector, the informants of the EPC suppliers all mentioned INTEVEP as a significant source of technical assistance. The majority had obtained their international quality standards, such as ISO 9000 through INTEVEP. However, none of them had experienced anything that would confirm the abovementioned assertion that the institution had increased its activity in aiding the supplier sector. In fact one of the informants from the EPC suppliers, on the contrary, feared that the institution was being dismantled by the authorities as a part of the restructuring of the industry, and claimed that "after the difficulties experienced in 2002/2003, the CPV is trying to compensate for the deterioration of INTEVEP, in aiding the supplier

sector" (interview anonymous). All the other EPC suppliers, though, said that the assistance from the institution to the suppliers have remained stable the last decade.

An important argument for Chang is that by proposing a *vision for economic change*, the government provides direction to the private agents of the economy. This way a new coordination structure can be constructed, where the different agents can they adjust their strategy and practice duly, and the *collective rationality* that can lead a whole industry in a desired direction is achieved (Chang & Rowthorn 1995). Two main factors that are changing the production network, in which the suppliers are operating, are the imposition of the mixed enterprise model, posterior to the revocation of the operating agreements, and strategic associations and the regional petroleum integration. While the first one affects the national market to which the suppliers are catering, the latter according to the MEP is opening up new opportunities for the Venezuelan suppliers in the neighbouring countries where PDVSA and the MEP are cooperating with other public petroleum companies and institutions. The question that arises then is if and how suppliers are aware of and adjusting to these changed circumstances. In the case of the conversion of the strategic associations and operating agreements into mixed enterprises this reform was heavily announced by the president and the MEP in Venezuelan and international media at that time the interviews with the EPC suppliers and the petroleum companies were conducted, but not concretized. The regional petroleum integration project was announced and also initiated, albeit timidly. Important steps were taken towards the concretization of both projects shortly after the interviews were concluded. The views expressed by the informants in this respect are interesting as they reveal to what extent the private sector adjusted to the signals of the government, creating the collective rationality and a concerted push towards the alteration of an economic sector seen as the *raison d'être* of government intervention in the economy by Chang and Rowthorn (1995).

When asked, the informants of the EPC suppliers displayed little knowledge of the government's reform project for the petroleum industry in general. Only one of them, Vertix Instrumentos was familiar with the concept of *endogenous development* adopted by the government as a development strategy and could describe its most crucial features. The executive accountant also said that the company is constantly trying to keep updated about the government's petroleum policy and adjusting its strategies accordingly:

> For us it is all about staying up to date with the strategy of PDVSA. At the moment the company is restructuring and investing to increase its productive capacity to assume its

> new role in the petroleum industry. This means that the demand for our goods and services is augmenting and that we have to buy more equipment and invest in human capital correspondingly" (interview Maestre, Vertix Instrumentos).

One of the reasons why Vertix Instrumentos was more aware of government policies is that the company procures and installs control equipment that measures the flow of petroleum to facilitate the quantification of the latter, working closely with the MEP. This is one of the principal control mechanisms of the MEP that permits the calculation of royalties paid by the petroleum companies to the Venezuelan state.

As mentioned, the informants of the EPC suppliers were reluctant to talk about the government's petroleum policies on behalf of their companies. However, when asked specifically about the conversion of the operating agreements and the strategic associations into mixed enterprises and its entailments for them as EPC suppliers the informants were more willing to talk, although many emphasized that their opinions in this respect not necessarily represented the official view of their companies. The view expressed by all of the suppliers was that they were uncertain about how and even if this reform was to be realized. An important commitment of the CPV, is that understanding the public policies that influence the petroleum industry and share this knowledge with the member companies. Alcántara also claimed to have a good communication with the president and the MEP that facilitated the organization in this task, but also admitted that they did not possess positive knowledge about this specific reform and following that it was difficult to make any recommendations to its members on how to prepare for or deal with this phenomenon (interview Alcántara, CPV).

