

THE EFFECT OF THE ADOPTED TAX TREATMENT ON THE PROFITABILITY OF FORESTRY

Gilson Luis Kolenez^{1*}, Dr. José Mauro Magalhães Ávila Paz Moreira², Dr. Romano Timofeiczky Junior³, Dr. Flávio José Simioni⁴, Dr. João Carlos Garzel Leodoro da Silva⁵

^{1*} Universidade Federal do Paraná, Mestrando, Depto de Economia Rural e Extensão, Curitiba, PR – Brasil - kolenez@gmail.com

² Embrapa Florestas, Dr. Economia Aplicada, Pesquisador, Colombo, PR – Brasil - jose-mauro.moreira@embrapa.br

³ Universidade Federal do Paraná, Professor, Depto de Economia Rural e Extensão, Curitiba, PR – Brasil - romano.timo@gmail.com

⁴ Universidade do Estado de Santa Catarina, Professor, Depto Enga Ambiental, Lages, SC – Brasil - flavio.simioni@udesc.br

⁵ Universidade Federal do Paraná, Professor, Depto de Economia Rural e Extensão, Curitiba, PR – Brasil - romano.timo@gmail.com

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Resumo

O efeito do regime tributário adotado sobre a rentabilidade do cultivo florestal. A matéria tributária brasileira é caracterizada pela complexidade, diferentes legislações e dificuldade no cumprimento das exigências impostas pelo fisco. O objetivo deste artigo foi apontar o efeito causado na rentabilidade do cultivo florestal de Pinus no sul do Brasil, pelo regime tributário adotado e suas possibilidades viáveis em seus aspectos de manejo, contábeis e tributários. Foram combinadas três formas de produtor, com três grupos de manejo diferentes, em uma escala de produção de 10 a 50 ha. Foram utilizadas cinco possibilidades de tributação diferentes e suas variações. O estudo partiu da análise dos fluxos de caixa e dos indicadores de viabilidade financeira de projetos para empreendimentos florestais. Situações com dois regimes de manejo com dois desbastes e com regime tributário de pessoa jurídica com lucro presumido no corte raso, em escala de plantio a partir dos 25 anos são as que geram os melhores retornos econômicos.

Palavras-chave: Impostos; Custos; Carga Tributária, Pinus.

Abstract

Brazilian tax matters are characterized by complexity, diverse legislation, and difficulties in complying with the requirements imposed by tax authorities. This article aims to elucidate the impact of the adopted tax treatment and its viable possibilities in the management, accounting, and tax aspects on the profitability of Pinus forestry cultivation in southern Brazil. It combines three types of producers with three different groups of management regimes, encompassing a production scale ranging from 10 to 50 hectares. Five distinct taxation possibilities and their variations were utilized based on an analysis of cash flows and financial feasibility indicators for forest projects. Situations involving two management regimes with two thinning cycles and corporate tax treatment, assuming profits from clear-cutting on a planting scale of at least 25 years old, yield the most favorable economic returns.

Keywords: Taxes; Costs; Tax Burden, Pinus.

INTRODUCTION

The participation of small and medium forest producers, which, according to Law 11,428 conceptualizes the small rural producer as someone who resides in a rural area, and owns a property of no more than 50 ha, (BRASIL, 2006), has been growing and taking its share in the wood supply and processing sector in Brazil. According to Ibá (2016) the total area of planted forests in Brazil in 2015 (7.8 million hectares), 29% is owned by independent and partnership (small and medium producers, which according to Law 11,428 conceptualizes the small rural producer as one who, residing in the rural area, owns a property of no more than 50 (fifty) ha, (BRASIL, 2006) who invest in forest plantations for trading the timber *in natura*, 34% belong to the pulp and paper companies, while the remaining 14% is held by the steel and charcoal segments.

A considerable number of authors have already studied the economic feasibility of several species of planted forests in Brazil. For example, research has been conducted on topics such as the leasing of land for eucalyptus cultivation (SOUZA *et al.*, 2015), determining optimal rotation length and number of rotations for eucalyptus plantations in Brazil (RODRIGUEZ; DIAZ-BALTEIRO, 2006), assessing the economic viability of teak plantations (*Tectona grandis* L.f.) with thinning operations (TSUKAMOTO FILHO *et al.*, 2003), and to economically evaluate different management regimes for *Pinus taeda* L. under different conditions and purposes (ACERBI JUNIOR *et al.*, 2002). However, recent literature lacks assessments of the impact of tax burdens on the economic feasibility of forest crops, highlighting an even greater need for research focusing on the use of tax planning strategies to minimize the impact of taxes on forestry profitability.

