ANALYSIS ON COMPETITIVENESS OF TOBACCO CROP
CASE STUDY: PT. PERKEBUNAN NUSANTARA X AND GROWERS IN JEMBER AREA

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Abstract

This paper will discuss the competitiveness and the impact of policy on tobacco crops as raw material for cigars. The study was focused on the tobacco produced by PTPN X as well as by growers (farmers). Policy Analysis Matrix (PAM) is used in analyzing the competitiveness, particularly in terms of competitive advantage (financial efficiency) and comparative advantages (economic efficiency). The results show that the tobacco harvested under PTPN X production system and produced by farmers have good comparative advantages. Domestic Resource Cost Ratio (DRCR) coefficients of both crops are less than 1, which are 0.2911 and 0.7844 for PTPN X and growers, respectively. The study also indicates that the crop has decent competitive advantage. The crop produced by PTPN X and farmers also having PCR coefficient below 1, which are 0.2872 and 0.8042, respectively. In addition, profitability coefficient (PC) for both producers are positive, which are 0.9511 and 0.9028. On the other hand, the effective protection coefficient (EPC) are 0.9460 and 0.9938. Those coefficients indicate that tobacco production under state owned enterprise (PTPN X) and farmers are having fairly good competitive and comparative advantages. However, the subsidy ratio to producer (SRP) give negative values, which are -0.0280 (PTPN X) and -0.0185 (growers). It indicates that government policies on tobacco production system cause distortion or negative impact to tobacco producers.

Keywords: competitiveness, tobacco, cigars, PTPN X, growers

1. Introduction

Historically, tobacco has been a high value commodity since the Dutch colonial era. Tobacco based industries contribute of approximately 1.66% to National Gross National Product (GNP), in which the biggest contribution comes from cigarette industry of 1.56% (Santosa et al., 2009). Needless to say that tobacco based industries, like cigarette manufacturing, provide very large number of job opportunities. A significant quantity of tobacco also has been exported annually.

Tobacco as raw material for cigar nowadays is cultivated by state owned enterprises and growers. One of the enterprises in tobacco business is PT. Perkebunan Nusantara X (PTPN X). The company has 2 main cultivation areas, which are Klaten Region in Central Java and Jember Region in Eastern Java. Tobacco from both areas is used at the material to wrap, to bind, and to fill the cigar. In Jember, tobacco had been known since two centuries ago. In area Besuki, tobacco had been planted before 1860 especially in the area of Bondowoso. But the planting was still done by the smallholding and had not yet been done by company (Dutch Tobbaco Growers, 1951).

In Indonesia, there are some main issues should be encountered in developing tobacco crop for cigar. These are including technical aspects, social-economy issues including grower institution, and government support policy. In technical aspects, there are relatively low levels in technology adoption among the farmers which then a hindering factor to improve product quality as well as reduce cost. Climate changes also cause adverse effect to the crop. To get good cigar, it is needed to have good quality of tobacco leaves. In doing so, process of getting a good seed in order to produce good quality of
tobacco leaves is a job that requires extra ordinary work capitality and distinguished-skill (Damberger, 2000).

On company level, like PTPN X, there is a considerable high land dependency, since the company should lease the land from land owner, which is creating endless uncertainties. While tobacco production on farmers level must deal with the low consolidation in farmer group, weakening the bargaining power. In addition, anti tobacco and anti cigar campaign which is relating to human health has been intensifying in Indonesia and in export destination countries. The highly fluctuation in tobacco prices in international market are obviously creating financial problem to all producers. There have been many disincentive policies issued by Indonesian government since tobacco is considered as the product that harmful to human health. These disincentive policies obviously push all tobacco business players to adjust the way they conduct the business and plunge the profit and the competitiveness as well.

In contrary, however, it turns out that tobacco commodity and tobacco based industries are still viewed as the eminent industry that providing huge number of job opportunities and the significant source of foreign currencies. Thus, it is thought that analysing tobacco business profitability, particularly on company level like PTPN X and for tobacco growers, as well as their competitive and comparative advantages, are great importance. Further, study on incentive policies on tobacco business, also the policy and strategy in developing tobacco crop at PTPN X and in farmers level are also essential for the future of the industry.

