A Critical Appraisal of Legitimation and Delegitimation Strategies in the Brazilian Ethanol Market: De-linking Legitimacy and Legitimation

Takeyoshi Imasato
Doctorate Student at Escola Brasileira de Administração Pública e de Empresas, Fundação Getulio Vargas (EBAPE/FGV)
Visiting Doctorate Student at Lancaster University Management School (LUMS)

(tkimasato@gmail.com)

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1. Introduction

Biofuels attracted worldwide socio-political and economical attention of many organizations, institutions, and governments in the start of the twenty-first century. Politicians, social activists, think tanks, journalists, scientists, entrepreneurs, among others, have been keen in understanding the recent developments of biofuels and its implications for the future. Biofuels became a subject of many scientific inquires, international research, business reports, and journalistic news – with special attention to the ones sponsored and published by powerful international organizations such as Organisation for Economic Co-operation and Development (OECD), United Nations (UN), and World Bank.

This renewed interest on biofuels contrast with the fact that this kind of fuels has more than a hundred years of existence (Fernandes et al., 2007). Some earlier attempts to employ ethanol as fuel can be traced back to the end of nineteenth century in the US and Europe. However, the development of biofuels has been characterized by periods of lack of interest – followed by a social ‘forgetting’ – and of renewed attention on the potential uses of this type of energetic resource.

In Brazil the first attempts to use sugarcane-based ethanol as automobile fuel was registered during the 1920s. Nonetheless, alcohol would become a major national political matter only in the mid-1970s. The political project of developing and producing ethanol in a large scale as an alternative fuel to oil was supported in 1975. In this year the Brazilian government, under the military regime, created the “National Alcohol Programme” (ProAlcool) to put forward the plan of making ethanol as a new strategic energetic resource for the country (Barzelay, 1986; Rothman et al., 1983; Shikida and Bacha, 1998). Since that, the Brazilian ethanol has been regarded as one of the most successful project of alternative fuel to oil and attracted international political attention (Nitsch, 1991).

Despite the interests and the promising aspect of biofuels, international trading still is relatively small in volume. In particular, Brazilian government has been working to ensure that the worldwide interest on biofuels will eventually guide the creation of global markets for bioenergy, and more specifically for ethanol.

The size of the Brazilian market guarantees the success of biomass energy initiatives, and a foreign market is beginning to emerge. Several countries have their own domestic biofuel production and consumption programs, particularly biofuel mixed with fossil fuels. Nevertheless, Brazilian alcohol exports demonstrate that the international biofuel
market is barely getting started: practically all our production is not used as fuel. [...] It is possible to assert that the circumstances are favourable for the creation of an international biofuel market, beginning with an expansion of alcohol trade and encouraging its use as a fuel. (MAPA, 2006, p. 34)

From the international management (IM) standpoint, management frameworks and theories will now become crucial to develop the so-called “global market”. In this scenario of internationalization, the legitimacy of ethanol and other biofuels will rely upon the construction of international markets under structured policies and North-South geographical labour division, whereas a biofuels global market “represent a practical and powerful way for the North to act to protect biodiversity and help countries in the South to prevent deforestation” (Mathews, 2007, p. 3551). More specifically, IM knowledge will be of key importance to organizations in ethanol markets within diverse cross-cultural organizational and managerial settings (Acedo and Casillas, 2005; Boddewyn et al., 2004).

This universalistic assumption of IM denies the historical features that the international dimension of socio-political relations has been playing in the production and consumption of ethanol and other biofuels. IM overlooks key (geo)political, power and economic issues related to the legitimacy and illegitimacy of trading and of formation of markets. For instance, the long period of societal ‘forgetting’ and illegitimacy of large utilization of ethanol and other biofuels could not be explained satisfactorily by IM literature within universalistic and a-historical approaches.

Legitimacy and legitimation have been considered key concepts to understand organizations, institutions, strategies, and practices. In the field of Management and Organization Studies (MOS) legitimacy has been regarded as a central issue in several streams of research (Deephouse and Suchman, 2008; Oliver, 1991; Pfeffer and Salancik, 2003; Suchman, 1995). Following this trend, other sub-fields have been regarding that attempts to establish legitimacy is a key issue for management, such as the fields of Strategic Management (SM) and IM.

Nevertheless, the effects of legitimacy and legitimation in the dynamics of illegitimacy and delegitimation (and vice-versa) have been historically overlooked in the field of MOS. In other words, the interconnected relation between legitimation and delegitimation has been disregarded and considered marginal by the dominant theoretical approaches. In particular, the legitimation and delegitimation strategies, that can influence, manipulate, and transform the
social definitions of what is regarded legitimate or illegitimate (Vaara and Monin, 2009; Vaara and Tierani, 2008).