According to the Receita Federal do Brasil (2016), the tax burden for 2015 showed an increase of 32.66% in the annual gross tax burden of the country as a percentage of Gross Income Profit (GIP). This represents a 0.24% increase compared to the previous year, reaching a total of B\$ 1.92 trillion in reais.

The World Bank's Doing Business report (IFC, 2017) highlights that taxpayers in Brazil spend more time on tax-related activities compared to other countries worldwide. It is estimated that a medium-sized Brazilian company with approximately 60 employees requires 2,038 hours to calculate tax-generating facts, provide supplementary information requested by tax authorities, complete guides and forms, and make tax payments.

Therefore, some actions are necessary to minimize these effects and their impacts on production activities. Lopes (2016) states that tax planning is a resource available to entrepreneurs, with the possibility of taking advantage of available tax incentives, adopting the most practicable tax treatment, organizing the company financially, avoiding tax-generating facts, and paying off debts more profitably.

Regarding taxation in the forestry segment, Rezende *et al.* (2005) and Bargas *et al.* (2017) point out the challenges in measuring taxes, the excessive tax burden, and the large impacts on production costs. Rezende *et al.* (2005) aim at establishing the optimal economic age of cut, its relevant taxes, fees, and social contributions in the production of *Eucalyptus* spp. of a hypothetical corporation, thus characterizing the incidental taxes, its tax-generating event, aliquots, and calculation basis. The authors state that many factors that influence forest production had been researched, but the influence of rates, taxes, and social contributions on forest production had not been studied yet.

The main conclusions of Rezende *et al.*' study on taxes demonstrated their influence on harvesting at a later stage, usually delaying the cut by one year. Failure to observe these results could lead to losses, in addition to pointing out the influence and contribution of specific taxes and fees, with small variations among them. However, almost all taxes delayed the optimal age of cut and reform.

Aimed at listing the taxes on the production cycle and the revenues of the commercial plantation of *Pinus* spp., Bargas *et al.* (2017) searched for the best tax treatment comparing assumed profit and real profit, with a focus on tax reduction and increase of competitiveness, taking into consideration taxes on revenues or those directly related to production costs. The authors concluded that the impact of taxes on the cost of the forest formation represented 8.6% of the total cost when tax on revenues is not considered. In assumed profit, this percentage was under different tax treatments, and concluded that for the real profit regime, the results did not reach the established Minimum Attractiveness Rate of Return (MARR). To produce one cubic meter of pine wood, considering the tax on revenues in the real profit regime, 46% of the cost was equivalent to taxes and presumed profit, and 31% corresponded to taxes. The authors also indicated that the total tax burden accounted for 18.6% of the composition of the total production cost for assumed profit and 37.1% for real profit, stating that choosing the best tax treatment may represent the threshold between business success and failure.

Therefore, this article aims to shed light on the impact of the adopted tax treatment and explore viable possibilities in terms of management, accounting, and tax aspects, ultimately affecting the profitability of *Pinus* forestry cultivation in southern Brazil.

MATERIALS AND METHODS

Production Method and Management Regimes Analyzed

The production method, cost, and prices utilized in this study align with those employed by Moreira *et al.* (2015; 2017) for the states of Paraná and Santa Catarina in 2013. The specific details are described below:

The *Pinus taeda* plantation of the study in southern Brazil was assumed to be homogeneous, with the same establishment and productivity conditions (1,660 trees/ha with site index (SI) of 22 and a mean annual increment (MAI) of 36 m³ha⁻¹year⁻¹ subject to three different management regimes: one without thinning and clear-cutting at 15 years (G1), another with thinning at 8 years and clear cutting at 18 years (G2), and the third with thinning at 8 years, followed by another thinning at 12 years and clear-cutting at the age of 20 (G3). Forest growth was simulated with SisPinus (2017) and production was stratified into five log assortments according to Moreira *et al.* (2017): S0 - Energy (not included in the other assortments); S1 for 8-18 (minimum diameter (ϕ) of 8 cm and 2.4 m in length); S2 for 18-25 (minimum ϕ of 18 cm and 2.6 m in length); S3 for - 25-35 (minimum ϕ 25 cm and 2.6 m length); S4 to > 35 (minimum ϕ of 35 cm and 2,6 m in length).

