

**GLOBAL PLAYERS MALADAPTATION
AND DEFOCUSED INSTITUTIONAL ARRANGEMENTS:
ETHANOL PUMP PRICES RESILIENCE ALONG 2010 HARVEST
TROUBLES.**

(A view from within Goyaz, Brazil.)

ABSTRACT

This paper attempts to delve the problem of the ethanol prices for the consumer have not been cut down as expected from the perspective of a less intelligent institutional arrangement that combines fiscal subsidies for attracting companies to invest in Goyaz – the second national larger producer – whose protocol admits the investment project since they comprise predicted amount of sugar, ethanol and job creation, and, also, some other social responsibility projects. However, the arrangement does not entail any output target. The hypotheses state that the institutional arrangement builds on concession of fiscal subsidies, and this only do the job of attracting investments projects, since they are not supposed to contribute with a target of output. By applying some quantitative methods, it came up that the subsidies did influence the projects; anyway, a chart comparison revealed the inducement of investment by national sales of flex fuel cars. It is clear then that a more intelligent arrangement can be raised, since all the dynamics in ethanol technologies investment is related to the sustainable means of transportation paradigm.

Key words: ethanol – pump prices – maladaptation – institutional arrangements – Goyaz

1. Introduction:

The goal of the present paper comprehends an attempt to approach one side of the controversy about the resilience of prices of ethanol, considering arrangements setup, Global Players investments and possible maladaptation to changes in flex cars sales and within the environment such as new enters, incremental innovations within the values chain, shortening of cane lifecycle and selection of areas criteria. Undoubtedly, this does not suffice to explain the persistent level of prices, but accounts for an important path to understand such lengthy and uneven slope of prices for the consumers. The issue that this paper deals with is that institutional arrangements built up in the Industry at Goyaz have been strongly underpinned by fiscal subsidies, which is responsible for attracting projects that drove the state of Goyaz to be the national second large ethanol producer in the year of 2009. Notwithstanding, the expected contribution of the output volumes to national surplus are beneath harvest figures; therefore, it

can be alleged that prices cut down were not possible due to breakdowns. Anyway, there are adjacent aspects that relate to the decision of the firms: the investment cannot be looked at as an aggregate result; as a matter of fact it comes out from the mechanisms of decision of enterprises individually – as in microeconomics – which causes impact in the sector: amount produced and traded, mitigation measures and selected harvest techniques, for instance. Thus, one of the sides of the matter of prices persistency relates to the decision of the companies not to run enough mills to make alcohol. Another side is that policymakers did not demand – or, at least, supervise – targets of amount of output in a certain period of time as a counterpart of subsidies concession; then the matter becomes the juxtaposition of both maladaptation and an out of focus institutional arrangement. Some hypotheses that help to clarify the problem are that the institutional arrangements are mostly based upon fiscal subsidies and they do not stand for targets of output. The methodology comprehends quantitative methods applied to primary and secondary data in order to estimate how much fiscal subsidies influence the investment, to find out if the national flex fuel sales exert any influence on the level of investments, and a confrontation with empirical data to observe the technology diffusion and the rivalry among global companies in the sector. And the main findings are that companies were not able to adapt to an environment in which their endogenous technologies and knowledge were supposed to work out the sugarcane yields in order to meet the demand, they were focusing uncertain future structures in the global markets.

- **Research Problem:**

Is it the current institutional arrangement's fault the maladaptation of the mills in 2010 harvest?

- **Hypotheses:**

- The present-day arrangement is strongly based on fiscal subsidies.
- Fiscal Subsidies work out the attraction of investments.
- Larger companies are not supposed to accomplish with output volume targets.

- **Justification/Motivation**

The issue approached herein has the will to shed light onto questions that neither governmental agents nor any other economic player are running in the current public discussion about the resilience of pump prices when all expectations were on the opposite hand, especially, after a period when the sector had been blamed for exceeded inflation. Most of commentators in the press, many economic advisors, business players as well as governmental personnel agreed that as soon as the harvest had begun the fuel prices were going to slope down and,

consequently, the inflation as a whole would reward to the expected level. Nevertheless, once the harvest started the ethanol prices at the pump did not follow a steady trend to decrease, and not so much after that they showed some resilience of which the standard explanation is a not very good harvest. Furthermore, the reason why the event is not running as expected is that most companies did not invest in the enlargement of sugarcane yields, also, some of them did not renew the fields, and many work mills were not producing at the limit of installed capacity. Anyway, it hasn't been so far brought under light that a great proportion of companies working in sugarcane agribusiness all through Brazil consists of Multinational and Large Companies, Global Players that fulfilled an institutional arrangement strongly based upon fiscal subsidies. These incentives do the job of attracting Projects of Investments but do not make sure that the competition leads to volume production and delivery into the marketplace. Such phenomenon takes place, *inter alia*, because of neoliberal receipts constraining government from regulating any other schemes in the sector except collusion and price dealing. This article will investigate other possible motivations for the alleged maladaptation of firms and put particular emphasis on the global rivalry of the companies.

- **Methodology:**

Material and Methods:

The set of material gathered to build up this article consists of primary and secondary sources. The first are indicators that have been constructed with data retrieved from the chart of investment projects in Goyaz released by the Secretariat of Industry and Commerce under records of 'PRODUZIR' (budget program for fiscal subsidy) disclosing total investments, fiscal credits and productivities. Also, there are excerpts from the National Sales of Flex Fuelled Vehicles Chart of the National Automobile Manufactures (ANFAVEA). Furthermore, secondary sources will be obtained from press material.