Some of the EPC suppliers expressed their doubts about the mixed enterprise model by *questioning its coming into existence at all*. Some doubted the viability of the abolition a cooperation modality with the transnational petroleum companies whose legality is contractually established for many years to come, and some referred to what they considered a lack of clearness or concreteness of the mixed enterprise the way it is communicated by the government (interviews anonymous). One of the suppliers qualified the announced nationalization as "mere noise", meaning a kind of populist rhetoric, capitalizing on the popular resentment towards foreign petroleum capital (interviews anonymous).

Another fundamental aspect of the reform process also supposed to have consequences for the supplier sector is the reorientation of the international petroleum cooperation, as outlined in 4.3.3. All the EPC suppliers mentioned ambition to expand beyond Venezuela. However, *only one of them mentioned the Venezuelan lead initiatives for regional integration* such as Petroamerica as a way to do this, in correspondence with the current government

induced strategy (interviews EPC suppliers). On the other hand, three of the suppliers counted on the current PDVSA investments in the exterior through CITGO, a PDVSA affiliate that provide gasoline and other petroleum derivates in the USA and other PDVSA affiliates in Europe, as a means to internationalize. Of these three there are both Venezuelan owned companies and a company of USA capital. This ambition may be seen as *contrary* to the government plans, as the European and USA investments of PDVSA are under scrutiny for their supposed function as a means to evade fiscal obligations for PDVSA during the pre-Chávez epoch and might therefore be sold in the near future (interview Mommer, MEP, interview Contreras MEP/PDVSA).

During the interviews with the EPC suppliers it became clear that these are not involved in any new coordination structure, in the sense that their strategies are specifically adjusted in accordance with the government's petroleum reform policies. The answers given also pointed out what caused this.

On a world basis, there has been a clear tendency in the direction of liberalization of the petroleum sector, until recently paralleled by the decline of OPEC's market power, and seconded by neoliberal economics and institutions like the World Bank (Ryggvik 2000, lecture Martínez). It is demonstrated in section 4.1 and 4.2 that the current condition of Venezuelan petroleum industry is an outcome not only of decisions taken in Venezuela by Venezuelans; but on the contrary to a large extent also of *decisions taken by transnational companies as a part of global strategies*. The interviews with the EPC suppliers clearly showed that they were very aware of this; actually all of them emphasized the powerful position of the transnational petroleum companies and how their progress as Venezuelan suppliers depended on decisions taken by them as customers. One vividly expressed this view saying that "You can revoke the old petroleum legislation, but you cannot revoke the rules of the international petroleum market. Chávez' rhetoric might allure voters, but I think he knows that it is impossible to nationalize the petroleum industry now" (interview anonymous).
In other words, the *conceived* limiting power of the transnational ramifications of the Venezuelan petroleum industry, which does not necessarily coincide with the real one, influences the strategies of the Venezuelan suppliers through making the government's project for augmenting the national participation in the petroleum companies' supply chains appear less viable to them.

One informant pointed to the fact that after two decades of liberal economics guiding Venezuelan industrial politics, the private sector is not used to deal with government planning to any significant degree, and provides an explanation:

> For example, the last time a Venezuelan president presented a great comprehensive vision aimed at creating economic progress in the country by using the petroleum industry, the action to follow up the plans was absolutely pathetic, both in qualitative and quantitative terms. […] That is why, independently of what will actually be materialized and what will not be materialized of the Chávez government's plans in the future, at this point of time it is only logical that businessmen do not take these plans too seriously either (interview anonymous).

The grounds for doubting the possibility of ambitious interventionist government policies in the petroleum industry stem from the specific historical national context as well as international matters; the conceived, be it real or not, impotency of the state before the power centres of a truly internationalized production network.

5.8. Theoretical perspectives

5.8.1. The influence of the state in the production network

What can the findings exposed in chapter 5 tell us about the relevance of the state in a deeply internationalized industry such as the Venezuelan petroleum industry?