Forestry costs per hectare are the same as those used by Moreira *et al.* (2017). Soil preparation and cleaning activities (B\$ 480.00/ha); planting (B\$ 758.76/ha); ant-control (pre-planting) (B\$ 53.54/ha); replanting (B\$ 60.28/ha); post-planting ant-fighting (B\$ 76.38/ha); manual maintenance clearing in 30% of the area (B\$ 98.78/ha); herbicide application (B\$ 368.97/ha) occurred during the first year (year 0). During the second year (year 1) of the cultivation, mechanized maintenance clearing was performed in 70% of the area (B\$ 277.51/ha),

manual maintenance clearing in 30% of the area (B\$ 71.76/ha), and application of herbicide (B\$ 368.97/ha). During the third year (year 2) a mechanized maintenance clearing was performed in 70% of the area (B\$ 277.51/ha), manual maintenance clearing in 30% of the area (B\$ 86.01/ha), and application of herbicide (B\$ 308.96/ha).

The harvesting and thinning costs include cutting, extraction, loading, supervision, and road maintenance associated with harvesting for clear-cutting. The costs considered are B\$ 30.75/m³ for G1; B\$ 29.75/m³ for G2 and B\$ 28.75/m³ for G3. The cost of the first thinning is B\$ 46.00/m³ for both G1 and G2 in both management regimes with thinning and the cost of the second thinning was B\$ 39.25/m³.

For general costs, forest protection was considered, which includes the costs of wood wasp control with application of 1 (one) dose, as of 7 years, to 1% of the total area, that is, 16 to 17 trees/ha, with the cost of B\$ 100.00 per dose/ha/year, plus B\$ 48.00 for road maintenance outside the harvest stands.

The log prices used in this study are the same as those described by Moreira *et al.* (2017) for the estimated production, namely: B\$ 5.00/m³ for S0-Energy, B\$ 42.50/m³ for S1, B\$ 92.50/m³ for S2, B\$ 135.00/m³ for S3, and B\$ 180.00/m³ for S4. The form of commercialization was log loaded in the carrier and the transport activity was outsourced, thus not included in the production costs

Following the suggestion of Moreira *et al.* (2017), the MARR used in financial calculations is 3.91% per year for real capital remuneration, and the land opportunity cost is estimated at B\$ 406.31 ha year⁻¹.

Tax Treatments and Possible Combinations

The tax costs and ancillary expenses (accounting office) were added as provided for in the national tax code CTN (2017), which deals with ancillary expenses and in Law 10,406/2002 art.1,179 (Civil Code), which deals with the requirement for an accounting professional to carry out uniform bookkeeping of accounting documents and compliance with legal requirements, are included in the management regimes as per the following combinations: a scenario without taxes or ancillary costs (N), a scenario with the individual (F), and for legal entity were combined the Simple taxation regime (S), the assumed profit (P), and the real profit (R) for each revenue-generating event in management regimes. G1 totals 5 scenarios: free from taxes (N), with taxes paid in clear cutting as an individual (F), and three scenarios with taxes paid up in the clear-cutting as a legal entity (Simple - S, Presumed Profit - P, Real Profit -R). The analysis of G2 comprised 11 scenarios, one of them without taxes (NN), one as an individual in the first thinning and clear-cutting (FF), and nine scenarios for legal entities, where the Simple (S), assumed profit (P) and real profit (R) tax treatment were arranged two by two (one for the first thinning and another for the shallow cut. While the analysis of G3 comprised 29 scenarios, one was free of taxes, another as an individual at the three revenue-generating moments (first thinning, second thinning, and clear-cutting), and 27 scenarios for a legal entity, resulting from the combination of the S, P and R tax treatment three by three.