Even scholars from critical perspectives did not explore these interrelations. Consequentially, a huge emphasis has been given to legitimacy and the correspondent process of legitimation, but almost none to illegitimacy and delegitimation (Hybels, 1995; Vaara and Monin, 2009). This overemphasis on legitimacy and legitimation is based on the assumption that they have the epistemological privilege to explain the social phenomena. This privilege creates the “coloniality of legitimacy”, which disregard the embedded political, power, and symbolic relevance of illegitimacy delegitimation processes.

Based on the de-colonial perspective (Castro-Gómez and Grosfoguel, 2007), this paper will argue that de-linking the epistemological privilege of legitimacy and legitimation is of key importance to understand economic, (geo)political and power dimensions usually overlooked by the analysis in the field of MOS and in the IM field. In particular, this gap is relevant from a critical and strategic standpoint due to the possibility of understanding overlooked political and power features. The objective of this paper is to analyse historically the Brazilian ethanol market by employing de-linking conceptualizations of legitimation and delegitimation in order to understand the strategies within this field. Using historical market data, documents, and secondary sources to undertake the analysis, this paper indicate that legitimization and delegitimization have been intimately embedded in the strategies of different interest groups in this market.

2. Legitimation and delegitimation from a strategic and critical perspective

Legitimacy is considered one of the key concepts in the field of contemporary social sciences (Boltalski and Thevenot, 2006; Luckmann, 1987; Weber, 1978). As a reflex of that centrality, legitimacy and legitimation have been addressed by different areas of knowledge, such as Political Science, History, Law, Sociology, Psychology, and Management. That inter- and trans-disciplinarity have created a range of multiple, distinct and some times contradictory set of theoretical, epistemological, and analytical perspectives and positions.

However, this sort of diversity has been resulting in an ‘apolitization’ of the concept of legitimacy, creating serious obstacles to the conceptualization of the process of legitimation from a political standpoint, particularly in the field MOS. Legitimacy has been employed mostly as a
concept close related to acceptability, appropriateness, congruence, justification, reasonableness, and taken-for-grantedness in a given context (Ashforth and Gibbs, 1990; Deephouse and Carter, 2005; Suchman, 1995) rather than intimately connected to power and politics (Boltalski and Thevenot, 2006; Vaara and Monin, 2009; Weber, 1978). As a result, legitimacy has been regarded as relevant due to its possibility to explain survival, emergence of new organizations, resource acquisition and maintenance, stability, and social support and justification of practices, rationales, organizations, and institutions in the field of MOS.

In general terms, academics in the IM and SM fields are guided to understand these outcomes of legitimacy. SM has been focusing especially on strategically influence legitimacy to compete for resource allocation and increase the capability to achieve the organizational goals within markets and society (Deephouse and Suchman, 2008; Oliver, 1991; Pfeffer and Salancik, 2003; Suchman, 1995). More recently researchers have developed and tested hypotheses using legitimacy as a complementary category to predict and understand other performance measures, such as the value of initial public offerings, stock prices, stock market risk, and stakeholder support (Deephouse and Suchman, 2008).

However, the intimate connection of legitimacy and legitimation to concepts such as authority, culture, power, and politics is considered as a more relevant feature for other scholars (Boltalski and Thevenot, 2006; Vaara and Monin, 2009; Weber, 1978; Yagcioglu and Cem-Deger, 2001). In fact, the roots of legitimacy are to be found in these foundations since the seminal works of Max Weber. In accordance with Weber’s argument that legitimacy is a particular type of social order that enjoys “the prestige of being considered binding” (Weber, 1978, p. 31), legitimacy describes situations “in which individuals and organizations follow rules, commands and decisions because they regard them as binding” (Steffek, 2003, p. 255).

One of the major reasons to this state of affairs is that legitimacy has been focused on specific organizational, social, institutional, and economic contexts, at expense of a broader perspective. This limitation leads researchers to overlook the spatial-temporal context in which the politics and strategies of legitimation and delegitimation take place. The net result is that the approaches to legitimacy mobilized by strategy academics in more complicated debates tends to be done under a limited perspective, focused on intra- and inter-organizational relations.

