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Research paper



Study of Open and Sealed Auctions in Astra Credit Companies Using Batna and Zopa

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Abstract

Decision made by the finance companies in solving the bad credit problems is through the withdrawal of vehicles that have been financed, then sell them through the auction system. Truck withdrawal unit is the one with the highest auction frequency. The higher the auction frequency, the lower the vehicle's minimum price will become or the price will drop. The purposes of this study are to determine the best alternative to be carried out by Astra Credit Companies when analyzed using BATNA in open ascending and sealed highest bid auctions, and to know the price range and condition class of the auction unit that allows for an agreement to take place when analyzed using ZOPA. Based on the type, this is a descriptive qualitative research involving longitudinal observations. The data was collected through interviews with the representatives of Astra Credit Companies and the bidders, observations of the auction processes, and analyses of the auction result's documentations study. The results reveal that open auction generates higher sales than the sealed one, but the biggest margin between the minimum price and the selling price takes place in the sealed auction. The amount of the minimum price depends on the condition class and the frequency of the auction events of each unit. The suggestion that can be implemented based on the research results for the companies is that they should provide information on an ongoing basis for the prospective bidders or partnering dealers to increase their participations. The maximum payment is results from the sales of ISUZU NKR71HD WOODEN TRUCK (sealed auction) and NKR71 HDDUMPTRK (open auction).

Keywords: *Decision-making; Negotiation; Auction; BATNA; ZOPA*

1. Introduction

The activities of financial institutions are regulated in Article 2, Decree of the Minister of Finance of the Republic of Indonesia No. 1251 / KMK / 012/1998, which include leasing, venture capital, securities trading, factoring, business credit and consumer finance. According to data from the Indonesian Financial Services Association (IFSA), there have currently been 187 finance companies registered. 130 of which provide vehicles financing (1).

However, due to the current economic downturn, the financing of Astra Sedaya Finance (ASF) has decreased by 17% compared with August last year. This is due to the sluggish economy, therefore the companies have become more selective in providing finance to prevent the occurrence of non-performing loans (1).

According to the Head Director of PT Astra Sedaya Finance (ASF) Mr. Jodjana Jody, Astra Sedaya Finance chooses to minimize the contribution of heavy equipment financing due to the weakening commodity prices. If not reduced, it will result in bad loans. The rise in bad loans is due to two things. Firstly, in the individual market segment which is caused by the decreasing customer power for vehicle installments. This condition occurs as the result of expensive living needs which makes the consumer's ability to pay the installments reduced. Secondly, in the corporate segment which is due to the weakening commodity prices of agriculture and mining.

Consequently, the corporate segment postpones the planned purchase of new or used vehicles (2). Another step undertaken by Astra Sedaya Finance is to provide financing on LCGC products (cheap cars) which reaches 13-15% of the total sales, so the credit growth is smaller than the number of units. Through quality booking strategy, ACC manages to maintain the level of non-performing loans (NPL) at 0.6% this year (3).

Furthermore, according to the Head Director of Astra Credit Companies, there is another problem apart from bad credits, namely the tight discount war of new cars among the brand winning single agents (ATPM) that negatively impact the finance companies. As the result, the withdrawn cars from the failed consumers cannot be resold at a decent price. Thus, almost all the withdrawn cars provide losses for the companies, called Loss on Reposition (LOR) (3).

According to the FSA or OJK Rule on the Implementation of Finance company business in Article 42 about Financing Agreement, states that In conducting its business, a finance company can cooperate with other parties through forwarding financing (channeling) or co-financing (joint financing) and it must be conducted in accordance with the provisions of the law.

Finance companies provide credit to their customers through a number of requirements, namely types of credit, credit period, the interest rate, collateral and fiduciary transfer of ownership. According to the Regulation of the Minister of Finance of the Republic of Indonesia Number 130 / PMK. 010/2012, that in the context of financing consumers for vehicles by finance companies, the consumers must hand over the ownership rights of the vehicles on trust (fiduciary) to the finance companies. This needs to be done in case of bad credits taking place, in which the customers do not pay the agreed installments within a period of 3 months. Based on the fiduciary, the finance companies are entitled to withdraw vehicles

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that have been financed. Vehicles which have been withdrawn would become the inventory units for the finance companies.
The inventory units will be resold by the finance companies through an auction system. The auction of credit guaranteed vehicles (fiduciary) is conducted by the auction center in accordance with the Ministry of Finance Regulation No. 93 / PMK. 06/2010 concerning the implementation guidelines for auction. Sales of the credit guarantees are necessary to be done by the finance companies to return the lent funds as the debtors do not fulfill their obligations to the creditors in accordance with the credit agreement, and the result of collateral sales is used to minimize the losses of the finance companies.
The sales of the vehicles are carried out through open and sealed auction systems with a sealed-bid first price auction rule, in this method, each buyer in the auction submits a sealed envelope containing the bid price for the object offered. After all the buyers have submitted their bids, the auctioneers open the envelope and read the content of the offers. A buyer who has submitted the highest bid wins the object offered and pay the price of bids that have been proposed (4). If the vehicles supplied in the auction event are not sold, then they will be auctioned in the next auction events by decreasing 5% - 10% of the offering price in the previous auction. If a vehicle is not sold in several auction events, then its minimum price would be lower. This will provide a greater loss for the finance company.
To minimize the losses of the finance companies as the result of unsold vehicles in the auction events, the finance companies need to know the best alternative in auction negotiations (BATNA) and find out the possible zone for an agreement to take place in the negotiation process (ZOPA).
Based on the above background, the purposes of this study are as follows:

1) To know the best alternative to be taken by Astra Credit Companies when analyzed using BATNA in open and sealed auctions.
2) To know the price range and the auction unit condition class that allows for an agreement to take place when analyzed using ZOPA in open and sealed auctions.

2. Literature Review

2.1. Decision Making Under Uncertainty

Decision Theory and Research are genuinely interdisciplinary. This discipline has contributed central concepts of classical normative decision theory such as probability, utility, and heuristic (5). Uncertainty means inability to accurately predict the outcome due to information unavailability of reliable information. Through the use of probability distributions, quantitative uncertainty analysis aims to determine how much is the deviation of a calculated value from the true value. According to National Research Council (2009), quantity, quality, data relevance, models and assumptions reliability and assumptions are factors that determine uncertainty (6). Referring to WHO (2006), there are several terms that can be used to define knowledge uncertainty (6):

1) Scenario uncertainty is situation in respect to risk scenario determination that is in line with the assessment capacity and goal.
2) Model uncertainty caused by gaps in scientific knowledge that inhibit correct understanding of the causal relationship between risk factors.
3) Criterion/ information uncertainty is uncertainty involved in the detail of numerical values of the determinants of the risk.

