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A Study on the Reasonable Choice and Utilization of Incoterms 2020 Rules from the Perspective of Logistics and Supply Chain Management

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Abstract

Purpose – This paper has an objective to suggest reasonable criteria in choosing Incoterms 2020 rules for efficient and effective logistics management in that the Incoterms rules affect not only the rights and obligations of the parties to the sales contract but also the control and management of logistics system and transaction costs in the transaction.

Design/methodology – An analysis of the various factors is needed to assess the positive or negative impact on global value chain in choosing Incoterms rules from a total logistics view. This study analyzes the impact of which the content of individual incoterms rules can have on the operation of international logistics systems under the global value chain from a strategic perspective to suggest reasonable criteria for selection of Incoterms rules depending on the transaction situation.

Findings – Results of this study shows that consideration of various aspects which includes the characteristics of the products, logistics capabilities, infrastructure, transaction volume, operational cost, customs regulations, tax and accounting should be reflected in choosing the appropriate Incoterms rules. Therefore, in order to minimize the total cost and improve logistics performance, it may be helpful to develop a decision support model which allows users to select appropriate Incoterms rules based on various influencing factors.

Originality/value – This Study is different from previous research which has mainly focused on the rights and obligations of the parties to the transaction regarding the transfer of risks and costs under the Incoterms. In addition, this study has significance in that it provides implications for export and import companies that can be able to use Incoterms as a strategic tool to efficiently manage the global value chain and improve supply chain performance.

Keywords: Choice of Incoterms, Incoterms 2020, Logistics Management, SCM, Trade Terms
JEL Classifications: K15, K22, K33, O33

1. Introduction

Incoterms clearly define the roles and duties between the seller and the buyer in international transaction such as who should arrange transport and insurance of the goods, export licenses, customs clearances. In other words, it defines the roles and obligations of sellers and buyers as the goods flows along the logistics chain. Therefore, these factors may not only affect the process of moving the goods from procurement of materials to sales but also logistics costs and system operations which should not be overlooked. In other words, a clear understanding and reasonable choice of Incoterms rules can contribute to improving performance through reducing logistics costs and efficient operation of logistics processes. Logistics affects commercial transaction. Logistics directly contributes to the customer's satisfaction by providing value to the customer by making the right product available at the right time and the right price. To achieve the goal of customer satisfaction with efficient and

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effective logistics, coordinated and planned capabilities are required. To this end, all participants in the logistics chain must have a clear understanding of their roles and responsibilities, and it may be helpful to clearly understand the Incoterms rules that define the roles and responsibilities of sellers and buyers in the movement of goods in accordance with commercial transactions.

Companies will be able to use it as a strategic tool to efficiently manage the global value chain and improve supply chain performance if they can recognize the potential value of the Incoterms rule. In this respect. From this point of view this study aims at providing reasonable selection criteria of incoterms 2020 rules for efficient logistics management based on the analysis of possible impact of the Incoterms rules on logistics and supply chain management. This study is different from previous research which has mainly focused on the rights and obligations of the parties to the transaction regarding the transfer of risks and costs under the Incoterms, practical use, and so on.

For this purpose, this study would like to review the key points of the recently amended Incoterms 2020 rules and analyze the factors that should be considered between the trading parties when choosing individual rules to provide a strategic way for using the Incoterms rules from a logistics and supply chain perspective.

2. Incorrect Usage of Using Incoterms Rules

In many cases, the parties to the sales contract have no regard influence of the Incoterms rule on the transaction when they choose the Incoterms rule. There may also be favorite Incoterms rules with which the parties are mainly use as they are familiar with only some of Incoterms rules. In practice, it is often misused without proper understanding of the Incoterms rules, and in many cases, certain rules are abused. Joy Nott, president of the Canadian Import and Export Association, estimated that about 90 percent of Canadian importers and exporters used the FOB rule, even though most of Canada's international trade is done by trucks (Gallant, 2014). This means that many companies do not get a chance to improve supply chain performance as they customarily use the traditional terms that prevailed decades ago as a practice.

Familiarity with Incoterms often means that sellers and buyers make easy choices by following standard industry practices or simply sticking to the terms used in previous sales contracts with the same customer. Despite the continued efforts of ICC to avoid the misuse of incoterms rules, rules for sea transport still widely used in the shipment of container cargo. That means improper practices in using Incoterms rules are common.

According to the KTSPI and the Korea Trade Statistics, the most commonly used term is FOB rule, accounting for 56.8 percent (2.99 million) based on the number of cases, and 28.9 percent (US$329.6 billion) based on the amount. The terms of sea transport (FOB, CFR, CIF) account for 72.7% (26.87 million) based on the number of cases and 66.4% (US$757.2 billion) based on the amount. On the other hand, terms for any mode (FCA, CPT, and CIP) are only 14.7% (5.24 million) based on the number of cases and 13.8% (US$157.8 billion) based on the amount. (KTSPI and K-stat, 2018).

In addition, a trade industry survey on the use of Incoterms shows that there seems to be no significant change in the practice of choosing Incoterms, According to the survey results as for the criteria for choosing Incoterms, 32.4% (67 people) answered as Buyer wanted, 21.3% (44 people) answered as Seller wanted, and 23.7% (49 people) answered customarily use. (Kim Ko-Hyun and Park Kwang-So, 2020).

Although the use of FCA in place of FOB may increase with the revision of the 2020

Incoterms rules, there are several reasons why trading parties prefer Incoterms rules dedicated to sea carriage for containerized and multimodal cargo.

First of all, maritime terms are familiar to trading parties as they have been used for the long time. Secondly, the maritime terms are appropriate to the practice of L/C transactions that require shipped Bill of Lading (Yang Jung-Ho, 2013). Thirdly, buyers are often reluctant to bear the risks and costs of goods before shipment is made, in which case the rules for maritime transport may be an appropriate alternative. (Ramberg, 2011).

