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DISCUSSION PAPER

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Gervásio Castro de Rezende



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Gervásio Castro de Rezende²

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SINOPSE

Este trabalho procura discutir a questão do padrão concentrador do desenvolvimento agrícola brasileiro recente, expresso no predomínio da produção em grande escala, no elevado índice de mecanização e na baixa absorção de mão-de-obra não-qualificada. Propõe-se, inicialmente, a existência de duas posições antagônicas que procuram explicar esse fato: uma, que culpa a herança latifundiária de nossa agricultura, com a implicação de que a solução requereria uma reforma agrária radical; e a outra, que vê nisso um determinismo tecnológico, não havendo, assim, possibilidade de atuar sobre esse problema sem incorrer em uma perda em termos de eficiência econômica. Discordando radicalmente dessas duas posições, este trabalho atribui às políticas trabalhista agrícola, fundiária e de crédito agrícola, instituídas na década de 1960, a responsabilidade maior por esse problema. Conforme a análise apresentada, essas políticas inviabilizaram o mercado de trabalho agrícola temporário e a agricultura familiar, ao mesmo tempo em que fomentaram a mecanização agrícola e o predomínio da produção em grande escala. O trabalho termina propondo, de modo consistente com a análise apresentada, que a única maneira de iniciar a desconcentração de nosso crescimento agrícola é através de uma desregulamentação radical dos mercados de trabalho e de aluguel de terra, instituindo, no Brasil, enfim, a livre contratação, a característica maior do capitalismo.

ABSTRACT

This paper discusses the question of the concentrated pattern of agricultural development in Brazil, as expressed in the predominance of large-scale production, high level of mechanization and low absorption of non-qualified labor. It is proposed, initially, the existence of two conflicting explanations for this fact: the first, that blames our historical heritage, characterized by the predominance of the *latifúndio*, with the implication that the solution requires a radical agrarian reform; and the second, that sees in this concentrated pattern of agricultural growth in Brazil a *technological determinism*, with the implication that lesser concentration in agriculture would imply a loss in economic efficiency. Diverging radically from these two lines of arguments, this paper attributes to the agricultural labor and to the land policies that were instituted in the 1960s, and to the agricultural credit policy, instituted by the same time, the major responsibility for this problem. As argued in the paper, these policies turned unviable in Brazil not only the agricultural temporary labor market, but also family farm, at the same time that stimulated agricultural mechanization and the predominance of large-scale production. The paper ends up proposing, in a manner consistent with the analysis presented, that the only way to initiate the de-concentration of our agricultural growth would be through a radical de-regulation both of agricultural labor and land markets, instituting in Brazil, at last, free contracting, the most basic capitalistic institution.

1 INTRODUCTION

The agricultural sector has played a strategic role in the present phase of the Brazilian economy, due to its capacity to contribute for an adequate domestic supply of food and raw materials and for the increase in exports.

However, agricultural production has been characterized, increasingly, by a technology intensive in capital and in qualified labor, as well as by a progressive increase in the scale of production in several sectors.

In view of the magnitude of the present problem of poverty and inequality in Brazil, it would be the case of considering the possibility that the agricultural sector began to adopt a pattern of growth more consistent with the improvement of the distributive patterns of our economy. This would require a technological change with the purpose to absorb more of a type of labor considered today little qualified in the economy as a whole, but that could acquire, at a relatively small cost, the qualification required for this new pattern of agricultural technology.

Note that, as shown by Alves, Mantovani and Oliveira (2005), the current agricultural technological pattern has led to the absorption of a significant volume of labor power, both in the rural and in the urban worlds, but it is predominantly qualified labor, which is scarce in Brazil. Ferreira Filho (2005) also showed such absorption of qualified labor in the agricultural sector, especially in the most dynamic regions. The technological change sought in this paper, however, would have for objective to increase the absorption of *non-qualified* labor, which exists in abundance in our economy.

This new contribution of agriculture would seem feasible, in principle, due to the greater flexibility in the choice of technology in the agricultural sector, compared with the industrial sector, for instance, having in view the diversity of agricultural technological patterns that exist in the world. This worldwide diversity of technological patterns has led, by the way, to the theory of agricultural development known as the “induced technological change model”, of Hayami and Ruttan,¹ according to which the agricultural technology adopted in the several countries is actually very diverse, because the relative factor prices in the several countries are also very diverse. In their analysis, these authors focused, specially, the cases of the United States and Japan, that adopted very different agricultural technologies, as a response to the great difference that existed between the respective factor endowments.

On the other side, the qualification required for this labor-intensive agriculture—to be called here the *agriculture-specific qualification*, is simpler, capable of being formed at a cost much smaller than the qualification required for the industrial sector and, also, for the modern agricultural sector itself.² Furthermore, as an eventual growth of agricultural employment would favor the growth of rural areas and small towns, this would contribute to a lessening of the social problems presently faced by

1. See Hayami and Ruttan (1985).

2. For *agriculture-specific qualification* it is intended here to mean qualifications such as the knowledge of the agricultural calendar, the physical capacity and the knowledge necessary to the manual cut of cane, the *apanha* of coffee, the handling of the *enxada* and the *foice*, the handling of animals etc.

the metropolitan areas, which are the main destination of the workers that migrate from the agricultural sector.

Note that the labor force that migrates from the agricultural to the other sectors of the economy, generally in the urban world, ends up by losing this condition of qualified labor (in the restricted sense adopted here), becoming, suddenly, unqualified labor *tout court*, it being very likely that this contributes, in a disproportionate way, to the growth of poverty and inequality in Brazil.

It would be interesting, therefore, to understand better the reasons that have led the agricultural sector in Brazil to adopt the present technological pattern, since this knowledge is necessary to the proposition of measures that guarantee that agriculture would go on growing, as currently, but becomes capable of absorb more labor, specially of the kind that is abundant in Brazil, that is, of low qualification.

In this respect, it should be noted that there is an intense controversy over the causes of this distributive pattern of agricultural growth. The first current blames our historical formation, and in particular the concentration of landownership, whose determining role would have been strengthened, in the more recent period, by the subsidized agricultural credit policy, instituted in the 1960's.

The second current, in clear contrast with the Hayami and Ruttan model, sees this pattern of agricultural development as a consequence of a "technological imperative", since small-scale production would not be feasible in agriculture, and it would not exist agricultural technology capable of absorb labor in the way that it would be necessary in Brazil. Therefore, Brazilian agricultural technological pattern and the growing predominance of large-scale agriculture would be somewhat "natural", and any attempt at interfering in this process of agricultural growth would imply an efficiency loss to the economy.

This paper seeks not only to criticize these two ways of thinking, but also to propose an alternative explanation. Contrary to the authors that seek to find in our remote past the explanation of our present-day problems, this paper will argue that the current situation was fruit of a process of transformation that began in the 1960's, and that was very much conditioned by the agricultural labor, land and credit policies, all of them instituted, not by chance, in that decade. It will be sought to argue that these public policies, and in particular the agricultural labor and land policies, even though adopted with the avowed purpose of benefiting the poor, ended up by reaching opposite results, contributing since then, therefore, to the increase of poverty and inequality in Brazil.

On the other hand, the critique of the authors that postulate a technological determinism will be based on the very *mainstream* economic theory, which supposedly serves as basis for their argument. It will be argued, on the basis of the Hayami and Ruttan model, that the technological pattern prevailing today was the result of choices that had for basis the relative factor prices, but prices that, instead of reflecting the "natural" factor endowments, were "distorted" as a result of the operation of the public policies mentioned before. In other words, these policies made these relative factor prices "distorted", the private cost of labor (the cost of labor from the point of view of the employer) having undergone not only a great

increase, but having become much superior to the social cost of labor (the wage effectively received by the worker), while the private cost of capital (the cost of capital from the point of view of the farmer) having become, thanks to Government subsidy, much inferior to its true social cost, given by the economy's marginal productivity of capital. The choice of the current technology was, therefore, conditioned—not to say *determined*—by these distorted relative factor prices. In addition to that, new technology was also created or “induced”, according to the Hayami and Ruttan model, by this rise of the relative price of labor vis-à-vis capital.

Now, to the extent that one accepts that the present technological pattern results from a technical choice conditioned by relative factor prices, it can be inferred, then, that an eventual change in these relative factor prices could lead to a new pattern of agricultural development, with the use a technology much less intensive in capital and more intensive in this cheaper labor, endowed with (or capable of being endowed with) the agricultural specific qualification. The agricultural sector would add to its present contributions another one, perhaps even more important, that is the creation of jobs that would end up contributing for the reduction of poverty and inequality in Brazil.

In addition to this introduction, this paper includes other 15 sections. The next section points out the problems that arise in the agricultural labor market due to the seasonality of agriculture. Section 3 shows how this peculiarity of agriculture conditioned the formation of the labor market in the coffee sector, after Abolition. This section has, also, the objective of showing how this labor market was organized before the adoption, by the government, of the new agricultural labor, land, and credit policies, in the 1960's, for only in this way one can understand better the changes that occurred in the agricultural sector since then.

Section 4 begins, then, to discuss the changes that occurred beginning in the 1960's, starting with the approval, by Congress, in 1963, of the Rural Worker Statute (ETR). Section 5 discusses, then, the problems created by this agricultural labor policy, compressing the agricultural labor market, with the rise, at the time, of the figure of the *bóia-fria* or *volante*, and reducing the competitiveness of the family farm *vis-à-vis* the capitalist farm. Section 6 seeks to go deeper in the analysis of the impacts of this labor policy on the agricultural labor market, presenting a theoretical analysis of the effects of this policy on the cost of labor faced by the employer and the wage effectively received by the worker. This analysis proposes, in addition, a contrast between the agricultural and the urban labor markets.

Section 7 shows, on the other hand, that, soon after this extension of the CLT to the countryside, it was started, thanks to the Land Statute of 1964, to a new land policy, a process that was completed by the 1988 Constitution. This section proposes that such a land policy has also caused an increase in poverty and inequality in Brazil, contrary to its avowed objectives.

Section 8 discusses the problem of the limitation of the access to credit on the part of family farm in Brazil, and raises the hypothesis that this is due to the agrarian legislation itself. Section 9 discusses the relation between the financial market and the land rental market in Brazil, and suggests that our land policy prevented that the “speculation” with land ended up benefiting small agriculture in the country.

Section 10, on its part, shows how the adoption of these labor and land policies ended up leading to the formation of a political block in the Brazilian Congress that led to the approval, in 1965, of the law that instituted the National Rural Credit System.

Section 11, basing itself on economic theory and also on the use, by Hayami and Ruttan, of the theory of induced innovations of Hicks, proposes that these labor and land policies, acting together with the subsidized agricultural credit policy, were responsible for the “excessive” mechanization of Brazilian agriculture, by raising the cost of labor to the employer (while keeping it low for the worker), at the same time that it was reduced the cost of capital for agricultural production.

Section 12 presents the argument that this process that led to excessive mechanization and, also, to the growing predominance of large-scale production in Brazilian agriculture.

Section 13 argues that this excessive mechanization has contributed, more recently, to make it more difficult to the agricultural sector to deal with the volatility of the markets, that increased with the change in the exchange-rate policy, in 1999.

In view of the perverse results brought about by these public policies instituted in the 1960's, Section 14 considers alternative policies, based on the free market and the underlying (required) institutions, that should have been adopted in the same epoch, and that would have given way to an agricultural development much more labor-absorbing and more capable of contributing to the reduction of poverty and inequality in Brazil. The important point is that some of these measures go on being necessary in order that these objectives are reached.

Section 15, finally, presents a summary and the main conclusions of the paper.

2 SEASONALITY OF AGRICULTURE AND THE PROBLEMS OF THE LABOR MARKET IN AGRICULTURE

As a consequence of the seasonality that marks agricultural production, the agricultural wage labor market is to a large extent temporary, what gives rise to the following problems, from the point of view of the employer: *a*) low qualification of the labor power, since there is no incentive, both from the point of view of the employer and the worker, to invest in the qualification of labor, due to the high turnover;³ and *b*) uncertainty with respect to the supply of labor, sometimes as a problem of information, since the workers, many times, live in distant regions.

It should be noted that this temporary labor market is also very inadequate from the point of view of the *principal* family workers, since it offers work only in some epochs of the year, and even so in a uncertain manner.⁴ However, what is a

3. This problem, in the case of the Northeastern sugar cane agroindustry, is very well analysed in Ricci, Alves and Novaes (1994, p. 86-97). Mann and Dickinson (1978, p. 477) point out that, in these circumstances, “... the capitalist must either attract and maintain his ‘temporary’ work force by offering high wages or rely on the most desperate and marginal elements in society as in the use of rural migrant labour.”

4. Rezende (1985, p. 58-60) noted, in effect, that this *volante* worker, already living in the urban world, was composed, basically, of women, children and the elderly, since the principal family workers tried to avoid the agricultural employment, due to its seasonality.

disadvantage for one type of worker becomes an advantage for other. This is the case of the family farmers of poor regions in Brazil (as the Northern Minas Gerais and the Northeast), since this seasonal labor market offers an alternative of work that is *complementary* to their own agricultural production, specially having in view that the gain derived from wage labor does not contain the risk that own agricultural production implies.

Note that the seasonal labor market can be very important for the *secondary* family worker, too. This has been shown in an interesting matter on the “coffee pickers” of Southern Minas Gerais.⁵ Thus, since this temporary agricultural labor market is source of income for social groups that are situated at the margin of absolute poverty, it is very important to prevent that this market disappears.

Note that the temporary agricultural labor market, all over the world, presents these same problems. As a consequence, an international literature arose that sought to attribute the competitive advantage of family farming, in the developed countries, to the fact that the family farm is less dependent on this agricultural labor market, since it is endowed with an own labor supply.⁶ Besides, the limited endowment of own labor supply does not prevent this form of production to reach the optimal scale of production, due to its facilitated access to credit, what allows mechanization, specially in the activities of planting and harvesting. Family farming is also, in general, more capable of diversifying its activities—reducing, therefore, the seasonal peaks of labor requirement—, not to mention the lower supervision cost, a problem generally considered more important in agriculture than in industry.