The centrality given to legitimacy and legitimation contrasts with the neglect of consideration to illegitimacy and delegitimation (Kelman, 2001; Luckmann, 1987), even upon
evidences of their relevance in certain contexts (Elsbach and Sutton, 1992; Yagcioglu and Cem-Deger, 2001). Analyzing both legitimation and delegitimation as interrelated processes is of key importance to understand power and politics features of strategies (Berger et al., 1998; Etzkowitz and Mack, 1975; Kelman, 2001; Taylor, 2000, Vaara et al., 2006; Vaara and Monin, 2009; Yagcioglu and Cem-Deger, 2001). Such critical perspective could bring power and political issues into analysis, especially in terms of bringing

A first important feature regarding the connection of legitimation and delegitimation is that bases of what is regarded legitimate and illegitimate vary in content and form in different contexts and regions; accordingly, legitimation and delegitimation can both provide and remove the political bases of legitimate authority, markets, and public policies, for instance. A second point is that the bases of legitimacy and illegitimacy do not reside exactly inside the organization nor last forever; thus, legitimation and delegitimation are not bounded to a specific organizational or institutional context, in which those processes are affected by (and can affect) other organizations and institutions of different contexts, in a direct or indirect way.

The dynamics of legitimation and delegitimation can help explain both regularities and changes in the social relations (Hybels, 1995). In some contexts, the tension between the processes of legitimation and delegitimation can indicate the struggles and conflicts related to orientate and guide political results (Pfeffer and Salancik, 2003). Once acknowledge that the bases of legitimacy and illegitimacy can change in time and space, that characteristic open the opportunity to understand the sources of the shifts and reproduction of a give set of practices, rationales, organizations and institutions.

It has not been widely recognized in theories of institutions and legitimation that there is constant tension between tendencies for stabilization and de-stabilization in social relations. We may label these dynamics the countervailing forces of legitimation and delegitimation. Explicit theorizing about such contradictory pressures should help us avoid the dangers of both tautological and teleological reasoning by making it clear that there is nothing inevitable about either legitimation or the existence of particular institutions. (Hybels, 1995, p. 243)

One of the critical issues in the MOS field is to challenge the overemphasis on legitimacy and legitimation. The accepted assumption is based on the assumption that they have the epistemological privilege to explain the social phenomena at the expense of what “negates, exclude, occlude the difference” (Mignolo, 2007, p. 451) and the possibility of epistemic
otherness (Castro-Gómez and Grosfoguel, 2007). The coloniality of legitimacy creates a effort to emphasize the “generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995: 574). However, the focus only in the creation of senses of legitimacy – that is, the positive, beneficial, ethical, necessary, or acceptance – obscure the concomitant process of delegitimation involved in legitimization processes that can occur intentionally or not (Vaara et al., 2006; Vaara and Monin, 2009).

‘De-linking’ – ‘desprenderse’ is the word employed by Quijano – is the concept that helps understanding the epistemic imposition(s) of the modern/colonial world and its epistemic and cultural has practical and political consequences. Nevertheless, de-link is not to abandon or to ignore (Mignolo, 2007). No one could abandon or ignore, for instance, the deposit and sedimentation of imperial languages and categories of thought. In this sense, de-linking the primacy of legitimacy and legitimation is an attempt to access the “other side” of the process of what is regarded as legitimate.

In line with this argument, legitimation can actually increase the flow of symbolic, political, and financial resources (Peffefer and Salancik, 2003), while delegitimation occurs as the flow of resources declines (Hybels, 1995). As Hybels (1995) highlighted, resources and legitimacy are not synonymous. Resource flows is one of the key evidences of legitimation not because it provokes the resources flow, but because it is one of the means by which approval and consent are expressed. Accordingly, the delegitimation can be analyzed by the negation and exclusion of resource flow as well as by the social blame, obscurity and forgetting.

3. Legitimation and Delegitimation Strategies in the Brazilian Ethanol Market

The analytical section will be divided in two. In the first, it will be presented a historical analysis of the formation of the sugar sector in Brazil since the colonial period until the military government. In this part it will be highlighted some of the key strategies and organizational features of the sugarcane cultivation and it processing. In the second section, the context implementation of ProAlcool will be explored the legitimation and delegitimation strategies that took place. In particular, the analytical connection between the first and second part will show the importance of the international dimension in different moment and in distinct matters.
3.1. From colonial sugar production to the military regime

Brazilian political and economical history has been intimately related with agriculture and, in particular, with the production of sugarcane (Furtado, 1959; Prado Junior, 1945). The first economic activities in Brazil were based on sugarcane plantation during the sixteenth century. As a Portuguese colony, sugarcane was introduced due to the interest to export sugar to Europe – a luxury good at the time. In fact, the occupation of Brazilian territory with agricultural activities has had also a strategic geopolitical aim. Fostering an economic activity based on sugarcane monoculture was also a defensive territorial occupation strategy against the menace of British, Spaniard, and French corsairs’ invasion (Shikida and Bacha, 1998) and a legitimation strategy of Portugal to achieve effective political control over the colony.

