The end of five decades of taxation of agriculture in Brazil

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Abstract – The underlying scenario of the perspectives of changes made to the agricultural policies of the United States of America and the European Union are the financial crisis that have impacted the two largest producers of agricultural products in the world. The time of tax restrictions is here, which should have repercussions on the allocation of agricultural subsidies. This measure should open new and good growth perspectives for Brazilian agriculture. As well as the perspectives of subsidy changes, there are yet undeniable opportunities in the world market. However, if Brazilian agriculture is to benefit from market opportunities, it is necessary for all policies that distort economic production incentives to be eliminated. At the time when the 150th anniversary of the Ministry of Agriculture, Livestock and Food Supply is being celebrated, it is interesting to measure the effects of the changes made to macroeconomic policies and the sectorial policy over the last five decades. In particular, the events that have taken place over the last decade in terms of reduction of the levels of protection and taxation of agricultural products should be addressed, compared to industrial products. In other words, it is our intention to understand to what extent Brazilian agricultural policies prepare the agricultural sector to compete in world-markets.

Introduction

Since the 1950s, Brazilian agricultural policies have undergone major changes. Initially, they played a secondary role in the policies that were adopted to foster Brazil's industrialization, known as the Policy for Import Substitution (PSI), which was in effect for nearly four decades. PSI had strong impact on agriculture and was characterized by the taxation of the agricultural sector combined with domestic support and agriculture subsidy policies via rural credit and the Minimum Price Guarantee Policy (PGPM).

After those four decades that came to an end in 1990, the agricultural policy has been undergoing major changes. Over the last 15 years, we have borne witness to the government's gradual and steady withdrawal from any means of intervention in agriculture markets. The macroeconomic plan adopted fiscal disciplines and a strong control over the monetary policy with the purpose of fostering the economy's stability. This package was complemented with an intense process of the opening up for world-market trading.

During the 1980s and 1990s, inflation reached record levels, showing annual growth rate of 200% in the early 1980s; in the early 1990s, inflations exceeded 1,000% annually, which extended until 1994, when the macroeconomy stabilized. The different administrations were not able to impose fiscal disciplines.

This article was translated by On the Road Idiomas Ltda.*, and not revised by its authors.*

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The period of intense industrialization – from the mid-1950s to 1990 – shows that sectorial and macroeconomy policies managed to transfer income, capital and work from agriculture. These policies practically exhausted that sector. The adopted model also had a quick collapse, and the allocation effects, i.e. supply shocks from the decrease of production, led the government to change the model and to introduce a means of compensating producers via the granting of subsidized rural credit. During the period of the strongest discrimination against agriculture, the sector was not capable of sustaining the same performance of the previous years when Brazil was a major exporter of agricultural products, such as rice, cotton and corn. The taxation of imports and the "cheap food" policy to maintain industrial salaries under control, otherwise too low, were responsible for Brazil losing its ranking in the foreign trade market. Government benefited from the "cheap food" policy because it was a "great entrepreneur," and with food prices relatively lower it did not have to adjust the salary of civil servants so frequently.

Starting in the late 1970s, instead of removing price distortions due to repeated supply shocks and to enable farmers to compete freely in the world-market, government insisted in maintaining the intervention apparatus in markets and created a means of compensating rural credit subsidy – National Rural Credit System (SNCR) –, in order to introduce technology modernization and changes to agriculture. Instead of adopting the first and best solution, i.e. no tax or subsidy, government adopted a greatly inferior technically policy – the second best – combining taxes and subsidies, even aware of the complications that a policy of such nature could crate in terms of price distortions and economic incentives.

During the 1960s and most part of the 1970s, interest rates for SNCR loans were kept below the rate of inflation. Actual interest rates were severely negative throughout the 1970s. Nominal rates were adjusted only by the end of that decade, but actual rates remained negative until the end of the 1980s, when the fazing out process of interest subsidies started. In the end, this compensation policy benefited only a few products, which was a means of unequal compensation in terms of transferring income from society in general, which paid an inflationary tax (paid by the poor) to a handful of producers, which were precisely those that acquired intensively inputs and were granted subsidized agriculture credit.