The tax assessment for individuals has considered the payment of IRPF (Personal Income Tax), whose rates vary according to the income of the taxpayers due to the application of the progressive table. Deductions are duly determined by the Revenue Service (2017). Additionally, the study has taken into account the ISS (Service Tax) on director's fees, which is calculated at a rate of 11% based on the current minimum wage, it is important to note that taxes for this type of tax option are mandatory.

For the legal entity group required to establish a company, it is essential to determine the incidence of taxes and their calculation basis. It is also mandatory to choose the tax treatment to be adopted, such as Simples Nacional (Simplified Tax Regime), Assumed Profit, or Real Profit. In addition, the company must maintain accurate accounting records prepared by a qualified professional, specifically an Accountant, as required by Articles (1179 and 1184) of Law 10,406 (BRASIL, 2002).

Each tax treatment is governed by specific regulations that outline the necessary procedures, rules, and possibilities accepted by the public authority for each type of company. These regulations define the tax-generating event, calculation bases, applicable rates, and payable taxes. The details of these regulations are provided below.

The Integrated System for Payment of Taxes and Contributions of Micro and Small Enterprises or "Simples" (S) is a differentiated, simplified, and favored tax treatment, provided for in Complementary Law No. 123 (BRASIL, 2006), and applies to micro and small size companies. It has been amended by Complementary Law 155 (BRASIL, 2016), and has as its main characteristic the monthly payment through a single collection document.

To calculate the taxes through the Simples system, the determinations and application of the table of Attachments II of Complementary Law No. 123 (BRASIL, 2006) were used, where the rates increase according to the variation of the gross revenue, respecting the limits imposed by the standardization.

For Assumed Profit tax treatment (A), the taxable value is determined based on gross revenue, through

the application of variable rates depending on the revenue-generating activity. The taxation system on assumed income is regulated by Articles 516 to 528 of the RIR (Income Tax Regulation), provided for in Decree-Law No. 3,000 (BRASIL, 1999). In this system, the following taxes are calculated: Corporate Income Tax (IRPJ) on assumed loss (8% of gross revenue) at a rate of 15%, and additional IRPJ at a rate of 10%, which is the portion of the calculation basis exceeding the amount resulting from the multiplication of B\$ 20,000.00 (twenty thousand reais) for the number of months of the respective calculation period; a rate of 9% on Social Security Contribution (CSLL) (12% of Gross Revenue); Social Integration Program (PIS), at a rate of 0.65% and Contribution to Social Security Financing (COFINS), at the rate of 3%, on the Gross Revenue.

For the Real Profit (R) tax treatment, the calculation is based on the net income for the period, which must comply with the rules of commercial and corporate laws. It should be adjusted according to the additives, exclusions, or compensations specified by the Income Tax legislation, as stated in Law No. 11,638 of December 28 (BRASIL, 2007) and Articles 246 to 461 of Decree No. 3,000 (BRASIL, 1999). The net income for each period, considering gross revenue generation, is determined by the difference between the gross revenue and the total costs for that year. This includes the costs of the specific year, along with the proportionate cost of forest exhaustion based on the volume withdrawn during interventions. The applicable taxes and rates for this tax regime are as follows: Corporate Income Tax (IRPJ) at a rate of 15%, additional IRPJ at a rate of 10% (applied to the portion of the calculation base exceeding the result of multiplying B\$ 20,000.00 by the number of months in the respective calculation period), and Contribution to Social Security (CSLL) at a rate of 9% on the net revenue, levied on the net profit. Furthermore, the Social Integration Program (PIS) is applied at a rate of 1.65%, and the Contribution to Social Security Financing (COFINS) is applied at a rate of 7.6% on the gross profit. These taxes are part of the tax structure under the Real Profit regime.

The inclusion of accounting services costs was made due to the need and legal requirement of hiring such professionals. For individual rural producers, the value of B\$ 300/year was considered when thinning was carried out, and B\$ 500.00/year when the cut was made for all management regimes. Simple and Assumed Loss regimes, were considered B\$ 400.00/month in 13 annual installments, regardless of the management regimes, while real profit was considered the amount of B\$ 800.00/month in 13 annual installments, based on the figures presented in the table of fees of the Trade Unions of the Accountants of SC (SESCON, 2016) and the PR (SICONTIBA, 2015).