State intervention had a decisive role for the creation, expansion and maintenance of the Brazilian sugar productive structure since the very early stages of its formation (Furtado, 1959; Prado Junior, 1945; Shikida and Bacha, 1998). During the colonial period, Portugal monarchy encouraged the creation of the first sugarcane fields by establishing Portuguese nobles in Brazilian lands – more specifically in the Northeast of Brazil. Additionally, Portugal determined the military, regulatory, commercial and trading structure related to the sugarcane (which included, for instance, the acceleration of slave traffic to Brazil) – and, consequentially, of the Brazilian economic dynamics.

The political economy of sugar production did not changed significantly during the Brazilian colonization period. The plantation structure based on monoculture, slave labor and the large farms (the latifunfios) was not modified in moments of great commercial oscillations with European sugar markets. Neither the increasing competition of other sugar producers (e.g. Antilles Islands), the cyclical crisis faced by the sugar producers during the seventeenth and eighteenth centuries (Anciães, 1979; Shikida and Bacha, 1998), or even the proclamation of independency from Portugal in 1822 changed per se this structure.

The sugar production sector would be forced to change only when the impacts of the international pressures to delegitimate slavery trade system and the increasing industrialization of sugar production in other countries started to affect more directly the prevailing structure (Ramos and Szmrecsányi, 2002). The extinction of slave trading, the inexistence of financial capital in the sector, and the technological development delay of Brazilian sugarcane producers in comparison with other competitor nations created a deep crisis in the sugar sector in the second half on
nineteenth century. However, the social power of the sugar sector still was a strong political, institutional and economic element.

In the context of huge pressure and uncertainty the legitimacy of the sugar sector would be sustained by state intervention during the 1870s (Anciães, 1979). The government plan was based on the necessity of updating the technology and machinery used in the sugar production. The adoption of new industrial machines installed in centralized mills (engenhos centrais) would be the new legitimation strategy for the sugar sector development. The strategy to avoid the delegitimation of the sector’s political privileges was supposed to be achieved by making sugarcane and sugar producers economically and technologically competitive in the international setting (Shikida and Bacha, 1998). Nevertheless, this new productive structure was not able of enabling the sugar sector the capacity to catch up the technological innovations of other competitors.

The industrialization process within the sugar sector occurred vis-à-vis with the de-concentration of production in the Northeast region – dominant in the sector since colonial times – in the start of the twentieth century. The increasing production capacity in the Brazilian Southeast, particularly in São Paulo, boosted the efficiency of sugar processing. The introduction of industrial machinery of sugar refinery (the usinas) made obsolete the central mills system and demarked the transition into an agroindustrial design for the sector. Nevertheless, the focus still was on the sugar exportation, in particular to Europe, although the constant market oscillations. The industry based in the usinas enabled the vertical concentration over sugar and ethanol production. The concentration of agricultural production in large farms and the technical control over sugar and ethanol production were gradually achieved by most of the usinas. Accordingly, the technical and social division of agriculture and industry sectors in the sugar agroindustry is extremely low in Brazil since the early twentieth century (Ramos and Szmrecsányi, 2002).

The great political and economic focus in sugar agroindustry and the great retraction of external markets during the 1920s and 1930s help explain why Brazil was one of the pioneers on using sugarcane-based ethanol as automobile fuel. Without a market destination for the high volumes of exceeding sugar stock, one of the legitimation strategies to maintain economically the sugar agroindustry – and the corresponding political and economic structures – was achieved by blending alcohol to gasoline. Mixing a minimum of 5% of ethanol to gasoline became mandatory by law in Brazil in 1931 (Rothman et al., 1983). Henceforth, part of the sugarcane production
would be converted to anhydrous alcohol. Notwithstanding, ethanol was merely a byproduct of sugar production that was produced most notably in order to balance sugar stocks. Sugar agroindustry entrepreneur (the *usineiros*) guaranteed the domination of a particular market.

Nonetheless, even the ethanol blending policy started to be regarded as insufficient by the *usineiros* entrepreneurs to maintain and protect the sector. With the persistence of overproduction of sugar, low international prices (especially after the Wall Street Crash of 1929), and the political pressures for more state intervention in the sector, Brazilian government created the Institute of Sugar and Alcohol (IAA). The IAA was designed to determine and regulate almost all aspects of the sugar complex market dynamics, which included quota of production, retailing prices, distribution, exportation, and labor relations (Rothman et al., 1983; Shikida and Bacha, 1998).