In a certain way, it is surprising that throughout the 1980s there was a persistent trend to worsen supply shocks because of the escalating inflation. It would have been better if all export barriers had been removed and to understand that it would be more cost-effective to supply Brazil by exporting than importing. Actually, when Brazil exports the domestic price becomes aligned to the world-market price, deducing the cost of freight and product-landing taxes, and when Brazil imports, the domestic price becomes the international price plus freight and all product-landing taxes. These can reach a very high cost for a country as big as Brazil.

For many years, Brazil exported taxes and imported subsidies. These factors had a strong impact on prices, as will be presented in this study. During the 1980s and 1990s, Brazil was highly dependent on imports to supply the domestic market, thus greatly discouraging domestic production. As well as the SNCR, the PGPM was another instrument used supposedly to compensate producers. Government would finance trading by granting subsidized income rate and would buy agricultural products in the interior at prices above export parity (in the case of corn), and would buy wheat at costs higher than the import parity under the supposed "wheat self-sufficiency" policy.

Macroeconomic reforms and opening trade

The crisis that took place in the mid-1980s, which boosted inflation, was caused due to government spending. In the period 1989–1994, Brazil underwent a large trade policy reform,

where many instruments for import substitution were definitely removed. Trading was opened unilaterally by carrying out a comprehensive tariff reduction and eliminating the whole export control apparatus – especially the Appendix C by the Consultancy and Advisory Office for Foreign Trade (Cacex) that prohibited the importing of certain products on the grounds of "similar domestic product."

The scope of these reforms was significant. Industrial tariffs were gradually reduced, from 100% to 31% in average, in the period 1994–1997. With the decreased protection to the industrial sector, the implicit taxation of agriculture was gone – based on Lerner's symmetry theorem – whereby the protection of a sector, such as the industrial, would account for the taxation of another sector, in this case agriculture. Many agricultural products had their tariffs substantially reduced, such as rice (10%), wheat and beans (0%), corn (8%), cotton (0%) and soybean (0%). Later, the tariffs for cotton and beans increased to 6%.

In 1994, Brazil was finally able to attain macroeconomic stability. The Real Plan, which managed to stabilize Brazilian macroeconomic scenario, determined a 1 to 1 parity (R$/US$), but at the outset of the Plan the exchange rate was overvalued reaching R$ 0.86/US$. Due to this measure, restrictions imposed on government spending ended up reducing agriculture subsidies and government purchasing (PGPM). The implementation of the Southern Common Market (Mercosul) in January 1995 played a role in this scenario. Despite the long list of exceptions presented by the members of the block, the majority of tariffs were annulled and a single and common tariff was created. Another important measure that ensued from the policy and that affected directly the agricultural sector was the elimination of the tax on the export of agricultural products. In 1997, the Tax on Goods and Services (ICMS) applied on exported agricultural products – that the industrial sector did not pay for in its exported products – was waivered, thanks to the Kandir Law. The persistence of the balance of trade deficit led Brazil to finally adopt the fluctuating Exchange rate measure in January 1999.

The reform of the agricultural policies

Starting in 1988 with the fiscal crisis, the PGPM was not able to obtain the required funds to defend minimum prices, which led to the credibility hiatus that persists until today. In part, the government also adopted the deliberate policy of putting less emphasis on policies that interfered with the market by maintaining stocks at a huge cost. As a result of that policy, in 1995 the government practically abolished its purchases, where sometimes purchasing levels remained at a level much lower than those of the past. This policy was consistent with Mercosul; otherwise, if it were to insist on the purchasing policy, Brazilian government would be guaranteeing prices to rice and corn producers in Uruguay and Argentina, for example.

Another important policy was the elimination of mixed capital companies and of the institutes (of coffee, of sugar and of wheat) that regulated the trading, which culminated with the elimination of fiscal funds that financed interventions in most of the products.