The value corresponding to ISS on director's fees, in the amount of B\$ 103.07/month, which corresponds to 11% of the current minimum wage due to the need for collection, was also included in this group, thus taking into account the minimum director's fees value required.

Marion (2014) provides clarification on the distinction between exhaustion and depreciation when it comes to permanent crops. According to the author, the concept of depreciation applies only to cases where the crop itself is harvested, such as coffee, orange, or grape crops. In these instances, the value of the crop diminishes over time due to extraction. However, when the extraction of the crop does not occur, but rather the tree itself is harvested, cut, or exploited, the cost associated with the formation of these crops is considered to be exhausted. In the context of forestry, this means that the cost of acquiring or establishing the forested land (excluding the cost of the land itself) is subject to exhaustion quotas at the time of harvesting.

The calculation of the exhaustion quota for forest resources involves adding up the costs associated with forest formation, maintenance (including forest protection costs), and the entire production cycle. This quota is then proportionally exhausted with each intervention, based on the volume withdrawn relative to the total volume of the planting.

A structured cash flow containing the inputs and outputs at constant prices for each of the 45 scenarios was prepared in a Microsoft Excel® spreadsheet. They were evaluated with plot areas ranging from 10 to 50 hectares, in intervals of five hectares.

The single tax treatment (unique TR) is the one in which the owner maintains the tax treatment throughout the management treatment, regardless of the scale. For example, if the owner chooses Simple Taxation Regime (S), this taxation regime will be applied to all forest interventions that produce income (thinning and clear-cut).

In the optimal tax treatment (Optimal TR), the owner can change the tax treatment annually, generating different combinations of tax treatment in the same management regime. With this, it is possible to determine the best gain strategy between the single regime and the optimal one. The owner could choose the Simple Taxation Regime (S) on thinning to calculate taxes costs and change to Real Profit (R) on the clear-cut if this change reduces the total cost and increase the management regime profitability.

One of the treatments adopted by way of comparison was the one without the incidence of taxes, ancillary expenses, and fees for each management regime and each tax treatment. The financial profitability of the systems at various production scales was then calculated. Comparing the two regimes and extracting the

difference between the scenarios, it was possible to calculate the impact of taxes and ancillary expenses on profitability

Regarding the scale, the calculations of the scenarios were conducted by varying the area while keeping the ancillary costs and expenses (fixed costs) constant.

These expenses were being diluted, thus making it possible to verify from which scale the best economic return occurred. Since they were separated by management regime, both for individuals and for legal entities, they can even determine the best tax regime for the legal entity. Thus, it can be stated that in a given scenario and at a given scale, the change from an individual to a legal entity is compensated, and in which tax regime the best return occur.

Financial Indicators Used

Given that the time frame of the evaluated scenarios varies across the G1, G2, and G3 regimes, the Equivalent Annual Value (EVA) and Internal Rate of Return (IRR), as proposed by Moreira et al. (2015) and Rezende and Oliveira (2013), were used to compare the scenarios. Additionally, the average costs associated with taxes and ancillary expenses, such as accountant fees, were evaluated to facilitate analysis. Considering the large number of scenarios, particularly in G2 and G3, and the minimal variation in results when combining different corporate tax regimes compared to pure tax regimes (where all interventions follow the same taxation method), it was decided to present the results for pure tax regimes only. The selected line represents the tax strategy that yielded the highest economic return for each scale and group of evaluated scenarios.

Assumptions

For this study, only Social Security (ISS) on a minimum wage in the proportion of 11%, as determined by the CTN (2017), has been considered as a cost related to director's fees. Therefore, monthly withdrawal costs have not been taken into account, as the nature of the activity does not allow for such expenditures, which is a common practice in the industry. Additionally, taxes, contributions, and fees were not levied on the item of outsourced transportation, as it was included in the analysis.

For all calculations of tax treatments, only the forestry activity in the extraction of timber was considered, thus not including other possible activities in the property, given the range of possibilities as regards revenues, costs, and inputs used and the tax complexity involved, which enables a better evaluation of possible regimes in the proposed activity.

RESULTS

When analyzing the results of this paper, we find some cost items with a greater impact on the final results and the economic viability of the investments, as discussed below.