State intervention mediated by IAA had a specific political aim: reduce the political and market uncertainty for the sugar and ethanol sector. Guarantee prices and effective trading for all production was regarded as crucial to avoid the collapse of the sector (Anciães, 1979). However, the effects of the IAA were not homogeneous. Even though IAA could stop the entrance of new companies in the market, the organization could not stop the already existing producers to improve and increase their facilities (Ramos and Szmrecsányi, 2002). Once the internal market started to growth in the Brazilian Southeast promoted by the industrialization of other economic activities in the region, Northeast *usineiros* could not compete with more cost efficient Southeast producers. State intervention intended to maintain a market share for Northeast production in São Paulo, but logistic problems avoided the success of this plan. Thus, Northeast sugar agroindustry started to decrease gradually their production, and consequently lost part of their political influence.

The sugar agroindustry had another major change only after the coup d’état in 1964. Under the military regime, a new state intervention policy was planned to the sugar and alcohol industry. In the context of “golden age” of capitalism, international prices of sugar were high and the oil prices were considerably low. This scenario fostered the creation of a large public program to support sugar production and exportation by the government (Anciães, 1979; Barzelay, 1986; Ramos and Szmrecsányi, 2002). New credit lines and subsidies were implemented in the sector. The results of this decision came quickly. In 1935 13% of the production was exported, while
32.6% in 1973 (Szmrecsányi, 1979). However, this abrupt government policy focused on sugar trading created an economical dependency of incomes generated by this particular sector.

The increasing production capability encountered an abrupt decreasing of sugar prices due to the oversupply in the international markets. The sugar agroindustry faced the risk of a severe crisis. The military regime needed to ensure Brazil’s economic growth as political and symbolic resources to maintain their legitimacy as rulers during the authoritarian regime (Barzelay, 1986; Nitsch, 1991). In order to survive, the sector needed once more the intervention of the state. In the point of view of government, stop the sugar agroindustry crisis was necessary to maintain rule authority. The first Oil Crisis in 1973 and the dependency of Brazil to exported oil created a unique combination of factors that made possible the creation of ProAlcool in 1975.

3.2. The ProAlcool and the strategies for ethanol
3.2.1. 1975-1978: the rise of ProAlcool

The ProAlcool was officially created by the government by the Decree no. 76.593 in 1975. It aim official was to promote ethanol production from different sources, not necessarily only based on sugarcane (Rothman et al., 1983). The high oil prices (see Figure 1) after 1973, the dependency over exported oil, and the sugarcane agroindustry crisis favored the creation of strategies that favored the government support of towards the mass production of sugarcane-based ethanol.
The objective of ProAlcool was to reach 3 billion liters of alcohol production in 1979, while the ethanol production was around 0.5 billion liters in 1975. This objective was eventually reached, but with several discontents with the factual aid from government policies. For instance, many usineiros complained of government stating that the “ProAlcool as a program does not exist” (Anciães, 1979, p. 70). In other words, ethanol production increasing during the period of 1975 until 1979 based almost solely on production capacity and the exceeding stocks that already existed (Barzelay, 1986). In particular, entrepreneurs complained that the access to financial resources supposed to be available by public and private banks to be invested on technological development and production expansion could not be reached in practice.

According to many sources, most of the key policies intended for ProAlcool were not effectively implemented during this period (Anciães, 1979; Barzelay, 1986). One of the reasons for that was the fact that many organizations that should support the program (e.g., Central Bank, Banco do Brasil, and Petrobras) did not cope with the political goals of the program (Barzelay, 1986; Rosillo-Calle, 1998). These organizations were able to slow down the program considerably during this period.
The contradictions between the declared objectives of ProAlcool and the factual political outcomes were the fundament of the questionings of the government policy legitimacy. Accordingly, many delegitimation strategies took place in order to make those contradictions more apparent. In the financial sector, the bureaucratic and technical evaluation procedures of new distiller and sugar mills projects were used to slow down the flow of resources to the distillery and sugarcane production (Anciães, 1979). Those organizations feared that the investments made in the sector could never be paid in the future, once they did not believe that ProAlcool could be successful. Petrobras, the state-owned oil company, took inaction as the main delegitimation strategy. As the company had the monopoly over liquid fuel market, foster a possible competitor (the *usineiros*, for example) in production and/or distribution was absolutely against their political interest. Automaker multinational corporations also resisted to accept the viability of a fully ethanol-fuelled passenger car (Rossillo-Calle and Cortez, 1998) because they doubted of the capacity of long range constant supply of ethanol.

Although the institutional struggles affected the speed of ProAlcool implementation, technological improvements for alcohol industrial processing and the creation of fully ethanol powered car engines were developed in parallel. Moreover, ProAlcool policies guaranteed market for all the ethanol produced. IAA still was responsible for establishing prices and technical specifications of ethanol and sugar.