Decision making under uncertainty can use several criteria: optimistic view as adopted by maximax, pessimistic view as adopted by maximin, equally likely as proposed by Laplace, the criterion of realism as proposed by Hurwicz, and minimax regret (7). The optimistic (max-min rule) and pessimistic (min-max rule) qualitative criteria are the ones that are recommended by (8).

2.2. Negotiation and Auction

Negotiation is a necessity, a process and an art, it evokes complex feelings that many seek to avoid and yet it is fundamental to how business gets done and takes place millions of times a day around the world (9). In a situation where there is a chance for an agreement, the way you negotiate can make the difference between comings to terms and not, or between outcomes that you find favorable and one that is merely acceptable (10).
Negotiation can be categorized as distributive negotiation and integrative negotiation (11). Distributive negotiation takes place when two parties vie for the largest part of a fixed pie (zero-sum game) whereas integrative negotiation takes place when the parties involved must collaborate to come up with a solution that will create value for everyone involved. In the contrary, auction is mechanisms to allocate resource based on bids from the participant guided by a predetermined set of rules (12). The difference between auctions and negotiation cannot be defined in clear manner (13). However there are some clues that can be used to identify the distinctions between them (14) as shown in Figure 1.

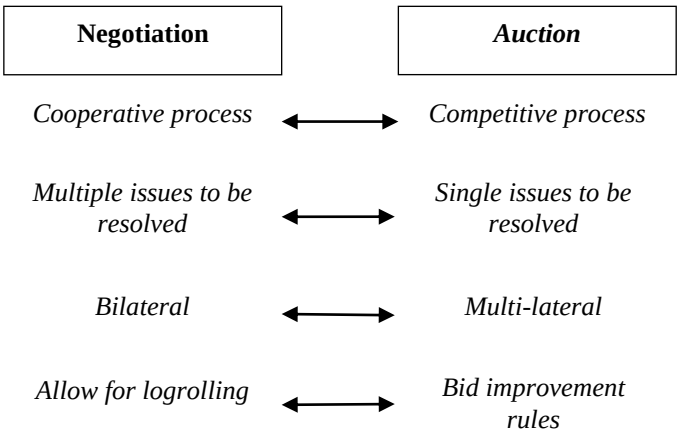

Fig. 1: Negotiation versus Auctions

2.3. Game Theory Bargaining and Auction Strategies

The game theory application is growing in Indonesia, especially in the context of conflict resolution (15, 16). The addition of game theory in auction bidding provided an impressive tool of analysis thus draw consideration of many researchers to develop its applications (17). In the essence, an auction is very related to competitive bidding in which each participants taking turns. Valuation for auctioned objects is different for each participant and so is with their perception of the real value (18). Hence auctions can be perceived as games of asymmetric information (18).
Additionally, if a single object being unloaded to N potential bidders, listed by i. Bidder i knows his/her appraisal vi, of the question (18). Expect that $0 \leq vi \leq V < \infty$, with the goal that all bidders have a non-zero valuation and none has a infinite valuation. Auction of this sort called as private value auction because every bidder knows his or her incentive without a doubt despite the fact that the qualities controlled by different bidders stayed obscure.
In a second-price sealed-bid auction, the highest bidder wins but only pays the second highest bid. Let B*i* denote *i*'s bid. The payoff to bidder *i* is then:

$$\pi_i(B_i, B_{-i}) = \begin{cases} v_i - \max(B_{-i}) \text{ if } B_i > \max(B_{-i}), \\ 0 \text{ else.} \end{cases}$$

The likelihood of offers being shackled is marked down. Obviously every bidder to offer Bi = vi since it is the Nash equilibrium of

the game. If the bidder loses, this methodology is not overwhelming. If the bidder wins, given other bidders' techniques, this procedure is the best reaction. In this way, the procedure of offering at genuine esteem is absence of predominant technique and more inclined to prompt a Nash harmony since all players are getting it done reaction.
In a first-price auction (sealed highest bid), the Nash equilibrium strategies are rather more difficult. Suppose that bidders, as rational human being, always try to get the maximum expected payoff. Assume all bidders follow a strategy s(v*i*), with s monotonically increasing in v*i*. Then, s: v*i* → B*i*. It can be shown that a Nash equilibrium in this case is s(v*i*) = M(vi) < v*i*. Thus, in a first-price auction, all bidders bid less than their true value.

2.4. Open and Sealed Auctions

English auctions are first-price, open cry, ascending auctions (19) that characterized with:

1) The auctioneer begins the auction by assigning a reservation price for the auctioned goods (which can assume zero price). If bidders are not willing to exceed the reservation price, the auctioned goods is acquired by the auctioneer for the reservation price.
2) Then the auctioneer invites bidders to bid. The invited bids are required to exceed the current highest bid. The bidding process can be seen by all bidders and they are able to participate whenever they decide to do so.
3) When there are no bidders that willing to raise the bid, the goods is awarded to the bidder with the highest bid. The price paid by the aforementioned bidder for the goods is the amount of the bid.

In English auction, the prevailing procedure for bidders is to expand the offered by a little sum until the point that the measure of the offer achieves the genuine estimation of bidders and after that pull back from the sale. In any case, this technique can't be utilized as a part of a one-shot sale like first-price sealed-bid auction (Wooldridge, 2009). In the first place cost fixed offer activity comprises of just a solitary round. In that round bidders secretly present an offer for the goods to the auctioner. The products are granted to the bidder that influenced the most astounding offer with no consequent to round. The bidder who wins the closeout pays the cost of the most elevated offer. There are no open doors for another bidder to beat the most noteworthy offer. In this manner, the best methodology for a bidder is to offer not as much as its actual esteem