Regrettably, Brazil was able to enjoy the desirable regime of a freer trade precisely when the scenario was still ruled by great price distortions because of the modest results from the Uruguay Round. The Round had already frustrated the purposes of the negotiation to open agricultural trade in the world; in practice, what was observed was the "officialization" of subsidies and higher tariffs via the system of "watering tariffs" when non-tariff measures were burdened with tariff.

The positive aspect of this measure was the high investments made on research. If we look at the reduction of the minimum price resources and research investments, it is possible to imagine a policy, although not set forth by the government, of replacing subsidies with

research investments. In that sense Brazil was quite successful, as will be presented below. And this formula served as a model for many countries: cutting down on subsidies and protection to invest in research, that is the right way of obtaining permanent low prices for the consumers.

The impact of the policy reforms in the agricultural sector

Due to the strong fiscal control adopted in 1994, the compensation policy for producers practically ended. This was an added factor that boosted agricultural productivity. Agricultural products that were not traded in the world-market, such as cotton, milk, corn, rice and wheat, suffered directly from the influence of world-market prices, where producers could not rely on domestic compensation. They faced a strong competition of low-cost imports during the transition period.

Investments on agricultural research, the challenge posed by prices and the end of the exchange rate over-valuation helped to elevate Brazil as one of the important exporting countries. In the Central-West, producers also were ahead of the Cerrado technology, not only in terms of tropical soybean, but also in growing rice and cotton, with farming and cattle-, swine- and poultry-raising. Increased chicken exports from Western Santa Catarina and Southeastern Paraná perhaps consolidated the most important agroindustrial complex in the world, where over 10 million birds were slaughtered daily. Thus, Brazil began to export to over 120 countries.

The 2000s – the strategic option to increase exports

Starting in 2000, a new type of agriculture begins to bear its fruit in Brazil. There were three important events that boosted the performance of this new agriculture. New investments made on more researchers started in 1974 and gained maturity throughout the 1980s, which was highly conducive to increase of technology inventory and boosted production growth. The adoption of new varieties added to the competence of producers in the Central-West created one of the most productive agricultures in the world.

Growth was productivity-based. While the area increased 1.8% annually, from 1990 to 2006, production growth in the same period increased 4.9% annually. With that, production doubled since 1990, while area size increased less than 25%. Agriculture then started to be the flagship of the growth of Brazilian GDP, where the average growth rate was 5.3%, in 2000–2006, while the industrial sector grew only 1.7%.

In 2004, Brazil ranked as the first world producer of alcohol, sugar, coffee and Orange juice, and second in the production of soybean and its byproducts: bran and oil. It became the largest exporter of beef and tobacco, the third in pork and the second in chicken, and the third in fruit and corn. World-market demands and high prices were strong booster of that good performance.

Estimates of distortions ensuing from the policies

Methodology applied to this study represents a step forward compared to previous models used to assess economic incentives for agriculture, given that now protection to agriculture and protection to the industrial sector are confronted. The main focus of this methodology is the quantitative measuring of distortions imposed on the agricultural sector that derived from government policies that created a gap between domestic prices and prices practiced in the world-market under free and unencumbered trade conditions and industrial sector protection. This methodology is similar to the one that calculates the difference between prices given to producers and prices they would be given if

there were no policy distortions, i.e. parity prices reflecting world-market incentives.

Hence, this methodology is a step forward, in that it acknowledges that it is not possible to make a good assessment of distortions ensuing from sectorial policies directly associated to agriculture without taking into account policies that protect the industrial sector. The reason for this is that based on Lerner's symmetry effect, protection granted to a given sector (industrial sector) represents the implicit taxation of another sector (agricultural sector). Hence, methodologies used in the past (when calculations took into account nominal and effective protection coefficients) did not take into account the effect that the protection of the industrial sector had on agriculture, as a form of indirect taxation; this is our justification for adopting a new methodology.

The initial hypothesis is that the discrimination against the agricultural sector is merely one of the episodes in the history of economic policies adopted by Brazil. It was necessary to incorporate the protection of the non-agricultural sector and its effects on agriculture. By integrating both sets of policies, the new methodology obtains a result as accurate as possible with data at hand to have a good assessment of the scope of discrimination against agriculture.

