III. THEORETICAL FRAMEWORK

3.1. Welfare Effects of an Export Tax on Large Country

Suppose there are only two trading countries, one importing and one exporting country. The supply and demand curves for the two countries are shown in the adjoining diagram. $P_{FT}$ is the free trade equilibrium price. At that price, the excess demand by the importing country equals excess supply by the exporter.

![Diagram showing supply and demand curves for importing and exporting countries.](image)


Figure 2. Welfare Effects of Export Tax on a Large Country

The quantity of imports and exports is shown by the line segment on each country's graph. That's the horizontal distance between the supply and demand curves at the free trade price. When a large exporting country implements an export tax, it will cause a decrease in the price of the good on the domestic market and an increase in the price in the rest of the world (RoW). Suppose after the tax
the price in the importing country rises to \( P^\text{IM} \) and the price in the exporting country falls to \( P^\text{EX} \). If the tax is a specific tax then the tax rate would be the difference between the two price i.e. \( T = P^\text{IM} - P^\text{EX} \), as line segment in the diagram reported in the diagram.

The following Table provides a summary of the direction and magnitude of the welfare effects to producers, consumers and the governments in the importing and exporting countries. The aggregate national welfare effects and the world welfare effects are also shown.

**Table 5. Welfare Effects of Export Tax**

<table>
<thead>
<tr>
<th>Welfare Effects of an Export Tax</th>
<th>Importing Country</th>
<th>Exporting Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Surplus</td>
<td>(- (A + B + C + D))</td>
<td>(+ e)</td>
</tr>
<tr>
<td>Producer Surplus</td>
<td>(+ A)</td>
<td>(- (e + f + g + h))</td>
</tr>
<tr>
<td>Govt. Revenue</td>
<td>(0)</td>
<td>(+ (c + g))</td>
</tr>
<tr>
<td>National Welfare</td>
<td>(- (B + C + D))</td>
<td>(+ c - (f + h))</td>
</tr>
<tr>
<td>World Welfare</td>
<td>(- (B + D) - (f + h))</td>
<td></td>
</tr>
</tbody>
</table>

### 3.1.1 Export Tax Effects on Exporting Country

**Consumers** - Consumers of the product in the exporting country experience an increase in well-being as a result of the export tax. The decrease in their domestic price raises the amount of consumer surplus in the market. The magnitude of the change in consumer surplus is represented already in the above figure and diagram.

**Producers** - Producers in the exporting country experience a decrease in well-being as a result of the tax. The decrease in the price of their product in their own market decreases producer surplus in the industry. The price decline also induces a decrease in output, a decrease in employment, and a decrease in profit and/or payments to fixed costs.
**Government** - The government receives tax revenue as a result of the export tax. Who benefits from the revenue depends on how the government spends it. Typically the revenue is simply included as part of the general funds collected by the government from various sources. In this case it is impossible to identify precisely who benefits. However, these funds help support many government spending programs which presumably help either most people in the country, as is the case with public goods, or is targeted at certain worthy groups. Thus, someone within the country is the likely recipient of these benefits.

**Exporting Country** - The aggregate welfare effect for the country is found by summing the gains and losses to consumers and producers. The net effect consists of three components: a positive terms of trade effect (c), a negative consumption distortion (f), and a negative production distortion (h).

Because there are both positive and negative elements, the net national welfare effect can be either positive or negative. The interesting result, however, is that it can be positive. This means that an export tax implemented by a "large" exporting country may raise national welfare. In general, (1) whenever a "large" country implements a small export tax, it will raise national welfare; (2) if the tax is set too high, national welfare will fall; and (3) there will be a positive optimal export tax that will maximize national welfare.

However, it is also important to note that everyone's welfare does not rise when there is an increase in national welfare. Instead there is a redistribution of income. Producers of the product and recipients of government spending will benefit, but consumers will lose. A national welfare increase, then, means that the sum of the gains exceeds the sum of the losses across all individuals in the
economy. Economists generally argue that, in this case, compensation from winners to losers can potentially alleviate the redistribution problem.