From an operational point of view, the main advantage of using sea only Incoterms rules is that the place of delivery can be easily identified. In other words, it is not necessary to designate additional field for named place under the ERP system (Deloitte, 2020). In the case of rules for sea carriage only, the place of delivery and destination are relatively clear. For example, in the case of FOB or FAS rules, it is clear that the risk and costs are transferred when the goods are loaded at the port of shipment When using CFR and CIF Rules, it is clear that the place of delivery where the risk is transferred is the port of shipment, and that the destination where the cost is transferred is the port of landing.

In this way, the named places are clear as on-board, alongside the ship when using the rules for sea carriage only. However, the destination (cost) and delivery place (risk) are very flexible when it comes to the rules for any mode or modes of transport. For instance, when we use the DAP rule, DAP Port of Discharge, DAP Buyer's Premises and DAP intermodal terminal must be handled differently. Therefore, when managing these rules with dedicated ERP systems, difficulties can arise because there are many variables that need to be considered compared to the rules for sea carriage only.

3. Impact of Incoterms Rules on the International Logistics Systems and Supply Chains

3.1. Potential Impact on Overall Logistics Costs

The Incoterms rules determine which party should bear the costs of freight, insurance, loading and unloading, packaging, tariffs and taxes arising from the transaction process. The parties to the transaction can calculate the appropriate profit margins and identify the overall cost structure by taking these costs into account based on the Incoterms rules. On the other hand, if they are not accurately reflected in the overall cost calculation it could have a significant impact on revenue during the procurement and sale process. In addition, parties to the sales contract can manage and control the logistics system more efficiently as well as reduce unnecessary transaction costs by considering factors such as the place and means of delivery, mode of transport, and risks that the party to the transaction should bear when they choose the Incoterms rules.

Given that logistics costs account for about 9 percent of GDP as of 2018 (Statista, 2019) it is necessary to consider how to utilize the Incoterms rule to reduce logistics costs incurred in the course of implementing international transactions.

The Incoterms rules chosen for the supply of goods may affect the treatment of VAT relating to the transaction, the determination of the party for payment of VAT in certain countries, and the possibility of a refund of VAT paid for certain transactions. In addition, indirect taxation issues may arise for the freight cost of the forwarding agent to seller or buyer. For example, a local tax may be imposed on the destination terminal handling charge (THC), which may be borne by the seller or the buyer of the goods (Deloitte, 2020). Therefore, these issues need to be considered when choosing the Incoterms rule.

3.2. Revenue Recognition under the IFRS

An entity transfers its ownership, possessory right and risk of the goods to be traded through an international sale of goods, thereby creating revenue. Under the accounting principle, revenue recognition for contractual goods generally depends on the transfer of ownership, and transfer of risk. There are no specific guidance or requirements in the IFRS. It just provide general principles at which point revenue is recognized. Consequently, in practice, the timing of revenue recognition is conveniently applied in accordance with the Incoterms rules agreed between the parties. However, if revenue is recognized simply by general accounting principles or in accordance with trade terms for convenience in import and export accounting practices financial statements may be affected by unexpected revenue recognition (Choi Kwon-Soo et al., 2020). Therefore, it is required to confirm whether the timing of revenue recognition in accounting are aligned with the transfer of risks and delivery under the Incoterms rules.

3.3. Import and Export Control

Since the Incoterms rules, customs laws and export control regulations may have conflicting objectives, there is a possibility of conflict between the obligations of the parties under the Incoterms rules and the customs-related obligations. The Incoterms rules agreed between parties to international transactions assign customs clearance obligations to either the seller or the buyer. However, it does not affect to which parties have which obligations under the Customs Law or the Export Control Regulations. For example, only the fact that the seller and the buyer choose the EXW rule in their contract cannot be concluded that the buyer is an exporter under the customs law or export control. Therefore, it is necessary to identify who can act as exporters for the purpose of customs clearance or export control. Besides, the buyer who acts as an exporter under the EXW rule should understand the responsibilities involved.

3.4. Operation and Control of Logistics Process

The choice of Incoterms rules will affect the operation and control of logistics process. In other words, problems with logistics solutions, ability to consolidation, and mode of transport, logistics infra and compliance issues may all be affected by the selection of the Incoterms rules. The impact of the Incoterms rule on factors in managing the supply chain should also be considered in order to optimize the process and minimize the total cost by adjusting trade-offs arising in the supply chain operation, such as procurement, production and sales. In other words, entities need to clarify the considerations and attention point in selecting Incoterms rules, such as product characteristics, logistics costs and lead times, complexity and flexibility. The Incoterms rules may be a very powerful tool in exploring solutions to mitigate problems in the supply chain when properly coordinated with other elements of the supply chain as well as with the contracts of carriage and insurance.

3.5. The Scope and Methods of Logistics Service by Logistics Service Provider

The Incoterms rules agreed between the seller and the buyer in a sales contract affect the international logistics process, such as the parties to the contract of carriage and mode of transport. However, the terms of sales contract does not bound the logistics service provider that provides the logistics service to the seller or buyer. In addition, the interaction with the

logistics service provider is settled by completely separate contract. Therefore, it is advisable to have some knowledge of the Incoterms rules when discuss the content, scope and method of logistics services with logistics service providers in order to operate and control logistics systems efficiently.

4. Reasonable Criteria in the Choice of the Incoterms 2020 Rules

Understanding the Incoterms rule means more than simply choosing the Incoterms rule. The incoterms rule on which you choose will result in differentiating the risks, responsibilities, and costs of the parties to bear involved in implementing the transaction. These may have unintended consequences with respect to the transport, management and control of goods, delays in customs clearance, additional costs, and may even result in taking the risks beyond control. Global sourcing and international logistics operation requires exhaustive planning and preparation. Planning for all contingencies affecting global sourcing, especially the terms of contract, is essential. Therefore, choosing the appropriate Incoterms rules depending on the circumstances with consideration on factors which might impact global sourcing and international logistics system allows reducing supply chain risks and increasing efficiency.