Proceedings:

There will be used simple quantitative methods to demonstrate the influences of the sales of flex vehicles over investments in Goyaz between 2007 and 2010 and so for the fiscal credits. After that, there will be a confrontation between the dynamic of technology diffusion and the rivalry among the global players within the state.

2. Review and Theoretical Reference:

2.1 The problem of adaptation:

There are two authors who dealt with the problem of adaptation: Hayek and Barnard.

Hayek focused on the adaptations of autonomous economic actors, who adjust spontaneously to changes in the market, mainly as signaled by changes in relative prices. The marvel of the market resided in the use of the price system to communicate information, whence “how little the individual participants need to know to be able to take the right action.” (1945: 526-527). Barnard, however, featured coordinated adaptation among economic actors working through deep knowledge and the use of administration. The marvel of hierarchy is accomplished not spontaneously but in a “conscious, deliberate, purposeful” way (1938:09).

In this paper, the approach of adaptation to be privileged is Barnard’s. Chester Irving Barnard posed a way to look into the organization, which is much original. He proposes that a group of different people, who think in different manners, could probably entering into conflicts rather than working out ways for the firm to go straight and overtake some troubles, becoming a well succeeded organization. This is what he featured as political system in opposition to a rational system (Political *versus* Cooperative System). A cooperative system is one in which individuals act rationally in the name of a common objective. Barnard recognized that cooperative rationality presumed knowledge and that organization has limits to secure and attend to information. Another issue that really makes the difference in Barnard’s proposition is the matter of preferences. Mostly preferences have been looked at as given, pre-existent along with individuals come to the firm, and the incentives mechanism are supposed to lead them to overtake the conflict, thereby cooperating. The duality between intelligence and rationality is related to the capability of both human actors and firm process information. Particularly, he suggested that ‘learning’ is a route to intelligence that matches organizational capabilities better than rationality.

2.2 Fiscal and Governmental Incentives:

Brazilian Act # 101/2000 states requisites for conceding fiscal benefits, might they be or not specified as resignation. Resignation comprises amnesty, remission, subsidy, presumed credits, non-general exemption, and change in aliquot or alteration in the basis of calculus that implies discretionary tax or contributions cut down and other benefits that stand for differentiated treatment. Thus, the State when practices fiscal resignation should aim to encourage productive activities, that create more jobs, more earnings that help overtaking regional inequalities, providing significant improvements to the population life quality, to stimulate activities that returns direct and indirect

benefits to the society (health and education); and incentives those activities, which lead to externalities that are desirable. In such a context, there is a set of rules that push governmental agents to run policies focusing the economic development as the thread for eradicating poverty and to compensate social inequalities. It is also worth watching the preoccupation with administrative probity, setting that the governmental wastes are fairly executed so that the economic development will be achieved.

Reflexes from the exchange and interest rates, oil crisis and troubles in Balance of Payments deprived Government from the capacity of keep running broad national development policies comprising the National Program for Import Substitution supported by Central Planning. Therefore, such responsibility was transferred to the states, which launched fiscal and financial devices in order to attract great projects of investments to their geographical limits and also to make it possible to consolidate local projects. States began to create such programs and Goyaz the *Fund of Enhancement of Industry and Commerce* – FEINCOM for *Fund of Participation and Industrialization Enhancement* – FOMENTAR, and from this perspective it began concede fiscal benefits that existed for 15 years permitted over 1.122 projects to be approved and ran. One out of all benefits were much more appealing: it permitted companies to pay around 30% over 30 years of taxes figures so as to run their businesses, which led them to consolidate their positions in the marketplace. Soon after, it had been setup the *Program of Industrial Development of Goyaz* – PRODUZIR that held similar features of the previous one, but made some headway once it comprehended all branches involved with industrialization, foreign trade, logistics and distribution centers. The results were that it granted more investments within the state and, also, during the fruition of both FOMENTAR and PRODUZIR, the tax revenue did not decrease and has been increasing ever since, compared with Midwest and Brazil.

2.3 Foreign Investment and Fiscal Subsidy

Grubbel (1977) “Reasons for the Movements of Capitals” the holders of capital attempt to maximize only the Internal Return Rate of theirs goods. The local entrepreneur could produce his good at a lower cost, once he will have been familiarized with local costumers and with the factories and products in the marketplace governmental regulations and so on. However, it is the nonresident entrepreneur that will setup factories, because only he will be capable of withdrawing the needed funds in the larger capital markets. Such a condition can be taken because of an imperfection in the capital markets: an oligopolistic collusion among the suppliers of capital and the

nonresident credit takers vis-à-vis their local rivals. A second roll of market imperfections comes up attached to markets for knowledge of management and production techniques. Therefore, a local entrepreneur could have more profitable investment projects than the foreigner one, if the last one would have had access to the technical and management Know-how as an output of research of past experiences. The nonresident entrepreneur could take this know-how at zero marginal cost, once the investment in his production has already been made in his home country. Another strong reason for there to be FDI fluxes are governmental subsidies.

A country government in his efforts to industrialize thinks it is desirable to have a factory since it is going to boost Jobs and save exchanges. By taking foreign loans – even the government – and lending to a local entrepreneur the factory would be installed, but at a high cost since it would produce under knowledge and capital much more expensive, so as to launch an original good. Under those conditions, it is much more reasonable for the government to subsidy the foreign investor operations through providing for free the area for the buildings or the warranty of fiscal resignation. (Grubbel, 1977).