The main changes that occurred in costs refer to taxes, the payment of accounting service fees, in the case of corporations, by the legal requirement under articles (1179 and 1184) of Law 10,406/2002 (BRASIL, 2002), as well as ISS on director's fees. However, the two latter faced a great reduction with the increase of the production scale, since these are fixed costs; it is possible to observe such behavior in Figure 1.

The lines in Figure 1 depict the pure tax regimes, in which all interventions were subjected to a single tax treatment (N, F, S, P, or R). The markers on the graph represent the tax strategy that yielded the highest economic turnover for each group.

Two common trends to the three groups are evident in Figure 1: the first is that the lowest cost for smaller scales results in the tax option as an individual and, as the scale increases, the lower costs result from tax treatment for legal entities; the second is that considering pure corporate tax regimes, the best result is obtained by choosing the assumed loss in all three groups for all scales analyzed, followed by Simples tax regime, while the real profit regime presents the worst result for all scenarios evaluated.

In the system with no thinning (G1), the average cost with taxes and ancillary expenses is lower under individual's tax treatment, up to approximately 32 hectares, with the corporate tax treatment on assumed loss being the most cost-effective above such scale.

The regime with one thinning (G2) presents the lowest costs as individuals up to 22 hectares, and the legal entity presents a lower cost from this scale on, thus resulting in a better strategy to opt for the Simples tax treatment in the first thinning and the assumed loss ratio in the clear-cutting between 22 and 40 hectares, while above 40 hectares the best strategy for G2 is the tax treatment by the real profit on the first thinning and by the assumed loss on the clear-cutting. In G3, the individuals tax treatment is the best option up to the scale of approximately 22 hectares, from there on, the best strategy, up to 40 hectares, is to opt for a Simples taxation regime of the legal person in the first two thinning cycles, and the assumed loss in the cut shallow, as of 40 hectares, the best result is obtained opting for real profit tax treatment in the first thinning (Figure 1).

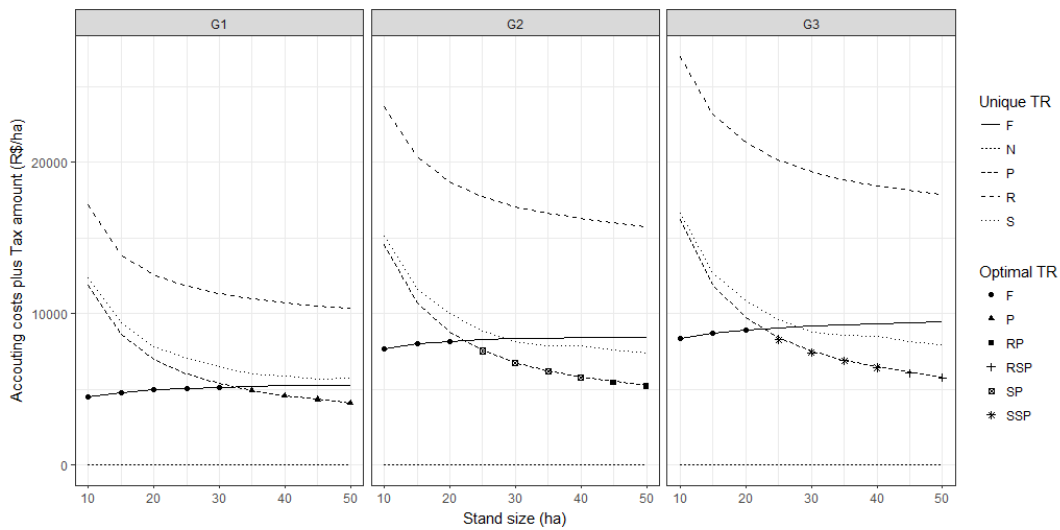


Figure 1. Value of taxes plus accounting costs for the Pure Taxation Regimes (B\$/ha).
Figura 1. Valor dos impostos acrescidos dos custos contábeis para os Regimes Puros de Tributação (B\$/ha).

Upon analyzing the profitability of the scenarios using the Annual Equivalent Value (Figure 2), it is evident that taxes and ancillary costs have a significant impact on profitability when compared to scenarios without such fees (N). This impact is visible across all groups of scenarios under analysis.