4.1. Factors to be Considered in Choosing Incoterms Rules

The choice of Incoterms rules enables strategic decision making in terms of logistics. For instance, if agile response to a customer's order is an important factor, the greater control the logistics processes involved in the transaction, the better service to the customer and the more profit can get. From this perspective, it may be advantageous for the seller to control overall processes regarding the flow of goods to the point of delivery (Vogt, 2018). However, if it is an international transaction rather than a domestic transaction, additional consideration should be given as to whether the company has a network to deliver goods to abroad and whether there are any problems related to customs clearance and duty for import. If there is no problem with shipping goods abroad or customs clearance, it is necessary to try to maximize the services to the customer by directly controlling the logistics process, but if that is difficult, it is recommended for you to use C terms rather than D terms.

There are appropriate Incoterms rule depending on the given situation. Smart shippers utilize proper rules to reduce risk, improve cash flow and leverage volume. To use the Incoterms rule strategically, it is needed to understand in advance what each rules means and what they covers. Incoterms rules can increase profit, control risks, and enhance supply chain management if they used properly according to the circumstances. This section examines how to utilize the Incoterms rules to enhancing the competitiveness of supply chain as follows

4.1.1. Logistics Capability and Supply Chain Control

Inexperienced small importers generally use Group C or D of the Incoterms rule, under which the seller arranges and pays for freight, bear transport risk in circumstances. On the other hand, sophisticated importers prefer Group F Incoterms. Importer who do not aware of the impact of Group C rules that require sellers to pay for freight and insurance premium, may believe these rules are more convenient as all costs are included in the final price. That is, for importers who prefer CIF rule, convenience of transactions is a more important factor in choosing Incoterms rule, rather than reinforcing control over the logistics process of cargo, improving visibility and reducing cost (Smith, 2006). However, these rules make it difficult

to verify freight and insurance charges, and may work against the importer.

Carriers generally add surcharges freight to cover insurance premiums, fluctuations in oil prices and exchange rates, and transportation risks, most of which are not classified as items to importers. As a result, importers often pay higher prices when the sellers choose carriers.

In general, logistics service providers provide freight discount benefits for the consignment of bulk or regular freight. Thus, the exporter or importer may reduce logistics costs by integrating cargo into a single bulk freight unit or by entering into a door to door contract. In this respect, the new Rotterdam rules endorsed by 22 countries, which account for 25 percent of world trade, allow separate liability terms to be included in confidential volume contracts that cover multimodal transport.[1]

It is also reasonable for either the exporter or the importer to assume an obligation for the entire transportation process, given the economic effect of optimizing the transportation system. However, whether it is effective for either exporter or importer to organize and control the overall transportation system should be assessed according to the circumstances in which the parties are in. For exporters who regularly trade in large quantities, the overall transportation system can be managed and controlled more effectively than buyers who purchase less and purchase more frequently. On the other hand, if a large wholesaler or department store imports goods from small exporters, it may be more appropriate for buyers to manage transport process to reduce transportation costs and ensure on-time delivery (Malfliet, 2011).

While "D" terms have the advantage of reducing logistics costs and optimizing its logistics system by managing and controlling the entire logistics process for sellers with global logistics networks and logistics capabilities, E terms or F terms may be favorable for buyers who want to directly manage and control logistics processes in the import process. Under FOB rule, importers can directly control the process after goods are loaded on-board at the port of shipment. Improved supply chain visibility and control over the inbound logistics of imported goods are important benefits when using the FOB rule.

For example, from the seller's perspective, the EXW rule for domestic transactions, or the FCA rule for international transactions seems the most ideal Incoterms rule for saving freight costs and reducing transport risks. However, these rules enable buyers to plan and operate efficient logistics processes by placing the entire transportation process under their control. Buyers can reduce overall transportation costs through optimal deployment of personnel, reasonable modal choice and consolidation of transport units. Conversely, from the buyer's perspective, it can be thought that the most rule for saving freight costs is DDP, as the seller is responsible for organizing transport to the buyer's location. However, this rule has a disadvantage for buyers with large orders because the can lose the opportunity to lower the freight rate per unit during the negotiation with logistics service providers. As a consequence, DDP rule may be a way to reduce procurement costs in an instance, but from a holistic view, it may not be the best way to increase the buyer's revenue. In this way, the parties to the transaction who are choosing appropriate Incoterms rules depending on the circumstances may consider reducing transport costs and strengthening control over the transportation process or increasing financial liquidity by delaying delivery dates. In this way, the parties can select the most appropriate terms depending on their situation.

4.1.2. Conformity to Transaction Requirements

Sellers and buyers should understand the business environment of each countries and discuss about what can and cannot be done based on the rules and regulations governed by

[1] Rotterdam Rules Art. 6

each country. For example, the DDP rule requires the seller to perform import formalities and pay for import duties. Therefore, the seller or the buyer should understand the matters relating to import or export clearance and ensure that there is no problem in performing these obligations before agreeing to the rules. If it is difficult, it could jeopardize the transaction, given the additional costs, risks, delays and potential future losses. Particularly, cross border trade needs more effort in delivery of goods because the importer and exporter are not familiar with the laws and regulations of the local country, which increases the risk of logistics delays and additional costs.

The Incoterms rules are not legally binding in assessing which party is responsible in terms of customs/export control regulation. The only way to evaluate the role of exporters for the purpose of customs and export control is based on relevant legal concepts and provisions with the facts.