3. Empirical and Data Analysis:

3.1 . Historical Production of Sugar Cane in Goyaz from 2000 to 2006

The interval between 2000 and 2006 is worth observing because the programme of fiscal subsidies (‘PRODUZIR’) began in that year and 2006 is the eve of the “harvest of foreign investments” begins.

Evolution of Sugarcane Production in Goyaz (2000-2006)

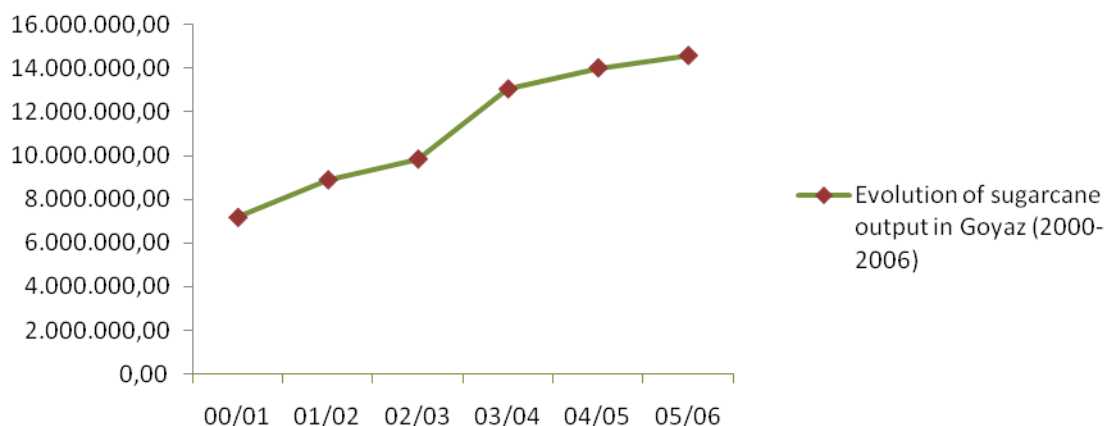


Chart 01 – Evolution of the Production

Source: Organized by the author based on time series from IBGE.

In the observed interval that comprehends the 2000 – 2006 years, the figures range from 7.163.851. 000 t to 14.568.007.000 t. Concerning ethanol output, data retrieved show that between 1990 and 1999, the output volume ranged from 290.879 cubic-meters to 314.881 cubic-meters; for the years between 2000 and 2006, the figures were 316.428 cubic-meters and 730.058 cubic-meters. (Chart 02).

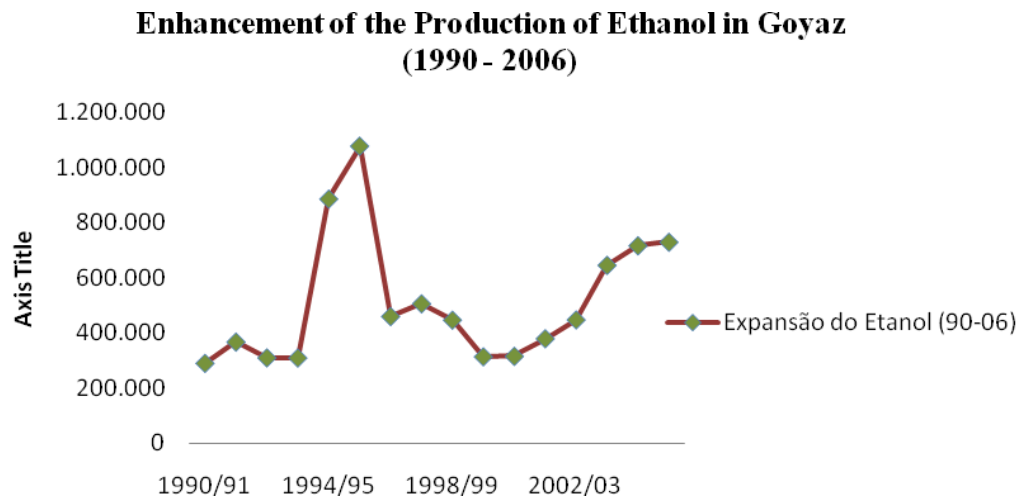


Chart 02– Enhancement of the Production of Ethanol in Goyaz (1990 - 2006)

Source: organized by the author based on Planning Secretariat Data.

Regarding geopolitical aspects as well as economic and environmental issues, on December 18th 2006, the Interamerican Commission for ethanol was launched. One of the co-presidents, Mr. Roberto Rodrigues, former Ministry of Agriculture in Brazil, supported that Brazil must focus in developing new technologies so that around 2016 the country will have succeeded twofold the level of ethanol output. However, the goal of that Commission is to stimulate worldwide distribution so that there will be no monopolist, then the very first action is to technically standardize the fuel. According to F.O. Litch records in its two World Report for Ethanol and Biofuels (1975-1998) and (1999 – 2009), the average size of ethanol world market between 1990 and 2009 reached 27.179,26 liters. Brazil produced during that period 14.617.788, 38 liters, and Goyaz supplied 565.543,58 liters. The subjacent idea is that Brazil can export technology and intensive-knowledge goods, such as flex fuel cars, complete work mills, B2B technologies and industrial automation and know-how. Thus, technology and logistics underlie better opportunities from market development. In the following table it can be observed the concentration of Goyaz of alcohol projects within Goyaz under the subsidies programme. Inferences lead to the fact that both approved and running projects between (2006 - 2010) concern mostly ethanol. As follows:

Table 01 - Projects de Investments focusing Ethanol

Company	Venue	Situation	Fruition Beginning	Gets FDI?	Investor
COOP AGROI RUBIATABA L	RUBIATABA	RUNNING	15/6/2010		
COSAN CENTRO OESTE S/A AÇÚCAR E ÁLCOOL J	JATAÍ	PROJECT APPROVED	15/12/2009	x	Shell
RIO CLARO AGROINDUSTRIAL LTDA	CAÇU	IMPLANTED	15/11/2009	x	Brenco
USINA BOA VISTA S/A USINA NOVA GÁLIA LTDA.	QUIRINÓPOLIS PARAÚNA	IMPLANTED IMPLANTED	15/12/2008 15/8/2008	x	Brenco
VALE VERDE EMPRE AGRÍCOLAS L1	ITAPURANGA	IMPLANTED	15/10/2007		

Source: PRODUZIR 2008, UPTODATE in 14 /02/ 2011.

From the table above, it is clear that some of the Multinational Companies entered the marketplace through association with already existing Mills that, however, were not so big – ‘Brownfields’ – and/or expected to become more productive. Such remark may sound odd as COSAN is listed there; however, it is worth reminding that COSAN evolved based on a preemptive movement strategy that consisted of acquiring older and smaller mills, which perhaps will not become larger and competitive in the short run. Concerning Brenco, the case is not so unequal: it is a company of national origin (Odebrecht), which is largely specialized in engineering and usually make investments to raise smaller companies. Although the chart above stands for exclusively for only-ethanol projects, it suffices to demonstrate that the path Global Players go through so as to enter in Goyaz Industry is partnership or association with smaller existing firms.

There are examples, however, that are not related to exclusive ethanol projects, but to the movements of M&A featured along mid-2000. One out of them is True Energy Group; Mitsubishi acquired 10% of shares from Usina Boa Vista is another example. A *Joint-Venture* between Global Foods and Usina Santa Elisa leading to CNAA.

It should be remarked the fact that Goyaz has been turned into the newest site for investment in the industry of sugarcane, and, consequently, the mainstay for the expansion of projects of investment that aim to enhance the production of ethanol from sugarcane. As it is shown in the bellow map.

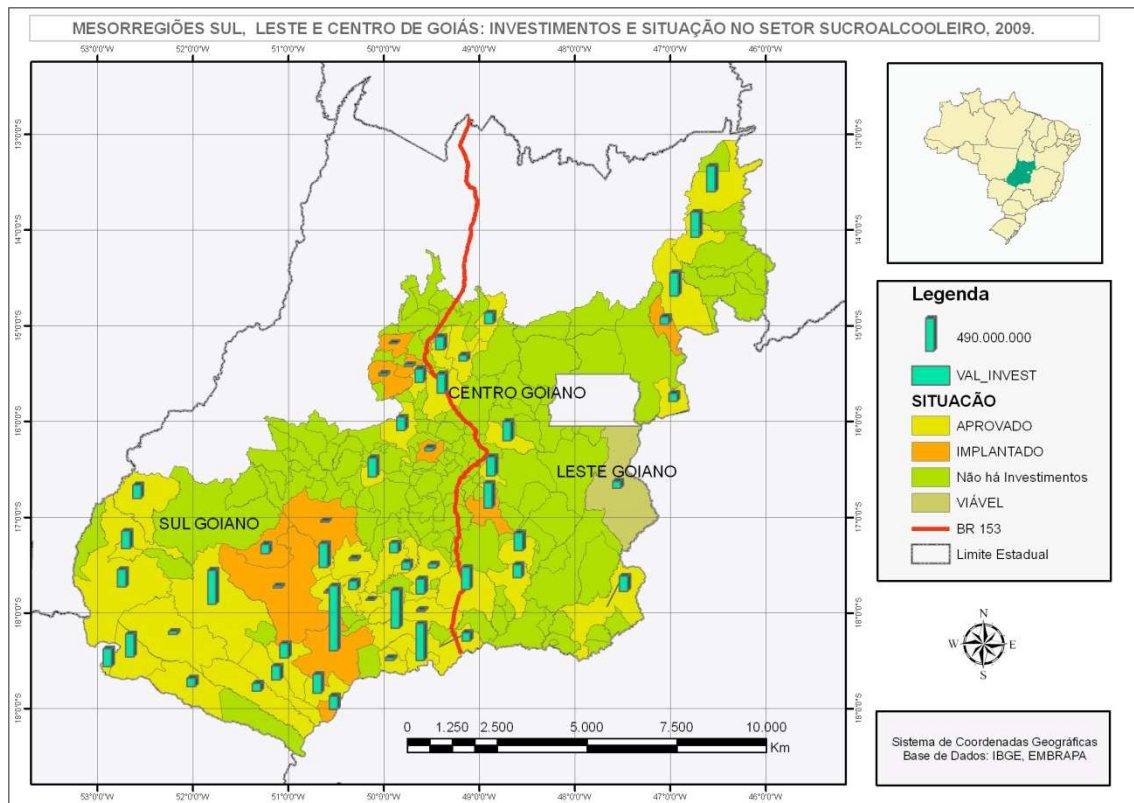


Figure 1 – Concentration of the Total Investments in Sugarcane Projects in Goyaz, Brazil (2008).