2.5. BATNA and ZOPA

BATNA and ZOPA are concepts developed by Fisher, Ury (10). Best Alternative to a Negotiated Agreement (BATNA) is – as the name implied – one's best alternative in the case that agreement fails to be reached in the negotiation. In a negotiation, we can perceive BATNA as a leverage to increase our bargaining power rather than to perceive it merely as a contingency plan. One concept that also correlated to BATNA is the reservation price. Reservation price is one's least favorable outcome of a negotiation. Since BATNA can be perceived as the opportunity cost in the case that we accept the outcome of the negotiation, our reservation price should be determined by keeping BATNA as an important consideration (10, 20). Meanwhile, ZOPA (Zone of Possible Agreement) is the area that is built from each party's reservation price in which a possible agreement that might satisfy both parties can be reached. Each party's reservation price, assuming the negotiation take the form of zero sum game, determines one end of the ZOPA. The ZOPA itself exists between the parties' reservation prices (10, 20).
Knowledge of our BATNA and reservation point – mediated by the existence of trust – enable both parties to communicate, evaluate proposals, and identify the ZOPA. However, it is difficult to accurately assess our own BATNA and is even more difficult to know other side's BATNA especially when deception comes to play. In the presence of deception, parties are tempted to pretend they have a better BATNA than they really do in order to leverage their power in the expense of ZOPA dismissal. To further complicate matter at hand, shared uncertainties inhibit parties to properly assess the value of potential agreements because both parties may be unrealistically optimistic or pessimistic about the outcome of an agreement or the value of BATNA (21).
It is important to discover a favorable BATNA before entering a negotiation in order to increase our bargaining power. A negotiator must know how important for their opponent to reach an agreement. When that situation can be spotted, it will give them more flexibility to demand more from their opponent. If we have many options outside the negotiations, the opponent is likely to offer us more privilege to prevent us from exiting the negotiation process. Therefore finding a strong BATNA to begin with in a negotiation and making it known to our opponent will improve our negotiating position (10).

3. Methodology

The researchers used structured interviews as the data collection technique. For the interviews, questions were prepared as the research instruments. Furthermore, the researchers conducted a combination of structured and non-structured interviews in the type of focused interviews in which the researchers used the interview guidelines and also asked things outside the guidelines when they were deemed necessary and able to provide additional information for the research problems.
To figure out the best alternative to be performed by the finance companies when analyzed using BATNA in open and sealed auctions:

1) What are the targets to be achieved by companies in selling the withdrawn units through auctions?
2) What are the problems faced by finance companies in auction negotiations?
3) What do finance companies do if only a few units are sold in both open and sealed auctions? Is there any form of negotiation other than auction mechanism?

To find out the best alternative to be done by the bidders if analyzed using BATNA in open and sealed auctions:

1) What are the targets to be achieved by the auction participants in selling the withdrawn units through auctions?
2) What are the problems faced by the participants in auction negotiations?
3) What do the bidders do if they do not get the desired units in *both open and sealed auctions? Is there any form of negotiation other than auction mechanism?*

To know the price range and the auctioned units condition class that allow for an agreement to take place if analyzed using ZOPA in open and sealed auctions:

1) *What do finance companies pay attention to when determining the minimum prices of the auction?*
2) *Do finance companies compare the minimum prices offered in the auction with the market prices?*

To know the price range and the class of the auctioned units condition that allows for an agreement to take place if analyzed using ZOPA in open and sealed auctions:

1) *What do the auction participants consider when determining the prices of the auctioned units?*
2) *Do the auction participants compare the minimum prices of auction bidding with the market rates?*

In addition to conducting interviews, the researchers also conducted moderate participatory observations, in which the researchers involved in the daily activities of the people being observed or the

research data sources. The points observed by the researchers in the open and sealed auctions of Astra Credit Companies:

1) Preparation of Auction Process: Collecting the data of vehicles to be auctioned, Taxation process (determination of minimum bid price) of the units to be auctioned, Supply process of the units to be auctioned in the auction events.
2) Auction Negotiation Process: Open auction negotiation process, sealed auction negotiation process, auction's participants bidding submission patterns.
3) Post Auction: The process of payment for the winners of the auction. It is the process of taking BPKB of the units that have been paid, the process of buy back or repurchase the unit of vehicles that have been sold due to problems happening.

Lastly the researchers conducted documentation study which was intended to support and reinforce the resulted data gained from observations and interviews, especially concerning the open and sealed auction results, which were the outcomes of auction sales of the withdrawn vehicles (INVS) in the period of July - December 2016, data of the pending units (repurchased by customer) in 2016, Custom sales (IBID) in 2016.

4. Results and Findings

4.1. Auction Problems Needed to be Negotiated

There are several problems arising from the sales of withdrawn units through an auction mechanism. Each party has a specific problem, which must be negotiated to achieve the final outcomes or meet the overall objectives of the negotiators. The more familiar the negotiators with the arising problems, the more likely they are to find solutions (22).

Some of the problems faced by companies in the sales of the withdrawn units through auction are: first, there is a possibility that the units sold are the ones having problems (blocked, penal/civil). The problematic units cannot be sold, even if the units have been sold then the finance companies will repurchase or buy them back.

Second, units with bad conditions are difficult to sell. This is because the units being auctioned are withdrawn from consumers. So the condition of the units depends on how the previous consumers used them. Third, if there are only a small number of auction participants attending, the selling prices formed will likely be low. It is because prices in auctions are formed by interactions among the potential buyers.

While one of the problems for the auction participants is lack of information. Information in auction process has important functions, among others it lets the auction participants know about the units to be auctioned, as well as the minimum bidding prices. Secondly, after the participants have purchased the units, then they still need more time for the document processing. Thirdly, if the auction participants are not careful to check the condition of the cars at the time of the open house, it will give a loss for the auction participants, in which the purchased units are not in accordance with the wishes of bidders. Finally, the problem faced by the auction participants is when there is a possibility for the companies to sell the problematic units, then the participants as the buyers will also have the possibility to buy the units in problems.

From the problems faced by Astra Credit Companies and the bidders, there are several things needed to be negotiated to achieve the objectives or targets. Providing periodic information about the auction schedules, pictures or photos of the units to be auctioned and the auction bidding prices are needed. This information will make it easier for the auction participants to know what units are going to be auctioned and when the auction will be held. So it can attract prospective bidders to attend the auction event. Another important thing to be done is being more selective in selling the units to avoid the possibility of the problematic units to be sold, therefore there will be no buybacks needed and the buyers (auction participants) do not feel miscarried.

4.2. Alternative in Auction

Before starting negotiations, each party (the negotiators) needs to have a backup plan if they fail to reach an agreement with each other. The BATNA of each party is the key factor in determining the negotiation power. Figure 2 shows the alternatives in auctions made by Astra Credit Companies (seller) and bidders (buyers). The alternative can be done by the auction participants to buy the units at low prices other than through auction mechanism is by making direct bids to the companies or sellers or seeking information through newspapers and online media.