Assuming that A (German seller) sells to B (U.S. buyer) under the EXW rule, B must perform export customs clearance obligations. However, according to the definition about exporter under the UCC-DA (Union Customs Code Delegated Act), the buyer B cannot act as an exporter for customs purposes because it is not an establishment in EU.[2] Therefore, either the seller A shall either export customs clearance as an exporter or the buyer B shall entrust export customs clearance through a contract with the EU freight forwarder (Deloitte, 2020). Moreover, seller A must also bear the obligations associated with export control because he is a party to an export contract with a non EU. These obligations includes correct classification of goods, obtain of export licenses for restricted goods in time, the compliance with embargo provisions etc. It should be important to note that violations of these obligations can lead to somewhat harsh sanctions. In addition, these examples show that depending on how the exporter is defined, the business partners involved may have flexibility in designating the parties to play the role of the exporter.

With regard to imports, the parties must carefully consider who will assume the responsibilities of the import customs declaration. Where the seller has to import the goods into EU under the DDP rule he has to designate someone who is located in the EU and assumes responsibility for the import into the EU. While it is essential to give accurate instructions and keep close monitoring these freight forwarders to ensure the accurate processing of import customs declaration, it is somewhat difficult to achieve this in practice because import freight forwarders are reluctant to assume responsibility for import duties (Deloitte, 2020). It is also quite difficult to determine the exact customs value required for import declaration due to a number of complex factors.

The buyer have to load the cargo on the means of transport he has arranged in the seller's warehouse under the EXW rules. This means that the truck driver employed by the buyer have to prepare the forklift, or at least have the equipment necessary to load palletized cargo onto the trailer from the seller's warehouse. However, sellers would be unwilling to allow for a stranger to operate a forklift in a warehouse (Ronai, 2019). Furthermore, the seller would not want to bear the risks that may occur in the process of that work. For this reason, the seller actually carries out the transportation, export formalities and loading on collecting vehicle on behalf of the buyer for convenience even if the parties agree to apply the EXW rule,

[2] UCC-DA Art 1(19) (a) and (b). 'exporter' means: (a) a private individual carrying goods to be taken out of the customs territory of the Union where these goods are contained in the private individual's personal baggage; (b) in other cases, where (a) does not apply: (i) a person established in the customs territory of the Union, who has the power to determine and has determined that the goods are to be taken out of that customs territory; (ii) where (i) does not apply, any person established in the customs territory of the Union who is a party to the contract under which goods are to be taken out of that customs territory.'

However, if a problem arises in this process, the buyer, not the seller, is responsible for all the costs and consequences associated with the work which the seller performs on his behalf the buyer. Therefore, it is desirable to use FCA rule where the place of delivery is the seller's premises rather than EXW rule.

On the other hand, there are similar problems with DDP rule. Under these rules, the seller has not the obligation unloading the goods from the arrived vehicle. However the seller is obliged to carry out import formalities as an importer. This means that the seller is responsible for any problems with the goods that may arise in the country where the goods are delivered. But, in most cases, sellers find it difficult to fulfill such obligations physically and legally. In such cases, it would be preferable to use a DAP rule or DPU rule.

If it is true, what is the reason for using EXW and DDP rules? First, these rules can be used to calculate factory price (EXW rule) or landed cost[3] (DDP rule). Second, both rules may have value in domestic trade or regional trade among countries belongs to the Customs Union, in which no obligation to customs clearance exists.

4.1.3. Tax and Accounting

In general, an important question in determining the place of supply for the purpose of imposing VAT is where the parties transfer the right to dispose the goods. It is not easy to decide such a place in practice as the right of disposal is not the same as the legal title and varies depend on the circumstances. Thus, some countries consider where risks and costs are transferred between the parties involved. In practice the Incoterms rules are recognized for the purpose of determining the place of supply for the imposition of VAT by clearly defining the timing of transfer the risks and costs between the trading parties. This means that Incoterms rules may affect direct taxation in relation to income taxes, etc.

Under the EXW rule, the buyer, not the seller has to complete export formalities in his own name, and VAT/GST may apply with the overseas buyer who is unable to claim a refund as it is usually treated as a domestic transaction (Ronai, 2019). On the other hand, the seller must pay VAT/GST in the importing country as the seller must complete import formalities is his own name under the DDP rule. Therefore, he cannot claim it back if he is not registered for taxation in importing country. The role of exporter for VAT and any relevant VAT exemptions in the case of exports is subject to another autonomous rule. Therefore it cannot be concluded that the exporter for customs is an exporter for the purpose of VAT.

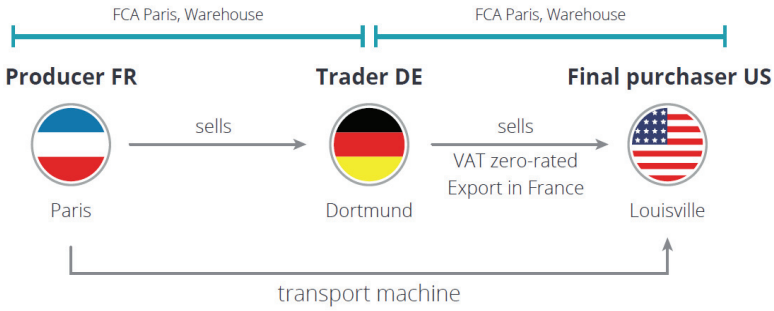
In string sales involving multiple changes in ownership of the same goods, the parties must determine which country's VAT rules to apply and confirm whether the zero VAT rate applies to the goods in order to avoid double taxation. The import and export of goods transferred between countries is subject to international double taxation if the consumption tax is levied in each country. Thus, In order to prevent international double taxation, tax shall be levied on the importing country where the goods are consumed while zero tax rate is applied to export goods in accordance with the consumption country taxation principle. The zero VAT rate is a system that applies a tax rate of "0" to the supply of goods and services so that the VAT amount is "0". According the EU VAT Act, only one transaction in the chain which recognized as an export or a regional supply can be qualified as zero VAT rate.