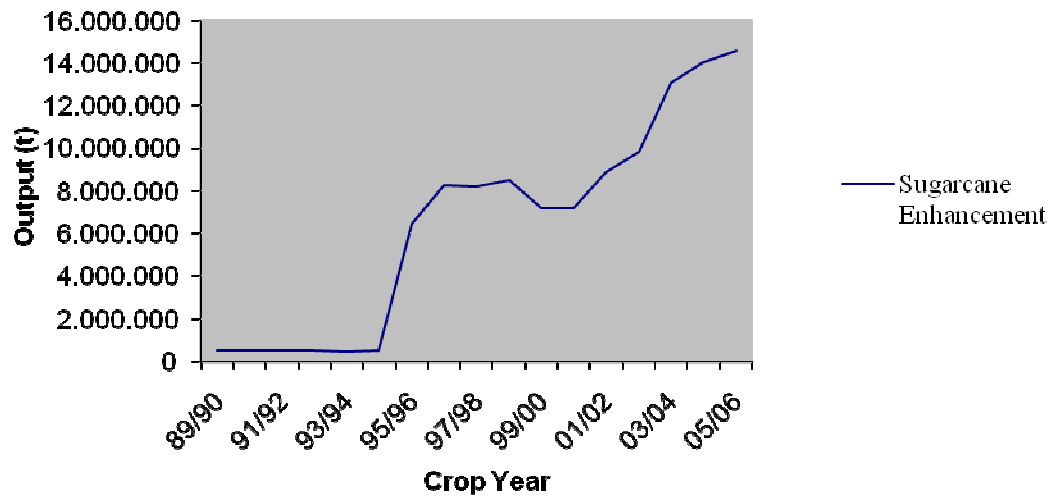
Source: Fiscal Subsidies Program “PRODUZIR”: Trade and Industry Secretariat of State of Goyaz, 2008.

From that map, it can be inferred that the greater investments (higher bars) are concentrated in the south region of the state. Different colors mean the status of the project recorded in the secretariat. The most important are yellowish and orange areas, whence there are the approved projects and the already in operation ones. The red line crossing the chart stands for the chief road for transportation (BR-153).

Investment so far has been wrought in this paper as an aggregate entity, as a result of the decisions of companies that compose an Industry. However, as the paper intend to discuss problems of adaptation in comparison with the slope of prices to the consumer, then an underlying background for the individual investment should be set from indicators as follows:

- i) Volume of Ethanol Output between 1989 and 2006

Sugarcane Output in Goyaz between 1989 and 2006



Graph 1: Volume of Sugarcane Output in Goyaz between 1989 and 2006.

Source: IBGE.

This is a sensitive period of the time, because it entails the decade when alcohol vehicles came up as a genuine alternative for the oil crisis and, also, Government had withdrawn from the direct management of the sector by quitting the board that had been setup to drive the investment, technological innovations and regulate the marketplace. Also, the year of 2000 stands for the beginning of the Programme of Fiscal Subsidies in Goyaz, known as PRODUZIR, which used to offer a 15-year-term 73% tax cut as far as companies comes onto there with huge investments related, particularly, to the sugarcane agribusiness.

Another indicator is the proportion of cane that has been undergirded to ethanol production along 2009-2010 harvest. According to PECEGE-Esalq retrieved data, 13 companies used 100% of the sugarcane output to be used in ethanol production; 8 companies drove between 20% and 50%; 3 mills used above 50% but less than 100%; and one set only 2% to the distiller. Thus, the scenario will be complete the amount of production for the 2009-2010 harvest in Goyaz: 2.128.780, 27 cubic-meters.

3.2 Adaptation to the overall environment of the firms.

One of the criteria companies follow so as to establish themselves in a location, besides the distance, transportation costs, is the condition of the terrain where they will hire and tillage, if it is the case, or, at least, do the farm. As far as cane is concerned, this is a special issue to be taken into account since the conditions of a land can probably

exert influence onto the productivity levels, thereby, as a matter of consequence, affecting their competitiveness. Thus, the map below is an attempt to show both the location and distribution of the investments onto the different classes of soil. The darker an area is stained, the better is the soil for the culture. The higher the bar is, the greater is the investment planned for that project.