In 1978, political struggles and operational problems (such as the difficulties of ethanol storage and distribution) became unbearably problematic and made the government to decelerate the program. Issues related to control over liquid fuels dominancy, financial investments, and the effectiveness of ProAlcool as an oil substitution policy needed to be rethought. Although in an authoritarian-military regime, government control over the alcohol program was not total (Barzelay, 1986). The legitimacy of ProAlcool was severely in risk. Many expected that the idea of producing alcohol as a sustainable energy resource would be abandoned and delegitimized as a public policy. Nevertheless, the context changed with the rise of the Iranian Revolution and the emergence of the second Oil Crisis.

### 3.2.2. 1979-1989: fast grow, peak and fall

The second Oil Crisis pushed again the energy issue to the top priority of the political agenda worldwide (Barzelay, 1986). Oil prices reached record prices (see Figure 1) and great
concerns about oil supply was generated. In this context, the almost delegitimized ProAlcool attracted a renewed interest from the government. The Decree 83.700 created two councils – the National Alcohol Council (CNAL) and the National Alcohol Executive Commission (CENAL) – in 1979 in order to organize the implementation of new public policies and to diminish the conflicts within the interest groups.

The new announcements made by the government increased the confidence of the automobile industry in the ProAlcool. An alignment of interests with automakers was achieved once four governmental policies were published (Barzelay, 1986): (a) slight increasing of the prices that producers received by producing ethanol in comparison with of sugar; (b) authorization of 10% expansion of ethanol mill’s capacity; (c) a plan to add alcohol to diesel; and (d) governmental guarantee that enough financial resources would be available to be invested to boost the ethanol production.

The creation of the engine fully powered by ethanol (hydrated alcohol or E100, which means that no oil was blended in the fuel) propitiated the opportunity of the creation of a new range of product. The international sugar market was once again considerably unstable. Sugar and ethanol agroindustry used this new context to surpass other competing sources for ethanol producing (e.g. manioc and babassu). The delegitimation strategy was based on the attraction of almost all subsidies and investments to the sugarcane-based ethanol industry. Accordingly, other types of biofuels could not receive sufficient resources to develop their projects and disappeared.

World Bank announced in 1981 the opening of a $250 million dollars loan to be used in the ProAlcool – when the oil prices where in its highest historical prices (Nitsch, 1991). Pressured to invest in renewable energetic sources at the time, the World Bank used Brazil as a sort of “test experiment” to understand better this type sector.

Petrobras also became more supportive to the idea of fostering an ethanol market in Brazil. They announced investments in the sector ii and were planning to have a major role in the emerging ethanol market as well as maintaining the monopoly over the oil and liquid fuels. Nevertheless, they played an ambiguous role during this period. On the one hand, they developed an incredible ethanol distribution and supply chain that reached almost the role country. On the other hand, when the fast popularity of the ethanol-powered cars increased, Petrobras once again presented “negative attitudes” towards the ProAlcool (Rosillo-Calle and Cortez, 1998), particularly in the second half of the 1980s.
In 1985 the production of ethanol reached the level of 12 billion liters of ethanol. The retailing of alcohol-fueled cars also increased considerably. The sales of ethanol-fueled engines were higher that the gasoline-fueled cars between the years of 1983 and 1988 (see Figure 2). The accelerate investments on the field and the high quantity of subsidies for the ethanol sector – from the agroindustry until the fuel and car consumption – steered the market into this structure.

![Figure 2 – Car retailing proportions by type of fuel](source)

ProAlcool faced several problems after the decreasing prices of the oil prices promoted by OPEC countries in the second half of the 1980s and the more profitable prices of international sugar markets. With financial and economical limitations, the government was unable to maintaining the subsidies in the ethanol sector. The production of ethanol was stable during 1985 and 1990, but this amount of alcohol was not sufficient to supply the demand created with the great quantity of ethanol car fleet in Brazil.

Ethanol distribution has stopped several times between 1989 and 1990 among the country. In particular, the hydrated alcohol was not available. The lack of supply created a huge discredit
in the ProAlcool, and in particular to the image of ethanol as fuel. Accordingly, any new public investment in the sector became immediately illegitimate. The automobile industry also saw the fast decreasing sales of ethanol-fueled cars. The re-democratization of Brazil and the new competitive neoliberal guidelines stipulated by the Washington Consensus changed drastically the political dynamics of the sugar and ethanol agroindustry.

3.2.3. 1990-2001: market stagnation, productive concentration, and liberalization

The official extinction of IAA in 1990 was one of the first actions made by the new elected federal administration (Ramos and Szmrecsányi, 2002; Shikida and Bacha, 1998), now under the government by a democratically elected president. The 1990s also marked the liberalization of markets in Brazil, with a fast process of change of legal, regulatory, economic and political institutions. That meant that the pattern of state intervention would be radically changed. After the end of IAA, the amount of state intervention vanished in a fast fashion within the sector. The liberalization of markets in Brazil was followed by a great political focus on fiscal and inflation issues by the government.