The tendency that the best tax option is the taxation as individuals for small scales (up to 40 hectares for G1, and up to 30 hectares for G2 and G3) is also confirmed. When assuming a scale that compensates for the adoption of a legal entity, the best pure tax treatment is the assumed loss for all groups and scales under analysis. Given that the optimal strategy in G2 is the adoption of the Simples regime for D1 and assumed loss for CR, in the scales of 35 and 40 ha, with replacement of the regime in D1 for real profit in the scales of 45 and 50 ha. While in G3, the optimal strategy would be the option for the simple's regime in the two deburring cycles, and assumed loss in the shallow cut, in the scales of 35 and 40 ha, with the change of the option in the first thinning to real profit in the scales of 45 and 50 ha (Figure 2).

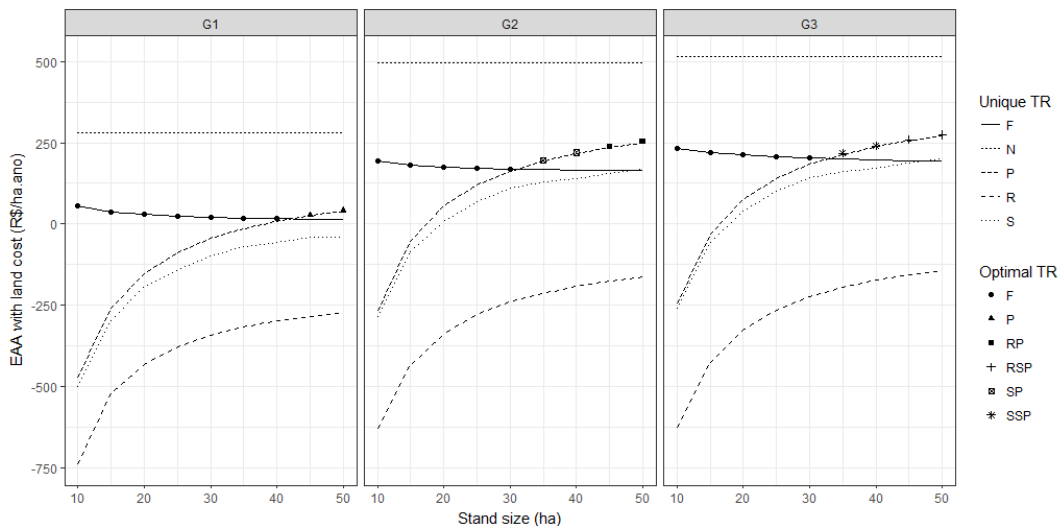


Figure 2. Equivalent Annual Value (VAE) including land rental cost (B\$/ha/annual).
Figura 2. Valor Anual Equivalente (VAE) incluindo o custo de arrendamento da terra (B\$/ha/ano).

Analyzing the IRR (Figure 3) in the groups and tax treatments, a behavior similar to the one observed in the VAE is found, maybe with a small difference in that the individual system was the one with the best turnover in scales slightly larger than those observed in the VAE. In general, working with thinning cycles in the situation under analysis presents better results than making arrangements without thinning cycles. In terms of tax

treatments, the individual tax treatment consistently yielded the best results up to 35 hectares in G2 and G3 groups and up to 40 hectares in G1 groups. In higher scales, the pure tax treatment with the best IRR was the legal entity opting for assumed loss. It is worth noting that adopting a mixed strategy for G2 and G3 groups can lead to slight improvements in the indicators.