3.1.2 Export Tax Effects on Importing Country

Consumers - Consumers of the product in the importing country suffer a reduction in well-being as a result of the export tax. The increase in the price of both imported goods and the domestic substitutes reduces the amount of consumer surplus in the market.

Producers - Producers in the importing country experience an increase in well-being as a result of the export tax. The increase in the price of their product on the domestic market increases producer surplus in the industry. The price increase also induces an increase in output of existing firms (and perhaps the addition of new firms), an increase in employment, and an increase in profit and/or payments to fixed costs.

Importing Country - The aggregate welfare effect for the country is found by summing the gains and losses to consumers, producers and the government. The net effect consists of three components: a negative terms of trade effect (C), a negative production distortion (B), and a negative consumption distortion (D). Since all three components are negative, the export tax must result in a reduction in national welfare for the importing country. However, it is important to note that a redistribution of income occurs, i.e., some groups gain while others lose. In this case the sum of the losses exceeds the sum of the gains.

3.1.3 Export Tax Effects on World Welfare

The effect on world welfare is found by summing the national welfare effects in the importing and exporting countries. By noting that the terms of trade
gain to the exporter is equal to the terms of trade loss to the importer, the world welfare effect reduces to four components: the importer's negative production distortion (B), the importer's negative consumption distortion (D), the exporter's negative consumption distortion (f), and the exporter's negative production distortion (h). Since each of these is negative, the world welfare effect of the export tax is negative. The sum of the losses in the world exceeds the sum of the gains. In other words, we can say that an export tax results in a reduction in world production and consumption efficiency.

Considering the world trade mechanism, for world trade to exist, the price of the product in an exporting country must be lower than that of the world price. This shows that the exporting country must have comparative advantage in producing that product to be exported than other countries. It has been observed that the exporting country sell the product at domestic price that is lower than the world price. This enables the exporting country to export excess supply to the world market. At the same time, the importing country normally imports excess demand from the world market at the $P_w$ that is lower than the domestic price. This indicates that the country does not have comparative advantage in producing such a commodity.

### 3.1.4 Effect of Export Tax Policy on Crude Palm Oil

Under the export tax policy, producers in the exporting country will lose because they receive lower prices and exports decline. Consumers in the exporting country gain through lower prices and the government generates revenue. The effect of an export tax is different in the case of a large exporting country (i.e., when a country faces a downward sloping residual demand curve). Having market power on the world market, the export tax causes a reduction in domestic
production; thus, exports decline and the world price increases. In this case, consumers, producers and the government in the exporting country can gain from this policy (Reed, 2000; McCalla and Josling, 1985).

With respect to export tax policy, the export volume is always suppressed resulting into low export quantity. As can be shown in Figure 3, as the export tax is implemented the quantity supplied reduces from \((Q_p - Q_e)\) to \((Q_{p1} - Q_{e1})\). Due to the reduction in export volume by the producers, the supply curve in the world market will shift to the left resulting in reduced volume supplied in the market. The quantity reduces from \(Q_e\) to \(Q_{e1}\). As a result of reduced supply in the world market, the import price increases with an equivalent of export tax

**Figure 3. Effects of Export Tax on Indonesian Crude Palm Oil Industry**

3.2. Competitiveness and Performance of an Industry

The concept of international competitiveness continues to attract plenty of attention from policy makers worldwide. This is perhaps the result of lack of a
better indicator for countries to benchmark their performance. Most measures of competitiveness so far have been at the national level and generally refer to the ability of a country to produce goods and services that meet the test of international markets, while simultaneously maintaining and expanding the real income of its citizens. Because competitiveness ultimately depends upon the firms in the country competing successfully in domestic and international markets, attention has recently shifted toward competitiveness at the firm level.