In 1994 the Plan Real was launched with the objective of stabilizing the Brazilian economy and reducing inflation rates to single digits. Control of inflation became the key political issue of the time. The Federal Government policy was to force the sugar and ethanol industry to cut costs through higher productivity. (Rossillo-Calle and Cortez, 1998, p. 117)

Accordingly, this was a period of de-structuration of the set of economic and fiscal incentives directed specifically for the sugar and ethanol sector. If the public intervention in specific sectors was an important and legitimate strategy during the military regime, the new free-market policies were designed to de-regulate fuel prices and to illegitimate public-owned monopolies over markets. Furthermore, the stabilization of oil prices in lower levels during the 1990s also delegitimized any further specific policy towards the ethanol industry. In fact, the huge amount of investment made in the sector started to be criticized as economic waste of public resources (Nitsch, 1991).

The liberalization of ethanol and sugar market during the 1990s was not a simple process. In the one hand, de-regulation of ethanol and sugar markets should have happened in the mid-1990s. However, the factual liberalization of prices came only in 1999 (Barros and Moraes, 2002). In 1993, in opposition to the process of liberalization of this period, Brazilian government
made mandatory the blending of ethanol in a range of 20% to 25%. Thus, the de-regulation was partial even in the context of liberalization (Veiga Filho and Ramos, 2006). That market reserve was of key importance to maintain the basic structure of the ethanol and sugar agroindustry in a context of delegitimization of government intervention. The hydrated alcohol (E100) consumption fell drastically after the 1989-1990 supply cuts. All phases of ethanol and sugar production were liberalized and did not rely in any specific state authorization anymore. In this sense, sugar and ethanol agroindustrial sector became “invisible” of the major political and economic struggles related, for example, to privatizations, de-regulation and liberalization of markets in Brazil.

One of the effects of the process of liberalization was the concentration of capital within the sector (Ramos and Szmrecsányi, 2002; Veiga Filho and Ramos, 2006). This process of concentration and the further verticalization of the production was legitimated by the free-market and efficiency arguments. As a result smaller companies started to increasingly exit the market.

Apparently marginalized and delegitimized, the sugar and ethanol agroindustry remained with the blending percentage as a legitimate market reserve. International sugar markets were one of the main aims of the sector (Veiga Filho and Ramos, 2006). Nevertheless, without subsidies for the production, the strategies of the sector shifted to the improvement of efficiency, reduction of costs, technological development (e.g. new sugarcane crops, mechanization of haverst, etc.) and improvement of management practices. The rise of oil prices in 2000 and the environmental and climate change were international issues that modified the context in favor for new investments in the ethanol production.

3.2.4. 2002 onwards: new policies and the “internationalization” of the market

The newly elected administration started to debate with the sugar and ethanol agroindustry entrepreneurs the possibility of recreating a new ProAlcool programme. Nonetheless, government contribution would not be based on high levels of subsidies as in the past. Environmental issues and the new rise of oil prices created this context for “remembering” ethanol as key strategic energetic resource. With the strength of concerns about the negative impacts of global warming and climate change in the world, renewable and environmentally-friendly energetic sources started to be regarded as necessary resources for the future.
The main legitimation strategy for this new phase of ProAlcool was based on ethanol price liberalization and by the introduction of the flexible fuel (flex fuel) vehicles. This new technology enabled the consumer to choose any combination of hydrated ethanol (E100) and gasoline (E25) fueling. This flexibility helped clearing any fear of supply cut of ethanol as in 1989.

The record oil prices during 2005 until 2008 highlighted Brazilian ethanol internationally. Numerous reports from a range of distinct organizations were published about biofuels and, more specifically, of Brazilian ethanol. On the one hand, many international venture capitalists and multinational corporations started to invest on in biofuel markets in general, and some invested particularly in Brazilian ethanol agroindustry. On the other hand, many organizations – non governmental organizations in particular – questioned the Brazilian sugarcane ethanol production and tried to delegitimize the investment increase in this sector worldwide. Many reports and scientific inquiries were published with the objective of questioning the industrial structure of ethanol production in Brazil.

In response, Brazilian federal government, public organizations and private companies start to defend the legitimacy of ethanol. Economic and agricultural efficiency of Brazilian ethanol were used as sources of legitimacy. In particular, market competitiveness and the uniqueness of its role in world energy supply were key characteristic emphasized.