A major tendency pointed to in chapter 4 was the gradual *displacement of PDVSA from the node of the core activities*. Through the strategic associations and operating agreements the transnational petroleum companies assumed a position in which they exercised power over both backward and forward linkages. This way, the Venezuelan government renounced or lost the power to influence the petroleum prices internationally through OPEC and to augment its take of the gross income from the petroleum production.

To achieve the general political and social objectives of the so-called Bolivarian revolution, the Venezuelan government has *reversed* this tendency.

The mixed enterprise model implies *displacing the transnational petroleum companies entirely from the commercialization of the petroleum*, and reducing their role to a minority partner on the petroleum fields. In terms of *functional configuration of production*, this means that both the commercialization and the production of petroleum, tasks that were divided between different actors in all the production forms including the transnational petroleum companies, will be concentrated in one actor, PDVSA. This again means that *the power to govern derived from controlling the execution of these tasks will be possessed by PDVSA*. The abolition of the operating agreements and strategic associations also ends the participation of the private companies that operate their assigned petroleum deposits under outsourcing contracts. In terms of, *distribution of value* the new legal framework establishes 16% as the minimum royalty paid to the state and 30% as the norm, and the mixed enterprises will be

subject to the petroleum related profit tax of 50% replacing the so-called non-oil profit tax of 34%.

What then about value enhancement through increased participation of Venezuelan capital, labour and inputs in the high value added branches of the supplier sector? The data presented in chapter 5 did not evidence any considerable effect in this respect. The government claimed to have increased the effort to include nationally owned suppliers, but also expressed that due to the special requirements of the petroleum industry this was a difficult and slow process. This was corroborated by the opinion of the petroleum companies. In addition, the concrete measures taken by the Venezuelan government referred to in chapter 5 indicate that this form of value enhancement is of *secondary importance* compared to the objective of taking control of the core activities and increasing the capture of value. The lack of effect among the EPC suppliers of the government's effort to include more Venezuelan labour capital and inputs can to a large extent be attributed to the power relations between firms as this is analyzed in chapter 4. This said, the state is not *necessarily* an irrelevant actor. With the conversion of the operating agreements and strategic associations into mixed enterprises the Venezuelan government, through PDVSA, controls the whole market for the providers of EPC and other branches of the supplier sector of the Venezuelan petroleum industry. However, the fieldwork was conducted before this conversion took place and it is too early to see if the government is willing and able to use this position to increase value enhancement in the form of Venezuelan labour capital and inputs in the supply chain of the petroleum industry.

As shown in section 5.7 many of the informants from the EPC suppliers believed the deeply internationalized character of the petroleum industry makes any state intervention deemed to fail. This seems to be in line with the rather determinist view of the global commodity chains approach in this respect. However, the findings show that the causal relation between the international petroleum market and the national Venezuelan context is more dialectic. Through the revitalization of the OPEC and regional petroleum integration, both initiatives in which the Venezuelan government has played a crucial role, the international context has been changed in a way that makes state intervention in the Venezuelan petroleum industry more viable.

The quantitative effects of this change in terms of relative distribution of value in the Venezuelan petroleum industry can still not be appreciated. However, the essential fact is that all those aspects of the production network of the Venezuelan petroleum industry that were

found to be the crucial causes of the deterioration of the state's capture of value were altered through the reform policies that culminated in the imposition of the mixed enterprise model for the core activities. In the discussion in section 4.3 the political character of the decision to embark upon the *apertura* process was pointed out as a reason to reject to the neglect of the importance of the states inherent in the global commodity chains approach. The findings in chapter 5 strengthen this criticism and support the related production network approach that is more sensitive to factors outside the production chain. The case of the Venezuelan petroleum industry shows that the state *can* play a crucial role and that the outcome in terms of distribution of value in a production network does not solely depend on the power relations between the companies.