Note that an additional way that family farming benefits from this agricultural labor market problem, arising from seasonality of agricultural activity, has been the landowners do not administer directly their land, but instead lease it to family producers. However, as it will be seen in Section 7, the landowners in Brazil, in view of the fact that the market of land renting, especially when involving small producers, was virtually suppressed in Brazil, did not adopt this alternative.

3 SEASONALITY IN AGRICULTURE AND THE LABOR MARKET IN COFFEE AFTER ABOLITION

With the objective of illustrating the importance of this phenomenon of agricultural seasonality, it deserves to be seen how it was formed the labor market after Abolition, as typified by the *colonato* in coffee, a labor market in which the worker lived in the *fazendas* and did not limit itself in working for the main economic activity, since he

5. See the interesting matters “Apanhadoras de Café” and the “Damas dos Cafezais”, both prepared by the journalist Priscilla Gorzoni; the first was published in the magazine *Globo Rural* (July 2005, pp. 64-66) and the second by the magazine *Planeta* (October 2005, pp. 26-51).

6. According to Sanders and Ruttan (1978, p. 283), “Obtaining and using seasonal labor is much more difficult for the large than for the small farm unit because the latter is better able to rely on family labor”. Mann and Dickinson (1978) emphasize, also, this advantage of family farm *vis-à-vis* capitalist agriculture.

dedicated himself, in the “dead times” of coffee, to an own agricultural activity, on land allocated by the landowner.⁷

Through the cession of land for the *colono* to produce part of his subsistence, the landowner managed to reduce the monetary cost of the labor force, that became limited, then, to the payment for the work in the coffee fields, including harvesting. Note that this cession of land for the subsistence activity of the *colono* did not interfere with the work in coffee, since the period in which the *colono* and his family dedicated themselves to the own production coincided with the “dead times” of the calendar year of coffee. It is clear, however, that the cession of land to the *colono* involved an opportunity cost bore by the landowner, given by the alternative income that this land would yield if it were allocated to the production of coffee. But, as compensation, the coffee farmer was able to assure himself of a stable supply of labor, of good quality, what was fundamental for a crop like coffee. In other words, the *colonato* system was an ingenious solution to the labor market problem faced by agriculture, arising out of agricultural seasonality.

It is interesting to note that Rezende (1980) admitted implicitly that the agricultural calendars of production of corn, for instance, and coffee were rival, and for this reason there would be a conflict between allocation of labor into corn and coffee. As a result, this analysis of Rezende (1980) concluded that the size and the quality of the land allocated to the *colono* had to be, in some way, compressed, in order to prevent the *colono* from dedicating the major part of his labor time to the subsistence activity, to the detriment of the work on coffee. This analysis of Rezende (1980), inspired on the Marxist view of exploitation, does not appreciate properly the *colonato* as an ingenious system of incentives, and how such a system was necessary from the point of view of the landowner himself, in view of the peculiarities of the agricultural production and of coffee production, specially. In addition to that, this analysis of Rezende (1980) is not compatible with the belief, today prevailing between the historians, that it was through this initial insertion as *colonos* that the Italians managed to rise economically and socially in Brazil.

In other words, once the agricultural calendars of the subsistence activities and coffee were complementary among themselves, it becomes clear that it should be very attractive to employ oneself as a *colono* in a coffee plantation, since the worker could obtain, in this way, a subsistence income and a monetary income, whose amounts depended on the capacity and disposition to work on the part of the *colono* and his family. Above all, the possibility of obtaining a monetary income should be very attractive to the foreigners, recently arrived in the country. It is easy, also, to explain why the immigrant was more attractive to the landowner than the ex-slaves, since the intensive work on the coffee farm should not be attractive to these ex-slaves, especially considering the low standard of living of these former slaves and the easy access to land outside the plantations. Neither was it attractive to the landowner to hire these ex-slaves, since it was vital for the economics of the farm that the land allocated to the *colono* be used intensively, without affecting the intensity of labor in

7. This *colonato* system extended itself also to cane sugar sector in the region of Piracicaba, according to Terci et al. (2005a).

coffee production itself. As a matter of fact, the higher the income generated in the subsistence activity, the lesser could be the monetary payment for the work on coffee.

It should be noted, also, that nothing prevented small independent producers, living close to the coffee zones or even in distant places, to participate in the harvesting of coffee, with the objective of obtaining a monetary income.

It is interesting to note, on the other hand, that the need to guarantee an adequate supply of labor, through a system like the *colonato*, contributed to the prevalence of the large property in coffee. In effect, the allocation of land to the *colonos*, as well as the need to dispose of virgin lands necessary for the expansion and the replacement of old coffee trees, implied that the size of the coffee plantation should very large. The subsistence production of the *colonos* itself required a continuous incorporation of new areas, since the lands used were left in *descanso* after some years of cropping.

To compensate, it was in this way that the coffee activity managed to reduce its financial expenditure with the labor force. The coffee plantation required large investments in the planting of coffee, as well heavy annual expenses with the harvesting, processing and transportation of the product, and this reduction of the monetary expenses with labor force—as a rule, very numerous—should be very important to the economics of the coffee farm. It should not be forgotten that the landowner depended on the external financing, obtained at very high interest rates.

This relationship between the size of the farm and the economic viability of the coffee production could not but stimulate the predominance of the *latifúndio* in the coffee sector. The constitution of the *latifúndio* in Brazilian agriculture had for basis, initially, the concessions of *sesmarias* by the Portuguese crown, having in view its own interests in the occupation of the colonial territory. After 1822, the mechanism of the *posse*—that already existed in the times of the *sesmarias*—became the first step in the process of obtaining the title of the property of the land in Brazil. There was an attempt at changing this system through the Land Law of 1850, which stated that public lands could be acquired only through the sale by the government. However, as it was pointed out by Carvalho (1988), such a law became *letra morta*, the *posse* remaining the first step in the formation of the property of land in Brazil. This system of acquiring land could not but lead to violence in the countryside and result in the predominance of the large property. It contrasts frankly with the American experience, as Guedes (2005) pointed out, in which the State had a strong presence.

What can be noted better now, after the previous analysis of the coffee economy, is that this formation of the large property was fomented by the need on the part of the farm to provide the subsistence of the worker throughout the year, and not only during the period when he was necessary to coffee. The formula found was this permission given to the *colono* to use farmlands for own produce part of his subsistence. This was feasible, however, only if the coffee plantation could count on a large land basis.

It was due to this imperative that the coffee economy started to require easy and cheap ways to the access to the land, what resulted in the *latifúndio*. In this way, it

managed to reduce the opportunity cost, to the planter, of the cession of the land plot for the *colono* to produce part of his subsistence.

It should be noted that this *colonato* system, as well as other systems of employment of labor that prevailed after the abolition of slavery (as the system of *morador de condição*, in the Northeastern Zona da Mata, in which the worker received a land plot for own production, in exchange of working, without payment, in the sugar cane fields, what became known as the *cambão*), added to the several forms of sharecropping and land renting, to let it clear not only the predominance of the *latifúndio* system in Brazilian agriculture, but also its internal logic: all these systems of employment of labor power and the renting of land could only be feasible thanks to the predominance of the large property.⁸

It is interesting to note that, even though diverging as to the degree of integration to the market, all these *latifúndio* systems had in common the fact that the workers had some access to the land. This stimulated the political mobilization typified by the “Peasant Leagues”, that quickly found echo in their banner of “property of land to the those that work the land”, what prevailed all over Brazil. This easiness with which it became possible to radicalize the agrarian movements in the 1950’s and early 1960’s was also responsible for its corollary—the Military coup of 1964.

4 INSTITUTIONAL CHANGES INTRODUCED IN THE 1960’s: (1) THE EXTENSION OF CLT TO THE COUNTRYSIDE

This “colonato system”, as well as all other social relations of production that existed in the Brazilian countryside in the beginning of the decade of 1960, formed a power system that became known as the “Populist Pact”, that took effect with the 1930 Revolution and that lasted until the crisis of this “pact”, beginning in the second half of the 1950’s. In exchange for the political support on the part of the landowners, the labor relations in the agricultural sector became immune to State interference, that increased after 1930, with Getúlio Vargas, ending up in the famous CLT (Consolidação das Leis do Trabalho).

This autonomy of the rural world in the face of CLT reflected, also, the fact that the need to maintain under control the unionized world had always been much smaller in the countryside vis-à-vis the urban world. Besides, given the importance of agriculture for the equilibrium of the balance of payments—it deserves to remind that coffee represented 60% of Brazilian exports by 1960—, it might have been preferred not to run the risk of extending CLT to the countryside and face an economic crisis of great proportions.

However, as pointed out by Moraes (1970), from the second half of the 1950’s on, the rural world began to be the target of the radical political movements, the best example having been the Peasant Leagues. In part, this was due exactly to the fact that CLT did not extend itself to the countryside, what implied the impossibility of constitution of rural unions in the limits of CLT and, therefore, under Government

8. The case of the Northeastern sertão is object of analysis of Ferreira (1980).

control. Possibly, this explains why it was so easy this extension of CLT to the countryside, with little opposition even from the landowning class.

It is also necessary to have in mind the international context of the epoch, including the Cuban Revolution of 1959 and the rising threat of a World War, typified by the missile crisis. It was in this context arose the Alliance for Progress, that started to press for land reform policies and the improvement of the social conditions in the countryside, since it was believed that the revolutionary movements would based themselves in the countryside. It can be understood, then, why this extension of CLT to agriculture, through the ETR (Rural Worker Statute, Law 4.214, of 2/3/1963), and the legislation that followed it (Law 5.889, of 8/6/73, and Decree 73.626) were maintained intact by the military government that took power in 1964. Actually, the entire CLT—with the exception of the some obvious exaggerations, as the stability of employment after ten years of work—was kept intact not only the military in power, but also, as pointed out by Gomes (2004), by the 1988 Constitution, that kept, in this way, the monopoly of representation, present in the so-called “unicidade” and in the right to charge “contributions” from the totality of the professional category.

What matters to emphasize is that, from one hour to the other, due to the State action interfering in the relations between workers and the farmers, establishing rights to the workers and creating semi-official unions, the labor relations that existed until now, in which the workers lived on the farms and obtained part of their income through own production, became unfeasible.

The *colonato* system, for instance, became unfeasible from one hour to the next, since it began to be seen as involving a *vínculo trabalhista*, what meant that the worker began to have the right to a monthly wage during all the year and all the other advantages provided by the labor legislation, independently of the fact that the employer had previously endowed the worker with a piece of land. It did not matter, either, that the coffee needed labor only during parts of the year. In this way, the ETR not only rose the cost of production of coffee, but monetized all this cost, in a way totally incompatible with the economic and financial reality of the agricultural sector. Besides that, there was the risk that the worker acquired property rights over the plot received from the farm.

Note that this institutional change reduced the economic relevance of keeping large tracts of land—the *latifúndio* system—, since, now, there was not the need to maintain land for the purpose of subsistence production by the workers.

As it will be seen later, this new labor policy, together with the new land policy instituted by the military government, ended up making viable politically a new agricultural credit policy, that make it feasible a series of transformations that, from now on, began to occur in the labor market, breaking down with the previous labor relations and bringing about mass dismissal of this labor force that lived in the *fazendas*. This labor force had to move to the periphery of the towns and to combine, now, the work in the urban environment with the work, now only seasonal, in the main activity of the *fazendas*.

5 THE NEGATIVE IMPACTS OF THE CLT ON THE TEMPORARY AGRICULTURAL LABOR MARKET

Contrary to what happened in the developed countries, family farm in Brazil ended up being more adversely affected by the peculiarities of the agricultural wage labor market. This is due, in part, not only to the high cost of the contracted labor in Brazil—a consequence of the labor legislation—, but specially, to the fact that family farm in Brazil has not had, as a rule, access to credit and, consequently, to mechanization.

In order to understand why family farm has been affected in a particularly adverse form by this labor policy, it suffices to consider that the obedience to the labor legislation imposes fixed costs relevant to the employer, such as the following (only to give some examples): *a*) to keep himself informed about the legislation, or to hire an account for this purpose; *b*) have to go to the bank and open individual accounts of Fundo de Garantia do Tempo de Serviço (FGTS), regularize the situation of the employees in the National Institute of Social Security (INSS), and go back other times and to make the monthly deposits not only for FGTS but also of INSS; *c*) to maintain up to date the register for each employee, even each one of them has worked only some days; *d*) to take the employee to the city in order to find a physician entitled to make *admissional* exam and, afterwards, the *demissional*.

In addition to spending time and money in order to fulfill the labor legislation requirements,—at an obvious cost for his productive activity—, the family farmer has also to fulfill a series of requirements relative to work security, as described in detail in Teixeira, Barletta and Lemes (1997).

Having for background the situation in the Zona da Mata of Minas Gerais, and after describing, with much creativity and high spirits, the *via-crucis* of an medium-sized farmer trying to attend all the requirements of the labor legislation, Aad Neto (1997, p.20) concludes that “the major cost derived from the present Labor Legislation for the Mountain Agriculture is of an operational order.”

It is these administrative costs, to a large extent invariant with the size of the labor force—being, therefore, fixed—, that end up making that the unit cost of labor be not only high, but also much higher for the temporary worker than for the fixed worker, and, within the group of the employers, for the small farmers than the larger ones. The small employers, too, in the case of being fined for not attending the labor laws, can reach the point of having his activity unviable, due to the arbitrary fines imposed by the Labor Justice, not speaking of the discriminatory treatment that the “complained” receives within this Labor Justice⁹ This “labor risk”, of course, must also be considered a fixed cost, whose amount and whose probability of occurrence vary from farmer to farmer, it being certain, however, that this must affect more the small rather than the large farmers.

While bearing, in this way, a higher cost for hired labor, the family farm in Brazil, contrary to what happened in the majority of the capitalist countries, could

9. See Moraes (2004) for a characterization of this discriminatory treatment that the Labor Justice offers to the “complained” (the employers) vis-à-vis the “complainers” (the workers).

not adopt mechanization, due to the restriction to access to credit. Note that this restriction is higher exactly in the case of investment credit, that is, the credit required for the acquisition of agricultural machines and equipments. Family farm, in Brazil, loses, this way, competitiveness vis-à-vis the capitalist agriculture, for two reasons: first, for having to face a higher cost for hired worker; and second, for not being able to overcome, through mechanization, the restrictions and uncertainty that temporary wage labor imposes in the phases of planting and harvesting.