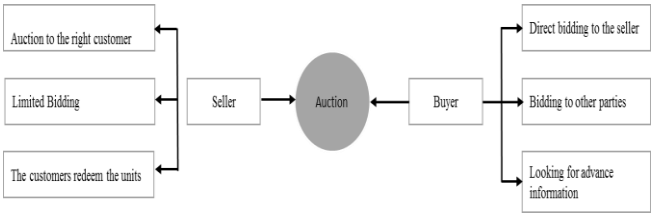

Fig. 2: Alternatives in Auction

Meanwhile, in conducting the sales of the withdrawn units, Astra Credit Companies have several alternatives to achieve the negotiation targets when the units are not sold in the auction. Among others by holding an auction for the right customers and offering limitedly to certain customers only. This needs to be done to make the sellers (the companies) closer to the buyers. Another alternative is to let the customers redeem the units or make a repurchase (prepayment). The following is the explanation concerning the unit sale methods other than through auction mechanism and some of their requirements:

a) Customer Buyback (Prepayment)

When customers do not make payment within 3 months, the vehicles will be withdrawn. They are given 7 - 14 days to make redemption of the vehicles. If it exceeds the specified time limit, the vehicles will be sold by the companies through an auction mechanism. However, if the customers want to buy the vehicles back (prepayment), they must meet some of the following requirements:

1) Customers must submit a letter of sale deferment to the branch office.
2) Customers must settle the debt principal / outstanding accounts receivable to the withdrawal branch office.

b) Limited Offer

Limited offer is a submission of an offer made by partnering dealers to buy the withdrawn vehicles without going through an auction mechanism. There are several conditions for making a direct offer as follows:

1) Dealers must submit their bids above the last auction minimum prices.
2) If the dealer's bids below the minimum prices of the last auction, then the units will be auctioned off first. If the units are not sold then the dealers are declared the winners of the auction.
3) Valid for the units that have been auctioned at least three times, but still unsold.

4.3. Auction Analysis by Using ZOPA

The demand and supply of product and service are identified with the connection between the purchaser and the dealer in the market which will decide the value level of a thing and amount of products exchanged the market. The interaction is explained through demand and supply theory (23).

The demand theory explains the nature of the buyer's demand on a commodity and also explains the relationship between the quantity demanded and the price. On the other hand, the supply theory explains the nature of the sellers in offering the commodities to be sold. The combination of the buyer requests and the seller offers can show how the interaction between the buyer and the seller offer will determine the equilibrium price or market price and the commodity to be traded (23).

In this study, the researchers will discuss the sales of the withdrawn truck units. Based on the auction frequency, the unit type of truck requires 3 to 5 times of auction to be sold. The following Table 1 describes the data of truck sales in 2016.

Table 1: Truck Selling in 2016

Brand	Type	Unit	Total Unit
HINO	DUTRO	31	33
	FG	1	
	FM	1	
ISUZU	ELF	626	718
	FVM	1	
	GIGA	15	
	NHR	11	
	NKR	65	
HYUNDAI	HD-MT	3	3
KIA	TRAVELLO	4	4
NISSAN DIESEL	CBU	1	1
TOYOTA	DYNA RINO	10	458
	HI ACE	1	
	NEW DYNA	447	

From the above data, it can be concluded that trucks with the brand of ISUZU, types and models of ELF NKR71 HDDUMP-TRK and ELF NKR71HD WOODEN TRUCK have the highest level of sales, followed by TOYOTA brand, NEW DYNA type, WU24HTS model as the second highest. And the last highest is HINO brand, DUTRO type and 130HD model. After choosing the focus to be studied, then the researchers displayed the data of auction minimum price, market price and selling price based on the predetermined reduction data. Then to display the data, price mapping model is used, either for the open auctions or the sealed ones. Below is Figure 3 that shows price mapping in sealed auctions and Figure 4 about Price Mapping in Open Auctions. Based on the price mappings of sealed and open auctions, it can be seen that there are several things that need to be considered, such as the price formed is only one, the minimum price is low and the similarity of the minimum price and the selling price.