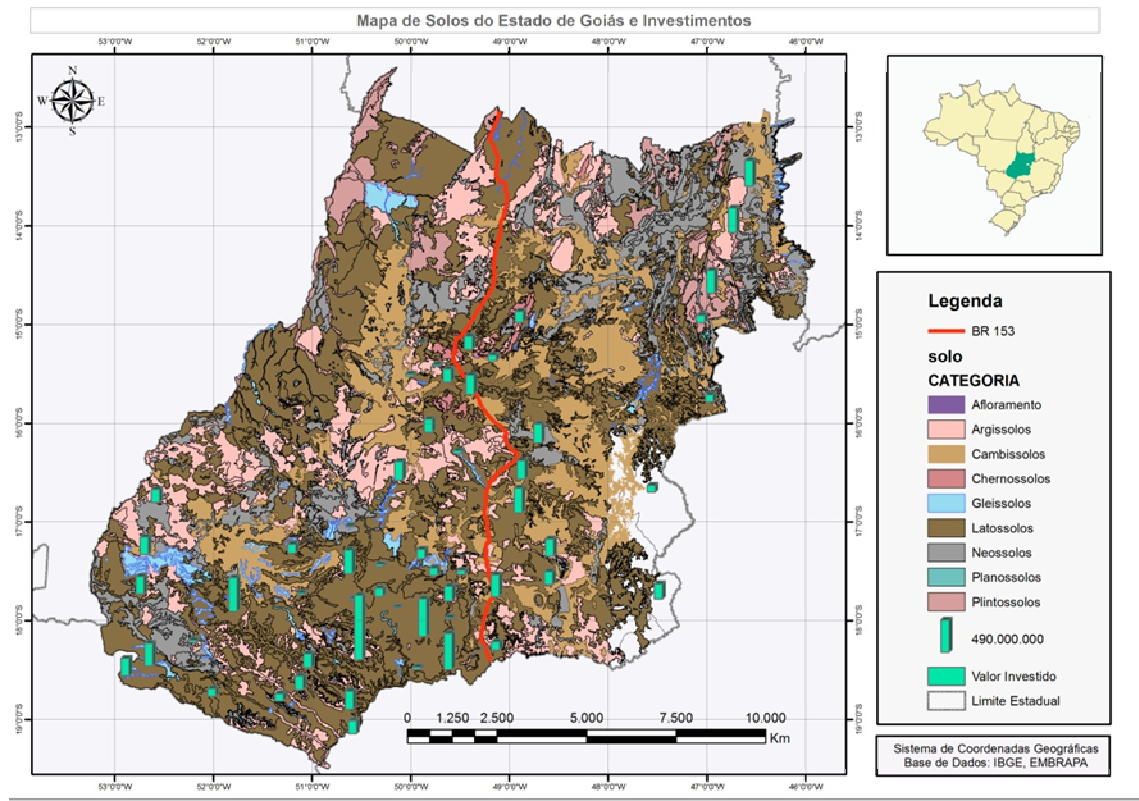


Figure 2 – Concentration of the Total Investments in Sugarcane Projects in Goyaz, according to the class of soil (2008 - 2010).

Source: Fiscal Subsidies Program “PRODUZIR”: Trade and Industry Secretariat of State of Goyaz, 2008, Chart of Soils, EMBRAPA.

Another criterion is the slope of the land. The following map will try to disclosure the relations. The most recommended is to farm in an area whose degree of slope ranges to the maximum of 12%. Therefore, the map reveals that the major part of the larger investments is run over areas up to 3%. The greenish the area is, smaller is the degree of slope, as follows:

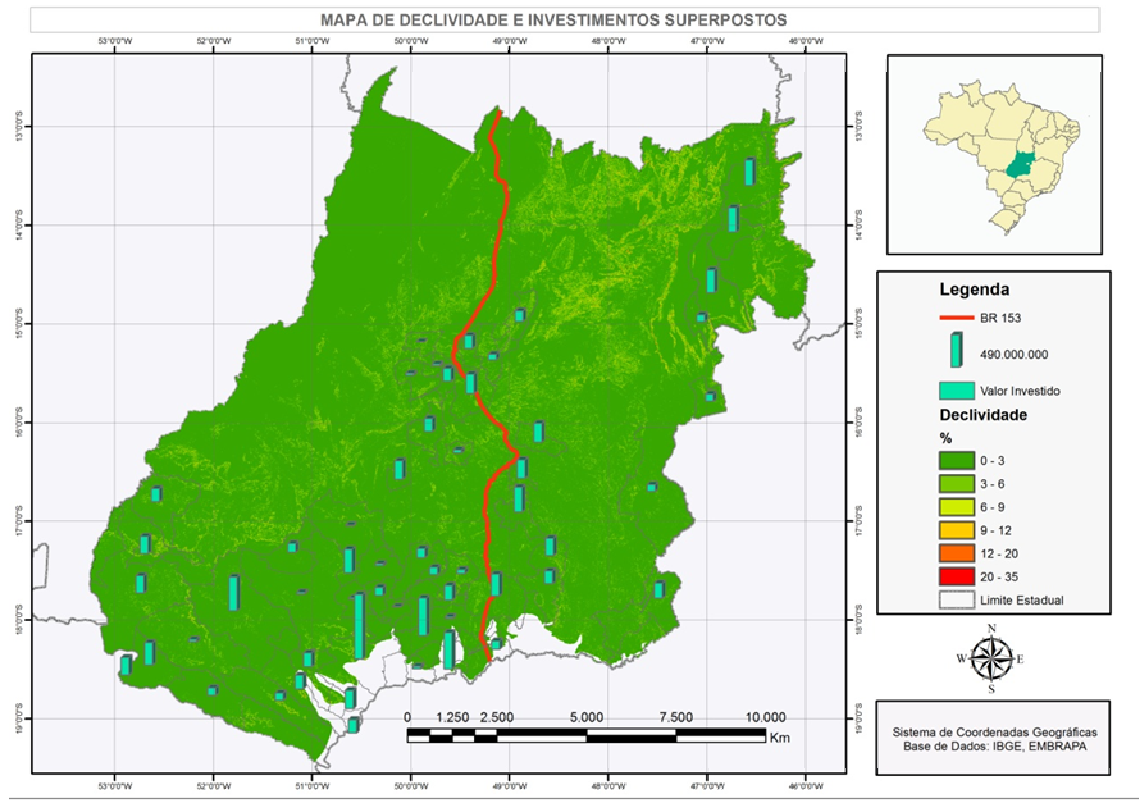


Figure 3 – Concentration of the Total Investments in Sugarcane Projects in Goyaz, according to degree of slope (2008 - 2010).