For the last decade, cigarette and cigar multinational companies shifted their focus to dense populated countries, like China, India and Indonesia. The shiftings in production, consumption, export, and import were happening from developed country to developing countries (Hadi et al., 2008).

Problem Formulation

Currently, Indonesian economic development should deal with a number of challenges, in particular to improve people prosperity. The two of most substantial challenges are economic globalization and trade liberalization. In regard to agriculture products, like tobacco, all agribusiness system, which include cultivation process, post-harvesting, processing industry, marketing and all supporting services shall encounter the challenges. However, in the production sub-system, the productivity tends to decline by the time. Tobacco grower bargaining position in product pricing is weak due to poor institution consolidation in growers level. Poor coordination among economic entities in tobacco business network causes bad product synchronization and poor harmonizing among entities. These conditions obviously weakening the competitiveness of Indonesian tobacco-based products, both in domestic market and international market. Based on those problem identification, the research topic then can be formulated, which is how are the levels of competitiveness of tobacco for cigar manufacturing procuced by PTPN X and growers in Jember area in facing the future global competition.

Research Objective

This research is generally aiming to understand tobacco industry competitiveness. Based on above problem identification and frame of thought, the specific objectives of the research are:

a. Analysis on profitability for PTPN X and growers in tobacco business.

b. Analysis on comparative and competitive advantages of tobacco business for PTPN X and growers

c. Policy formulation on tobacco business improvement for PTPN X and growers.

2. Methods

Research Location, Data and Information

The research had been conducted in Jember Regency area, Eastern Java, in which tobacco for cigar is the main crop, and most of the tobacco is exported. Cultivation is done by PTPN X and growers. The tobacco harvested is designated for various kind of products and different product quality of cigars. The research had been carried out in the period of May to August 2012 to collect primary and secondary data. The quantitative data, input and output for various kinds and different quality of tobacco, are primary data from PTPN and growers cultivation systems. There were 21 growers selected to represent the of total grower population in the area.

Data Analysis

Policy Analysis Matrix (PAM) is used to analyse business feasibility both in private and social
aspects. The matrix is also utilized as the tool to examine competitive advantage (financial efficiency) and comparative advantage (economy efficiency), and the impacts resulted from government intervention policy (Monke and Pearson, 1995; Pearson, et al., 2005). The first line of PAM is the calculation with private price or market price which is the price actually accepted and paid by the business players. The second line is the calculation based on shadow price which is the price describing the real and actual social value or economics value for cost elements. The third line is the difference in private price and social price as the effect of government policy or market distortion. More detail of PAM Matrix can be seen in Table 1.

Table 1. An Outline of The Policy Analysis Matrix (PAM)

<table>
<thead>
<tr>
<th>Income</th>
<th>Cost</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
</tbody>
</table>

Note: D = Private Profit
       H = Social Profit
       I = Output Transfer
       J = Input Transfer
       K = Transfer Factor
       L = Net Transfer

For the input and output that can be traded internationally, social price can be calculated based on international trading price. For the imported commodity, CIF (Cost Insurance and Freight) is used while for the exported commodity, FOB (Free on Board) is employed. Since the tobacco final product will be exported, FOB price will be employed as the shadow price. On the other hand, for the non tradable input (land and worker) uses opportunity cost. For the interest of working capital, shadow price will use the real interest rate which is actual interest rate subtracted by inflation rate. The most difficult tasks for constructing a PAM are estimating social prices for outputs and inputs, and decomposing inputs into their tradable and non-tradable components (Yao, 1997).

One of the main strengths of this approach is that it allows varying degrees of disaggregation. It also provides a straightforward analysis of policy-induced effects. Despite its strengths, the PAM approach has been criticized because of its static nature. Some do not consider the results to be realistic in a dynamic setting (Nelson and Pangabean, 1991). One of the ways to overcome this limitation is to conduct sensitivity analysis under various assumptions.

Some indicators of analysis result for PAM Matrix

Some indicators of PAM analysis result is:
1. Analysis of Private Provitability /PP : D = A – (B+C); (2) Analysis of Social Provitability/PP : H = E – (F+G); (3) Financial Efficiency shown by coefficient value of Private Cost Ratio/PCR = C/(A-B); (4) Economics efficiency shown by coefficient value of Domestic Resource Cost Ratio/DRCR = G/(E-F); (5) Output Transfer : OT = A-E; (6) Nominal Protection Coefficient on Output/NPCO = A/E; (7) Transfer Input : IT = B – F; (8) Nominal Protection Coefficient on Input/NPCI = B/F; (9) Transfer Factor/FT = C–G; (10) Effective Protection Coefficient/EPC = (A-B)/(E-F); (11) Net Transfer : NT = D – H; (12) Profitability Coefficient/PC = D/H; and (13) Subsidy Ratio to Producer/SRP = L/E = (D-H)/E.