On the other hand, due to the difficulty of communication between the two sides of this temporary labor market, it arose the intermediary, more known as the *turmeiro*, *gato* or *empreiteiro*, which normally detains the information on the two sides of the market and acts facilitating contact between them.¹⁰ However, as the juridical figure of this intermediary is not defined in law, since the Labor Justice and the Labor Department consider this intermediary a mere agent of the employer, a sheer strategy that the employer uses in order not to obey to the law,¹¹ the consequence is that the participation of the farmer in this labor market bears a labor risk much great.¹² Of course, this attitude of the Labor Justice and the Labor Department makes much more difficult that the legal norms be obeyed. For instance, it is common that the *turmeiro* advance part of the wages to the workers, since they need money to travel from their regions and for the maintenance of their families while they are away; but being the *turmeiro* an illegal agent, there is no way that contracts be signed between the two sides, defining rights and obligations for both parts and capable of being enforced, therefore, by the State. Since, furthermore, the fulfillment of all requirements of the labor legislation is virtually impossible, it is very easy for Labor Department inspectors to detect unlawful situations, and still easier to coin them as “slave labor” and blame the farmer for them.¹³

10. A detailed characterization of these several types of intermediaries is presented in Terci et al. (2005a). In the case of the *empreiteiro*, for example, it is common this *empreiteiro* be another cane producer, which furnishes not only the work force (previously used in cutting the own cane), but also the transportation of the cane cut to the mill. The advantages of this type of arrangement are obvious, but even so it is not admitted by the official labor policy.

11. This question of the illegality of this intermediary was well discussed in Terci et al. (2005a, pp. 13-19), having for basis an specific empirical research supported financially by the present author's CNPq research project. These authors found that the illegality of the intermediary is granted by a *súmula* or *criação jurisprudencial* from TST (Tribunal Superior do Trabalho), known as TST Enunciado nº 331, and that has the force of Law. It suffices to note, for instance, that this *súmula* impedes the inscription of the Empreiteiros Union in the Labor Department! See also Terci et al. (2005b), for the extension of the analysis, originally done only for Piracicaba, for Ribeirão Preto.

12. In the justification of the Project of Law 2.371, of 1976, it is referred an article published in the newspaper *O Estado de S. Paulo* (1976), with respect to this labor risk: “Every time that there is a worker complaint, (...) the *volante* wins the question. The *gato* disappears and the farmer pays the complainers. In the case of accident, he pays all expenses, even if it has happened with the *gato* truck, outside the farm (...). The *bóia-fria* always has, before the justice, a ‘truck of witnesses’ to prove that he worked in a farm.”

13. On this question of “slave labor”, see Barretto (2004) and Germani (2004). In addition to the fine, list”, that is public (it is in the *síte* of the Ministry of Labor), and the government has managed to prevent completely arbitrary, the farmer accused of the practice of “slave labor” has his name included in a “dirt the banks from lending to them, including the Banco do Brasil. Recently, it was reported a “study” by a British cattle raiser blaming the Brazilian livestock activity to be based itself on slave labor; on this, see the matter “Denúncias de trabalho escravo provocam celeuma”, in the newspaper *Valor Econômico*, 6/7.1.06, p. B10, and the matter “Brasil vê interesse comercial em desqualificar país”, in the newspaper *Folha de São Paulo*, 6/1/06, p. B8.

It is interesting to note, furthermore, that the present dimension of this temporary agricultural labor market is much smaller than in the decades of 1970 or 1980, in the face of the great increase that occurred in the farm mechanization. Actually, this temporary labor market has become truly incompatible with the maintenance of important agricultural activities, like sugar cane and orange, in São Paulo. This was due to successive strikes exactly at harvesting times, what gave rise to a strong incentive towards mechanization, as Ricci, Alves and Novaes (1994, p. 108) and Moraes and Pessini (2004, p. 49 and p. 58) noted. Especially in the cases of the sugar-cane mills with own sugar cane production of great extensions, the concentration of workers in times of harvesting in a few mills, and the high costs of postponing the cane harvesting, provided strong incentives to this kind of collective action -- the strike. This case of the sugar cane mills illustrates well that not only family farm, but also the big capitalist farm, ended up becoming totally incompatible with this kind of market, especially in the Brazilian conditions, in which the figure of the *turmeiro* has no juridical personality. The result could not but be a strong pressure towards mechanization, especially in the phase of harvesting.¹⁴

6 THE AGRICULTURAL LABOR POLICY AND ITS EFFECTS: A THEORETICAL ANALYSIS¹⁵

A way of synthesizing the discussion presented so far, using the language of economic theory, is to say that, as a result of this agricultural labor policy, it was introduced a distortion in the agricultural labor market, with labor having become, suddenly, very expensive for the employer, even though, from the point of view of the worker, the wage had been kept very low, or could even have fallen. This caused a great divergence between the social cost of labor (the wage received by the worker) and its private cost (the cost of labor for the employer).

It deserves to explain better the components of this “wedge” that the labor policy created between the wage received by the worker and the cost of labor for the employer. In the first place, it must be pointed out the administrative cost incurred by the employer in order to satisfy all the requirements of CLT; as it was noted, the unit value of this administrative cost is the higher the smaller the size of the labor force and includes, also, the loss of income associated to the farmer trips to the closest town. In the second place, to the extent that the policy creates difficulties for the working of this market—for instance, turning the *turmeiro* illegal and generating, therefore, risk for the farmer, to the point of bearing the accusation of the practice of “slave labor”—, this labor policy creates also an additional cost for the employer, without any advantage for worker. And, *last but not least*, one has to include in the cost of labor an amount to relative to the production risk (loss of the harvest), associated to the worker strikes, as it happened in São Paulo and in Pernambuco in

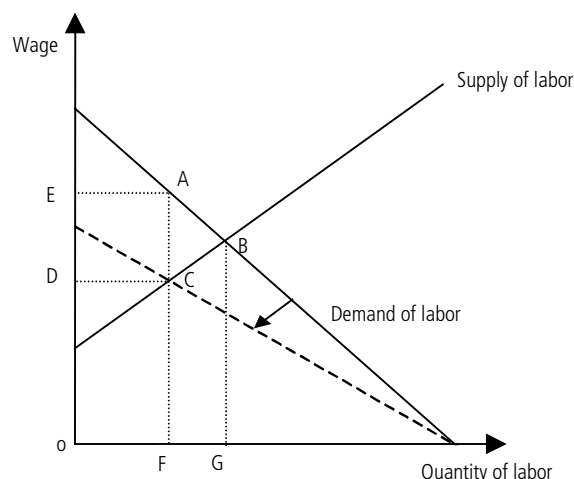
14. According to Graziano da Silva (1982), these strikes were stimulated also by the fact that the seasonality of the demand for labor had increased, since the activities of land preparation and of planting of sugar cane had been mechanized, since there was technology available abroad. Meanwhile, the activities of harvesting had to wait for technology developed in Brazil. Graziano da Silva also points out in this period land productivity had also risen, due to use of fertilizers and pesticides.

15. This section benefited from the research assistance of Mauro Virgino de Sena e Silva.

the 1980's; this cost factor affects more the large capitalist farm (as the sugar mills) than the family farmer.

It must be stressed that all these costs that are born by the productive sector, but that are not appropriated by the worker, end up working as if they were taxation on the labor market, but without generating income for the government. In order to clarify better this proposition, we present Figure 1, which extends the usual analysis of the incidence of a tax on labor (for example, the income tax), to the analysis of the temporary agricultural labor market in Brazil.¹⁶

FIGURE 1
IMPACT OF THE LABOR POLICY ON THE WAGE AND THE EMPLOYMENT



An income tax would move to the left the demand curve of labor, in view of the fact that, after the tax, there is a distinction between the gross and the net wage, the decision with respect to the supply of labor having to do, now, with the net wage, not on the gross wage.¹⁷ The consequence of this taxation is a reduction in the number of hours worked from G to F, the wage (“net”) of the worker falling from GB to CF, while the cost of labor for the employer rises from GB to AF. The government revenue is EACD, and the loss of economic surplus, or the “deadweight loss”, is the triangle ABC.

In the case of the temporary agricultural labor market in Brazil, several components of labor cost (as the labor risk arising out of the illegality of the *turmeiro*, or the risk of strike exactly at harvest time), imply that the demand curve for labor moves to the left, as in the Figure 1, but, contrary to what happens in the case of an income tax, the loss of surplus corresponds to the entire area of the trapezium EABCD, that is, the deadweight loss includes, now, also the rectangle EACD.

16. The analysis that follows is an adaptation of the analysis presented in Mankiw (1999, Chapters. 6 and 8).

17. Note that, as Mankiw (1999, Chapter 6) shows, the conclusions of this type of analysis are independent of which curve is moved. In our case, we chose to move the demand curve, in order to capture better the fact of the labor costs incidence over the employer, without yielding revenue for the government nor gains for the worker.

Figure 2, in its turn, extends the analysis to include the minimum wage legislation, which is also part of this labor policy. This minimum wage is given by AO, what makes the new supply of labor curve to become ABCFS. The adjustment in this labor agricultural labor market takes place, now, also through reduction of employment. Thus, in relation to the situation depicted in Figure 1, the wage changes from DO to AO, but the employment falls from OI to OH.

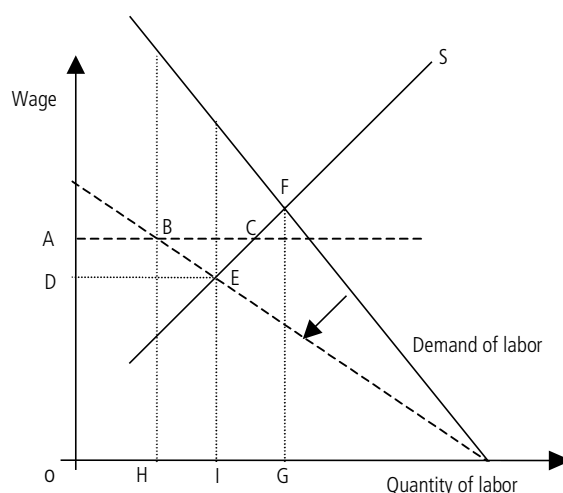
This analysis is also relevant for a comparison of the agricultural labor market with the urban labor market. Certainly, the “wedge” AC separating, in Figure 1, the cost of labor and the wage, is much greater in the agricultural labor market than in the urban labor market, since several of its components—such as those that arose from the dependence of the *turmeiro*, and the risk involved in the supply of labor for the harvest—are specific to the agricultural labor market. On the other hand, both labor markets bear the labor “charges” properly speaking (as the employer contribution to the INSS, the deposit in the FGTS account of the employee, the *aviso prévio*, etc.). However, while in the urban world these “surcharges” may be appropriated by the worker, even if only in the future,¹⁸ in the case of the temporary agricultural labor market these charges are much less appropriable by the worker, due to the intermittence of his presence in this market and uncertainty regarding the future.¹⁹ In view of that, these surcharges, that are high costs for the employer, may not have any meaning for the agricultural worker, not even in the future. This makes that the agricultural worker perceive these “rights” in a manner totally diverse than the urban worker, and become much more willing to given up them in exchange for a wage increase in the present.

It is easy to understand, therefore, why informality in this agricultural labor market is so much bigger than in the urban world. The reason is that, in this way, it is reduced, to a greater extent than in the urban world, the cost of labor for the employer and, at the same time, it is increased the wage received by the worker. However, to the extent that this becomes generalized, it becomes unfeasible, for the employer, to hire labor in this market, to pay the ruling wage and at the same time to satisfy the requirements of the labor legislation. This higher degree of informality in the temporary agricultural labor market makes it easy for the Ministry of Labor and the Labor Justice to find these situations of informality, quickly catalogued as “slave labor”.

18. According to Haddad (2005), in an analysis turned to the urban world, these labor surcharges make the effective cost of labor be much superior to the “basic wage”, but represent advantages for the worker, even in appropriable only in the future (in terms of the Figure 1, the area ACDE would end up accruing to the worker, in the future). In contrast, Pastore (2005) argues that only the workers of the big corporations are capable of appropriating these surcharges, since only these corporations can actually transfer these costs to the prices of their products. It is based on this argument that Pastore, by the way, explains the great informality that prevails in the urban labor markets in Brazil, what ends up causing the social security growing deficit.

19. A matter entitled “Migrantes ‘dominam’ plantações do Centro-Sul”, published on page A12 of the newspaper *Valor Econômico* if 21/12/2005, informs that the typical cane cutter in São Paulo is a seasonal migrant and that manages to keep in the activity during five to eight years; this period was greater in the past (from 15 to 20 years).

FIGURE 2
IMPACT OF THE LABOR POLICY ON THE WAGE AND THE EMPLOYMENT, IN THE PRESENCE OF
THE MINIMUM WAGE



It deserves to be pointed, also, that the supply curve of labor in this market tends to be very unstable, moving to the right or to the left in accordance with the situation in the urban labor market. Rezende (1985), for instance, showed that the growth of the Brazilian economy from 1968 on made the supply curve of temporary labor in agriculture to move to the left, with a consequent increase in the wage of the daily worker. *En passant*, this contraction in the supply of temporary labor in the agricultural labor market, with consequent increase in the wage, contributed to the rise in agricultural mechanization that occurred throughout the decade of 1970.

7 A CRITICAL DISCUSSION OF THE PROPOSALS TO REFORM THE AGRICULTURAL LABOR POLICY IN BRAZIL

A solution initially sought to make feasible the temporary agricultural labor market was the formation of the “cooperatives of labor”, that reached a great expansion, as Carneiro (2001) points out, since, in this way, the costs of the labor legislation were avoid. However, soon this formula became unfeasible, since the Ministry of Labor and the Labor Justice started to require that the CLT requirements were also charged on this labor force.