For example, if a French manufacturer and a German trading company sell under the terms of an FCA Plant Paris, the initiative for the dispatch of the goods is allocated to the sale between the German trading company and the US importer. France is required to impose VAT on transaction between French manufacturers and German trading companies. In this

[3] This refers to the cost of acquiring goods to sell, which is consists of the cost of transportation, storage, freight handling, and logistics costs such as tariffs.

case, German traders are required to register for VAT in France and report its export supply from France as zero-rated VAT (Deloitte, 2020).

Fig. 1. Chain Transaction Producer Collect Incoterms Rules (FCA)



Source: Deloitte (2020).

DDP rule have a special significance for export from the perspective of VAT. That is, by shifting import obligations to the seller in destination country, the seller must pay the import VAT as well as comply with his duty of reporting VAT in that country. In this case whether the seller can refund the import VAT paid generally depends on if the seller has the right to dispose of the goods at the time of import.

Revenue recognition is defined as when and under what circumstances does account receivables becomes sale. The key criterion for revenue recognition is the delivery and transfer of ownership (Reynolds, 2006). In accordance with IFRS, 'revenue from contracts with customers' is based on control concept.[4] The entity recognizes revenue when it satisfies a performance obligation by transferring promised goods or services (assets) to the customer. In other words, the asset is transferred when the customer is able to control the asset. [5] Control of an asset means the ability to direct the use of the asset and to obtain all the remaining benefits of that asset, including the ability to prevent others from using the asset or acquiring the remaining benefits.[6] The entity should determine when the customer obtains control of the promised goods in order to ensure that the performance obligation can be satisfied at a particular point in time.

As above mentioned, practically the timing of revenue recognition is conveniently applied in accordance with the Incoterms rules agreed between the parties. However, the Incoterms rules does not specify the provisions to decide indicators such as right to claim payment, legal ownership, etc. in respect of transfer of control which is an important criterion in determining revenue recognition timing. In particular, Incoterms rules clearly state that it does not deal with transfer of property rights in the goods. Delivery and transfer of risk under the Incoterms rules is only one of indicators to be considered in determining when control of the asset has been transferred. As a result, parties to the contract should take into account all of the terms and conditions of the contract, commercial practice, facts and circumstances including Incoterms rules in order to determine the exact timing of revenue recognition under the IFRS (Choi Kwon-Soo et al., 2020). Under these circumstances, the timing of revenue recognition

[4] IFRS 15 - Revenue from Contracts with Customers
[5] IFRS 15-31
[6] IFRS 15-33

may be several days after the transfer of risks in the Incoterms rules.

Suppose the seller wants to be recognized revenue as soon as possible to meet shareholder expectations. In this case, if sellers and buyers agree that ownership should pass at the earliest possible moment the EXW rule may have an advantage for the seller in that it can advance the timing of revenue recognition for the buyer's orders. However, accounting errors can occur if the ERP system requires accounting entry based on the date of release of the goods (Deloitte, 2020).

For instance, if the buyer will need a day or two to arrange transport to pick up the consignment under the EXW rule, the transfer of risk may be earlier than the day at which the goods physically is released from the warehouse. Assuming that revenue is recognized when the seller's ERP system records the release of goods, if the goods are not yet shipped on buyer's the collecting vehicle although the seller has already delivered the goods to the buyer in accordance with the EXW rule, the inventory does not derecognize from the balance sheet and revenue is not recognized. In this case the revenue will be understated and the inventory will be overstated if the risk is transferred without the release of the goods under the EXW rule. Also, if the place of delivery is not the seller's warehouse under the FCA rule the transfer of risk date is later than the day when the goods leave the seller's warehouse. In this case, the revenue would be overstated and the inventory assets would be understated.

4.1.4. Strategy for Procurement and Sale of Goods

Sales teams should be able to analyze and reflect the impact of certain Incoterms rules on price and profitability at or before the sale stage. It also requires adequate support to properly reflect the additional costs that may arise under each Incoterms rules, such as packaging, transportation, additional equipment, or administrative costs, to the product prices and calculate realistic margins to cover these additional costs. These efforts help strengthen the negotiating power of the sales team by assessing the internal revenue limit or responding appropriately to buyer's requests for price reduction and extension of payment periods when setting prices or payment term during the negotiation on the terms of the transaction.

The entity should also consider its sales and customer service strategies when selecting Incoterms rules. For example, if the seller offers EXW rule though he emphasizes on "complete service offer" it does not coincidence with customer service strategy. In addition, while EXW rule or F terms may be suitable for large customers with dedicated logistics and customs clearance capabilities, small customers without such capabilities may require the seller to arrange transport or even occasionally require customs clearance. Under these circumstances, EXW rule may result in unsatisfactory customer service or problems with the delivery process.

On the one hand, it is also necessary to check whether there are any other problems with the implementation of the contract under such rule when selecting an Incoterms rule in consideration of its sales strategy and customer service. For example, even though the contract was concluded under the DDP rule in consideration of the customer's position when dealing with new customers, problems such as delay in delivery and increased logistics costs may arise in the process of implementing the contract due to poor logistics infrastructure in the importing country (Roos, 2011).

4.2. Main Amendments and Considerations of Incoterms 2020 Rules

Incoterms continues to strive to reflect recent trading practices and clarify the obligations that the parties to international transactions must fulfill, thereby preventing unnecessary

misunderstandings or disputes in the course of international transactions and ensuring the smooth movement of goods. The recently revised Incoterms 2020 rule reflects the reality of the supply chain, which is gradually reinforcing security, and the need to clarify and facilitate the selection of appropriate rules according to transportation conditions.

4.2.1. Bills of Lading with an On-Board Notation under the FCA Rule

The Incoterms 2020 incorporating the usual practice that "the seller may obtain the shipped bill of lading" into the FCA rule. These changes have significant implications in many respects in addition to promoting the efficiency of L/C transactions.