Cost Allocation to Domestic and Foreign Components

In this paper, allocation of cost component to domestic and foreign component uses direct approach (Monke and Pearson, 1995; Pearson et al., 2005). For the tradable inputs in particular, should there is any shortage in supply, it can be met by supply from international market, while if there is any excess in the input, it can be marketed in international market.

The goods which are assumed as totally tradable goods are the processed tobacco, tobacco seeds, Urea, SP-36, KCL/KNO3, NPK, CONO3, solid pesticides, liquid pesticides, consummable material and equipment and fuel. On the other side, the inputs that are assumed as 100% domestic factors are labours, land and property tax, irrigation water levy, working capital and land lease cost.

The domestic and foreign costs for transportation were informed by various traders. The labour cost in transportation is then considered as domestic factor and leasing cost in transporting is
treated as foreign component (tradable). Furthermore, labour costs in post harvesting and processing activities are considered as domestic factor, while material and equipment costs during post harvesting and processing are treated as foreign component (tradable).  

Justification in Determination for Input and Output Social Price
1. Social price of processed tobacco for Cigar manufacturing in Jember Rp 161,264,-/Kg.
2. The social price of tobacco seed is calculated from actual price which are Rp 92,-/piece for PTPN X tobacco seeds and Rp 215,-/piece for growers.
3. The social price of Urea is Rp 4,092,-/Kg.
4. SP-36 fertilizer social price is Rp 3,865,-/Kg.
5. KNO3/KCL social price is Rp. 13,752,-/Kg.
6. Ca(NO3)2 social price is Rp 7,026,-/Kg.
7. PONSKA/NPK fertilizer social price is Rp 2,734,-/Kg.
8. Shadow price of solid and liquid pesticide is determined by actual average price and then it is subtracted by import duty of 10 % and value added tax of 10 %.
9. Shadow price for land is established by land lease cost, particularly when the land market mechanism is going well.
10. Labour shadow price for PTPN X is calculated by actual wage multiplied by 1.08. While, under farmer cultivation system, the labour shadow price is using the effective wage.
11. Capital interest rate shadow price uses real interest rate which is actual loan interest rate minus inflation rate.

3. Result And Discussions

Analysis of Private Profitability

Based on cost and profit analysis (private), it turns out that tobacco cropping is financially profitable. This happens both for PTPN X cropping area and growers in Jember. The profits are Rp 219,769,715,-/Ha/season and Rp 15,558,361,-/Ha/season, respectively. The much higher profit of PTPN X than the average grower profit are due to higher productivity and better product quality. The determining factors for better productivity and quality are the technology applied and management quality.

The capital return for PTPN X and tobacco growers are good which are shown in R/C values of 2.22 and 1.21 respectively. It means that for every rupiah capital spent, the return will be Rp 2.22 for PTPN X and Rp 1.21 for growers. With these data, it can be concluded that tobacco cropping has very good financial viability.

Social Profitability Analysis

Calculations were made on social cost and social profit, and again it turns out that tobacco cultivation for cigar manufacturing is socially (economically) very profitable. PTPN X recorded social profit of Rp 229.33 million/Ha/season while growers obtained Rp. 17.23 million/Ha/season in profit. Again PTPN X production gives better profit than the growers. Further, the calculation gives rate of capital return for PTPN X farmer or R/C ratio value of 2.34 and 1.23. It means that every rupiah invested in tobacco production socially give Rp 2.34 and Rp 1.23 return for PTPN X and farmers.

Economics Efficiency (Comparative Advantage)

Economics efficiency is reflected by Domestic Resource Cost Ratio (DRCR). In this study, it is found that tobacco cultivation by PTPN X and farmer in Jember area has comparative excellence which is shown by the value of coefficient value of 0.2911 and 0.7844 for PTPN X and farmers are obtained respectively. It indicates that to produce one unit of tobacco output, the domestic resources cost required is less than one unit. As shown in their DRCR, PTPN X production system is far more efficient than farmer production system.