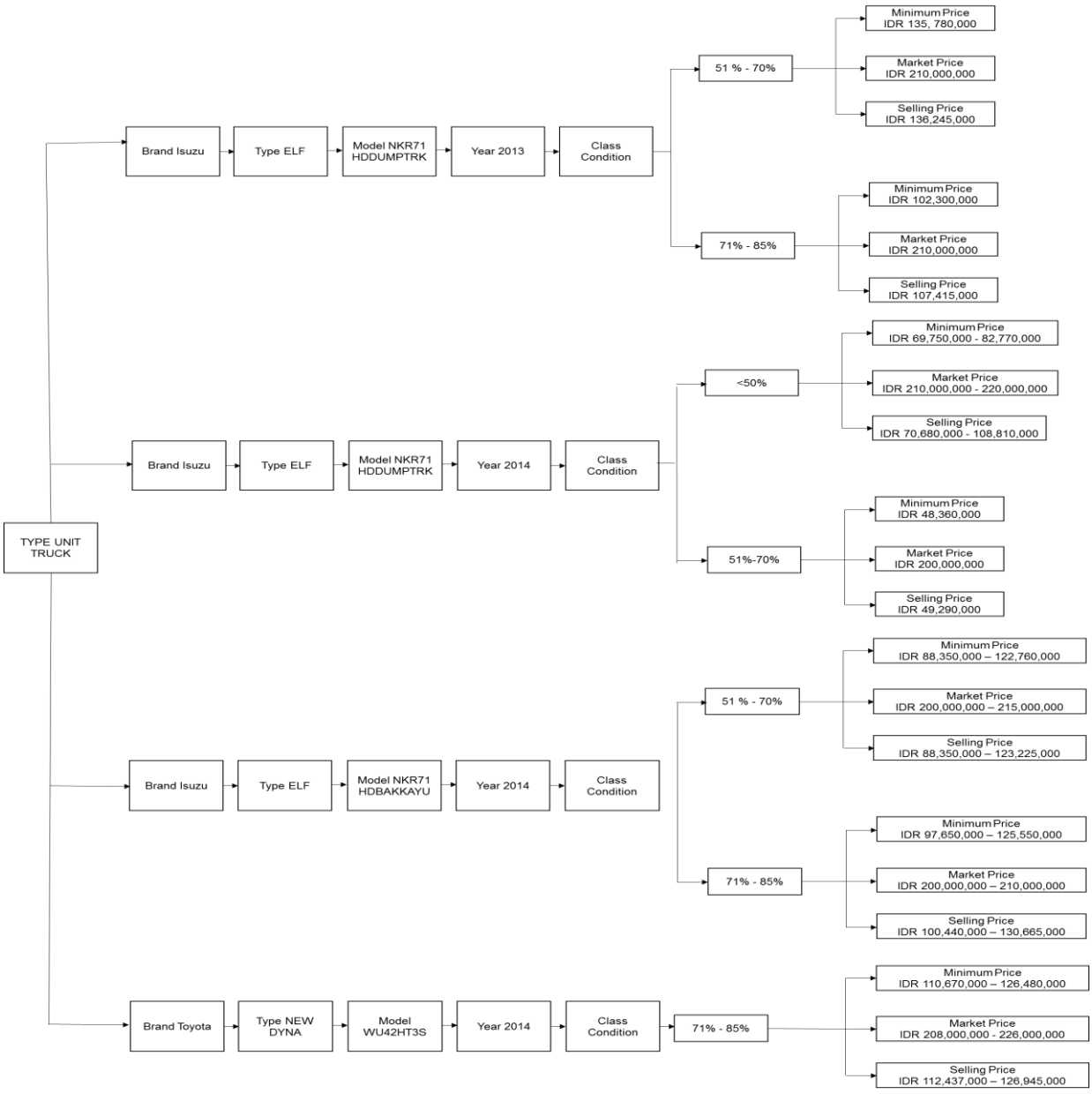

Fig. 3: Price Mapping in the Sealed Auction

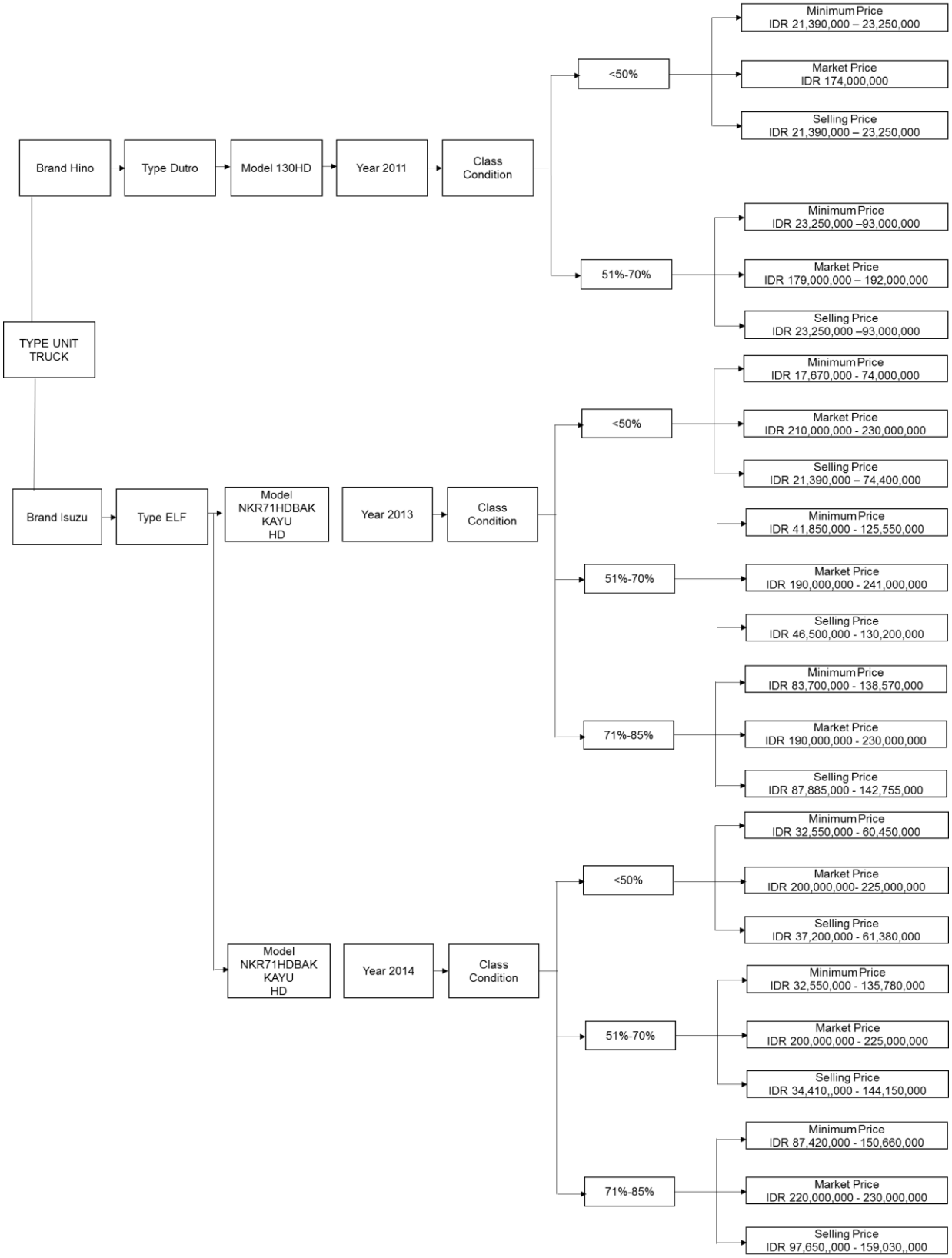

Fig. 4: Price Mapping in the Open Auction

4.5. Only One Established Price

Sales of ISUZU ELF NKR71 HDDUMPTRK trucks 2013, in the sealed auction only have one minimal price, market price and selling price (Figure 5). This happens because only one of HDDUMPTRK 2013 was sold for its each condition class. Similarly, in the open auction, only one unit of TOYOTA NEW DYNA WU42HT3S 2014 was sold in the condition class of 86% - 100% (Figure 6).