It is difficult to make taxation and subsidy estimates in Brazil, as it requires lengthy data surveying. Brazil has had extremely high inflation rates, and for this reason it was necessary to survey data taking extreme caution. This work was carried out over one year and three months by a team of six researchers working full time. Hence, not only data on prices require a careful treatment, but also data related to rural credit subsidies ad expenses made with research and extension – that are part of the methodology – as well as expenses with education on the agricultural sector, inspection services and public expenses. All had to be estimated for the period prior to 1995.

According to the methodology, it is necessary to survey data on import tariffs, which is in itself an arduous task, as tariffs used agriculture were those effectively used, but for the industrial sector varied frequently. To obtain tariffs for the industrial sector it was necessary to study the decrees that determined them until 1986. However, decrees stated only the nominal tariffs that were not actually practiced, as the most important instrument to protect the industrial sector was the system under Cacex's Appendix C, which prohibited the importing of the so-called "domestic similar" products. Consequently, estimates of the protection to the industrial sector are significantly underestimated because only nominal tariffs under the decrees of the Customs Policy Commission (CPA) were taken into account. In fact, the regime of quantitative controls of industrial imports granted much greater protection to the industrial exports than presented by the estimates in this study, but it was not possible to survey data on tariff equivalents actually practiced by the domestic similar product system under Cacex's Appendix C. However, this study will show that surveying nominal tariffs was sufficient to show the high level of protection granted to the industrial sector.

A list of domestic prices and equivalent prices at ports was drawn in order to calculate the level of taxation on agriculture – the so-called parity prices. Comparisons at hand were made wholesale. In some cases, and equivalent wholesale level was calculated using margins as the base price for the producer until the wholesale. Due to the fact that in Brazil the series of wholesale prices were interrupted, it was necessary to use the prices at hand, and where there were none, to use the price of the producer until the wholesale level. Further to the basic commodities, wholesale prices were estimated for processed and semi-processed products.

Product selection

The following products were selected for this study: processed wheat and rice, as im-

ported products; and soybean, sugarcane and coffee, as exported products. In the case of corn and cotton, there was a change of status; initially, they were export products that became import products, and then were once again exported in large quantities. Processed products included: flour, processed rice and raw sugar. The group of meats included cattle for slaughter and chicken and pork as primary products. Beef, chicken and pork directly for consumption were used as processed products. The group of selected products amounts to nearly 75% of the production value of agricultural products in Brazil. Consequently, the scope addressed is sufficiently comprehensive to provide conclusions both about imported and exported products.

The comparisons between CIF prices and FOB prices at ports, parity prices at wholesale and actual wholesale prices were easier to find for some products traded as primary products. That was the case of soybean, corn and wheat, the prices of which was easy to find. For other products, domestic wholesale price was compared to foreign parity price, especially in the case of processed products with wholesale prices provided by the market, as in the case of beef, chicken and pork. It was possible to make adjustments by transforming the live animal – ready for slaughter, in half a carcass, in forequarters and hindquarters; the live chicken in processed chicken; the slaughtered and live pig in half carcasses, and thus successively. It proved to be less difficult to find the prices for flour, processed rice and sugar. Ultimately, all products were compared for their wholesale prices and parity at the port prices, taken to wholesale.

Taxation of agricultural products for export

In the more remote historical periods, export agricultural products underwent heavy taxation (Figure 1).

Figure 1 shows the aggregated overview of the taxation on export products. However, during the initial estimates that we carried out, the taxation of products is considered individually. According to the findings of this study, the higher levels of taxation were applied on sugar, coffee, soybean and cotton. Brazilian soybean was taxed mainly via contingency policies and export embargoes, which held back the development in the 1970s and 1980s. In the case of coffee, exchange rate seizure determined the exhaustion of resources from Brazilian coffee plantations via the Coffee Economy Defense Fund (Funcafé). Exchange rate seizure of coffee was very high, reaching up to 40% of the value of exported coffee.