Under the FCA rule, the seller is required to deliver the goods to the carrier designated by the buyer. This means that the delivery of goods is completed before the goods loaded on-board. It is the buyer who is responsible for the main and subsequent carriage to the destination. The seller will only prepare and carry out the pre-carriage to the port of shipment. Therefore, the seller cannot exercise sufficient influence over the carrier or it is difficult to obtain information about the transport. For the FCL container cargo, the seller delivers by handing over the goods to the carrier at the seller's premises. From that point it is difficult for the seller to control over the goods or to have information about where the goods are or when they will be loaded on-board the vessel. In the case of LCL cargo, the situation is more serious because the seller has difficulties in knowing which containers the goods will be consolidated, when and which vessel the container is being loaded (Ronai, 2019). Also, there is uncertainty on when the container is arrived to the destination where the container is deconsolidated at the intermediated port and reconsolidated. In this state, it is difficult to gain visibility into the process in which the goods are delivered to the other party because the seller or buyer is unable to know who the actual carrier is if the buyer outsource a detailed route planning for the transportation process from the logistics service provider. In addition, there is a gap in liability between the time of delivery and the loading on-board where the sea only rules such as FOB, CFR and CIF are used for container cargo. Therefore, there may be a problem as to who will bear the risk where the loss or damage to the cargo occurs during this period.

Nevertheless, one of the reasons for using FOB rule instead of FCA rule is that when FCA rule are used, the bill of lading in which the seller receives after the consign the goods to the carrier does not show an on-board notation, unlike in the case of FOB rule. The only difference between a bill of lading issued in the FOB rule and the FCA rule is whether they have on-board notation or not. Except for this, both types of bill of lading have the same value in that they can be issued in a negotiable form and transferred by endorsement.

Then why the seller needs on-board bill of lading? The bill of lading is the most important document among the shipping document that the exporter must present in the L/C transaction. That is, most letters of credit require bill of lading. These Bill of Lading should comply with UCP 600 article 20, which includes: "A bill of lading, however named, must appear to […] indicate that the goods have been shipped on-board a named vessel at the port of loading […]"

In other words, when the L/C requires for the bill of lading, such bill of lading must indicate an on-board notation. These requirements are perfectly consistent with FOB rule. However, as described above, the delivery of container goods under the FOB rule may have unexpected difficulties. In particular, if a letter of credit requires a bill of lading bearing the port of loading, the vessel name, and the date of shipment, an on-board bill of lading should be presented in order to meet the terms of the letter of credit. Such a case, the seller may be concerned that the payment may be delayed for goods already delivered to the carrier under the FCA rule.

As a consequence, parties tend to choose FOB terms, where the risk and costs transfer once the cargo has been loaded on the shipping line's vessel.

If the L/C requires the presentation of multimodal transport documents, the problem that may arise where the FCA rule is used could be solved. In UCP 600, the order of transport documents was changed to put "transport documents covering at least two different modes of transport," that is "multimodal transport documents," in the first. This is because transport by more than one mode of transport is more common and the importance of single transport documents covering the entire transport process, regardless of mode of transport involved is increasing as more and more carriers want to control the entire transport process from the origin to the destination.

The requirements for the multimodal transport document are outlined in UCP 600 article 19 as follows.

"A transport document covering at least two different modes of transport (multimodal or combined transport document), however named, must appear to […] indicate that the goods have been dispatched, taken in charge or shipped on-board at the place stated in the credit […]"

Ultimately, in order to satisfy the requirements in the L/C, the first step of the transport under the FCA rule must begin inland place and it should be reflected in the transport documents presented to the bank. If the first step of journey is a port, the on-board notation requirement shall apply. In conclusion, there is no provision in the Incoterms or in UCP 600 preventing from using the FCA rule presenting multimodal transport documents. The problem is that the L/C practice which requires on-board bill of lading without consideration of the Incoterms rules in most cases.

In consideration for this situation, Incoterms 2020 allows an additional optional for FCA trading in which the buyer and the seller agrees that the buyer will instruct the carrier to issue an on-board bill of lading at the time the carrier taking in charge the goods if necessary. If the parties agree that effect, the seller then being obliged to tender that bill of lading to the buyer, typically through the banks.[7] This optional mechanism becomes unnecessary, of course, if the parties have agreed that the seller will present to the buyer a bill of lading stating simply that the goods have been received for shipment rather than that they have been shipped on-board.[8] Therefore, it is desired to use a new FCA rule that provides optional mechanism for these practices rather than using FOB rule for containerized or multimodal freight under the circumstances on-board Bill of Lading is required. This change provides transparency to the carriers/shipping company. This allows the seller to get a better understanding of the supply chain and provide useful information to support track and trace, supply chain control.

However, it should be noted that this may result in unintended consequences to the seller as the seller who is not a party to the contract of carriage could bear unknown or unacceptable liability if he is named as shipper on the bill of lading (Trade Finance Global, 2020). In this regard, Rotterdam rules separate the documentary shipper who accepts to be named as shipper in the transport documents or electronic transport records from the shipper who is a party to the contract of carriage. [9] This is a new provision, if a person named as shipper in the transport document, the person shall treat it in accordance with the shipper, even if he or she is not actually the shipper (Yang Jung-Ho, 2009). In addition, this Convention provides that a documentary shipper is subject to the obligations and liabilities imposed on the shipper.[10]