Financial Efficiency (Competitive Advantage)

Financial efficiency or competitive advantage is measured by Private Cost Ratio (PCR). It turns out that tobacco cropping in PTPN X and farmer have PCR of 0.2872 and 0.8042, respectively. To produce one unit in added value of tobacco output at private price, it is only required less than 1 unit in domestic resources cost (Saptana et al., 2004). Again the competitive advantage in PTPN X tobacco production is higher than the farmer production system. The summary of DRCR and PCR coefficient values for PTPN X farmer production systems is presented in Table 2.
The nominal protection coefficient calculated based on social price. Positive input transfer value shows that there is government policy on input. The negative value for Urea means that PTPN X and tobacco growers obtain Urea at lower cost than the actual cost. PTPN X has positive input transfer value for SP-36 fertilizer while Farmer has negative transfer value. Farmer also has negative transfer for PONSKA/NPK. For KNO3/KCL and Ca(NO3)₂, PTPN X has positive transfer value, meaning that PTPN X must pay the input at the higher price than social price; For the solid pesticides, both PTPN X and farmer have positive transfer values, while for liquid pesticides PTPN X and farmer have positive value. For consummable material and equipment during cultivation, post harvesting and product processing, PTPN X and farmers have positive transfer value. The total input traded for PTPN X and farmer have positive transfer value of Rp 17,355,663 and Rp 468,516/Ha/season.

In Nominal Protection Coefficient on Input (NPCI) the values are generally similar with the IT values. The differences are in SP-36 fertilizer and PONSKA/NPK, in which farmers have negative values. It means that they must pay lower price than the actual price. Further, the entire input traded for PTPN X and growers have NPCI coefficient value of 1.23 and 1.04. It suggest that there is no protection from government, and they must pay higher input price than the social price.

Output Protection

Government intervention whether it is incentive or disincentive policy at product output is indicated by the value of Output Transfer (OT) and NPCO. Output transfer is the margin between revenue calculated based on private price compare to the revenue calculated based on social price. Nominal Protection Coefficient Output (NPCO) is the ratio between revenue calculated based on private price and revenue calculated based on social price. The summary of OT and NPCO values is presented in Table 4.
Table 4. OT and NPCO Values for Tradable Input

<table>
<thead>
<tr>
<th></th>
<th>Private Revenue</th>
<th>Social Revenue</th>
<th>OT</th>
<th>NPCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTPN X</td>
<td>400,101.088</td>
<td>400,225.536</td>
<td>-124,448</td>
<td>0.9997</td>
</tr>
<tr>
<td>Farmer</td>
<td>90,757.762</td>
<td>90,786.105</td>
<td>-28,342</td>
<td>0.9997</td>
</tr>
</tbody>
</table>

The values of OT for PTPN X and growers are -Rp 124,448/Ha/season and -Rp 28,342/Ha/season, respectively. It reveals that PTPN X and farmer receive cheaper private price than the social price. The values of NPCO for PTPN X and farmer are identical, 0.9997. It means that PTPN X and tobacco farmer receiving the price of 0.03% cheaper than the actual price. There is an information that the tobacco producers must pay retribution of Rp 25/Kg to the local government.

Effective Protection

The entire input and output policies are indicated by Net Transfer (NT), Effective Protection Coefficient (EPC), Profitability Coefficient (PC) and Subsidy Ratio to Producer (SRP). Analysis on divergency impact and government policy to input and output of tobacco production can be seen in Table 5.

Table 5. NT, PV, EPC, and NPCO Values

<table>
<thead>
<tr>
<th></th>
<th>NT</th>
<th>PC</th>
<th>EPC</th>
<th>SRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTPN X</td>
<td>11,212.340.35</td>
<td>0.9511</td>
<td>0.9460</td>
<td>-0.0280</td>
</tr>
<tr>
<td>Farmer</td>
<td>-1,675,559.38</td>
<td>0.9028</td>
<td>0.9938</td>
<td>-0.0185</td>
</tr>
</tbody>
</table>

Net Transfers (NT) are negative, means that there is government policy or market that creating loss for PTPN X and growers. Further, the Profitability Coefficient (PC) is positive but less than 1, which are 0.9511 and 0.9028 for PTPN X and growers, respectively, indicating that government policy or market distortion has detrimental effects in which PTPN X and tobacco growers receive lower profit than the actual profit.