A kind of solution that has been proposed is what is included in the Project of Law 2.731, of 1976, of the deputy Guaçu Piteri, and that has not been approved. It consists in the legalization of the *turmeiro*, which would become a “temporary labor company”, which, then, would rent the labor services to the farmers, with the labor obligations becoming due by this enterprise. The proposal involves a requirement of a social capital “above 500 times the value of the ruling minimum wage” (R\$ 150.000,00, at values of December of 2005), what suffices to turn this proposal completely absurd. Besides, the proposal requires that the company would have to assure to the workers all the rights required in the legislation, assuming, implicitly, that the company would be able of, after contracting these workers, always find demand for them on the part of the farmers, recovering, in this way, his expenses, supposedly at a profit. This proposal, actually, only extends to the countryside the

model of the “labor enterprise” that exists in the urban world, through which an enterprise contracts a group of workers, having, beforehand, a firm or a public institution interested in the utilization of this labor. The objective of this “labor enterprise” is, in the majority of the cases, to attend the public sector, that has to make use of this indirect way to contract a worker, in view of the difficulties to contract under the RJU (Regime Jurídico Único).

This leads us to the conclusion that the viability of the agricultural temporary labor market requires, before everything, an specification, in the law, of an adequate figure of “temporary labor”, in order to make it viable both the contracting of this labor and the action of the *turmeiro*. The deputy Alex Canzian, through the Project of Law 2.639-A/2000, presented a proposal in this direction. This proposal has the support of the former minister Almir Pazzianoto, for whom the “main characteristic of the rural activity is the seasonality”, and for this reason “(...) the register in the labor card becomes unfeasible”.²⁰ In a manner consistent with this perception of the problem, the proposal creates the juridical figure of “rural worker contracted for execution of an activity of short duration”; the length of this contracting would not be superior to 30 days, extendable until it reaches 90 days. The novelty consists in taking away all the charge that weight today, in a disproportional form, on the contracting of this type of worker, as if this labor relation were equal in everything to a fixed contracting, with the only difference in the duration of the contracting.

In the case of regions with diversified agricultural activity and, therefore, demand for labor during most part of the year, even though by different employers, it arose the solution of the “employers condominium”, a juridical person that attends all the requirements of the labor law and is capable of contracting the worker in a permanent form, the latter working for different farmers, according to a pre-determined scale.²¹ It becomes possible, therefore, to kill two birds with one stone: not only the cost of labor is reduced substantially for the individual employer, but also its rate of turnover, benefiting both the employee (that begins to receive a more stable income, what makes this market more attractive from his point of view), and the employer, that can count on a worker more interested in staying in the job. This stimulates investment by the farmers in the worker.²²

This solution through the employers condominium presupposes, however, that region’s agriculture be sufficiently diversified, in order to guarantee a continuous demand for workers all year long. In the regions specialized in a few activities, since the demand for labor is concentrated in time, this form of contracting does not become possible.

Another policy proposal has the objective of making viable this temporary labor market through the concession of a “plot” of land to the worker, capable of

20. See the interview by Pazzianoto in the magazine *Dinheiro Rural* (n. 3, January of 2005, p. 32).

21. On this, see Zylberstajn (2000 and 2003), Dornelas et al. (2001) and Lemes (2005). See also Ministério do Trabalho e do Emprego (2000).

22. As a worker said to the reporter responsible for the matter published in the magazine *Globo Rural* of July 2000, p. 68: “With the condominium, we know that whoever makes the work right will be called again to work.” The smaller turnover stimulates the employers to invest in the formation of the worker, as pointed out by Camargo (2004) and Zylberstajn (2000 and 2003).

occupying the family labor during the “dead” months of the agricultural activities that demand wage labor. On this basis, it would be reconstituted, in some way, the system that existed before the extension of CLT to the countryside, with the difference, now, that the “plot” of land is located outside the farm, and is owned by the worker.

This proposal was put into practice by the government of Paraná, through the “rural villages”, object of analysis of Fundação Getulio Vargas [FGV (1998)] and Souza and Del Grossi (2000). According to FGV, from 1995 to 1998, 156 “villages” were created in 138 *municípios*, benefiting 5.934 families in Paraná. By creating these “rural villages”, the Paraná government actually wanted to stimulate the agricultural labor market, so that the agricultural labor force remained in the countryside and did not contributed to the swelling the Paraná cities.

While adopting this solution, the Paraná government did no less than to put into practice an old proposal put forward by Rangel (2000, p. 97 and p. 103-106), for whom it should be created, now outside the *latifúndio*, the “minifundiary family property”, in order to make it feasible the agricultural labor market and, in this way, to prevent the “swelling” of the Brazilian cities.²³

This is a policy experience that should attract more attention on the part of future research on the subject. It should be verified, however, whether the inexistence of an specific legal status for the temporary agricultural labor would also make this solution unfeasible, by turning this labor force too expensive for the employer.

Anyway, it would be interesting to contrast this situation in the Brazilian agricultural labor market with other countries, like Chile and Argentina, for instance, or the United States. It is possible that the impact of the Brazilian agricultural labor policy is more adverse than in the other countries, since here, the CLT is not only much more rigid, but a same policy is adopted in the agricultural and non-agricultural sectors. The experience in the other countries could indicate the solutions for this problem in Brazil.

8 INSTITUTIONAL CHANGES INTRODUCED IN THE 1960's: (2) THE LAND POLICY

The land policy inaugurated with the Land Statute (Law 4.504, of 11/30/1964), and that is kept today, is based on two basic principles: *a*) the need of strict regulation of the land market, since, due to the supposed high degree of concentration of land, it would be necessary to protect sharecroppers and renters from the “exploitation” on the part of the landowners; and *b*) resolution of the land problem by the redistribution of land, through dispossession of the unproductive land and its distribution in the form of small plots, in the agrarian reform settlements.

23. Marcelo Nonnenberg, of Ipea, reported to the author the interview that he made to the owner of a sugar mill in Pernambuco, around 1978, when he worked in the Ministry of Planning. This miller had sold, on term, a piece of land of his property to his workers, on the expectation that, in this way, he would be able to get a stable supply of labor for the cutting of cane. This farmer wanted that the federal government analyzed this experience, in order to formulate a broader program, with the same objective. Evidently, the government did nothing.

The adoption of these principles had for purpose, actually, to create disincentive to the growth of land rental markets. In fact, as pointed out by Romeiro and Reydon (1994, p. 106):

“Renting and sharecropping are not considered means of access to the land (see article 17 of the Statute), it being the concern of the legislator only to regulate a type of labor relationship and production that presented itself usually distorted”.

In this respect, as Silva (2005, p. 199) pointed out, one of the principles that governed the elaboration of the Land Statute was the “direct use” of the land, “that would prevent the absence of landowners and the bad forms of agricultural contract, renting and sharecropping”.

This strict regulation involving sharecropping and renting probably resulted from the diagnosis, prevailing at the time, that conflicts as those fomented by the Peasant Leagues before 1964 were due, ultimately, to the concentration of landownership, what led to the formation of monopsonies or oligopsonies in the rental land markets. Thus, the “agrarian problem”, that was one of the main factors that led to the military coup in 1964, would be solve only through a redistributing agrarian reform, the only possible road towards the fomenting of the small agricultural property (the “homestead”).

This vision appears, very sharply, in the document that served as basis of the Land Statute, and that was prepared still before the military took power.²⁴ Thus, on page 67 of this document, it is affirmed that:

It is not by the expansion of wage labor or land renting that it is diffused in the working mass the necessary aptitudes to the continuous, stable and democratic process of development. It is by the property of land that the basic qualities of foresight and administrative capacity are formed, as well as it is disseminated a strong motivation for educational improvement and cultural progress.

The diagnosis on the agrarian problem involved, also, the notion that the property right was conditioned to the attainment of its “social function”, represented by its proper utilization, with consequent creation of jobs and production of food. Having in mind to guarantee the accomplishment, by the landowner, of this “social function”, it was created the progressive taxation—Imposto Territorial Rural (ITR)—and it became financially feasible the divesting of the land considered unproductive, what, as shown by Silva (1971, p. 143-146), became viable only when, through the Constitutional Amendment 10, of 1964, it was admitted the payment of the land in public debt bonds (until then, it was required a previous payment in kind), and, even more in 1967, when, through the Institutional Act 9, it was taken from the Constitution the word “previous” before “indemnification”.

24. It is the report prepared within the Instituto de Pesquisas e Estudos Sociais [Ipês (1964)], limited to three thousand volumes, all of them signed up, and that ended up being published by the Editora Expressão e Cultura, but is out of print. Ahead of this report was Paulo de Assis Ribeiro, first president of the Instituto Brasileiro de Reforma Agrária (Ibra). Ipês, as it is known, was the *think tank* of the military that took power in 1964. According to Silva (2005, p. 199), soon after the military coup, it was created, in the Ministry of Planning, the “Task Force on the Land Statute”, that became known as “Gret” and based itself on the Ipês report in order to formulate the law project of Land Statute.

Thanks to the detailed description of Romeiro and Reydon (1994, Chapter 3), of the time evolution and the content of this land legislation, it is possible to limit here, our discussion, to the more basic questions. The main point that deserves emphasis is the fact that this legislation—in a manner consistent with the assumptions it adopts—is responsible for a basic restriction to the contractual freedom in the land rental markets, imposing, in a detailed way, the specific forms that the sharecropping and the renting contracts should assume. In special, this includes the determination of the maximum values to be paid in these land markets and how the indemnifications would take place—always seeking to benefit, of course, the sharecroppers and the renters. Besides this, the law restricted the landowners' rights—and, of course, provided rights to the sharecroppers and renters—in the case of the sale of the land.

One of the most interesting points of this legislation, and that reveals, more than anything else, the restriction to free contracting on the part of the economic agents, is the prohibition, imposed on sharecroppers and renters, to “renounce” to their rights or privileges provided by the legislation (in this respect, by the way, this legislation is equal to CLT).

There are still some rules very preoccupying from the point of view of the landowners, such as the one that admits that the “contracts, irrespectively of their values and forms, may be proved by testimony”.

It cannot, either, be exaggerated the adverse effect on the land renting market of the famous rule of art. 95, n. XIII, of the Land Statute, giving preference, “for the access to land”, “to everyone that occupy, under any form of renting, for more than five years, a property situated in a priority area for Land Reform”. This contributed to ruin the basis of confidence that should mark the relationships in the land renting markets and contributed to the generalized perception that the cession of land for rental or sharecropping, in Brazil, would involve a risk to the loss of the land in the land reform program.

Actually, other precepts still in force contribute to this perception that the cession of land for renting or sharecropping in Brazil embodies a risk to the loss of property of the land. In effect, as shown by Alvarenga (1997, p. 107), the article 9 of the 1988 Constitution includes, among the conditions for the land to accomplish its “social function”, the “exploitation that favors the well-being of the owners and of the workers”; according to Alvarenga, this includes, in particular that: “The satisfaction of the precepts that regulate the labor relations implies both the respect to the labor laws and to the collective labor contracts, as well as to the precepts that regulate the rural contracts of sharecropping and land renting.”²⁵

It is interesting to note that, as pointed out by Romeiro and Reydon (1994, Chapter 4), through various types of actions, the political parties, religious organizations (such as CPT), and radical political groups, in addition to the labor

25. Note that it was the article 9º of the 1988 Constitution that opened the possibility of dispossession of the land in the case of “slave labor”, even though this expression is not mentioned, As if it were not enough, it is being attempted, recently, to transform the divesting of property (*desapropriação*, that requires payment), into *expropriation*, with no payment. On this, see Barretto (2004, p. 6-7) and Germani (2004).

unions themselves, exert pressures against any attempts at promoting land renting in Brazil, since they allege that this would be a means of using unproductive land and of preventing agrarian reform, that, for them, is the only acceptable solution. Note that these same organizations, using the same arguments, fight—now allied to the Ministry and to the Justice of Labor – the proposals to reform the agricultural labor market. They believe that the viability of the agricultural labor market would strengthen the *latifúndio*, which, for them, should be “strangled”.

As synthesized by Brandão (2002, p. 279), the consequence of all this regulation of the markets for land renting was the outright “suppression” of these markets. In the same vein, De Janvry and Sadoulet (2002), while criticizing similar legislations in the widespread in Latin America, propose, according to Olinto (2002, p. 297),

(...) two explanations for the small importance of the land renting markets in Latin America: (I) Laws that, even though well intentioned, give excessive rights to the renters and weaken the property rights and, therefore, result in an reduced supply of land rental markets, affecting adversely both, landless rural workers and landowners; (II) Insecurity of property rights caused by agrarian reform laws that qualify rented lands as being unproductive, or not satisfying its social function.

From a theoretical perspective, it can be said that the Land Statute started from the hypothesis that the price-elasticity of the land supply for rental (renting or sharecropping) was zero or very low in Brazil, especially due to the concomitant action of the ITR and the threat of land dispossession, through agrarian reform. However, the options of the landowner were not only these two (lease land for renting and sharecropping or leave it idle), since he could exploit the land directly, through the contracting of wage labor. This conversion to direct exploitation was, in fact, greatly facilitated by the subsidized agricultural credit policy, instituted in 1965, and that turned this premise totally false.

It is interesting to note, on the other hand, that the evidence reveals that these deleterious effects of the current land policy are very regressive, in view of the fact that they hit especially the poorest, since, apparently, the contracts involving medium and large farmers have not been adversely affected, as revealed by the cases of rice in Rio Grande do Sul and soybeans in the Center-West.

The explanation for this fact may be in the difference of attitude on the part of the renters and sharecroppers, according to their size, and of the other relevant social agents, as the Judiciary. It is possible that the small farmers feel themselves more stimulated to appeal to this legislation, even more so because they count, for that, with the permanent stimulus of unions, law firms, etc. They must count, also, with the sympathy of the Judiciary himself. The same would not occur, however, with the rental market involving medium and large farmers, since these farmers probably do not consider to be their interest to appeal to the Judiciary, since this would “close” these markets for them in the future and probably would not win them great thing, since the Judiciary not necessarily would be making “social justice”, in this case.