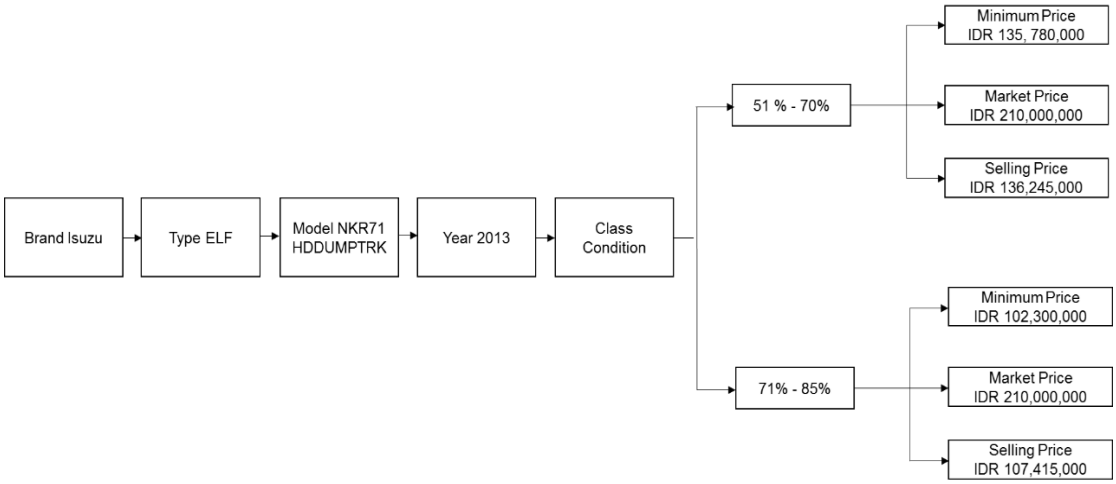

Fig. 5: One Established Price in the Sealed Auction

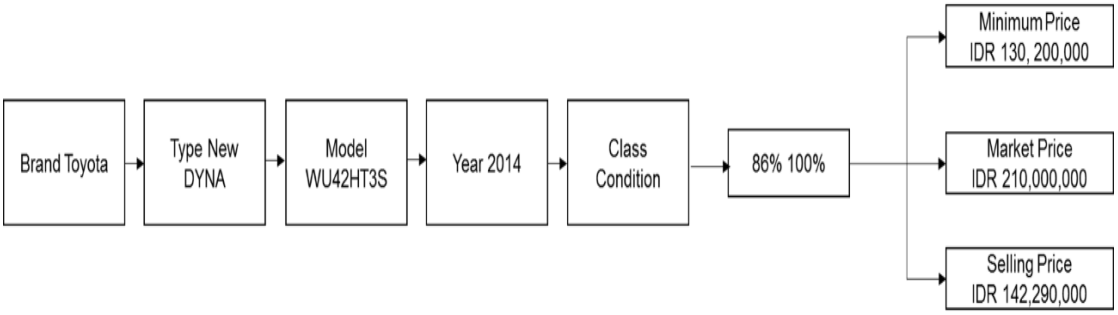

Fig. 6: One Established Price in the Open Auction

4.6. Low Minimum Price

A low minimum price here is meant when a better unit within a higher condition class has a lower minimum price than the lower condition class. The minimum price of ISUZU DUMPTRK 2013 within the condition class of 51% - 70% was higher than that of the condition class 71% - 85% (Figure 7) because in the condition class of 51% - 70% the actual unit condition was 63% and the unit was only auctioned once and immediately sold. Therefore, there was no decrease in the auction minimum price and the unit was more inclined to be 70% than 51%. While in the condition class of 71% - 85% with the unit condition of 71% has been auctioned for 5 times, so its minimum bidding price has been reduced by five times.

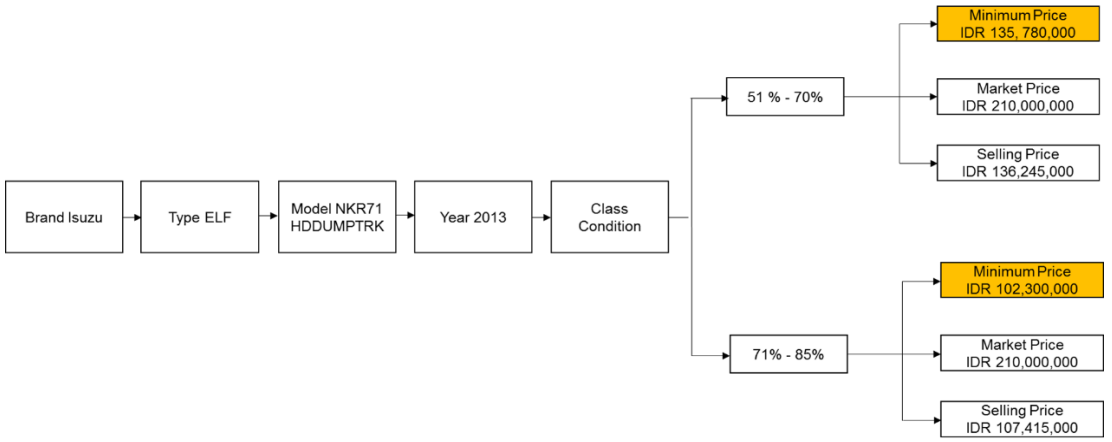

Fig. 7: The Comparison of Low Minimum Prices

Based on the matching results with IOH data or Inventory on Hand, it is noted that the initial minimum price of the unit was IDR149 M. So, what caused the unit price lower was that it has bigger auction frequency than that of the lower condition class.

4.7. The Similarity between Minimum and Selling Price

The similarity of the minimum price with the selling price, as in Figure 8, Figure 9 and Figure 10 above can occur because there is only one bidder who made an offer. Thus, there is no competition that can increase the selling price. In the sealed auction, the auction participants make an offer through closed media, thus the auction participants do not know whether there are other bidders who bid and the amount of the bid. While in the open auction, the bidder knows the bid of other bidders, if many bidders are interested in the same unit, there will be a bidding competition.