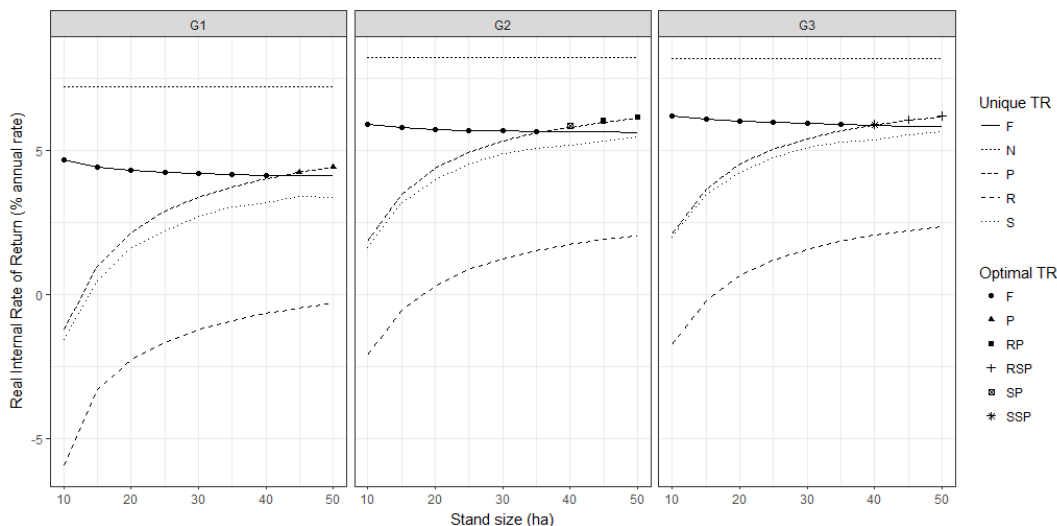


Figure 3. Real Internal Rate of Return (IRR - % annual).

Figura 3. Taxa Interna de Retorno real (TIR - % ao ano).

The impact on economic results of production scale combined with the tax treatment chosen is easily observed in all scenarios of the *Pinus taeda* cultivation analyzed. The importance of the scale for diluting tax and ancillary costs to levels that make economic gains feasible for producers is evident. In this sense, it is possible to obtain better results with the adoption of mixed tax regimes for legal entities, depending on the costs and revenues expected each year

DISCUSSION

The authors observed a constant evolution of taxation and its impact on forestry, which even affects the optimal rotation of the forest from an economic standpoint. Although only three management regimes were evaluated, it was evident that the impact of taxes and ancillary costs varied across each group of management regimes analyzed. The regimes focused on the production of higher value-added products, despite paying higher taxes, achieved better economic returns compared to regimes focused on biomass production. Additionally, these regimes allowed for the adoption of corporate taxation strategies even on smaller scales.

The choice of tax treatment to be adopted in forest production involves several factors that need to be considered along with other specific information about the activity. These factors include the forest rotation period, the focus on forest products, and the potential impact on achieving higher economic returns.

These details, at first glance, do not seem to matter, but they may have major impacts on the result. Leading to conclusions such as those found by Bargas *et al.* (2017), who point out the tax treatment on the real profit as an unfeasible option under the conditions analyzed in the study. This can bring major changes to the economic results obtained when changing the composition of costs to the compulsory option, which is, replacing the tax treatment from real profit to assumed loss, in line with the results found in this study.

The mentioned study highlights the impact that taxes impose on forest plantations, changing the determination of the better economic turnover rotation, thus influencing production costs. The contribution of the present paper involves the analysis of the tax planning, by changing the adopted tax treatment on the economic turnover of the forestry activity, addressing it as an important variable in the decision-making on the forestry production strategy that allows a greater economic turnover to the forest producer.

CONCLUSION

- Each management regime has an appropriate tax treatment and the possibility of results can shift between profit and loss in a simple decision-making.

- The results have a direct impact on taxes and are not restricted to the payment of these taxes, but also to the ancillary obligations and other costs involved, which are important disbursements and, therefore deserve special attention of the forestry entrepreneur, presenting a perverse side and in some cases considerably worsening the results obtained.
- The scale of production has also a strong impact on the economic return obtained, influencing even the decision on which type of tax treatment would allow a better economic turnover to the producer due to the amount of capital available to pay the fixed costs.
- The knowledge regarding the tax matter is an important factor to be considered in forest planning, consisting of a key variable in assessing whether the result is going to be a success or failure.
- It is necessary for producers and companies involved to prepare the Tax Planning, in compliance with the current law, directing the company to a better course to achieve economic profitability, complying with the payment of taxes and meeting all the requirements, avoiding incurring some type of non-compliance or tax evasion.
- Situations with two management regimes with two thinning cycles and with a corporate tax treatment with presumed profit in the clear-cutting on planting scale from 25 years old are those that generate the best economic returns.

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