By the way, it is worth to mention the results of a research based on interviews with magistrates, reported by Pinheiro (2003). According to Pinheiro (2003, p. 25), among other things, “it was asked to the judges if, taken to choose between two extreme positions, to respect always the contracts, independently of their social

repercussions (A), or take decision that violate the contracts in search of social justice (B), which of these options they would choose”, and the result was that 73% of the judges chose option B.

This unfeasibility, due to the Land Statute and to the action of the Judiciary, of sharecropping and small renting in Brazil has had a very harmful consequence from the distributive point of view in agriculture. In the first place, because, due to the well known problem of supervision cost of labor in agriculture (again, a peculiarity of agriculture vis-à-vis industry), sharecropping could become, in several situations, more attractive than wage labor both from the point of view of the landowner and the worker. The latter, in particular, while being employed as sharecropper, would become more responsible for decision-making, what could facilitate his ascending in the social and economic scale, becoming, eventually, a smallholder. In the case of the small renter, the disincentive to his activity is also very harmful. As pointed out by De Janvry and Sadoulet (2002), the renting of land by the poor farmer usually serves as a “ladder” for his economic and social ascension in agriculture. The disincentive to sharecropping and small land renting ends up limiting, therefore, not only the employment of agricultural labor, but also the very possibilities of expansion of family farming in Brazil.

9 PROPERTY OF LAND AND ACCESS TO CREDIT BY THE FAMILY FARM IN BRAZIL

Note that this non-access to the land renting market on the part of small farmers may have to do, also, with the difficulty of access to the credit market on the part of these producers, a restriction that would affect to a lesser extent medium and large farmers. This problem would hit specially farmers endowed with a small plot of land that could be used as collateral in the credit market, making it feasible, therefore, for this farmer to rent additional land and increase the scale of production.

Very certainly, this restriction to the access to credit increased after the Land Statute, in view of the restrictions, imposed by the latter, on marketing relationships between the renter and the landowner. Now, these commercial relationships were very frequent, before this Statute, since the landowner not only rented the land, but also financed the renter (or else guaranteed the loan made by a bank). This, however, gave as guarantee the harvested product, that became, therefore, pledged—which, by the way, exists today, formally, in the loan contract between the farmer and a bank, which includes the “mercantile pledge”, by which the farmer cannot sell his product without the approval of the creditor.²⁶

Note that this type of arrangement that existed in Brazil, before the Land Statute, is very frequent internationally, and has been object of an important literature on the “interlinked contracts”.²⁷ With the Land Statute, this type of

26. See Ferreira (1980), for an analysis of the case of the Northeastern Sertão, in which sharecropping in cotton—with credit provided by the landowner—was combined with subsistence production by the sharecropper and, in addition, to work for the landowner as a wage-earner. All of this became unfeasible by our land policy.

27. See, for example, Braverman and Stiglitz (1982).

arrangement disappeared completely, what must have made the renting of land much more difficult for small producers.

It should be noted, also, that the difficulty of access to financial services, on the part of the family farms, is explained not only—as it is usually emphasized in Brazil—by problems of titling of their land, but also by the restriction that the Constitution itself imposes, in Brazil, to the use of these assets owned by these farmers (including their land property) as collateral in the financial market. In fact, according to item XXVI of article 4º of Title II (On the Fundamental Rights and Guarantees) of 1988 Constitution, “the small rural property, thus defined in law, on the condition that is worked by the family, will not be object of pledge for payment of debts arising out of the productive activity, establishing the law the means of financing his development.”

It is interesting to note, furthermore, that the problems arising out of precarious land titling in Brazil hit also those farmers that, supposedly, have had their problem solved, that is, the land reform beneficiaries. Actually, as it is stated in the article 189 of the 1988 Federal Constitution, “the beneficiaries of the distribution of rural land through land reform will receive titles of dominium or concession of use, non-negotiable for the length of ten years.”

This contraction is stressed by Graziano (2004, p. 126), that points out, also, the fact that, even after the ten years required, neither the Instituto Nacional de Colonização e Reforma Agrária (Incra), nor the settlers themselves, are interested in the “emancipation” of the settlements—condition required for the titling of the settlers—, since this would imply the payment for the land received, for the loan for installation, and also it would cease the borrowing of credit at very subsidized rates within the program, as it was the case of the Procerá and of the present-day Pronaf.

Barretto (2003, p. 37) also noted this fact that the settlers receive, at the most, a “precarious *concession of use*”. However, in their interviews to Barretto, the settlers always complained about this fact, for they did not feel themselves really stimulated to dedicate efforts without the guarantee of benefiting in the future, specially through the transfer or property to their sons.

This lack, in the Brazilian agrarian reform program, of an adequate incentive system, was also been object of recent analysis by Abramovay (2004). Rezende (2001) also pointed out this fact, in his analysis of the old Procerá, in which all the signs transmitted to the settlers were in the direction of default, with which the agricultural credit policy could not reach its objectives.

Anyway, even if the agrarian reform program provided the title of property for the beneficiaries, this would not open the doors of the financial system, for, as it was seen before, this property could not serve as collateral in borrowing operations. This would reduce the interest by this group of farmers on having the property of land, what helps to explain why it does make much difference, for them, to receive or not receive the property title in the settlements, since they will become dependent on the government for everything.

It is interesting to note that this same critical view on agrarian reform in Brazil makes part of several studies by the World Bank, that proposed an alternative model, that were much more supported by the market, and that, for this same reason, it

started to be called “market-driven agrarian reform”. In a manner consistent with this critique of the program adopted in Brazil (as well as in the other Latin American countries), the Bank started to finance the project “Cédula da Terra”, in which the beneficiaries do not receive the land for free, but contract a loan for its acquisition, they themselves choosing the land. Another program financed by the World Bank, within this same alternative strategy of agrarian reform, is the “Crédito Fundiário”, through which it is financed the acquisition of the land by small producers.²⁸

Notwithstanding the fact that these new projects are superior to the model of settlements, they offer little protection against default on the part of the beneficiary, since the loan is made by the government, and not by the “market”. In any way, this “market” would never make a long run loan to these land reform beneficiaries without being able to count on proper guarantee.

It is interesting to note, finally, that this weak access to credit on the part of family farm in Brazil seems not to have extended to family farm in the South of Brazil. This appears not only in the fact that these farmers managed to adopt mechanization—escaping, therefore, from the problems created by the agricultural labor policy—, but also in the role they played in the “march to the West”, that is, the occupation of the cerrado. It is possible that this access to credit is due to the better definition of property rights over the lands in these “colonies” of European migrants; but it is also possible, also, that be other the “institutions” in these regions of strong influence of Italian and German colonization and, therefore, other the pattern of intervention by the State, including, here, the Judiciary itself. This, no doubt, is an interesting theme for future research.

10 THE FINANCIAL SYSTEM AND THE LAND MARKETS IN BRAZIL

Due to the high risk associated to the financial investments in Brazil, specially at the times of high inflation, it was always very strong the demand for land as an investment, since the returns associated to the investment in land have shown a strong inverse correlation with the returns associated to investment in the financial market.²⁹ In these conditions, investment in land became to be seen as attractive not so much because of its return itself, but because it minimized the risk in the investment portfolio as a whole.

Note that this investment in land as a financial asset is usually explained in a different manner in the literature. Departing from the premise that land has an inherent capacity to “valorize” itself continuously, it is attributed to this the investment in land (“speculation with land”). However, as Rezende (2003a, p. 236-240) showed, taking for basis the three decades ending in mid-1990’s, it is not true that the value of land has always “valorized” itself continuously; actually, the price of

28. For an extensive discussion of this new model of agrarian reform, as well as a critique of the traditional program, see Buainain, Silveira and Teófilo (2000) and Souza Filho, Buainain and Silveira (2001).

29. Recent econometric analysis [Bueno (2005)] confirmed the existence of this inverse relationship between the price of land and the stocks market.

land has presented a high volatility, but always in counterpoint to the other returns in the financial market.

According to this literature, the speculation with land would imply its idleness or under-use, a problem supposedly very present in Brazil and that would conflict with the “social function” of the land. Reydon (2000, p. 176), for example, states that: “The characteristics of high idleness of land associated to the high level of concentration of property of land are, in the Brazilian case, unanimous facts, that do not need to be discussed (...).”

This was the diagnosis of the Brazilian agrarian problem by the Land Statute, in 1964, what, inclusive, led to the belief that, through the progressive taxation (ITR), there would be disincentive to this “speculative” retention, what would lead to a fall in the price of land and make it easier, therefore, the access to the land on the part of small farmers.

It is very likely that, at that time, it was in fact very important the demand for land as a “real asset”, due to the virtual inexistence of a financial market. By the way, it was not by chance that some of the first measures taken by the military government had to do with the stimuli to the formation of a financial market in Brazil, as the institution of the monetary correction itself.

However, as argued by Sayad (1982), the retention of land as a financial asset not necessarily must imply its idleness. In effect, according to Sayad, it does not make sense for the speculator to keep the land idle, foregoing an extra return, given by the land rent. Even the investor incapable of exerting the agricultural activity could appropriate this extra return, through the renting of land.

If we suppose that, among these speculators, tended to predominate economic agents without the qualification to exert the agricultural activity, then we can conclude, if we adopt the perspective of Sayad’s analysis, that speculation with land should lead to an increase in the supply of land in the land renting markets in Brazil, to the benefit, specially, of the small farmers. In this sense, speculation would not prevent land from fulfilling its social function, but much on the contrary.

Actually, however, Sayad’s conclusion does not take into account the land policy that exists in Brazil, since, as it was seen, it causes a disincentive to the rent of agricultural lands involving small farmers and big landowners. Even in the hypothesis of deciding for the use of its land, through its cession in renting, the speculator continues to run the risk of being hit by agrarian reform, due to the possibility of its land being considered idle in cases of discontinuities between successive contracts.

11 INSTITUTIONAL CHANGES INTRODUCED IN THE 1960’s:

(3) THE AGRICULTURAL CREDIT POLICY

The subsidized agricultural credit policy was instituted by the Law 4.829, of November 5, 1965, and resulted from a long process of comings and goings, as shown in detail in Nóbrega (1985).

As it was seen before, only a context of grave political crisis, as it existed in Brazil in the first half of the 1960’s, as well as the solution of force that prevailed from 1964

on, can explain the *maintenance* of the labor policy, instituted in 1963, and the *institution* of a new policy still more antagonistic to the pre-existent latifundist order, as the Land Statute of 1964.

As these political decisions were adopted with the approval by Congress, it should be asked how it was possible, specially after the forces of the left had been gotten rid of, either because they had to leave the country, or else because they were arrested or lost their political rights.

In this respect, Silva (1971, p. 116-123) showed that the approval, by Congress, of the Land Statute, was due to the special effort by the then president Castelo Branco and his minister of Planning, Roberto Campos. It lacked, however, to Silva to show the same interest in showing how it came about the approval, by Congress, less than an year after, of the National System of Rural Credit, since, as it will be seen in the following, this agricultural credit policy ended up by making unfeasible the Land Statute itself, besides having allowed, to the agricultural sector, to adapt itself to the new reality of the labor market in agriculture, now put in the frame of CLT.

Notwithstanding this lack of interest by Silva (1971), as well as all the other students of agricultural policy, there is no doubt that this policy played a decisive role so that the agricultural sector could adapt to the new institutional conditions, without entering into a profound crisis.

In effect, as it was seen before, in Section 4, this new credit policy allowed a non-traumatic change towards the constitution of another labor market, now entirely dependent on the circulation of money.

In the second place, this new agricultural credit policy permitted that several latifundist sectors shifted from sharecropping and land renting as forms of use of the land and began to adopt direct exploitation, through the contracting of wage labor. This allowed the agricultural sector to adapt to the new land policy, which, as it was seen, discriminated against sharecropping and land renting and threatened the property of land.

In the third place, and it was already seen in Section 4, in this new agricultural labor, it became greater the dependency on the temporary wage labor, with all the problems derived from this. The result, as it will be shown in the next section, was the adoption of greater mechanization, both in the preparation of the soil and in the harvesting, and this was turned feasible thanks to the new agricultural credit policy.

It is interesting to note that this role of the agricultural credit policy, of allowing an adaptation of the agricultural sector to the new institutional environment, marked by a much greater intervention by the State in the labor and the land renting markets, is completely ignored, when this policy's role is restricted to the "compensation" of agriculture for the discrimination implicit in the import substitution model (ISI). Even though this industrialization policy has, in fact, discriminated against agriculture, the agricultural credit policy performed also another role, of content much more directly political, and that was to allow the agricultural sector to adapt itself to the new labor and land policies. This was, in fact, the politico-economic content of "modernization" of agriculture, that the agricultural credit policy turned it feasible.

In the face of this decisive role that the agricultural credit policy has played, allowing agriculture to adapt itself to the new institutional environment, it may be admitted the hypothesis that this policy has, actually, been the result of a political mobilization in the Congress, starting from the pressures of the deputies and senators themselves. These pressures must have included not only the representatives of the agricultural sector but also the other congressmen, having in mind the economic crisis that would have engulfed the country, were not created the financial conditions necessary for the adaptation of the agricultural sector to the new labor and land laws.

It is interesting to note, by the way, that, as Nóbrega (1985, p. 47-53) showed, the original proposal creating this agricultural credit policy, sent by the president Castelo Branco in August 20, 1965, was much different than the law that ended up being approved. The Executive proposal, for example, limited the concession of the subsidy to “directed credit”, to be practiced “in moderate bases”, with the objective of give “to the farmer economic and technical capacity capable of making him *dispense with the subsidy within a short time and of supporting the conditions of current credit*” [, (1985, p. 48) our the emphasis]. In addition to that, this proposal foresaw, in its article 15, that “the debts resulting from the rural credit operations will have their monetary value corrected (...)”; the single paragraph in this article explicitly stated: “The *monetary correction* dealt with in this article will not constitute income subject to taxation (...)” (our the emphasis).

This original proposal sent by the Executive, however, was totally altered in Congress, giving rise to the version that actually became law. The Government still tried to veto the new precepts introduced in Congress, but these vetoes were overthrown.