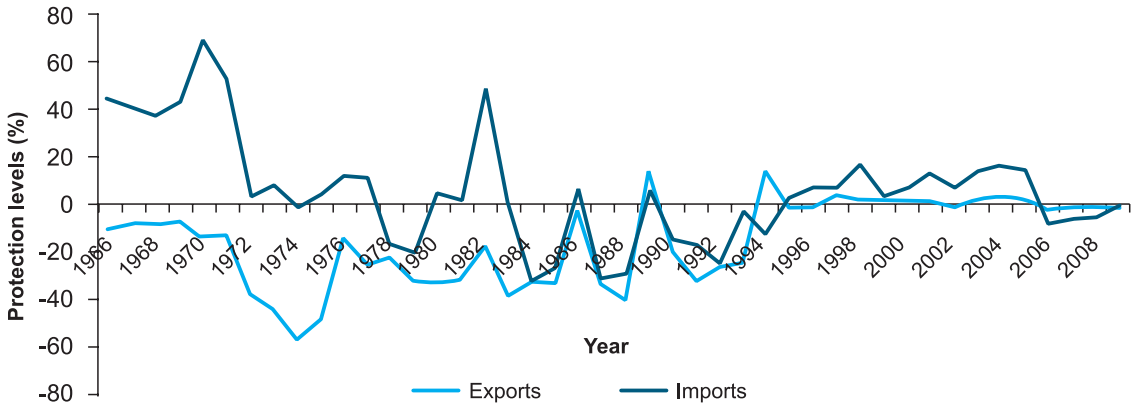

Figure 1. Protection levels (in %) for exported and imported agricultural products in Brazil in the period 1966–2009.

Note: positive values are the levels of protection and negative levels represent taxation.

Source: Lopes et al. (2008).

In sum, one of the most severely taxed products was sugar, which reached over 50% until the early 1990s. Regulatory processes developed by the IAA restricted the exporting of sugar, adopting a system of quotas that made the production of alcohol mandatory. These factors discriminated a sector that could have benefited from better world-market prices if the market had not suffered excessive regulatory intervention. Data show that as of the extinction of the IAA, taxation of the sector fell dramatically and today is near zero.

In the case of coffee, taxation of that sector varied from 47% in 1980 to 25% in the period 1985–1989. More recently, there is practically none. Brazil was the largest coffee producer in the world for many years, depending on its export to subsidize the importing of machinery and equipment for industrialization. Despite the significance of this sector, it was heavily taxed. With the extinction of the Brazilian Coffee Institute (IBC), the sector was able to break free from taxation – implicitly and explicitly, and directly and indirectly. In the Collor administration, that policy was definitely extinct (1990). In 1992, coffee prices and exports were finally opened to the market and a new adjustment process was started in the new administration. Recently, coffee once again was placed under the price intervention regime (PGPM). The question that should be asked is: what motivated those policies if there were producers with competitive costs? As well as the abundance in coffee production, all the de-incentives created by the policy's interventions did not end the plantation of coffee in Brazil, which continued to be a great producer. However, it did leave its indelible mark on the quality of coffee exported by Brazil.

Taxation on soybean oscillated between 10% and 20% in the mid-1970s and the early 1990s. In the mid-1990s, values reflect the control imposed on exports as the government's attempt to stabilize inflation – the same old pretext used in all interventions. As well as qualitative interventions to export soybeans, exports were taxed with the 13% ICMS until 1996, when the Kandir Law was passed. Exports of soy bran and oil were always exempt of this tax, which benefited grinding industries but not necessarily the producers, as shown by the results. Trade restrictions held back the growth of soybean, which remained relatively stagnated in around 10 million/ha to 11 million/ha, from the 1984 harvest until the 1997 harvest. The rate of taxation on soybean had a significant decline after the Kandir Law, and was gradually eliminated in 1995, which placed Brazil as one of the largest world exporters of beef and chicken.