The values of Effective Protection Coefficient (EPC) are also below 1, which are 0.9460 and 0.9938 for PTPN X and growers, respectively. It indicates that there is no government protection in place with the implication that PTPN X and farmer are subsidising cigar producers and consumers in export destination countries.

The values of Subsidy Ratio to Producer (SRP) are negative for PTPN X and growers, -0.0280 and -0.0185, respectively. It means that government policy creates detrimental impacts. PTPN X and farmer receives negative subsidy or they have to pay tax or retribution to government.

Sensitivity Analysis

Following Yao (1997), sensitivity analyses are conducted to test whether the results would be substantially altered by changes in the underlying assumptions. Sensitivity analysis is also required to study financial and economics competitiveness. Sensitivity analysis is carried out on 15% decrease in output price, and 15% increase in Tradable Input. The summary in sensitivity analysis for PTPN X is presented in Table 6, while Table 7 presents sensitive analysis for grower. The results suggest that:

- If output price decreased by 15%, PTPN X remains to have good competitive and comparative advantages, with PCR of 0.3506 and DRCR of 0.3574.
- If the tradable input price increased by 15%, PTPN X remains possesses good competitive and comparative advantages with PCR of 0.2882 and DRCR of 0.3018.
- If output price reduced by 15 percent and simultaneously tradable input price rise by 15%, PTPN X remains to have competitive and comparative advantages, in which PCR is 0.3511 and DRCR is 0.3737.
- If output price declined by 15%, tobacco farmers will only have marginal or almost no competitive and comparative advantages, with PCR 0.9705 and DRCR 0.9455.
- When tradable input price increased by 15%, tobacco growers will be having fairly competitive and comparative advantages. PCR is 0.8217 and DRCR is 0.8007.
- If output price dropped by 15% and simultaneously tradable input price rise by 15%, tobacco growers will lose their competitive and comparative advantages since PCR is 0.9961 and DRCR is 0.9692.
Table 6. Sensitivity Analysis for PTPN X If Output Price Decrease, Tradable Input Increase and Output Price Decrease as well as Tradable Input Price Increase Simultaneously

<table>
<thead>
<tr>
<th>No.</th>
<th>PAM Indicator</th>
<th>Actual Condition</th>
<th>Decreased Output Price 15 %</th>
<th>Increased Tradable Input Price 15 %</th>
<th>Decreased Output Price 15 % and Increased Tradable Price 15 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Profit Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Private Profitability (PP)</td>
<td>218.122.191.13</td>
<td>159.754.552.20</td>
<td>219.387.455.36</td>
<td>159.372.292.20</td>
</tr>
<tr>
<td>2</td>
<td>Social Profitability (SP)</td>
<td>229.334.531.47</td>
<td>169.300.701.05</td>
<td>217.824.141.69</td>
<td>157.790.311.27</td>
</tr>
<tr>
<td>B</td>
<td>Competitive Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Private Cost Ratio (PCR)</td>
<td>0.2872</td>
<td>0.3506</td>
<td>0.2882</td>
<td>0.3511</td>
</tr>
<tr>
<td>2</td>
<td>Domestic Resource Cost Ratio (DRCR)</td>
<td>0.2911</td>
<td>0.3574</td>
<td>0.3018</td>
<td>0.3737</td>
</tr>
<tr>
<td>C</td>
<td>Impact of Policy Divergency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Output Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Nominal Protection Coefficient on Output (NFCO)</td>
<td>0.9997</td>
<td>0.9997</td>
<td>0.9997</td>
<td>0.9997</td>
</tr>
<tr>
<td>C2</td>
<td>Input Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Input Transfer (IT)</td>
<td>17.355.662.73</td>
<td>17.355.662.73</td>
<td>6.227.532.95</td>
<td>6.227.532.95</td>
</tr>
<tr>
<td>2</td>
<td>Nominal Protection Coefficient on Input (NPCI)</td>
<td>1.2262</td>
<td>1.2262</td>
<td>1.0706</td>
<td>1.0706</td>
</tr>
<tr>
<td>C3</td>
<td>Input Policy and Output Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Effective Protection Coefficient (EPC)</td>
<td>1.4011</td>
<td>0.9337</td>
<td>0.9796</td>
<td>0.9749</td>
</tr>
<tr>
<td>3</td>
<td>Profitability Coefficient (PC)</td>
<td>0.9511</td>
<td>0.9436</td>
<td>1.0072</td>
<td>0.9414</td>
</tr>
<tr>
<td>4</td>
<td>Subsidy Ratio to Producer (SRP)</td>
<td>-0.0280</td>
<td>-0.5304</td>
<td>0.0039</td>
<td>-0.0292</td>
</tr>
</tbody>
</table>