This behavior by Congress is consistent with our hypothesis above, that the agricultural credit policy adopted from 1965 on was a reaction of the Congress to the institution of the two Statutes—the Rural Labor Statute, of 1963 and the Land Statute, of 1964—that, if left to enter into effect in the prevailing conditions of complete absence of an agricultural financial market, would give rise to a crisis in the countryside, that would extend itself to the urban world, with unpredictable consequences in the economic and political fronts.

Note that the new agricultural credit policy, instituted in 1965, ended up satisfying also the military concerns with the political radicalization in the countryside, since it made possible to liquidate the old labor relations and the emptying of the countryside, with the labor force getting jobs in the urban world. From this standpoint, by the way, the emptying of the countryside would be necessary even to the make it viable the economic dynamism that was foreseen for the national economy, and that began already in 1968, with the “Brazilian miracle”.

One should not forget, either, that the fact that the institution and afterwards the working of the agricultural credit policy counted, certainly, with the support of the ministers in charge of the economic policy, since the growth of the agricultural sector was considered very important to the control of inflation and for the equilibrium of external accounts, and the agricultural credit policy was seen as necessary for the accomplishments of these goals. This stand in favor of an agricultural policy such as the agricultural credit policy was, certainly, assumed by

Delfim Neto, a well-known enemy of the labor and land policies approved in the biennium 1963-64. By the way, this explains why, already in 1967, through the famous Resolution 69 of the National Monetary Council, it was regulated the main instrument of the agricultural credit policy: the “banking compulsoriness”, already foreseen in the Law of 1965, and according to which the banks had to lend to agriculture, at interest rates defined by the Central Bank, the equivalent of 10% of their sight deposits. This counter-attack” took the form, also, of a battery of stimulus to domestic production of tractors and agricultural machines, within the strategy of the II PND.

It is interesting to note, also, the complete absence, in the Targets Plan (Plano de Metas) of the JK government, of an specific agricultural policy and much less of a new agricultural credit policy. This is probably explained by the fact that, throughout the JK government, the “populist pact” was kept untouched, with the maintenance of the alliance PSD/PTB, Juscelino being from the PSD and João Goulart, vice-president, from PTB.

Our hypothesis, therefore, is that the agricultural credit policy, on the one hand, and the labor and land policies, on the other, formed part of a single strategy, which had for *political* objective the quick emptying of the tensions in the countryside and for *economic* objective the stimulus to the urbanization and to economic expansion of “Great Brazil”. This is, no doubt, a polemical theme, not only interesting but also totally virgin in the literature.

12 THE HYPOTHESIS OF THE EXCESSIVE MECHANIZATION IN BRAZILIAN AGRICULTURE

As it was seen, almost at the same time that adopted the labor and land policies, the government instituted the agricultural credit policy, whose main consequence was to make feasible a supply of credit destined to the agricultural sector and to cheapen the cost of capital for this sector. Thus, the combination of these two sets of policies—labor and land policies on the one hand, and the subsidized agricultural credit policy, on the other—ended up producing a divergence not only between the social and private costs of labor, but also between the social and private costs of capital. In other words, even though Brazil is an economy with abundance of labor and scarcity of capital—what means that, in social terms, labor is cheap and capital is dear—, in private terms, due to the behavior of these public policies, the costs of these factors became “distorted”, the agricultural labor becoming dear and the capital becoming cheap for agriculture.

Now, to the extent that private decision making is governed by private costs, the consequence of such distortion in the factors prices ended up being a quick change in technology towards mechanization, having for purpose to save labor and to use intensively capital.

Guanziroli et al. (2001, p. 27) noted that, in Brazil, “the availability of abundant and cheap labor did not prevent (...) that mechanization assumed a character markedly labor saving.” Even though these authors call attention to relevant factors—as the problems associated with the use of temporary labor, in the case of the large

farm, and the role of the subsidized agricultural credit—, is has escaped them to propose the conceptual distinction, here adopted, between the wage receive by the worker and the cost of labor bore by the employer, the latter being the relevant on for the choice of technology. Guanziroli et al. (2001) failed, also, to point out the role that the labor and land policies have been performing, in the creation of this “wedge”.

It is interesting to note that Rezende (1985, p. 60) emphasized the worsening of the *quality* of the labor that remained in the agricultural labor market, as a result of the adopted labor policy; Cunha (1995, p. 40) also stressed this worsening of the quality of the remaining labor force. According to Rezende (1985, p. 60), this has stimulated mechanization, for:

It reduced incentive to the keeping of qualified labor in agriculture must make more difficult for agriculture to adopt technology intensive in this factor of production (...) In a way completely contradictory to the relative factors endowment in the economy as a whole, it must have been verified, then, a tendency towards the adoption of a labor saving technology—that is, the mechanization—, what certainly was made feasible by the subsidized credit policy. Some authors attribute the rise in the mechanization to the expansion of the number of *volante* labor, but (...) the mechanization may have been very well a result of the transformations occurred in the social relations of production.

It deserves to note, by the way, that Staduto, Shikida and Bacha (2004, p. 59), for instance, invert the causality relation between the technological change and change in the labor market, when propose that:

The changes occurred in agriculture in the technological domain, mainly from the mid-1960s, can be understood as a cycle of innovation for the sector in Brazil, that generated transformations in the labor relationships, that manifest themselves by the rise and the generalization of the temporary wage worker. (...).

Most of the studies that dealt with this problem in the 1970's and 1980's appealed to the notions of “capitalist accumulation”, or “capitalist development”, as autonomous processes, in order to explain the changes that occurred in the agricultural labor market from the 1960's on, being keen in ignoring the determining role of the labor and land policies. While disagreeing with this type of analysis, Saint (1980, p. 516) pointed out that: “(...) in the initial studies of the temporary wage labor in agriculture there was the tendency to explain (and almost suppose) the rise of this new social structure as a result of the capitalist penetration in the countryside”.

Distinction, among this type of studies, goes, naturally, to D'Incao and Mello (1976), that gained great popularity at the time and whose analytical fragility Goodman and Redclift (1977) pointed out.

On the other hand, it may be assumed that this change in relative factor prices has also induced the generation of new technologies with the same characteristics, that is, savers of labor with agriculture-specific qualification, and intensive in capital. This would have been the case, especially, of the harvesters of sugar cane and coffee, which, as it was seen, were the results of research and investments in Brazil.

This last hypothesis, that the changes in relative factor prices have induced the generation of new technologies, forms part of a literature that started with the Hayami and Ruttan model, already quoted in the Introduction of this paper. These authors proposed a “model of induced innovations” in agriculture, beginning from the theory of induced innovations of Hicks.³⁰ Note that, through their model, Hayami and Ruttan sought not only to show in what manner it happens this connection between changes in relative factor prices and the technological innovation in agriculture, but also to point out the rationality of this process, to the extent that the relative factor prices would reflect the *relative endowments* of the factor.³¹ It is well known the comparison that these authors make between the agricultural development in the United States and in Japan, the American case characterized by techniques that were labor-saving and land-using, while in the Japanese case the technology was labor-using and land-saving, exactly the contrary.

In the Brazilian case, even though it is admitted, in this paper, that a mechanism of “induced innovations”, as proposed by Hayami and Ruttan, has taken place, it is not possible to attribute to this mechanism the same economic rationality identified by these authors in the American and Japanese cases. In effect, the peculiarity of the Brazilian case is that the relative factor prices, in this period that followed the 1960’s, *began not to reflect the true factor endowments in the economy*, becoming, on the contrary, “distorted”. It is interesting to note that Rezende (1980) made the same criticism to the Hayami and Ruttan model with respect to the Brazilian historical analysis, pointing out that slavery, and afterwards the concentration of landownership, implied that the relative factor prices became “distorted” in the country, that is, they did not reflect the relative factor endowments, given by the man/land ratio, similar to the United States.³² Actually, this particularity of the Brazilian case reveals a limitation of the analysis of Hayami and Ruttan, that is to suppose, implicitly, the institutional environment underlying the Neoclassical general equilibrium model, in which the factor markets are “perfect”, what means, among other things, the absence of government intervention. Only in this hypothesis of complete absence of government intervention the relative factor prices would reflect the relative factor endowments, as implicit in the Hayami and Ruttan model.

Note that this subsidized agricultural credit policy was also accompanied by an industrial policy that subsidized the installation, in Brazil, of the agricultural machinery and tractors, what facilitated their acquisition by the farmers.

These theoretical considerations permit to explain why it began to be adopted, in Brazilian agriculture, a technology based on mechanization, which is saver of non-

30. For an exposition of the theory of induced innovations of Hicks, see Simonsen (1971, p. 305-309). The extension of this analysis to the agricultural sector, and which became known as the Hayami and Ruttan model, is found in Hayami and Ruttan (1985).

31. Pastore, Alves and Rizzieri (1974, p. 10) noted clearly this, when they said: “The hypothesis of Hayami and Ruttan goes further, pointing out that the technologies are generated obeying the relative factor scarcity.”

32. This is also admitted by Pastore, Alves and Rizzieri (1974, p. 17), when they that “Land is abundant in Brazil. Labor could also have been scarce, but slavery prevented this, while it lasted.” Santos (1988) has also pointed out the peculiarities of the Brazilian case, arising out of slavery and the concentration of landownership, and that dissociate the relative factor prices from their “relative endowments”, as supposed in the Neoclassical general equilibrium analysis and in the Hayami and Ruttan model.

qualified labor and intensive in capital and qualified labor. In effect, the mechanization eliminates or reduces very much the demand for labor endowed with an agriculture-specific qualification, in favor of qualified labor, such as the tractor driver, in addition to use intensively the factor relatively cheaper—the capital. The adoption of this technology was facilitated, initially, by its availability in the international arena (grain harvesters, for instance) and, afterwards, by the creation of the machines specifically tailored for Brazilian agriculture, such as the cane, coffee and orange harvesters. It was, then, both the case of “adoption” of technology already available (“choice of technique”, according to the conventional microeconomics, and that takes place along a given production function), as well as the “induced techniques”, *à la* Hicks and as elaborated by Hayami and Ruttan, which shifts the production function.

It must be stressed the fact that, as shown in Section 5, the same mechanism that increases the price of labor for the employer creates a wedge between this cost for the employer and the wage received by the worker. It is not adequate, therefore, to use the market wage (that is the wage received by the worker) in analyses of the profitability of the use of machinery in agriculture, since, in order to define the cost of labor from the point of view of the employer, one has to use the cost of labor from the point of view of the employer.

It is interesting to note that Sanders and Ruttan (1978) attributed the quick speed of agricultural mechanization in Brazil in the 1960's to the subsidized interest rate in agricultural credit. These authors also proposed [Sanders and Ruttan (1978, p. 281)] that: “there is also evidence that labor services were biased upward by minimum-wage policies”, but here they grossly underestimated the role of the labor and land policies as inductive to agricultural mechanization. In defense of these two authors, it must be said, however, that the period analysed by them was restricted to the 1960's, when the mechanisms of increase in the cost of labor, as well as the radical changes occurred in the labor market, reached their apogee only in the 1970's.

It should be noted that the attractiveness of mechanization, in some situations, became even imperative, as a consequence of the workers' strikes, which, as it was seen, became frequent at the time of harvest. However, in the case of other crops, like cotton in São Paulo and in Paraná, also very dependent of labor for harvesting and that could not count on a technological breakthrough that economized on labor for harvesting—that became limited to the Center-West—, the solution was the substitution of other activities for cotton.³³

The process of adjustment of the agricultural sector to this adverse institutional environment expressed itself also through the changes in crop mix that occurred in this period, the typical case having been the substitution of coffee for soybeans in Paraná. This certainly had to do with the easiness of mechanization of soybeans, thanks to the availability of technology abroad, to the subsidized financing, and to the government incentives for the agricultural machinery industries to install in Brazil. The conversion of agricultural activities to livestock has also been stimulated

33. The great importance of labor (around 40%) in the cost of production of cotton formerly produced in São Paulo and Paraná is shown in Rezende et al. (1998), when it is discussed, also, the decline of this activity in these two states, in the 1990's.

by this sudden change in the agricultural labor market that occurred during the 1960's.

It must be observed, also, that the aptitude of cerrado soils to agricultural mechanization, thanks to the relief and to the adequacy of the their physical characteristics, allowed the cerrado regions to escape from this labor market problem that the other regions had to face, it being even possible to argue that the very agronomic research has been stimulated by the natural conditions so favorable to mechanized agriculture. In this respect, the availability of mechanical technology abroad and the government incentives to mechanization were fundamental.³⁴

Note, also, that, according to Rezende (2003*b*, p. 182), the fact that the historical occupation of the cerrado has taken place on the basis of the large territorial property has facilitated the quick adoption, by the regional agriculture, of the new technological pattern, characterized by large-scale production. By the way, this role played by the concentrated agrarian structure extended itself to Brazilian agriculture as a whole.

13 MECHANIZATION AND LARGE-SCALE PRODUCTION IN BRAZILIAN AGRICULTURE

It is interesting to rule out a mistake that is very common, that is to blame mechanization, as such, for the increase in the relative importance of large-scale production in Brazilian agriculture. As a matter of fact, mechanization and scale are two different phenomena; there has been no necessary connection between one and other. In effect, mechanization, in itself, means, simply, the adoption of techniques more intensive in capital, that is, techniques in which the coefficient capital *services*/labor *services* rises. The presence or not of economies of scale, on the other hand, has to do with the existence or not of proportionality between the rates of change in the amounts of the factors of production and of the product (or products).

However, it is true that these phenomena—mechanization and the increase in the size of production units—have been associated in Brazil. The hypothesis in this paper, however, is that this is due to the fact that mechanization has not extended itself to the small farmers, by the following reasons: *a*) lack of access to credit, and, therefore, lack of demand for machinery adapted to these producers; and *b*) resulting unfeasibility of domestic production of machines adapted to small-scale agriculture.