Protection to imported agricultural products

In the case of wheat, results show that this crop was highly protected until the early 1990s; this result is consistent with the regulation that created the state monopoly of wheat, of importing and domestic trading, via the Commission to Purchase National Wheat (Cetrin) and the Wheat Department (Dtrig). This Draconian regulation was implemented in 1967 and lasted until the late 1980s. The producer's price was established much higher than world-market parity prices (CIF parity), where values were 20%–65% above the parity price of the imported product. These prices boosted domestic production that reached a record of 6.1 million tons in the late 1980s, a figure that almost matched consumption. This was the "self-sufficiency policy" for wheat. Furthermore, government would import wheat and sell it at subsidized prices to the mills, creating a double-subsidy protection system. This was perhaps one of the most radical cases of subsidies for producers, mills and consumers, unprecedented in the history of Brazilian agriculture policy. In 1990, the government carried out a radical deregulation of the sector by terminating Cetrin and all manner of control policies for wheat.

In the case of rice, which is a stable food in the diet of the Brazilian population, government protected that sector for most part of the

period at hand by granting production credit, trade credit and direct purchasing by the government (PGPM); these measures maintained the sector protected. In years when there was crop failure or serious scarcity, the government would import rice in large quantities via the National Supply Company (Conab) that would stock up and sell it as subsidized prices below the import CIF prices. This occurred mostly in the late 1970s and the 1980s.

Protection to the industrial sector

The policy for import substitution gave rise to a very high level of protection to the industrial sector, as shown in Figure 2. This protection was gradually removed. Macroeconomic stabilization policies and the control of fiscal deficits in 1994 definitively forced the end of government interventions via tariff protection. In 1998, protection to the industrial sector was reduced, which also reduced taxation on agriculture. Thus, Brazilian agriculture – now free to compete without any interference, subsidies and taxes – responded strongly in terms of performance indicators, placing Brazil as one of the largest world exporters. Now, it is time for the industrial sector to match the threats posed by the market.

While the prices of agricultural products where being distorted due to policies (protectionist) for other sectors (industrial sector), the discrimination against the exporting of agricultural products prevailed. Figures show the discrimination against agriculture. The negative protection of agriculture represents taxation, and positive protection figures represent the protection of the industrial sector. After the reforms, notably as of 1995, discrimination ended and the exporting of agricultural products peaked.

The reduction of industrial tariffs had a significant impact, in that it provided a measure of relief in terms of implicit taxation on agriculture. It is clearly sown that the convergence of the taxation on agriculture at a rate near zero was only possible thank to the weakened protection policy to the industrial sector that simultaneously reached an almost-zero rate. One