Table 7. Sensitivity Analysis for Tobacco Growers If Output Price Decrease, Tradable Input Increase, and Output Price Drop and Tradable Input Price Rise simultaneously

<table>
<thead>
<tr>
<th>No.</th>
<th>PAM Indicator</th>
<th>Actual Condition</th>
<th>Decreased Output Price 15 %</th>
<th>Increased Tradable Input Price 15 %</th>
<th>Decreased Output Price 15 % and Increased Tradable Price 15 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Profit Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Private Profitability (PP)</td>
<td>15.558.361.28</td>
<td>1.944.696.91</td>
<td>13.863.094.28</td>
<td>249.429.91</td>
</tr>
<tr>
<td>2</td>
<td>Social Profitability (SP)</td>
<td>17.233.920.66</td>
<td>3.616.004.98</td>
<td>15.608.931.03</td>
<td>1.991.015.35</td>
</tr>
<tr>
<td>B</td>
<td>Competitive Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Private Cost Ratio (PCR)</td>
<td>0.8042</td>
<td>0.9705</td>
<td>0.8217</td>
<td>0.9961</td>
</tr>
<tr>
<td>2</td>
<td>Domestic Resource Cost Ratio (DRCR)</td>
<td>0.7844</td>
<td>0.9455</td>
<td>0.8007</td>
<td>0.9692</td>
</tr>
<tr>
<td>C</td>
<td>Impact of Policy Divergency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Output Policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Output Transfer (OT)</td>
<td>-28.342.10</td>
<td>-24.090.79</td>
<td>-28.342.10</td>
<td>-24.090.79</td>
</tr>
</tbody>
</table>
4. Conclusions And Policy Suggestions

In producing tobacco for cigar manufacturing, PTPN X and growers get decent profit, financially and economically. The financial profits of PTPN X and farmers are Rp 218.122.191,- and Rp 15.558.361 /Ha/season, while the social or economics profits are Rp 229.334.531 and Rp 17.233.921/Ha/season. PTPN X have strong comparative and competitive advantages, while tobacco farmers are only having fairly good advantages. Based on NPCI analysis, both PTPN X and growers must pay higher Tradable Input than the actual price. This indicates there is no government protection policy to tobacco producers. NPCO values for PTPN X and farmers is 0.9997. This is implying that PTPN X and farmers receive 0.03% lower price than the actual price. From Net Transfer (NT) analyses, it is found that government policy on and output is causing loss for PTPN X and tobacco farmers. Analysis on Profitability Coefficient (PC) indicates the government policy causes detrimental effect to tobacco producers. PTPN X and tobacco growers receive less profit than the actual profit. The Effective Protection Coefficient (EPC) values reveal that there is no government protection. In addition, Subsidy Ratio to Producer (SRP) are negative for PTPN X and growers. It means that they receive negative subsidy from government by paying retribution to the local government. From sensitivity analysis, it is found that PTPN X competitiveness is solid. From all analysis, it is concluded that PTPN X outperform tobacco growers. The determining factors are including more superior cultivation technology applied, better human resources and management practices. There are some suggestions to improve the performance in producing tobacco, both at corporate level as well as at farmers level, which are:

- The increase in productivity and rendement, in particular at growers level is significantly affected by technology adoption like in seedling, cultivation, harvesting and post harvesting.
- The efficiency improvement in processing industry through development of quality management to meet quality specification required international market.
- Reducing cost of Urea, SP-36, PONSKA, KNO₃, Ca(NO₃)₂ and solid pesticides as well as liquid pesticides by elimination various distortions like retributions, fees, etc.
- It is essential to develop the product and improve promotion in order to increase market volume and to expand the target markets.

5. References