Source: Fiscal Subsidies Program “PRODUZIR”: Trade and Industry Secretariat of State of Goyaz, 2008. EMBRAPA.

By that background, to finish up the archetype of efficient adaptation, it is important to make a comparison among some of the companies to which investment levels and subsidies are strictly entailed. As follows:

Table 02 – Multinational Companies (Global Players): Investments x Fiscal Subsidies - 2011

Multinational Company	Firm	Investment	Fiscal Subsidy
Brenco	Usina Boa Vista	1.098.599.024,85	4.453.187.745,45
Brenco	Usina Nova Gália	12.957.610,17	342.235.232,62
Shell	Rio Claro Ltda.	197.996.775,34	611.302.628,15
Shell	Cosan Oeste	576.311.422,13	1.757.892.691,53
BP	Água Emendada	252.886.777,60	1.044.227.996,20

Source: PRODUZIR Chart – UPTODATE 2011.

4. Discussion and Results Presentation:

First of all, it is conducive to delve whether the fiscal subsidies really exert influence on the investments. Thus, a linear regression was made to find out such relation, that goes like that:

$$\text{Loginv07} = -3,847 + 1,124 \text{ CFiscal}$$

(0,013) (0,001) $R^2 = 0,622$; Durbin-Watson = 1,593 **(I)**

$$\text{Loginv08} = -2,170 + 1,037 \text{ CFiscal}$$

(0,220) (0,001) $R^2 = 0,662$; Durbin-Watson = 1,885 **(II)**

$$\text{Loginv09} = -2,948 + 1,075 \text{ CFiscal}$$

(0,080) (0,001) $R^2 = 0,766$; Durbin-Watson = 1,812. **(III)**

$$\text{Loginv10} = -2,596 + 1,058 \text{ CFiscal}$$

(0,068) (0,001) $R^2 = 0,724$; Durbin-Watson = 1,99. **(IV)**

The results above state that there seem to be evidences that the fiscal subsidies exert influence the investments. Thus, a first conclusion is that despite all complex requirements, fiscal subsidies really do a job to attract foreign investments.

Undoubtedly, the subsidies are then a ground for institutional arrangements towards a series of investments. Anyway, it should be closely looked at the relationship

between investments and the ethanol fuel output; the best proxy to test it is the national sales of flexfuel cars.

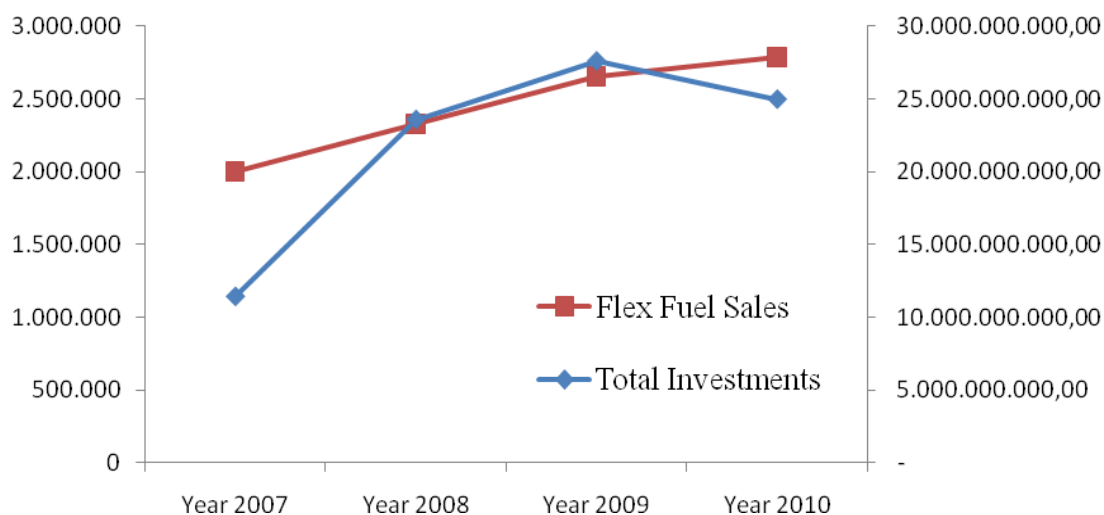


Figure 4 – Relations between national flex fuel cars sales x Total Investments.

Source: PRODUZIR/ANFAVEA.

The analysis supports the following inferences:

Although the sales of flex fuel cars in Brazil started in 2003 and increased in the following years and the investments in Goyaz strengthened since 2007, it is possible to watch symmetrical trends from 2007 to 2010. It is noticeable the 'skip' that the set of total investments perform: from BRL 10 million million to around BRL 25 million million as short as in one year interval, when the sales starts from 2 million units and peaks around 2,5 millions. This suggests that there had been an effort to contribute with the sourcing of ethanol. In the next period, the sales records little above 2,5 cars and the investments appears to be somewhat stable around BRL 25 millions millions. Thus, there seem to be evidences that investments are being induced by the national sales of flex cars. Such framework gainsays any harvest breakdown, once the investments are made to cope with the needs of fueling cars.

Politicians wrongly however often have been conceiving economic increasing as a single set of indicators, such as quantity of firms placing investments, smaller companies surrounding the larger ones, expectations of jobs creation, rise in sales and more consumers coming into the marketplace, which is embedded in the Gross National Product. However, there is something else that should be regarded: the result of

institutional arrangements over competition and its externalities. At one hand, global players companies are entering through merger and acquisitions processes, acquiring knowledge from the paradigm of sugarcane ethanol production, setting up Greenfields and anticipating future demands in any part of the world.