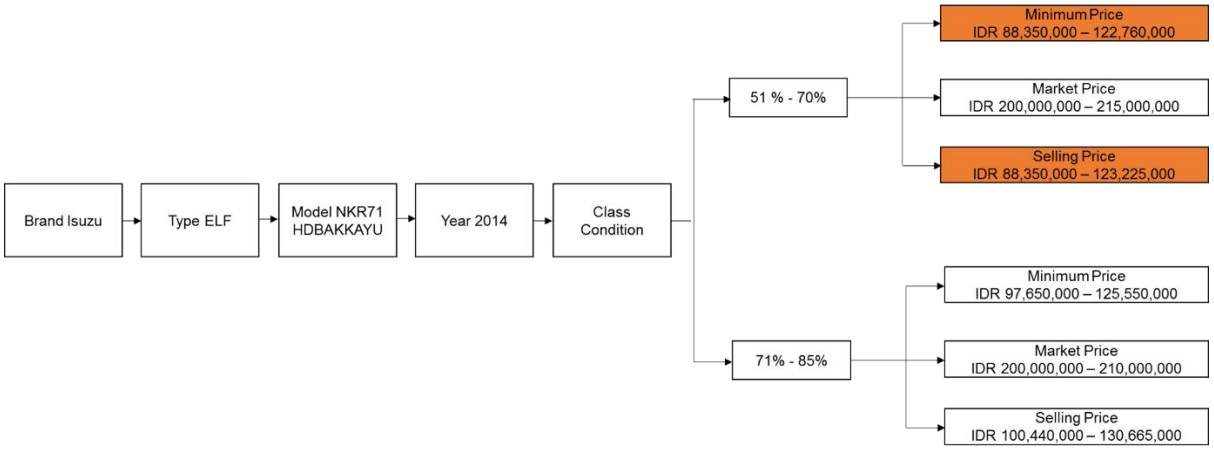

Fig. 8: The Similarity between Minimum and Selling Price in the Sealed Auction

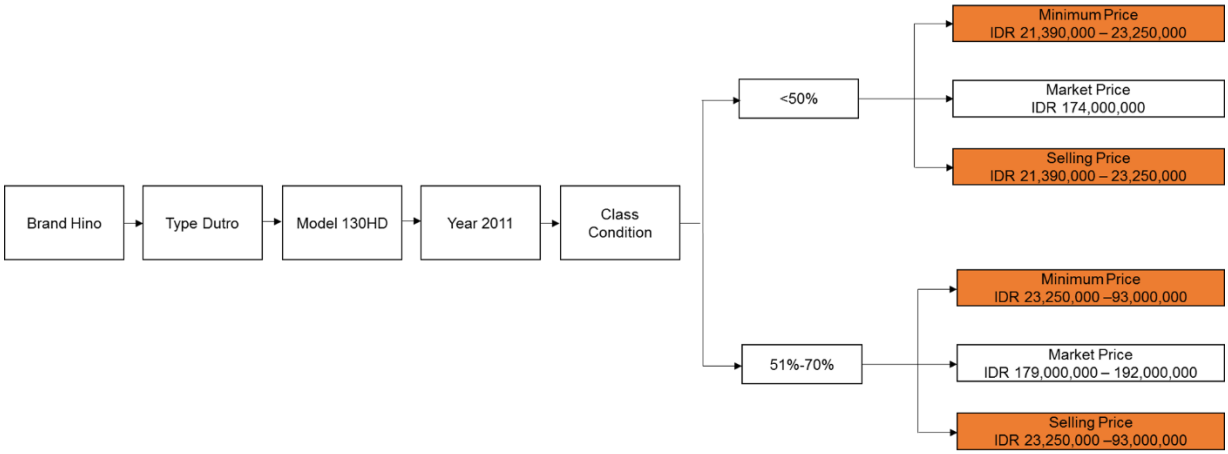

Fig. 9: The Similarity between Minimum and Selling Price in the Open Auction (Brand Hino)

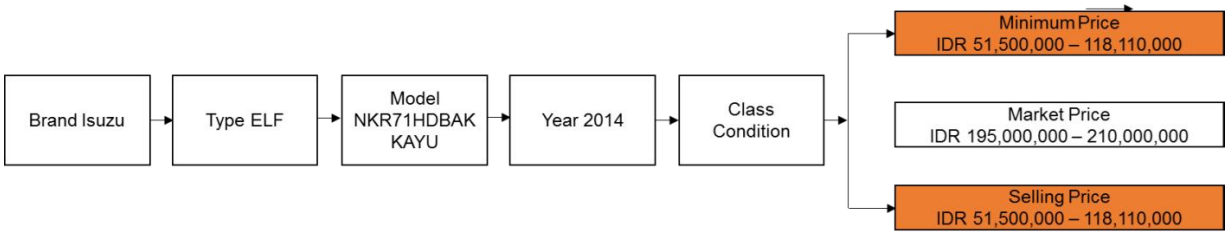

Fig. 10: The Similarity between Minimum and Selling Price in the Open Auction (Brand Isuzu)

4.8. Open and Sealed Auction Results Comparison

In an auction, the bid price formation occurs due to the competition of bid submissions among bidders. The selling price or the highest offer price for each unit varies. It depends on how the bidding competition for the auctioned unit is.

Based on Table 2, in the sealed auction, the highest price increase occurred for ISUZU ELF NKR71 HDDUMPTRK 2014 in the condition class of <50%, with the difference between the selling price and the minimum price amounted to IDR 26,040,000, -.

Table 2: Selling Price of Truck in the Sealed Auction

Brand	Type	Model	Tahun	Class Condition	Reservation Price (IDR)		Market Price (IDR)		Aspiration Price (IDR)	
					Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
ISUZU	ELF	NKR71HDDUMPTRK	2013	51% - 70%		135,780,000		210,000,000		136,245,000
				71% - 85%		102,300,000		210,000,000		107,415,000
			2014	<50%	69,750,000	82,770,000	210,000,000	220,000,000	706,800,000	108,810,000
				51% - 70%		48,360,000		200,000,000		49,290,000
ISUZU	ELF	NKR71HDBAKKAYU	2014	51% - 70%	88,350,000	122,760,000	200,000,000	215,000,000	88,350,000	123,225,000
				71% - 85%	97,650,000	125,550,000	200,000,000	210,000,000	100,440,000	130,665,000
TOYOTA	NEW DYNA	WU42HT3S	2014	71% - 85%	110,670,000	126,480,000	208,000,000	226,000,000	112,437,000	126,945,000

Table 3: Selling Price of Truck in the Open Auction

Brand	Type	Model	Year	Class Condition	Reservation Price (IDR)		Market Price (IDR)		Aspiration Price (IDR)	
					Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
HINO	DUTRO	130HD	2011	<50%	21,390,000	23,250,000	174,000,000	174,000,000	21,390,000	23,250,000
				51% - 70%	23,250,000	93,000,000	179,000,000	192,000,000	23,250,000	93,000,000
ISUZU	ELF	NKR71 HDDUMPTRK	2013	<50%	17,670,000	74,400,000	210,000,000	230,000,000	21,390,000	74,400,000
				51% - 70%	41,850,000	125,550,000	190,000,000	214,000,000	46,500,000	130,200,000
				71% - 85%	83,700,000	138,570,000	190,000,000	230,000,000	87,885,000	142,755,000
ISUZU	ELF	NKR71HDDUM PTRK	2014	<50%	32,550,000	60,450,000	200,000,000	225,000,000	37,200,000	61,380,000
				51% - 70%	32,550,000	135,780,000	200,000,000	225,000,000	34,410,000	144,150,000
				71% - 85%	87,420,000	150,660,000	220,000,000	230,000,000	97,650,000	159,030,000
ISUZU	ELF	NKR71 HDBAKKAYU	2014	<50%	46,500,000	92,070,000	200,000,000	200,000,000	47,430,000	92,070,000
				51% - 70%	51,150,000	118,110,000	195,000,000	210,000,000	51,150,000	129,170,000
				71% - 85%	51,150,000	145,080,000	200,000,000	214,000,000	56,730,000	163,680,000
TOYOTA	NEW DYNA	WU42HT3S	2014	<50%	34,410,000	82,770,000	206,000,000	216,000,000	38,595,000	82,770,000
				51% - 70%	37,200,000	134,850,000	198,000,000	231,000,000	43,245,000	148,335,000
				71% - 85%	91,140,000	150,660,000	193,000,000	236,000,000	92,070,000	155,310,000
				86%-100%	130,200,000	130,200,000	210,000,000	210,000,000	142,290,000	142,290,000