5.8.2. Institution building: consensus or class independence

Section 2.2 brought a series of concepts and arguments about the state in the economy, largely from an institutional economics point of view, with the characteristics of the state apparatus itself rather than economic policy as the focal point. Here I shall discuss the relevance of these approaches with the partial success of the Venezuelan government in reshaping the petroleum industry revealed above as the point of departure. The central criterion is the characteristics of the process of institution building analyzed in this chapter that contributed to this achievement.

When the Venezuelan government seeks to shape the petroleum industry to spur economic development it is confronted with the coordination problem, in the sense that it attempts to create a concerted shift in a determined direction in an economic sector that is interdependent in use but dispersed in ownership. While Lal (1996), as a neoclassical theorist recognizes this problem, he excludes the possibility that state institutions can reach achieve a more optimal resource allocation in a given economic sector, than any free market solution, however imperfect this might be. For a poor net petroleum exporting country, however, the capture of value of the state is a more meaningful parameter than optimal resource allocation, as in the neoclassical meaning of the concept. The *apertura* policies and the following displacement of the state company PDVSA from the core activities of the Venezuelan petroleum industry can be interpreted as a tendency that is in line with the World Bank's policy recommendation regarding extractive industries and the neoclassical view expressed by Lal (1996). The fact that these policies were recognized as essential causes of the deterioration of the decreasing capture of value for the Venezuelan state in the petroleum industry directly contradicts these views. Contrary to what Lal (1996) claims, the findings

corroborate Chang's (2003) claim that active government intervention in the economy *does not* depend on an exceptionally skilled bureaucracy to be purposeful. This is not based on an assessment of the quality of the personnel in question, but on the assumption that with the abrupt exit of 20 000 people from all levels of the PDVSA staff after the paralyzing of the petroleum industry, a lot of new and less experienced personnel necessarily have entered. Thus, the point is that this has *not* prevented the company from taking control of the petroleum deposits formerly controlled by the operating agreements and strategic associations.

Among the approaches that favour state intervention in the economy, referred to in section 2.2, there are differing views on how the state and its institutions should relate to society and the actors of the economic sector in question. A crucial difference is the emphasis on achieving *consensus* between the government and the different actors of the economic sectors in question, expressed by Chang and Rowthorn (1995) and the indispensability of the *state's independency from elites* in order to impulse economic change efficiently as proposed by Skocpol (1985). With the concept *embedded autonomy* Evans (1995) maintains a somewhat intermediate position, still in favour of a certain autonomy of state institution, but more preoccupied with *maintaining* the ties to important economic elites than breaking them. The findings corroborate the general conception that state apparatus to some extent reflects the social relations of society and at the same time constitutes an organism with its own agenda and interests. Crucial in this respect was how Venezuela's political conflict, tightly related to class interests, broke out within the institutions of the petroleum industry, primarily PDVSA, before the coup d'état in 2002 and with the petroleum sabotage campaign where the PDVSA management itself tried to topple the government. Importantly this was a result of the radically new petroleum policies entailed in the new legal framework. Although the constitution and the LOH were developed with the participation of wide social and economic sectors including market friendly business organizations such as the CPV, it directly contradicted the interests of the PDVSA management, which was recognized as the major domestic actor behind the apertura policies, and the transnational petroleum companies. This indicates that the petroleum policies certainly were developed independently of the interests of economic interests generally considered the most powerful group of the petroleum industry.

The high level of conflict within and between MEP and PDVSA also evidenced a balkanization of the state apparatus. The events of this conflict further revealed that one of the involved actors, the PDVSA management, was more inclined to act in coordination with

transnational petroleum companies than following the directives of the MEP, much in accordance with how Rueschemeyer and Evans' (1985) general view on the economic elites of Third World societies. The crucial point is that the displacement of the old PDVSA staff with a new one, increasingly articulated with the government and responsive to the reform program of the Bolivarian revolution, was conceived crucial for the realization of the conversion of the operating agreements and strategic associations into mixed enterprises. The sequence of this process supports the conception of a state's capacity of autonomous action as something that varies over time and the relevance of the neomarxist view referred to by Skocpol (1985), in which the viability of profound economic reforms supposes a radical rupture between state elites and dominating economic elites.