The ethanol program in Brazil has replaced approximately 1.5% of all gasoline used in the world, and this figure will most likely double with the expansion underway. If the present rate of growth of ethanol production in Brazil continues and if other sugar-producing countries follow the route adopted by Brazil, it seems possible that as much as 10% of all gasoline used in the world could be replaced in the next 15–20 years. (Goldemberg, 2008, p. 7)

The production of ethanol reached 25 billion liters in 2008. However, with the world economic crisis of 2008, the crude oil prices, that achieved $147 dollars per barrel, decreased to the level of $40 dollars in the start of 2009. The optimistic forecasts about the sector have been replaced by more conservative ones. More specifically, fostering international trading and global biofuels markets based on high competitive standards have been regarded as one of the key political features in North-South relations (Mathews, 2007).

A McKinsey study shows that ramping up export capacity will require as much as $100 billion in new investments, depending on international demand. Brazil’s fragmented
network of ethanol producers and limited distribution infrastructure will struggle to keep pace. Meanwhile, the growth prospects for biofuels are generating worldwide research efforts that seem likely to yield technologies that will lower the costs of production in other countries, making them more competitive with Brazil. (Assis et al., 2007, p. 1)

In the context of internationalization of political, environmental, juridical, and economical interests and interventions in the Brazilian ethanol market, the reliance upon the “international” as the necessary condition to the success has been increasing in the last few years. It helps explain the advance of a universalistic IM perspective that acritically relies upon concepts as cost leadership, global integration, core competences, competitive advantage, etc. and overlooks key power, governmental, and geopolitical aspects related to the international arena of energy politics.

4. Concluding remarks

The “international” dimension has had influence in Brazil since the colonial times. The introduction of sugar production as economic activity of the colony and the promotion of ethanol as a way of diversifying the utilization of sugarcane were hugely affected by political interests and market dynamics in the international domain. This showed that Brazilian ethanol market is international \textit{par excellence} and thus, claiming that internationalization and the appropriateness of IM approaches in recent years based on the intention of Brazil to export ethanol (to the US and Europe, for instance) mislead power and (geo)political implications of the concept of international dimension.

The processes of legitimation and delegitimation related to ethanol had strong public and private interrelations in the legitimation strategies of this particular market. The alignment of interests made possible the creation of a huge ethanol complex, from it the sugarcane production to fuel consumption. The legitimation strategies in sugar and ethanol agroindustry show the crucial importance of public organizations and of government to the development and fostering of specific economic activities. Government gave substantial financial subsidies, symbolic relevance and political-energetic relevance that propitiated the endurance of the alcohol sector for more than three decades. The delegitimation strategies of ethanol also have been characterized by multiple interests and arguments in and from different countries, organizations, institutions, and, accordingly. Deforestation, food crisis, bad labour conditions, and reliance upon government intervention have been common attacks to Brazilian ethanol agroindustry.
The legitimation and delegitimation strategies in the sugar and ethanol sectors suggest that the universalistic assumption of neoliberal rationality is problematic because it overlooks important features linked to government policies, international organizations, corporations and of public organizations that have been of key importance. De-linking the privilege of legitimacy and conceiving an epistemological approach that connect legitimation and delegitimation can help in the process of construction of a “epistemic otherness” (Castro-Gómez and Grosfoguel, 2007; Mignolo, 2007) and critically engage with the fields of IM from other critical perspectives in and from Latin America. The degree of legitimacy for concentration of resources allocation that sugar and ethanol sector achieved is of key importance to understand both the contemporary strong position in the Brazilian economy and the endurance over the centuries. It also helps analysing the difficulties (and the challenges) of the emergence of other competing economic sector and activities over the years.

Overly optimistic, managerial IM literature and simplistic market-oriented projects to promote biofuels – old and new ones – falls into a naïve conceptualization of the power and geopolitical struggles related to strategies in the energy sectors. The combination uniqueness of political, institutional, economic, cultural, and social characteristics of Brazilian ethanol market seems to imply that an IM ‘universalistic’ approach will not be consistent to understand the differences in the Latin America. In a similar vein, also seems to be unfeasible to support a singular “critical perspective” in and from Latin America given the great heterogeneity and asymmetries within the region. De-linking the legitimacy and legitimation can help understanding the historical influences and impositions in the field of IM and, thus, collaborate on the construction of other epistemic position(s) that unravel power and (geo)political dimensions. Additionally, it can be one way to contribute to the “de-coloniality of thinking” in the Latin America region foster the production of knowledge in the region.
References


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1 According to Ramos and Szmrecsányi (2002, p. 104), these fears had a fundament. In 1991, the debt of sugar and alcohol agroindustry companies was estimated in US 2.4 billion dollars. As key players in the agricultural sector, they were able to beneficiated by debt renegotiations and, in some cases, receive full amnesty.

2 They invested in a manioc-based ethanol production facility. A specific plague affected the manic production and the project was abandoned.