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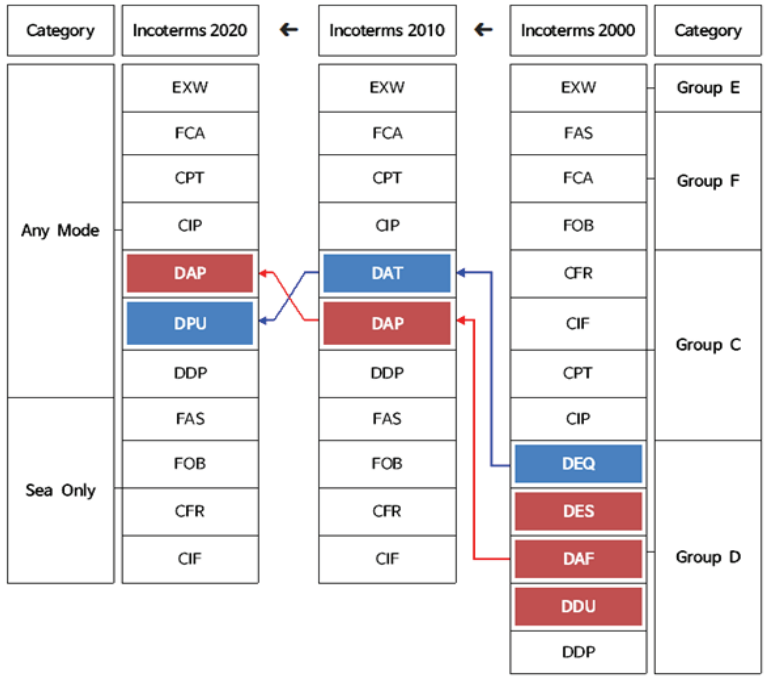
[7] ICC (2020), Incoterms® 2020, Introduction para. 65.
[8] ICC (2020), Incoterms® 2020, FCA Explanatory notes for users. 6
[9] Rotterdam Rules (2018), Art. 1(9)
[10] Rotterdam Rules (2018), Art. 33(1)

4.2.2. Considerations in Using DPU and DAP Rules

The only difference between DAP and DAT rules in Incoterms 2010 was that in DAT rule, seller delivers when the goods unloaded from the arriving means of transport whereas in DAP rule, delivery was made when the goods were placed at the disposal of the buyer on arriving means of transport. Therefore, the main difference was whether the seller was liable for unloading. There were two changes regarding DAT rule in Incoterms 2020 as follows.

First, DAT rule were placed after DAP rule in order to reflect the actual situation better with respect to the seller's obligations accompanied by delivery although it is the same as the case of the Incoterms 2010 with respect to the seller's unloading obligation.

Fig. 2. Change of Code Name and Order in Incoterms Rules



Source: Author.

The second change highlighted the reality that delivery can be made in any place not just in terminals, by changing the code of DAT into DPU. DPU rule under the Incoterms 2020 are basically the same as DAT rule under the Incoterms 2010. As "T" in the DAT rule meant "Terminal", it gave the impression that the rule could only be used in real terminals, even though the Incoterms 2010 rule stated that it can be used in any other place. For this reason, the DAT rule was renamed with the addition of "U", which means "Unloaded" at the Named Place from the arriving means of transport. This rule may be used, for example, when special handling for unloading by seller's employee is required with particular handling machine.

As already mentioned, the main difference between DAP and DAT rule is whether the seller has to unload the goods from arriving means of transport. DPU rule increase the seller's risks and obligations by requiring the seller to bear the obligation to unloading the goods from

the arriving vehicle at the named place of the destination. Therefore it should be noted that preliminary analysis of logistics is often necessary. For example, it may be an important consideration in situations where there is a high risk of loss or damage to the goods during unloading process. Whether special handling equipment is required for unloading may also be a factor in the selection of the two rules (Denneman, 2020).

In addition, under the DPU and DAP rules the seller is responsible for the export process but not liable for import customs formalities including the post-transportation process through third countries. In this case, the buyer is liable for the loss or damage and cost resulted from delayed delivery as the buyer do not make import clearance in time. The use of DDP rule may be considered to avoid such situations. Under this circumstance DDP rule may be an alternative to avoid such situations.

4.2.3. Security Clearance

The importance of security clearance in addition to export/import customs clearance has increased sharply since the 9/11 terrorist attacks. The Incoterms 2010 rules were the first revision of the Incoterms rules to come into force after security-related concerns became so prevalent, and so, in fact security-related requirements made a rather subdued entry into the Incoterms 2010 rules.[11] However, the practices created time have already been established, and the Incoterms 2020 makes it more clearly about security-related obligations and costs.

In this regard, Incoterms 2020 Rules provide a general description of a party's security-related obligations. Thus, parties to the contract have to identify specific security programs such as AEO, CSI, C-TPAT which is implemented in the import or export country and its requirements. In addition, they have to prepare a list of information and documents to be provided to comply with the security requirements. Furthermore, they should arrange necessary measures required in the process of manufacturing, packaging, shipping, transportation, and delivery of goods. In particular, it should be noted that if the C term or D term in which the seller has obligation to make a contract of carriage are used the selection of the port of shipment or carrier may affect satisfying the security standards required by the import country.

On the other hand, it is not just cargo security that these security requirements aims to address. With the growth of e-commerce security-related issues such as cyber-attacks, data breaches and information theft are becoming much more prevalent. It is appropriate that the Incoterms 2020 rule is recognizing the impact that breaches of security obligations in the global supply chain have on the industry (Kyriakides, 2020). However, Incoterms 2020 rules does not specifically address cyber security or other forms of security. Therefore, parties will need to specifically address this issue if they wish to include it in their contractual arrangements (Lloyd-Lewis and Bryant, 2019).

4.2.4. Different Levels of Insurance Cover in CIF and CIP

In the Incoterms 2010 rules, both CIF and CIP requires for the seller to enter into insurance contracts at its own expense but the coverage is limited to a minimum as provided by Clauses (C) of the Institute Cargo Clauses or any similar clauses. The duration of risks under the ICC (C) is "from receipt to delivery" which provide cover for inland and air sections as well as for sea sections. However, in practice, there is no risk covered related to inland or air except for "overturning or derailment of land conveyance" listed in the ICC (C). Therefore, it is difficult

[11] ICC (2020), Incoterms® 2020, Introduction para. 71.

to cover the risks arising inland or air by ICC (C) when the goods are carried by multimodal transport under the CIP rule. On the other hand, Institute Cargo Clauses (A) cover "all risks" subject to listed exclusions.