The *international circumstances* were also crucial for the alteration of those aspects of the organization of the core activities that caused the reduction of the Venezuelan state's relative share of the values created in the country's petroleum industry. However, the point is that through the internationalization of the institution building, exemplified by the revitalization of OPEC and regional petroleum integration, the Venezuelan government influenced the international context in a way that changed the power balance between the actors of the Venezuelan petroleum industry in the government's favour. This again supports the view of Chang and Rowthorn that through institution building, the state can move beyond mere adjustment to economic changes and actually *shape* the course of such changes.

The findings referred to so far in this section seem to contradict the consensus oriented view of Chang and Rowthorn (1995) and the embedded autonomy approach. However, the achievements in taking control of the core activities of the petroleum industry were not paralleled by a similar success in increasing the *enhancement* of value. While the former task took the form of a battle between groups of state elites within the petroleum related part of the Venezuelan state apparatus and their external alliances, the task of supporting the Venezuelan supplier industry involved changing a set of structures and power relations much more complex in terms of the quantity of different actors involved, as seen in chapter 4. The Venezuelan government attempted to facilitate a concerted move of the actors of the petroleum industry in order to achieve greater national participation also in the supplier sector through launching a *vision* in the form of a legal framework and cooperation with the interest organization of the suppliers the CPV. When the findings indicated that such a concerted move was not achieved this indicates that the Evans' (1985) argument about embedded autonomy might be more relevant for the coordination problem connected to the supplier

sector of the petroleum industry. The interviews with the suppliers revealed that these companies did not conceive the government policies related to this economic sector as result of a close dialogue and were not aware of major projects that were supposed to benefit them, such as the regional petroleum integration.

However, another line of argument put forward by Chang (2003) in his justification of active industrial policy, the fact that in many cases the economic development that is sought is the *creation of previously nonexistent industrial sectors*, also seems to provide a part of the explication in this case. The general recession of the Venezuelan industry of the 1980s and the 1990s made certain industrial branches of the supplier sector of the country's petroleum industry completely disappeared and other stagnated. The point is that no pressure group is likely to defend the interests of an economic sector that does not exist in the country. When the EPC suppliers in this project seemed little interested in adjusting their strategy to the vision of the government, one likely explanation is that they to such a large extent depend on imports and thus do not consider themselves very favoured by economic policies meant to stimulate national production of those products through the reduction of imports.

Also important is the fact that with the imposition of the mixed enterprise model for the organization of the core activities a large share of the market for the goods and services provided by the suppliers is taken over by PDVSA, an institution committed to the directives of the national executive. The findings of section 4.2 reveal that the technological superiority of foreign producers and a general technological dependency of the Venezuelan productive apparatus are major causes of the absence of Venezuelan producers of certain high value added goods needed by the petroleum companies. They also show that the exceptionally high importance of quality requirements that prevail in the petroleum industry for reasons of security imposed by the physical and chemical characteristics of the raw material in question, accentuates this problem. Yet, the point is that to the extent that Venezuelan suppliers can substitute imported products to a cost that is strictly economic, the imposition of PDVSA as the major operator in all production sites in the Venezuelan petroleum industry and it subordination to the MEP mean that the decision to take this cost in order to benefit such value enhancement now depends on the *will* of the MEP, not its capacity to monitor and influence the procurement policies of the transnational petroleum companies. Hence the lack of results in the supplier sector of the Venezuelan petroleum industry, by the time of the field work, does not necessarily support the view that the state only can achieve favourable results with economic planning and intervention if this is built on consensus with the involved parties.

However, the EPC suppliers were not even aware of the regional petroleum integration project, at the time of the interviews heavily announced in the media by the government and later initiated through large scale joint petroleum projects with state petroleum companies of the region. This indicates that the lack of coordination between the Venezuelan government and the suppliers is likely to limit the possible positive effects of this integration for the supplier sector.