In such a context, the Brazilian industry began to produce only machines appropriate for large-scale production, from which arose the phenomenon of the “indivisibility” of machines, that is, absence of machines adequate to the small producer. This, together with the difficulties associated to the machinery rental markets—what forced the acquisition of tractors and agricultural machinery by the farmer himself—, implied that the unit cost of production reduces itself with the increase in the scale of production (due to the decreasing fixed unit cost), making,

34. Sanders and Ruttan (1978) present an analysis very interesting of the process of mechanization in the cerrado, although, again, they underestimate the importance of having been able, in the cerrado, to overcome the labor problem faced by Brazilian agriculture, and that was created by the labor and land policies. The mechanization in the cerrado is also object of analysis of Sanders and Bein (1976)

therefore, large scale production more profitable in Brazilian agriculture. Thus, the predominance of the large-scale production in Brazilian agriculture should not be taken as evidence of the presence of economies of scale in agriculture, as it is used to think.³⁵

Now, to the extent that small farming can not adopt mechanization, nor base itself on the hiring of wage labor in the “peaks” of the demand for labor, the result is that its scale of production becomes limited, in the periods of “peak”, to the size of the family, with the creation of underemployment in the periods of the “valleys” of agriculture activity.

The theoretical dissociation between decisions concerning mechanization and decisions concerning the scale would allow a region like the Center-West, where mechanization is highly recommended, to maintain itself using the machinery, but reducing, drastically, the scale of its production units. In order to this occur, however, it would have to be made feasible the access of family farm to the credit market, since it is only with the existence of an effective demand on the part of family farm can there be a supply of appropriate machinery; this greater access to of family farm could be made easier, also, by the creation of a machinery rental market. In this respect, it is interesting to note that Sanders and Bein (1976) found a regular use of machinery, through rental, on the part of the family farmers in Terenos (a cerrado region). This confirms our hypothesis that it is not mechanization in itself, but the institutional context—that restricts the access to credit by the family farm in Brazil and prevents the creation of a machinery rental market—that has led to the predominance of large-scale production in Brazilian agriculture.

14 MECHANIZATION AND VOLATILITY OF BRAZILIAN AGRICULTURE³⁶

Up to here, this paper considered “excessive” the agricultural mechanization in Brazil, not only from a social point of view, but also from a point of view strictly economic, since this technological pattern is a result of the prevalence of distorted prices of the factors of production capital and labor in agriculture.

However, this mechanization can be considered excessive from a yet third point of view. In effect, as it was pointed out before, the pattern of Brazilian agricultural development has been characterized by the predominance of large production units, formed with capital obtained from the Government, at subsidized interest rates. Now, this excessive dependency on borrowed capital (even at subsidized interest rates), together with the great weight of the fixed cost in the total unit cost, increases the difficulties the agricultural sector has to face in adverse conjunctures (like the one that hit the sector beginning in the second semester of 2004), arising out of unfavorable behavior of international prices, exchange rate or climate. As the occurrence of an adverse event is very frequent in the agricultural sector, it may be

35. Rezende (2003*b*, p. 180) developed the above argument to explain the prevalence of large-scale production in the cerrado.

36. This section benefited from the collaboration of Mauro Virgino de Sena e Silva, research assistant at Ipea.

asked, as Ferreira Filho, Alves and Gameiro (2004, p. 27) did, whether “this model may be considered optimum”.

Note that this technological and financial pattern, that had undergone a crisis from the second half of the 1980's on, has been greatly stimulated, since the beginning of the 1990's, by the fact that the Banco Nacional de Desenvolvimento Econômico e Social (BNDES) System have started to provide investment credit for agriculture and the agroindustry.³⁷ In addition to that, the access to BNDES resources stimulated private banks to participate in this financing of agriculture, something that did not happen before. This has even led to the creation of the “factory banks”, created by the agricultural machinery and equipment industries, and that began to have access to the resources supplied by BNDES. In addition to the resources provided by this BNDES System, the “Constitutional Funds”, formed by 3% of income tax and IPI (a value-added tax on industrialized products), also began to provide funds for investment in agriculture.

As shown in the Instituto de Pesquisa Econômica Aplicada [Ipea (2005, p. 82)], the yearly amount of this investment credit rose from R\$ 5 billion in the agricultural year 2000-2001, to not less than R\$ 10 billion in each of the agricultural years 2003-2004 and 2004-2005. Only in these two agricultural years, therefore, agriculture increased its long run indebtedness by R\$ 20 billion, an amount equivalent to the total *custeio* credit borrowed in the agricultural year 2003-2004. As a result of this rapid growth of investment credit in this recent period, the outstanding debt just for investment purposes rose from around R\$ 20 billion to around R\$ 34 billion between January of 2003 and October of 2005, according to data obtained in the Central Bank. While this, the outstanding debt for *custeio* rose from R\$ 17 to R\$ 24 billion in the same period, a growth much smaller, therefore. As also shown in Ipea (2005, p. 82), this investment credit came, in almost its totality, from the Constitutional Funds and from the BNDES/Finame.

The consequence of this increase in the availability of credit for the acquisition of machinery and equipment was the recovery of the purchase of these goods, as shown by Brandão, Rezende and Marques (2005), to a great extent thanks to the action of the BNDES System. Brandão, Rezende and Marques (2005) also suggested that this greater availability of credit for the acquisition of agricultural machinery and equipment would have led to the great increase in the cropped area that occurred between the crop years 2000-2001 and 2003-2004, and which has changed the previous pattern of growth (that lasted from the second half of the 1980's until the first half of the 1990's), in which the area remained constant and technologies were adopted that led to the increase in the land productivity. According to Ferreira Filho and Costa (1999), the restriction to mechanization (arising out of the lack of investment credit), that marked this period, may even have contributed to the rapid adoption of the direct planting (*plantio direto*) in Brazilian agriculture, since this technique reduces the need both of the use of tractors as well as of labor, circumventing, therefore, the problem of restriction of capital that characterized this period. Actually, what happened is that the technique of direct planting not only reduced, at the margin, the need of new tractors, but, to the extent that it was

37. This is shown in Rezende (2003, p. 205-224).

extended to the pre-existing areas, it made the available stock of tractors compatible with the demand, loosening a growth restriction that, with all certainty, would have hit Brazilian agriculture.

15 ALTERNATIVE FREE MARKET POLICIES IN FAVOR OF FAMILY FARM IN BRAZIL

According to the analysis presented in Section 2, family farming is more compatible with the objective, defended in this paper, that the Brazilian agriculture changes its present technological pattern, highly capital-intensive, in favor of a technology more labor-intensive and, therefore, more capable of contributing to the reduction of poverty and inequality in Brazil. The reason is due to the fact that, due to the seasonality of agriculture, the capitalist farm tends to adopt a technology more capital-intensive—expressed by mechanization—than the family farm. Another reason for this differentiation between the capitalist agriculture and the family farm is the problem of supervision of labor, much more difficult to be faced by capitalist agriculture than the family farm, but through mechanization and reduction in the employment of labor.

In the face of this differentiation that exists between family and capitalist farms, an eventual deregulation of the agricultural labor market, but keeping the present-day preponderance of the large capitalist farm, would not generate an improvement in the labor market in the same dimension that would be possible to obtain in the hypothesis of prevalence of family farm.

However, as it was argued in this paper, the agricultural public policies adopted in Brazil since the 1960's prevented that this natural advantage of the family farm led to its greater development in Brazil, for two reasons: 1) the family farm, as a result of the agricultural labor policy, had to bear a greater cost for hired labor; and 2) due to its lesser access to credit, this family farm could not react to this greater cost adopting mechanization, that became restricted to capitalist agriculture.

It is interesting to conjecture how this relative situation of the family farm vis-à-vis the capitalist farm could have evolved in Brazil, if the public policies had been different. As it is known, Brazil detained, in the beginning of the 1960's, an agrarian structure based on the *latifúndio* system, within which it flourished a labor market in which the worker lived in the farms and produced part of his subsistence. In addition, sharecropping and renting were widespread, in the regions where it was lesser the direct use of the land by the owner. It was also very significant the presence of small independent producers, whose activity, however, became limited in the face of the concentration of property. Given the large incidence of family farming in this structure, even though subordinated—as in the case of the *colonato*—, it would become easy to promote this form of agriculture, as it was the explicit objective of the military that took power in 1964. In order to do that, however, it would be necessary to adopt the right policies, and not the ones that ended up being adopted, as discussed in this paper.

In favor of the policies actually adopted, it could be argued that the extension of the CLT to the countryside and the institution of the land policy, through the Land

Statute, would have been necessary in order to finish up the “backward” relations that existed, where the State did not penetrate, and that had a political implication, since it restricted the extent of democracy in the country.

The new land policy, in particular, started from the implicit presupposition that the supply curve of land for renting and sharecropping would be totally inelastic, that is, that there would be no reduction in the supply of land, even with all the (new) intervention by the State in this market. This result would result, in addition, thanks to the ITR (the progressive land tax), that would punish the idleness of land, as well as by divesting of the land and payment through public debt bonds.

However, in the light of the adverse consequences of these measures, shown in this paper, it would have been better that the country adopted other kind of measures, with the purpose of creating alternatives for this labor force and, consequently, to strangle the *latifúndio*. By the way, the mere growth of the economy, while creating alternatives for this labor force in the urban labor market, would force a change in the labor relations in the countryside, with a rise in the rural wage and a better access to land by the family farmers.

Before everything, it is more than clear that neither the Statute of Rural Labor nor the Land Statute should have been instituted, since they ended up being responsible for making the family farm unfeasible in Brazil.

On the other hand, a strategy that would intensify this process of greater development of family farm in Brazil would be the adoption of credit schemes for the purchase of land, side by side with other policies, such as technical assistance, agronomic research focusing the small producer etc.

This objective of improving the access to credit on the part of the family farmers would require, however, a radical change in our system of formation and titling of property of land, as well as the institution of a more credible mortgage system, especially when the small producer is involved.

In what refers to land titling, it would have been imperative to end up with the *posse* (from which comes the word *posseiro*), an institute that, apparently, facilitates the access to land on the part of the small producer—since it allows the gratuity in the formation of the property of land—, but, actually, it promotes the violence in the countryside and the predominance of the large property, as, by the way, it has occurred in our history. Besides this, this institute of *posse* stimulates the deforestation—including and especially the Amazon—since the corroboration of the “*posse*” requires the effective “use” of the land.³⁸

This stimulus to the deforestation and to the predatory use of the resources, that marked our history and that persists today, prevents the extension, to Brazil, of the recommendation, coming from Welfare Economics, that private property be stimulated in the Amazon, instead of maintaining the current situation of “open resources”. In order that this recommendation be extended to Brazil, however, it

38. In this respect, it deserves to quote the cearense José Dias Pereira, the Zezinho, “the greater devastator of Brazil”, according to a matter from the newspaper *Estado de São Paulo* of 18/9/2005, p. A26. According to Zezinho, “If you have a land, you have to occupy it and deforest in order to get the right of *posse*, or another one comes in and occupies it.” As it is known, after the title of “*posse*” comes the title the “property”.

would be necessary the elimination of the institute of *posse*, and together with it all requirement that the land has been used, before it is provided the property title.

Note that this incentive to deforestation as a means to prove that the land is being effectively “used” creates the appearance that the agricultural activities themselves, and not this perverse mechanism of formation of private property in land in Brazil, are the true responsible for deforestation.

Still in what respects this question of the conversion to private property of public lands (denominated *devolutas* in Brazil), it is imperative that this becomes a matter exclusively federal—as it always has been, by the way, in the United States, as Guedes (2005) pointed out—, in order to prevent that this becomes an instrument of regional political exchange. By the way, this passage of the land question from the state to the federal level should have been the first measure taken by the military in 1964—even better, by Getúlio Vargas himself, already in 1930. It is a very interesting question to know why Getúlio Vargas did not do this, in view of the fact that he centralized everything, especially after 1937.³⁹

The very gratuitousness of the concession of the property of land should have been eliminated, in favor of the charge of a price by the government, through public auction. This would reduce the “founder gain”—given by the difference between the value that land acquires in the market, once it has become liable to agricultural utilization, and the cost of conversion of virgin land. With the charge of a price for the concession of the virgin land, the government would reduce this “founder gain”, what would reduce the stimulus to deforestation and the current conflicts over land. If the government wants, he could offer a subsidy for the small farmer in the acquisition of the virgin land.

It should be noted that the small farmer benefits, too, and very intensively, from this process of deforestation *cum* appropriation of the “founder gain”. This was, by the way, one of the main conclusions of Almeida (1992), in her magnificent work on the colonization of the Amazon. According to Almeida (1992, pp. 317-351), the main concern of this small farmer, as an *assentado* (a settler) in an Incra project, was to make the deforestation, to complete the other tasks necessary to turn the land apt to agricultural use, and then sell this land to a farmer or cattleman (usually big), after what that settler would move to another Incra project, where this “itinerancy” would start again.⁴⁰ Bruno and Medeiros (2001) showed, also, in their study of the causes of the “evasions” from the Incra settlements, that in the frontier regions (in the Center-West and in the North), these evasions reached nothing less than 90% in one settlement, the average having been nothing less than 43% of the settlers.

Note, however, that a clear definition of the property rights of the family farmers is a necessary, but not a sufficient condition, in order that these farmers start having access to credit. This is due to the fact that the well-known problems of our mortgage system are still more serious in the case of the small farmer, in view of the

39. For a very interesting recent discussion of the precariousness of our system of formation of property of land, and how this affects negatively family farm itself, see Graziano (2005).

40. According to Romeiro and Reydon (2000, p. 311), Almeida and Campari (1995) showed that “medium and small producers (...) have characteristics similar to the large landowners”.

constitutional precept that excludes the possibility of mortgaging this small farmer property.

Kumar (2004, p. 370) noted that, besides these “provisions to exempt property”, which “prevent that small rural owners to use their property as collateral”, there are also “usury laws that make it difficult for the formal financial intermediaries to offer credit to small farmers” [Kumar (2004, p. 370)]. Kumar (2004, p. 370-378) points out, in addition, other barriers that interpose to the concession of loans to small agricultural producers in Brazil.

Anyway, independently of what states the law, our Judiciary, in its attempt to make “social justice”, always seeks to protect this small owner, specially when the other side is an entity of the financial market; one is dealing here, according to Kumar (2004, p. 393), with the “judicial social activism”, already pointed out here before. In these conditions, one should not find it strange that the financial institutions avoid lending to these small farmers, to the detriment of these farmers’ access to credit.