Notwithstanding, press has been pointing out that despite of the increasing number of mills the current harvest are not retrieving good results because of irregular climate conditions, but, above all, due to the lower investment of the companies for expanding areas for plantation, renew the crops and plan the logistics. There is little to disagree with such interpretation. The matter, however, is that the current arrangement is chiefly designed upon fiscal subsidies that do the job of attracting the projects. Once the investments take place, all the dynamics is set solely by the strategic drivers of the companies; and the drivers are: rising barriers to discourage possible rivals to come into, by getting as many surrounding areas as possible, acquiring assets and getting state-of-art knowledge. This is a total different scenario from the expected framework set for release volumes of alcohol in the pumps. So, whether the current target is to deliver 'normal' prices regarding the season, new institutional settlements urge to be designed. Since the great part of the mills are under global players' ownership and they are not investing sufficiently, the market thereby won't find room itself for adjustments between supplies and flex fuel demands.

The very reason is that Global Players usually face no barriers contesting rival's market; on the other hand, however, this is not to say that they are always going to be efficient adaptative. The evidences showed that the model or the arrangements does the job of attracting projects of investments. All the files required for any company – Multinational or local – to settle projects demand from environmental preservation to hospital or schools, but an inkling line regarding as responsibility to keep a certain amount of ethanol available in order to balance the needs of the consumers.

5. Findings:

There seems to be sufficient evidence that Fiscal Subsidy under 'PRODUZIR' records has been exerting a great deal of influence on the investments. Therefore, the institutional stimuli really did the job of attracting investment projects towards Goyaz state. Nonetheless, once the companies – most of them branches of national economic groups and Global Players – register and start running their mills herein, they appear to follow peculiar strategies in the marketplace that have mostly to do with anticipating future rivalry in ethanol market structures, and not so much a target to deliver amounts

of alcohol in the fuel pumps. It is possible to observe that the design of the current institutional arrangements is strongly dependent upon the Subsidies. In other words: it reined a neoliberal guideline that the equilibrium was going to be yielded only by the planning and actions of firms within a regulation free business environment. Whether at one hand, Large Companies (especially Global Players) are not prevented by entering barriers; on the other hand, they do face maladaptation issues once they are running their businesses. Press has been reporting that although there are many mills running, they are not operating at full capacity and couldn't manage to invest to expand sugarcane yields nor renew them. As a matter of consequence, they are not presently able to contribute with the amount of fuel needed to meet the drivers demand. In short, companies were not able to adapt to an environment in which their endogenous technologies and knowledge were supposed to work out the sugarcane yields in order to meet the demand, they were focusing uncertain future structures in the global markets.

Thus, enterprises entered Goyaz marketplace first acquiring 'brownfields', getting to master technologies, and then they start expanding themselves through 'greenfields'. Anyway, the governance structure they chose is hierarchy, and as a matter of consequence, they did not plan to adapt to changes in the national demand and within the environment. The focus they have been putting is on the learning of the technology in order to master it so that they will able to compete in some niches in global industry. The issue, however, is that there is an increasing sales of flex cars to which it should correspond output volumes to fit the demand. Nevertheless, there seems not to be priority of none government and companies a supplying plan of ethanol. The focus of public policy of fiscal subsidies has been – correctly – to attract investments to Goyaz, and the decision-makers found many additional favourable conditions to install their works herein, that's why the enhancement of projects did take place between 2007 and 2010. Maybe, the institutional arrangement fits the chief goal, but does not for the dynamics – so to say – of balancing output and the needs for supplying. Hayek focused on the adaptations of autonomous economic actors who adjust spontaneously to changes in the market, mainly as signaled by changes in relative prices. The marvel of the market resided in the use of the price system to communicate information, whence “how little the individual participants need to know to be able to take the right action.” (1945: 526-527). Such reason appears not to suit the present observation, because the subsidies and the climate-physical conditions of Goyaz had already done such job, and there is no other good to compare as far the decision of becoming a player is concerned. The point

is that they have decided to follow the technology of the current paradigm, learning it and doing incremental innovations ascribed to possible future demands. Therefore, there is no contract but a possible market structure to be filled standing for governance sets. Barnard, however, featured coordinated adaptation among economic actors working through deep knowledge and the use of administration. The marvel of hierarchy is accomplished not spontaneously but in a “conscious, deliberate, purposeful” way (1938:09).

Perhaps, this is the idea that suits the blank in the institutional arrangement: at one hand, policy-makers are not supposed to rule the amount of ethanol to be generated – even because none of them can predict – and, on the other hand, the companies are expected to make forecasts when start running investments. Possibly, there should not be a comprehensive contract, but an additional arrangement so that all the agents can drive their initiatives in order not to lack ethanol to be delivered to the retail. As a matter of fact, firms usually run corporate policies under hierarchy and do not cooperate in order to find a room for a better level of production. As Williamson put: “the problem of economic organization is properly posed not as markets or hierarchies but rather as markets and hierarchies” (2002:08).

Thus, otherwise specific institutional arrangements are settled so that companies are supposed to meet present-day targets, investments project enrollment won’t suffice to contribute with the price and stock policies, thereby resulting in resilience of prices whenever the output is not planned or coordinate.

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