At the firm level, competitiveness is generally understood to refer to the ability of the firm to retain and, better still, expand its global market share, increase its profits and expand. According to traditional economic theory, a firm can gain competitive advantage through comparative cost of production by, for example, reducing labor cost.

However, recent research from the management field suggests that non-price factors are equally important determinants of competitiveness. The range of non-price factors is diverse and include human resource endowment, such as skills; technical factors such as research and development capabilities and the ability to innovate; and managerial and organizational factors, both internal to the firm and externally organized through relationships with other bodies, customers, suppliers, public and private research institutes, and other firms. Together, these factors determine the ability of the firm to compete successfully in international markets in the face of changing technological, economic, and social environments. Export profitability and the ability of the firm to maintain its market share remain the ultimate indicators of international competitiveness.

According to Porter (1990), four conditions that incorporate both internal and external factors need to be present to allow firms to compete successfully.
These include (i) factor conditions, such as the availability of skilled labor and infrastructure, (ii) demand conditions for the products of the industry, (iii) related and supporting industries including competitive suppliers, and (iv) firm strategy, structure, and rivalry. Together, these four factors create the context in which firms are born and compete (Porter, 1990).

In addition, recent research also emphasizes path dependency, which relates to history and the development of features specific to a particular nation, as also being an essential determinant of competitiveness. There is a well-developed body of literature that ascribes a strong role to national capabilities, characteristics, and policies in conferring technological and competitive advantage to firms, particularly in developing countries.

A central aspect of this view involves networks and interactions among firms, universities, research centers, and government organizations comprising a national system of innovation or NSI (Bartholomew, 1997) that enhance their ability to grow. Within this framework, government policies aimed at strengthening a country’s NSI generally contribute to the competitive advantage of firms in that country (Aoki et al., 1997).

Furthermore, the resource-based perspective of the firm emphasizes the ability to create entry barriers in order to discourage competitors from imitating and duplicating their successes. Accordingly, a firm can gain and sustain its competitiveness in international markets by its ability to leverage on organizational resources and skills that are valuable and rare; non-imitable (Lippman and Rumelt, 1982) and non-substitutable. Thus, while micro factors are important determinants of competitiveness, the nature of the external environment in which firms operate and the relationship firms develop with outside
organizations are increasingly being recognized as integral elements of competitiveness at the firm level.

3.3. Conceptual Framework

The different theoretical explanations of competitiveness above explain the competitiveness of mostly large corporate firms in developed countries and therefore are not entirely appropriate for firms in developing countries. For example, the resource-based view approach suggests that firms derive their competitiveness by producing unique products and by creating entry barriers to prevent others from imitating their activities. This is not entirely relevant for firms from underdeveloped countries in Asia, which are characterized as being generally small, technologically underdeveloped with unskilled workers, and operate within an underdeveloped financial sector.

To explain how these firms can enhance their competitiveness, elements of the different theoretical perspectives above are used in developing a conceptual model reflective of the experience of Indonesian firms. In particular, the model postulates that firms can enhance their competitiveness by (i) being flexible and working cooperatively with outside organizations, (ii) being innovative, and (iii) being human resource-oriented. To the extent that the external factors facing firms are also important, we further argue that ultimately the competitiveness of firms also depends on the role the government plays in supporting business and industrial development.

The model in Figure 4 shows the linkages between the internal and external factors discussed above. The internal factors include technology, human resource, and organizational structure.
Figure 4. Conceptual Framework for Indonesian Crude Palm Oil Industry
3.4 Hypothesis

1. Indonesian CPO is highly competitive in the world market though it faces competition from other CPO exporting countries in the world market.

2. CPO export tax has substantial negative effects on both efficiency/growth and welfare distribution.

3. The export tax improves the welfare of domestic consumers as it controls domestic price of CPO and its products.

4. The export tax has negative impacts on the welfare of CPO domestic producers due to reduction in export.

5. The foreign exchange rate is positively related to domestic CPO price, export and consumption but negatively related to CPO stock.