It should be noted, *en passant*, that the technological pattern that market Brazilian agricultural historical, that is, the itinerant agriculture, with a mobile frontier, may have also reduced the interest by the small producer on the acquisition of the title of property, limiting himself to the mere *posse*.

The problem faced by the small agricultural producer in Brazil can not be resolved, therefore, by a better definition of property rights over land, but by a radical change in the present stand by the State vis-à-vis this small agricultural producer, in the sense of allowing his full integration to the capitalist economy, what requires, among other things, the possibility of the mortgaging of his property.

It is interesting to mention, by the way, that the initial evaluations of Pronaf stressed the fact that the credit supplied within the program concentrated itself on the family farmers located in the South of Brazil, what was attributed to the that, being farmers “integrated” to the agroindustry (as in the case of poultry production), they offered less risk to the Banks.⁴¹ This shows that, when the farmer is integrated to agroindustry, it is smaller the necessity of collateral in the agricultural loans.

It is interesting to note that this situation of the small Brazilian farmers contrasts with the picture described by De Soto (2000) and discussed by Pinheiro (2004, p. 53), in which the problem of poverty in the Third World would be solved, if the assets owned by these poor were regularized and acquired property titles, what would facilitate the access of the poor to formal financial services, with consequent increase in production scale. In the case of the small Brazilian producers, however, this regularization of their assets is not capable of opening to them the access to formal financial system, for the reasons presented above.

Finally, it must be considered that the access, on the part of family farm, to an official rural credit system that, besides not requiring collateral, concedes heavy subsidies and it is much more lenient in the procedures of recovery of the debt, does

41. This initial concentration of Pronaf on the family farming from the South of Brazil was shown in Abramovay and Veiga (1998).

not have the same effect, in terms of stimulus to the development of family farm, that the access to credit through the free market forces, without any kind of political interference. The reason is that, as the farmer knows that he may default, or pay just a portion of the debt, the obtainment of this credit does not become the mechanism on the basis of which the farmer is forced to seek better production and marketing opportunities, what happens when he borrows in the free financial market.⁴² Thus, and concluding, an official credit program directed to family farm, as it happened in Brazil, does not substitute the necessity of fomenting the free access by the farmers to the private financial system, for this is the institutional environment more favorable to their economic development.

16 SUMMARY AND CONCLUSIONS

This paper sought to show in what manner the labor, land and rural credit policies have been responsible for the predominance, in Brazilian agriculture, of a technological pattern characterized by the predominance of the large-scale production and by mechanization.

While doing that, this paper offered a critique to the two current explanations for this phenomenon: the first, that attributes all of our illnesses to the *latifúndio*, inherited from our past, and whose disarticulation, through agrarian reform, would be indispensable for the solution of the problem; and the second, that postulates a technological determinism, excluding, therefore, any possibility of a change in the current situation. Note that to attribute to our past the origin of four present problems blocks the perception of the factors that are at work *today*, while the technological determinism also obfuscates the true causes of four current problems, for tends to consider the phenomenon as “natural”, or “ineluctable”.

Diverging radically from these two lines of analyses, this paper proposed that it is not in the past, but in the present, that one should look for the true causes of our current problems, and that it were precisely the policies supposedly designed for protecting the poor and to make “social justice” that created this concentrated pattern of agricultural growth. On the other hand, the thesis of the technological determinism rules out the drastic change in the relative factor prices, which occurred in the 1960's, as well as the concession of voluminous subsidies by the government. It was this change in relative factor prices and the concession of these public subsidies that stimulated the adoption of techniques intensive in capital and extensive in labor, what took place both through the selection of techniques already available, as well as through the *induction*, à la Hayami and Ruttan, to the creation of new techniques (“biased”) with these characteristics. As it was seen, this concession of heavy subsidies by the Brazilian government assumed new forms recently, what in some way obfuscates that it is the Treasury, after all, that is behind them. But, having in view the difficult fiscal situation of the public sector in Brazil, it may be said that this technological pattern is, actually, unsustainable in the long run. Besides that, and as pointed out in this paper, this technological pattern rises the fixed cost and the

42. For a critique of the old Proterra (credit program for the beneficiaries of agrarian reform), exactly from this point of view, see Rezende (2001).

agricultural indebtedness, making it difficult for the agricultural sector the adjustment to adverse conjunctures, as the it is happening with Brazilian agriculture since the end of 2004.⁴³

With respect to the *latifúndio*, it was tried to show that, in fact, there was the predominance of the large landholding after the abolition of slavery, and this played the role, then indispensable from the point of view of the ruling classes, of restricting the alternatives of employment and income available for agricultural labor. However, the changes that occurred in the 1960's—extension of CLT to the countryside and institution of a new land policy, through the Land Statute—hit the *raison d'être* and the economic viability of this *latifúndio* system. This *latifúndio* was hit, also, by the rapid process of industrialization and urbanization that followed the 1960's, since the labor force, formerly captive, started, then, to have the alternative to migrate to the cities.

However, if today one still detects the presence of the large property in our agriculture, this is not heritage from our past, but a product of our present. The large property, today, is not only a great territorial extension, but, also, a centralized agricultural production, in large scale, on the basis of wage labor and with a high degree of mechanization, what is continuously fomented by the labor, land and agricultural credit instituted in the 1960's. Only marginally, as it was explained—that is, only in function of the role that the large property plays in the provision of collateral in the access to credit and in making mechanization feasible, in view of the presence of indivisibility of the machines—it has to do with the old *latifúndio*. As it was shown, it were the labor and land policies that, expecting to still over the old *latifúndio*, ended up promoting, together with the agricultural credit policy, a process of concentration even higher than what happened in our past.⁴⁴

In summary, this paper proposed that the *latifúndio stricto sensu* died with the extension of CLT to the countryside and with the Land Statute, but together with it also died the chances of the homestead and of the employment in agriculture, all in favor of a *new latifúndio*, completely different from the previous one and that only the liberalization of markets—of labor and land—, together with the viability of the access to credit by the family farm, will be able to combat.

This acting over our present, as if were still in our past, marks, also, the basic justification of our land policy, that is, the allegation that land needs to fulfill its “social function”, given by the productive use of land and the consequent creation of jobs.

The problem with our land policy does not lie, evidently, in its objective of seeking that the land fulfills its “social function”, but in the fact that it, while

43. According to the article “Produtor paga dívida com trator”, published in the newspaper *Valor Econômico* of 19/01/2006, p. B11, the level of default in the state of Mato Grosso already reached the amount of R\$ 3 billion.

44. At this point, were are totally in agreement with the critique that Xico Graziano made, in the congress of the Brazilian Society of Economics and Rural Sociology, held in July 2003 in Juiz de Fora, to the habit, still very strong in Brazil, of analysing Brazilian agriculture of today as if still prevailed the old *latifúndio*. On this, see Graziano (2004, p. 21-24). By the way, the longed-for Ignácio Rangel, in several conversations with this author, did not tired himself of criticizing this habit of looking fixedly to what *was not changing* (the size of the property), instead of focusing in what *was changing* (the interior of the large landholding, that underwent a true revolution).

pretending to reach this noble objective, ends up preventing the very productive use of land, as it does when it hinders the growth of land rental markets, specially involving small farmers.

Actually, as in the question of the *latifúndio*, everything happens as if we were still in our past. In this past – before the 1960's—there was not, virtually, a financial market in Brazil, what explains that the property of land, besides serving for the earning of current income, also provided a protection against uncertainty and support for old age, specially considering the precariousness of our social security system, at the time.

Anyway, as it was seen in this paper, the economic logic does not justify this belief that the “speculation” with land should imply land idleness, unless because of the land policy itself. Thus, it is this land policy that simultaneously does not stimulate the use of the land—by limiting the lease of land through renting or sharecropping, specially when small farmers are involved—and afterwards seeks to punish for this non-use! The correct should be: to stimulate, to the most, the use of the land, no matter its form, and only afterwards to punish for its eventual non-use.

Specially, this paper proposed that this “speculation with land”, were it no for the negative effect of the land policy itself, would increase the quantity of land available (through renting and sharecropping), to the small producer, and not the contrary.

Were not enough all these inconsistencies, our land policy was, in addition, incapable of given an adequate destiny to the land divested within the agrarian reform program. By not creating an adequate incentive system—starting by the non-concession of the property of the land, and extending itself to by the high degree of default admitted in the special credit program for agrarian reform—what this policy did was everything, less the creation of the so dear homestead. Thus, even though it is defensible the objective of fomenting the homestead in Brazil, this does not imply the support to the current agrarian reform program, which would have to undergo a radical reform, becoming, then, part of the solution and not of the problem, as it is today.

This paper sought to show, on the other hand, that the current technology is not given, and that it resulted from a determined context of relative factor prices, and will be able to change, therefore, if these relative factor prices become more consistent with the objectives of reduction of poverty and inequality in Brazil.

According to the theoretical analysis adopted in this paper, it could be expected that the family farm (that is, the homestead so dear to the Land Statute) had developed much more in Brazil, on the basis of the free market forces themselves. This would be due to the peculiar characteristics of the agricultural labor market, which creates difficulties for the development of the capitalist agriculture, as recognized by the ample international literature on the subject. The inexistence of

economies of scale in agriculture would strengthen the predominance of family farm.⁴⁵

However, as argued in this paper, this growing potential of the family farm did not become concrete, due to the following reasons:

a) Lack of access to credit vis-à-vis the medium and the large farmer. This lack of access to credit is usually attributed to precariousness of access to land on the part of this small farmer, but, as it was seen in this paper, it is more likely that it has been due to the action of the State itself, in its pretension to protect the small producer, both through constitutional norms, as in the prohibition of the mortgage of the land owned by this farmer, as well as through the action of the Judiciary in its attempt at making “social justice”.

b) Cost of temporary agricultural labor very high, especially for the small producers; and, finally.

c) Suppression of the land rental markets, eliminating this avenue of creation of opportunities of social and economic ascension on the part of salaried workers and small farmers.

It is interesting to stress this hypothesis that the weak access to credit on the part of the family farmer, in Brazil, may be caused less from the precariousness of the access to the land and more from the excessive protection that the State seeks to provide to this farmer, in his relationship to the financial market. In effect, if this is true, then it follows that this farmer must not valorize the very formalization of the property title. The correct policy should be, then, to “unprotect” this small farmer, eliminating the Constitutional norm and the supposed protection by the Judiciary. Note that, here, it is total the analogy with the policy to protect the small producer against “exploitation” in the rental and sharecropping land markets.

With respect to wage labor, it was concluded that the qualified labor ended up benefiting from the public policies adopted, since the demand for this labor increased, as a function of the mechanized technique. The impact of CLT on this labor force, in terms of increase in cost, is much smaller when compared with the impact on the temporary labor force. Were not for the action of the labor policy, there would have been much less absorption of qualified labor, but, in compensation, there would have been much greater use of temporary labor, specially the seasonal migrant, what would have benefited the regions of origin this labor force, what would result in a greater spatial homogeneity in Brazil, with consequent reduction in rural poverty, that limits itself, to a large extent, to these regions of seasonal labor force.

The main conclusion of this paper is that the change in the present pattern of agricultural development requires a deregulation of the labor and land-renting markets in Brazil, in addition to a greater feasibility of the access to credit on the part of the small farmers and a reduction in the subsidy to rural credit.⁴⁶ The deregulation

45. For a critique of this belief in the existence of economies of scale in agriculture, see Binswanger and Elgin (1989), Abramovay (1992, Chapter 8) and Veiga (1991, p. 175-203).

46. It should be noted that this was also the general proposal of Binswanger and Elgin (1989, p. 15), by saying that “the governments must abolish perverse land rental and labor reforms, making it possible to the agents to rent again their lands or make a more intense use of labor”.

of the labor and land markets, in particular, probably would have a positive effect on the Judiciary itself, that would turn to the enforcement of the laws and the contracts, leaving to society, through the other two powers of the State (the Legislative and the Executive), to choose the more adequate forms to promote “social justice”. These contracts, on their side, should start to be, to the utmost, freely agreed upon between the parts, without the present interference of the State. This could, also, end up contributing to a greater access to private credit on the part of the small farmers, which would become less subject to the official credit, as it occurs today. By the way, programs like the official credit turned to family farm, as the Pronaf, to the extent that they contain a high subsidy rate and facilitate default, are not equally efficient as the private financial system in the stimulus to the development of this form of agriculture. It is, therefore, necessary to make it viable the access of the family farm to this private financial system, that is, to the heart of the capitalist system, because this is a *sine qua non* condition for the development of this agriculture.

It is interesting to note, *en passant*, that this problem of access to credit on the part of the small farmer became serious, in part, due to the greater imperative of adoption of a labor saving technique, due to the labor policy. Were not for this agricultural labor policy, the access to credit would not have become so crucial in agriculture, since this sector would not be forced to adopt technology intensive in capital and saver of labor of agriculture-specific qualification. In this way, there would have been a greater development of the family farm, together with a greater absorption of the wage labor, both the temporary and the permanent.

It is therefore seen that the agricultural labor policy, coupled by the land and credit policies, performed the great feat of abating not only two habits with one single blow (the family farm and the labor force endowed with an agriculture-specific qualification), but of stimulating, at the same time, the large-scale capitalist production in agriculture.

A better specification of the proposal, defended here, of a reform of these labor, land and credit policies, requires, however, besides much more research, the collaboration of other professional, non-economists, for it is necessary to understand better the historical, sociological and political factors that respond by the rising and the permanence of these policies. It is necessary to understand better, after all, from what comes this peculiarity of Brazil being a country where it is maximum the rejection of capitalism, or the “market forces”. While this reform does not happen, we will have to live together with our process of development highly concentrated in the agricultural sector, that some still attribute to our past, to technology or, finally, to *capitalism*, as such. According to a very popular saying in Brazil, “The parrot eats the corn and the parakeet takes the credit”.⁴⁷

47. “O papagaio come o milho e o periquito é quem leva a fama.”

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