6. Conclusion

This chapter presents a short recapitulation of the main analytical points of the thesis. I shall start by revisiting the research question:

> -*What are the implications of transnational intra and inter-firm relations for the Venezuelan participation in enhancement and capture of value in the petroleum industry and how can the Venezuelan government increase this participation?*

The possibilities of enhancement and capture of value in the Venezuelan petroleum industry is a result of the dialectic relationship between flows of value, embedded in global network structures and space-specific factors. To explain the deterioration of the Venezuelan state's capture of value, a variety of causes on both levels, many of them interrelated, must be taken into account. The *functional configuration* of the petroleum industry, in which the strategic associations and the operating agreements implied an increasing participation of the transnational petroleum companies and a parallel displacement of PDVSA as executors of the core activities, is crucial in this respect. A series of features of these production forms were crucial for the power relations between the actors of the Venezuelan petroleum industry.

The findings are consistent with the emphasis on power and governance in theoretical approaches to the organization of production such as global production networks and global commodity chains. The Venezuelan petroleum industry can be considered as *producer-driven*, in the sense that the power to influence the outcome in terms of capture of value to a large extent lied in the *physical control over the core activities*. The petroleum companies of the operating agreements, in spite of the fact that these formally were mere service contracts where PDVSA maintained the ownership and the exclusive right to commercialize the produce, inflicted considerable losses for PDVSA through many mechanisms. The remuneration paid by PDVSA to these companies in return for the produce, was a function that partly depended on the world market price of the petroleum. This, in practice makes these petroleum companies owners of the resource. The production costs of the operating agreements were paid by PDVSA, and since the company was not involved in the production process it was difficult to monitor and verify these expenses. The exceptionally high production costs reported by the operating agreements meant a reduced capture of value as they reduced the surplus of PDVSA which is the basis for the company's profit tax and dividends paid to the Venezuelan state. Because of the supposed service character of this

contractual framework, the companies of the operating agreements were also exempted from the royalty levied by the state.

The strategic agreements had many features in common with the operating agreements. However, here the participants, PDVSA as a minority owner, and one or more transnational petroleum companies as majority owners, were also entitled to the outcome. Although PDVSA participated in the production the findings show that this participation was limited, especially with respect to up-grading of the extra heavy petroleum, the most crucial technological aspect of the strategic associations.

The governance implied in the control over core activities was not only important for the relation between the Venezuelan state and the transnational petroleum companies, but also in relation to the global petroleum market. The contracts of the operating agreements and strategic associations also guaranteed against any economic loss resulting from possible production cuts imposed for example by OPEC. Hence such losses would be borne by PDVSA and the Venezuelan state. The operating agreements and strategic associations in some cases had also exceeded their production quotas. Importantly, thus, when the transnational petroleum companies controlled an increasing share of the Venezuelan petroleum deposits, it was also increasingly difficult and expensive for the Venezuelan government to augment its capture of value through influence on the petroleum prices by limiting production.

The petroleum companies as lead firms also exercised considerable leverage over *backward linkages* in a way that influenced the possibility for value enhancement in terms of participation of Venezuelan labour capital and inputs in the supplier sector. The Venezuelan owned EPC suppliers reported the strict time and quality requirements of the petroleum companies as mechanisms that impeded increased participation. However, at the same time as the transnational petroleum companies increased their participation in the highly profitable core activities, they were *shedding off non-core activities*. The Venezuelan EPC suppliers were taking over production processes that are labour and knowledge intensive, but not capital or technology intensive, such as engineering services, geological surveys and installation of machinery. These are in other words entering in nodes that with *low barriers to entry* and the fact that that the petroleum companies externalize these tasks in order to increase flexibility and cut costs indicate that we are in presence of a process much like what I chose to term *peripheralization*; profits are lower as the entry of firms based in the periphery increases competition. Due to the spatial rigidity of the petroleum industry, where the