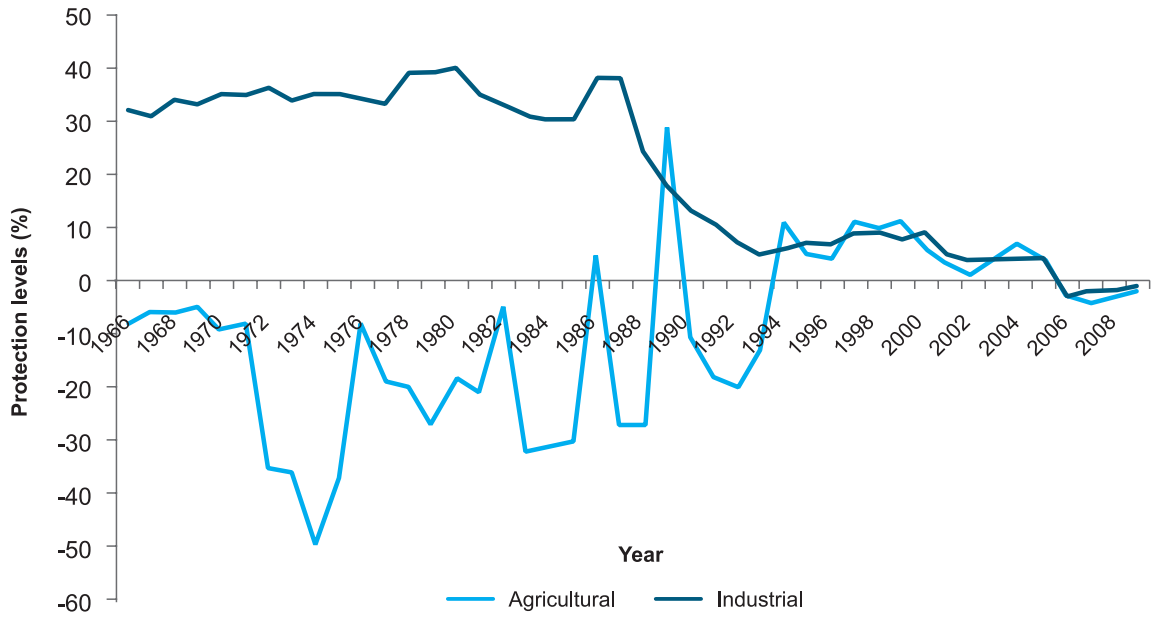

Figure 2. Protection levels (in %) for industrial and agricultural products in Brazil in the period 1966–2009.

Note: positive values are the levels of protection and negative levels represent taxation.

Source: Lopes et al. (2008).

movement is perfectly consistent with the other. In other words, the decrease of taxation to zero was due to the decline in the protectionist policy for the industrial sector.

In effect, by reducing the protection to the industrial sector, essential production factors, such as capital and labor, were reallocated to agricultural activities in which Brazil had significant comparative advantages, whereby the country was able to reach a much higher level of efficiency. Agriculture then had total productivity of factors almost two and a half higher than the industrial sector, which placed Brazil on the list of leading nations that export agricultural products. The overall gain of wellness for the Brazilian population was considerable. In sum, results yielded by policies implemented from the Real Plan that followed the implementation of the free trade structure started in 1989 followed the same direction and created a favorable environment for the unprecedented growth of the agricultural sector in the history of Brazil.

There is a general idea that agriculture is granted subsidies from the interest rate of debt negotiations. This is a misconception, as the protection policies for the industrial sector, as mentioned in this study, tax agriculture. However, taxation is indirect, i.e. implicit and concealed, and as such is not perceived. The past, as shown in the results, reveal this dramatically. And the present is quite different from that scenario of the past.

The findings of this research leave no room for doubt that asymmetric policies that gave preferential treatment to the industrial sector impaired agriculture, which only started to thrive when the arsenal of policies was removed. Hence, the previous policies halted the development of agriculture during three decades.

Furthermore, the findings of this study show that with the Real Plan, taxation on agriculture quickly declined. Price distortions were eliminated after a long period of discrimination against agriculture. During this period, consumers benefited from that policy, but the price paid was a dear one in terms of increase of productive capacity of the primary sector, its ability to export and Brazil's ability to generate income, jobs and wellness, both in rural and urban areas. Capital and work were transferred to the urban-industrial sector. Urban poverty was merely rural poverty that changed its address. The urban area benefited from the low food prices but ended up paying a steep price for not growing at rates compatible with the abundance of Brazilian agriculture.

Conclusions

By removing discrimination, the exporting sectors of agriculture became one of the most competitive in the world, where domestic and world-market prices were aligned without creating major shocks or inflation, and helping reduce prices over the last years. Gradually, subsidized credit was withdrawn. However, what remained were high levels of compromised resources for financing agriculture, ensuing from the refinancing of the agriculture debt. But in general, rural credit gradually moved towards the direction of commercial interest rates with the reduction of loans granted at concessional rates, although some import products still maintain some means of protection, as in the case of wheat and especially rice. The spectacular results obtained from Brazilian agroindustrial exports can be also credited to these drastic reforms introduced to the monetary and fiscal policies and the non-interference of the State. The strategic options adopted by Brazil have placed it among the greatest agro-exporting nations of the world.

The gradual elimination of mixed capital control agencies was crucial, as well as the weakening of the role played by the PGPM as a fiscal discipline that ultimately benefited agriculture. It is for sure that the agricultural sector greatly benefited from the fiscal discipline, the economic stability and the monetary policy; however, the sector definitely helped all the three factors, where the Real Plan was the pillar.

The reduction of agriculture tariffs, and first and foremost of industrial tariffs, represents a major boost for agriculture.