And in open auction (Table 3), the highest difference is Rp.18.600.000, for - NKR71HD WOODEN TRUCK 2014 in the condition class of 71% - 85%. In the open auction, the increase of each bid was IDR 500,000, therefore, a competition took place or the offers increased 37 times. In the sales of withdrawn units through auction. Each party, both the seller (Astra Credit Companies) and the buyer (the auction participants) had uncompleted information and there was no probability of an event to take place. In this research, there are some criteria for making decisions in uncertainties called the maximax, maximin and equally likely (Table 4 and Table 5).

Table 4: Decision Making in the Open Auction

Truck Model	Level of Price (IDR)		
	High Price	Low Price	Average
130 HD	93,000,000	21,390,000	57,195,000
NKR71 HDDUMPTRK	159,030,000	21,390,000	90,210,500
NKR71HDBAKKAYU	163,680,000	47,430,000	105,555,000
WU42HT3S	155,310,000	38,595,000	96,952,500

Note: Green area = maximax; Yellow area = maximin; Blue area = equally likely

Table 5: Decision Making in the Sealed Auction

Truck Model	Level of Price (IDR)		
	High Price	Low Price	Average
NKR71HDDUMPTRK	136,245,000	49,290,000	92,767,500
NKR71 HDDUMPTRK	130,665,000	88,350,000	109,507,500
WU42HT3S	126,945,000	112,437,000	119,691,000

The maximax criteria are used to make a decision that will resulting maximum payment (optimistic criterion) and to find its maximum value. Based on Table 4 and 5 the maximax value in the open auction is in NKR71HDBAK WOOD and in the sealed auction is in NKR71 HDDUMPTRK. The maximin criteria are used to make a decision that reflects the maximum outcome of the minimum (best of the worst); a comprehensive criterion. The maximin value in the sealed auction is in WU42HT3S and in open auction is in NKR71HDBAK WOOD. Alternatively, Astra can select the alternative with the highest average result in HINO 130HD.

4.9. Comparing Selling Price and Market Price

When viewed as a whole, the selling price in an auction is below the market price (Table 6). Next is a comparison table of selling prices and market prices based on the condition classes and type of auctions. The comparison of selling prices and market prices in open and sealed auctions has almost the same percentage range in each condition class. But sealed auction has a higher upper limit value. This happens because in a sealed auction the participants do not know the bid given by other bidders. So that when an auction participant is eager to buy a unit, the participant will bid with a high price and vice versa.

Table 6: The Comparison between Selling Price and Market Price

Type of Auction	Class Condition	Gap of Selling Price and Market Price (%)
Open Auction	<50%	40% - 60%
	51% - 70%	20% - 50%
	71% - 85%	20% - 40%
Sealed Auction	<50%	40% - 80%
	51% - 70%	20% - 70%
	71% - 85%	10% - 50%
	86% - 100%	≥20%

5. Conclusion and Recommendation

5.1. Conclusion

The collection and discussion of the data processing results of the research concerning Open and Sealed Auction Result Assessments in Astra Credit Companies were with the use of BATNA and ZOPA. BATNA provides information for negotiators about the outcome of negotiations and information, BATNA is used to find out the other party's negotiator's focus. Based on the research results, both sellers and buyers (the negotiators) have different interests, but both need each other. In the sale of a withdrawn unit through auction, the most effective mechanism is an open auction. This is because the implementation of the open auction is conducted between 4 to 6 times of auction event. So that the number of units sold in the open auction is over 50% of the total units. In addition to the auction mechanism, repurchase by the consumer (prepayment) is another alternative to reduce the number of withdrawn units. By providing opportunities for the consumers whose units have been withdrawn to redeem or settle the arrears by fulfilling several conditions.

Based on the discussion of the research results, it can be concluded that the minimum price of the withdrawn unit depends on the condition class of the unit, besides the frequency of auction events it has been taken also affects the minimum price. In auctions, the selling price formed is below the market price. The similarity of the selling price and the minimum price occurs if there is only one bidder participating in the bid. So there is no competition.

In the sealed auction, the highest difference between the selling price and the minimum price was for ISUZU ELF NKR71 HDDUMPTRK 2014 with the condition class of <50% and in the open auction was NKR71HD WOODEN TRUCK 2014 with the condition class of 71% - 85%. This is supported by decision making with the use of maximax, minimax and equal likely criteria.

5.2. Recommendation

There are several suggestions that can be proposed to Astra Credit Companies. First, the company is suggested to provide financing for a particular brand in a growing industry or a company having good financial performance. Companies with good financial performance have the power to pay, so they are able to meet all the financial obligations that must immediately be met or it can be said that they are able to pay all the debts. It can reduce the risk of non-performing loans.

Secondly, by providing continuous information for the prospective bidders or partnering dealers. Such information may provide knowledge for them regarding the units to be auctioned, the minimum price of the auction, photos of the unit condition and the auction schedule. This can attract participants to either open or sealed auctions or encourage the partnering dealers to make limited offers. A faster time in processing the documents is another attraction to be offered.

Thirdly, the company is expected to change the opinion that a sealed auction is the auction made for the units which have not been sold in the auction events for a month using a more innovative way to prevent it from low minimum pricing in the sealed auction. Fourthly, the finance companies must sell the withdrawn units through auction or non-auction mechanisms under the applicable law. In addition, the companies should be more vigilant and anticipate the possible fraud to occur, whether it is committed by the debtors or by the auctioneers through an agreement. And finally, to generate maximum payouts, the companies can maximize the sales of ISUZU NKR71HD WOODEN TRUCK in sealed auctions and NKR71 HDDUMPTRK in the open auctions, both units fall into the fast moving category or easily sold units. Hence if the units are not sold in the auctions, then the minimum price reduction is only 2% - 6%.

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