production of a great deal of goods and services must be situated near the petroleum deposits, the geographical aspect is not much pronounced in the sense that production is moved between the centre and the periphery. This peripheralization of certain production processes means the inclusion of some high skilled Venezuelan labour and thus to a *certain degree contributes to an increase of value enhancement*. The entry of the Venezuelan EPC suppliers is facilitated by a transfer of know-how from the transnational petroleum companies. Many of the executives and engineers of the EPC suppliers had acquired important know-how while working in the petroleum companies. Subsequently, as many of these founded their own EPC supplier companies, the transfer of know-how continued through interaction between the EPC suppliers and the technologically superior petroleum companies. The Venezuelan owned EPC suppliers could also benefit from the brand names of the products they imported from abroad. Still, the findings revealed that real technology transfer was not easily obtained and thus that the ascendance of Venezuelan owned suppliers into more technology and capital intensive sectors was rare. Isolated, this could be interpreted as an indication that there is little or no possibility for the periphery in industries with globalized governance structures.

However, other findings indicate that the relations between the actors of the Venezuelan petroleum industry are also more complex than what could fit into the producer-driven commodity chain category. Importantly power is not only exercised by the petroleum companies as lead firms. For example, the abovementioned mechanism where Venezuelan EPC suppliers benefit from exclusive contracts with foreign brand name producers of equipment and machinery also implies that those that do *not* achieve such contracts have a relative disadvantage. This means that *these companies have exercise governance over forward linkages*, through the possibility to include or exclude EPC suppliers in the Venezuelan petroleum industry. Also factors outside the network of relations between the actors directly involved in production, such as a general technological dependency and industrial recession, had an impeding impact on value enhancement.

The Venezuelan petroleum industry can be seen as a global production network, in which firms have been the principle actors but where these are embedded in a geographical context where other actors can have considerable leverage. Importantly, political decisions, whose focal point was the so-called *apertura* policy embarked upon by neoliberal governments under pressure from the PDVSA management in the 1980s and 1990s, was an important cause of the entry of the transnational petroleum companies. The decisions to lower the profit tax rate from the 50% established in the constitution to the so-called non-oil profit tax rate of 34% in for the operating agreements and strategic associations and to lower the

royalties and to the Venezuelan state to 1% in the case of the strategic associations were also to some extent political. Hence the situation in which the enhancement and capture of value in the Venezuela petroleum industry were traceable to the relations between the firms *does not* support the determinism inherent in the global commodity chains approach in which growth in the periphery is excluded as a possibility. Rather the findings, summed up above indicate that the situation in which the firms seemed like the only actors with leverage in the petroleum industry in reality depended upon non-interventionist governments among other factors. As such government policies are not given, the displacement of the state in the economy is not inevitable. This is consistent with the critical realist assumption that the social structures at a given time and the society are contingently related.

Through a radical reform process the Venezuelan government reversed many of the features of the functioning of the petroleum industry that influenced negatively on the state's capture of value, through converting the operating agreements and strategic associations into mixed enterprises. This means that the contractual framework of the strategic associations stays almost the same except that PDVSA now has a minimum ownership participation of 60% and is now involved in all aspects of production including the crucial up-grading process. This reform also means that the private petroleum companies of the operating agreements are converted into minority owners of the petroleum they produce. However, the mixed enterprise model grants *more control* to PDVSA of the petroleum deposits in question, because the company is now in charge of the production processes. The change of fiscal framework implied in this reform establishes 50% as the minimum profit tax and standard royalty at 30% minimum 16% in the case of extra heavy petroleum such as the one that is exploited by the former strategic associations in the Orinoco Belt.

On a general basis certain external conditions, such as a high world market price, tend to coincide with national governments taking a more active role in the petroleum industry. However, my findings clearly indicate that in the case of a commodity with the supply and demand characteristics of the petroleum, it is possible to *influence* the world market price, making its characterization as an external condition questionable. The active international petroleum diplomacy of the Venezuelan government, instrumental for the strengthening of OPEC and the accelerating process of regional petroleum integration, not only helped rise petroleum prices, but also gave more leverage to the Venezuelan government to intervene *within* the country's petroleum industry.