This set of measures was the driver for the agricultural sector to respond vigorously in terms of investment expansion, building a production base that reached the highest levels of productivity. Together with the reforms, tariff reduction for the industrial sector boosted Brazilian agriculture, as it helped directly to reduce the prices of industrial products used in the production process (such as fertilizers). All these factors together – freedom to export, non-interference from the government, low tariffs and withdrawal of administrative controls – were conducive to the strong alignment agriculture, whereby it was elevated to compete under the same terms as its world-market peers. Brazilian agriculture could then compete with the largest agro-exporting nations in the world.

Mercosul helped this happen, in that is put pressure on Brazil to induce the agricultural sector to adopt spearhead technologies. If agriculture had not responded positively to the challenge, it would have declined significantly. The elements that backed agriculture's spectacular results are: soil, climate, technology and research, to mention but a few. But there was also a well-structured agricultural business sector, first-class business leaders that migrated to the Mid-West, taking with them human capital, and, above all, courage to face the challenges – roads, infrastructure, and storage – until them considered insurmountable obstacles. They came from the states of Rio Grande do Sul, Santa Catarina, São Paulo, Minas Gerais and Paraná to conquer the Central-West. Today, once again they are the driving force of the development of Piauí and Maranhão, as states that export soybean.

This process became more intense with the economic reforms. When the price of agricultural products were aligned to world-market prices Brazilian agriculture underwent a sustainable growth process starting in 2000, alongside inflation that was under control, public spending relatively disciplined by a fiscal policy and the end of the urban trend – the policy of low-cost food for the consumer and low-cost inputs market reserve for the industrial sector. Finally, agriculture was able to supply the domestic market and compete with the world-market at the same time.

Future perspectives

As presented in this study, economic incentives for Brazilian agriculture differ greatly from those of the past. But the future still has many unanswered questions. Prices fell in 2005 and 2006, causing Brazilian agriculture to a situation of quick indebtedness, especially the producers of soybean, corn and cotton in the Central-West. In 2007, prices once again started to rise, but a great agriculture debt still remains, which hangs over agriculture as a "sword of Damocles." The solution to this problem is being able to see a better future for the sector. Agricultural production depends basically on the world-market high prices, as a consequence of severe infrastructure limitations in Brazil.

The stagnation of the so-called lost decades caused a great part of domestic production to be sent to the world market. Nowadays, Brazil is perhaps taking its first steps towards a sustainable growth, which is fostering a great improvement in the dietary standard of the Brazilian population. Today, food prices put a pressure on inflation. Brazil must once again develop its agriculture, build production capacity and continue to export and supply the domestic market. To be able to do that, it is mandatory for the country to face infrastructure problems: roads, highways, railways, ports, etc. Logistics is at the top of the agenda of high-priority investments in Brazil in order for agriculture to keep on growing.

In Brazil, the pressure posed on the price of food is no surprise; this trend had allowed for better distribution of income. Better than what has been seen so far, the sector's future will also depend on the ability of the Brazilian government to make the exchange rate converge to

its long-term level of equilibrium. This variable plays a crucial role among agriculture's incentives and de-incentives.

Rural poverty remains a great challenge for sectorial and global policies. Spearhead technology agriculture is capital-intensive and requires huge investments before it reaches minimally competitive technical and economic levels. In this process, subsistence producers are becoming more and more distant from a competitiveness scenario. For both the subsistence farmer and the stand-alone producer agriculture is not a solution. Minimum forms of association, rural partnerships and business associations are indispensable in order to solve the rural poverty problem. Nowadays, there is a growth of land consortiums and condominium schemes, associations to exploit a consortium business, where a group of producers form associations. This has been the road take. Government has been investing enormous resources trying to recover the subsistence producer and for sure it is time to assess this expenditure.

Finally, it is important to remember that the future of Brazilian agriculture depends to a great extend on eliminating trade distortions and free and unencumbered trade barriers in the world market, which the Doha Round of multilateral negotiations so far has failed to give sign of minimally satisfactory results. Brazil could greatly benefit from a favorable result, but were far from reaching an adequate solution.

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