Thus, the Incoterms 2020 rules provide for different minimum cover in CIF and CIP rules. The CIP rule require the seller to obtain insurance cover complying the ICC (A) while the CIF rule used in maritime trade maintain the default position. However, it provides options for minimum cover to the parties either by agree to provide a higher level of cover than the ICC (C) under the CIF rule or by agree to provide a lower level of cover than the ICC (A). Therefore, there is still a need for negotiations on the minimum coverage between the seller and the buyer when using these rules. In addition, the seller should recognize that the costs associated with insurance premium will increase when choosing the CIP rule.

4.2.5. Permission to Arranging for Carriage with Seller's or Buyer's Own Means of Transport

In the Incoterms 2010 rules, it was assumed that where the goods were to be carried from the seller to the buyer, they would be carried by a third-party carrier engaged for the purpose either by the seller or the buyer, depending on which Incoterms rule was used.[12]

There were situations where he seller or the buyer may carry the goods themselves without third party carrier being engaged at all for several reasons. For example, in the FCA trading, the buyer may use his own vehicle for collection of the good and for their transport to the buyer's premises. Likewise, the seller may use his own means of transport for carrying the goods to destination without outsourcing the function to a third party. [13] However, this situation was not considered in Incoterms 2010. It just mentioned "to contract" which means there should be a contract of carriage.

In this regard, the Incoterms 2020 rules expressly allow not only to make a contract of carriage, but also to arrange at its own cost for the necessary carriage. Therefore the seller/buyer may also use their own means of transport, instead of entrusting to a third party carrier in FCA, DAP, DPU, and DDP rules. This is more applicable scenario for carriage by road. For example, if the seller has a truck and does not want to use third party to organize and perform carriage, he can carry out the shipment directly. However, it is important to note that the concept of using an own means of transport does not apply other than the FCA and D rules mentioned. In addition, this is possible only using Incoterms rules where the destinations and places of delivery are the same (Deloitte, 2020). Otherwise, the seller might transport the goods as the carrier even if the buyer has already taken risks after the time of delivery. In this situation, seller may, as a carrier, be liable for damages caused by negligence of carrier to the buyer.

5. Conclusion

The Incoterms rules, which are commonly used in international transactions, clearly distinguish the risks and costs that must be allocated among the parties to the transaction during the implementation of the contract. The Incoterms rules affect not only the rights and obligations of the parties to the sales contract but also the control and management of logistics

[12] ICC (2020), Incoterms® 2020, Introduction para. 76.
[13] ICC (2020), Incoterms® 2020, Introduction para. 72.

system and transaction costs in the transaction. In other words, the Incoterms rules selected under agreement between trading parties can provide an insight into how the flow of goods on the supply chain is carried out and managed. Careful consideration in relation to the nature of the supply chain and correct understanding of the sales terms help to mitigate the risks and problems of the supply chain that may arise in the course of performance of the contract.

From this point of view, this paper tried to provide reasonable criteria for choosing Incoterms rules to improve logistics and supply chain performance. To this end this study examined the possible impact of the Incoterms 2020 rules on logistics and supply chain management as well as analyzed the factors that should be considered in the selection of the Incoterms rule under the sales contract.

The choice of Incoterms rules is not just simple. Unreasonable choice can cause waste of time and cost, and result in customer dissatisfaction. However, if you use the Incoterms rules reasonably based on your knowledge and correct understanding, it can helpful to promote the logistics process and improve customer satisfaction. And most of all, knowledge, experience and understanding of logistics processes and total costs are required for the wise and reasonable choice of the Incoterms rules. Moreover, an analysis of the various factors mentioned above is needed to assess the positive or negative impact that the choice of specific Incoterms rules could have on business functions in the value chain from a total logistics view. In order to minimize total costs and improve logistics performance by taking into account factors that may affect logistics and supply chain aspects, it may be helpful to develop a decision support model to select the appropriate Incoterms rules for individual transactions based on the characteristics of the products, logistics capabilities, infrastructure, transaction volume, logistics cost, customs regulations, tax and accounting.

The parties to the transaction should be able to analyze and reflect the impact of certain Incoterms rules on price and profitability in the sales process. Also, additional costs that may arise under individual Incoterms rules, such as packaging, transportation, additional equipment or administrative costs, are appropriately reflected in product prices and need adequate support to calculate the realistic revenue to cover these additional costs.

Negotiations on contract terms are often made by sales departments that have no understanding of the overall logistics system, so they often overlook the possible impact of the Incoterms rule on the logistics chain. This could make difficult to control the logistics process and increase transaction costs, offsetting the advantages of global outsourcing and exports. In other words, the choice of Incoterms rules should be made from the perspective of maximizing profit, and utilizing the capabilities and knowledge of the company. Therefore, it is necessary for logistics personnel to participate in the negotiating the terms of transaction in order to choose the appropriate Incoterms rules.

It can also be a way to seek cooperate from logistics service providers with verified experience in using Incoterms. An experienced logistics service provider can select optimized Incoterms rules that meet the unique needs of each shipper and supervise compliance with all requirements. However, it is important to verify the eligibility of potential logistics partners because not all logistics providers have this expertise.

Recently revised Incoterms 2020 rules may require entities to make some adjustments to the operation of international logistics systems and supply chains. However, there are many opportunities for companies to take advantage of. Therefore, it is desirable to use this as an opportunity to examine overall the use of Incoterms. It might also be a right time to review alternative settings. These are helpful to ensure compliance with the new Incoterms rule set

and to ensure your organization uses the right Incoterms rules to maximize efficiency.

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