On the other hand, the findings do not evidence that those characteristics of the Venezuelan petroleum industry that were found to impede an increased value enhancement were considerably altered, as the slight increase in participation of Venezuelan owned EPC suppliers was mostly result of the process of shedding off of non-core activities of the petroleum companies referred to above. The fact that no data about the supplier sector was recollected after the fieldwork of the spring/summer of 2005 must be taken into account though, as the major reforms of the organization of the core-activities occurred in 2006 and 2007.

What aspects of the relations between state institutions related to the petroleum industry and the traditional economic elites were important for the outcome of the reform process? The findings show that the state institutions of the Venezuelan petroleum industry have been the arena of a dramatic conflict between the old PDVSA management that actively worked for further privatization and liberalization and a government loyal bureaucracy. The government that behind the reforms derives its power from broad popular support and, after a military coup was defeated in 2002, also the armed forces. On the other hand, the PDVSA management that fiercely opposed the government induced reform policy was allied with the USA-backed right wing political and military elite and shared the interest of further privatization with the transnational petroleum companies. While the new legal framework that illegalized the operating agreements and strategic associations could not have been enforced as the institutions were plagued by this class and policy related conflict, my findings show, after a dramatic attempt to topple the government from within the petroleum industry, the government loyal bureaucracy imposed itself and displaced the old PDVSA management. The importance of this rupture for the achievements that followed, pointed out above, give some support to radical interpretations of the Weberian view that insulation from dominant classes is a prerequisite for independent policy making and action from governments in the economy. Conversely, other approaches, those that emphasize consensus and cooperation with the elites of the economic sector in question as indispensable conditions for efficient interventions, are contradicted by these findings

On the other hand, the fact that the petroleum policies of the Venezuelan government are not grounded in the interests of the private sector might have contributed to the very limited effect of the reform process on value enhancement. The lack of coordination between the government and the EPC suppliers was evidenced by the latter's scarce awareness of the government's strategy for increased national participation in the petroleum industry, and my findings do not show any coordinated qualitative movement of the supplier sector. However,

as PDVSA takes control over the operational aspects of the entire petroleum industry, this company which is subject to the directives of the MEP, also gains control of the entire market for goods and services. Hence if the government is willing to take the costs implied in favouring the inclusion of suppliers that not only use Venezuelan labour, but also are of Venezuelan capital and with Venezuelan produced inputs, the reform process can prove efficient also in terms of value enhancement.

To what extent can the findings of this thesis contribute to knowledge about other cases? Currently, also in Bolivia and Ecuador social movements and newly elected left wing governments are struggling to re-establish national sovereignty over hydrocarbon resources in order to spur social and economic development. In addition, African countries such as Congo and Angola are looking for ways to increase enhancement and capture of value from petroleum and other natural resource extracting industries. Parallel to this, resource nationalism is recuperating and again assumes a prominent role in the political and developmental debate on a world scale. As the only country where a self-proclaimed, radically anti neoliberal government has been governing sufficient time to make a study of its practical policies possible, Venezuela is of utmost interest both for the mentioned countries and the developmental debate in general. The main findings of this thesis are encouraging in the sense that it shows that a government with broad popular support can recover the control of a petroleum industry in the face of resistance from both national and transnational actors of such a deeply globally production network. Importantly, this is possible without counting on exceptionally skilled bureaucracies. The Venezuelan case also shows that global markets cannot necessarily be categorized as external conditions. However it must be remembered that Venezuela possesses significant market power derived from the quantitative significance of its petroleum production. Social phenomena are open systems and the exact combination of mechanisms that cause the observable events in the Venezuelan industry will not be present in other cases. Hence, while the causal powers inherent in global production networks and state intervention explained in this thesis can serve as analytical points of reference in other resource extracting industries, the particular results in terms of capture and enhancement of value of the Venezuelan petroleum industry can not be expected to repeat themselves elsewhere.

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