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Valuation of Upstream Oil and Gas Projects using Discounted Cash Flow Methods

Case Study: "AAX" Oil Field Development Project, "NW NTX" Working Area

Zarpani
Magister Management – Faculty of Economic and Business
Universitas Padjadjaran
Bandung, Indonesia
zarpani@gmail.com

Abstract - The objectives of this study are to valuing the interest in the project development of the "AAX" oil field, "NW NTX" working area which is currently held by "AX" limited and "STX" Limited as contractor under the terms of Production Sharing Contract (PSC) with the Indonesian government, represented by Special Task Force for Upstream Oil and Gas Business Activities. Sluggish global economic downturn and low oil prices lately caused a lot of upstream oil and gas industry to reduce or even stop investing. Therefore do the valuation of the interest value of this project that has been in the development stage. Valuation using the Discounted Cash Flow (DCF) methods version of government rules on the submission of Plan of Development (PoD) and modified version use the long-term forecast of crude oil prices issued by OPEC and considered additional risk based on project conditions. The sensitivity analysis was performed on the results of calculations to determine the sensitivity of interest with respect to changes in input variables. The results of both valuation models show that interest in the project is positive and net cash flow present value during the production period is positive every year. The modified DCF model generate a lower value than the DCF model PoD because of using Minimum Attractive Rate of Return (MARR) that is higher. The result of sensitivity analysis shows that the interest in the project is very sensitive to changes in crude oil prices.

Keywords - Discounted cash flow, Interest, Sensitivity analysis, Minimum attractive rate of return

I. INTRODUCTION

Upstream oil and gas project is an industry that is dealing with high uncertainty. Basically source of uncertainty consists of technical uncertainty and market uncertainty. Challenges from the technical side, among others, was the successful discovery of economical reserve during the exploration stage and the selection of the technology used in the development stage. Market uncertainty associated with the movement of the global economy affects the price of crude oil, such as supply and demand, availability of alternative energy resources and geopolitical conditions of factors, especially in the Middle East.

Technical uncertainty in the exploration stage is much greater than the exploitation stage. In the exploitation stage, the plan of production rate has been able to be estimated by reservoir engineers use the data results of exploration activities[1].

Organization of the Petroleum Exporting Countries - OPEC, in the Monthly Oil Market Report, published January 2016, shows that in 2014 and 2015 has been an oversupply of crude oil in the market so that the prices falls. In 2016, OPEC expects to balance the demand and supply of world oil production rate of 31.65 MMbbl/day (Mile mile barrels/day or million barrels/day), as presented in Table I.

TABLE I. REALIZATION OF SUPPLY AND DEMAND OF OIL IN 2014-2015 AND FORECAST 2016 (IN MMBBL/D).[2]

Year	2014	2015	2016
Demand	91,38	92,92	94,17
Non OPEC Supply	55,64	56,87	56,21
OPEC NGLs + Others Supply	6,00	6,15	6,32
OPEC Supply	30,77	31,85	31,65
Balance	1,03	1,94	0,01

Upstream oil and gas industry which sluggish recently has caused oil and gas companies reassessment of their projects. Many of them have laid off employees and shut down their projects that are considered less economical.[3, 4]

Therefore, this study aimed to evaluate one of the projects upstream oil and gas in Indonesia, namely development of "AAX" oil field in the "NW NTX" working area (furthermore referred to the "AAX" oil field project). The valuation conducted using Static Discount Cash Flow methods (PoD version and modified version of discount cash flow methods).

II. LITERATURE REVIEW

A. Static Discounted Cash Flow (DCF) Methods

The basic concept of valuations at DCF methods in assessing an asset based upon its ability to generate future cash flow, afterwards the cash flow is discounted into present value (Net Present Value – NPV) using a discount rate that reflects characteristics the risks of such assets[5]. The discount rate is commonly referred the hurdle rate or the minimum attractive rate of return (MARR). So the DCF method uses a single

discount rate to compensate for the risk of investment which is a combination of risk on the declining value of money as a result of the passage of time (time value of money) and the risk factors due to the uncertainty of future cash flows.

Static DCF equation to calculate NPV using MARR as the discount rate is following:

$$NPV = \sum_{t=0}^{T} \frac{NCF_t}{(1+MARR)^t} \quad (1)$$

Where,

NCF_t = Net cash flow at any time period (t) in years

$MARR$ = the minimum attractive rate of return

Value is frequently used as MARR in investment is derived from the firm" weighted average cost of capital (WACC). The WACC was the minimum return that creditors, owners, and other capital providers requested for the investment, which is calculated by the following equation:

$$\text{WACC} = \frac{D}{D+E} K_d (1\text{-}T) + \frac{E}{D+E} K_e \quad (2)$$

Where,

$\frac{D}{D+E}$ = percentage of debt in the the company's capital

K_d = cost of debt

T = company's tax rate

$\frac{E}{D+E}$ = percentage of equity in the company's capital

K_e = cost of equity

The cost of equity can be determined by the capital asset pricing model (CAPM), by the following equation:

$$R_j = R_f + \beta (R_m - R_f) \quad (3)$$

Where,

R_j = the expected return on the capital asset

R_f = risk free rate

$(R_m - R_f)$ = risk market premium

β = the sensitivity of the expected excess asset returns to the expected excess market returns

MARR of upstream oil and gas projects supposed to take into account the additional discount rate related projects risk of upstream oil and gas project and suggested MARR upstream oil and gas project in Indonesia is calculated using the following equation[6] :

$$\text{MARR} = \text{WACC} + \text{Risk Country} + \text{Risk Scoring} \quad (4)$$

Where,

Risk country = risks of foreign investment in Indonesia

Risk scoring = the risk of upstream oil and gas project by location, activity and type of drilling

Risks should be accounted for in this regard is the risk based on type of project activity[7], the risk based on project location[8], the risk based on type of drilling.[9] The range of upstream oil and gas project risk in Indonesia based on activity, location, and drilling that is was calculated by Analytical Hierarchy Process by can be found in Figure 1.

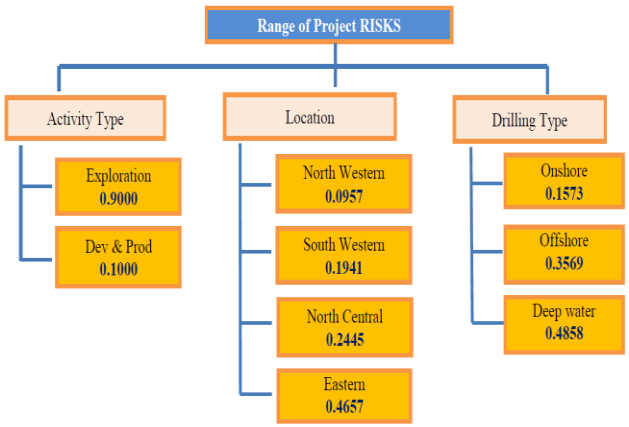

Fig. 1. Matrix range of upstream oil and gas projects risk in Indonesia[6]

The Static DCF models include a sensitivity analysis using the input variables are varied to determine its effect on NPV.[10] Through this analysis would be known variation NPV value that occurs due to alter in value of its variable input (such as commodity prices, capital expenditures, operational expenditures and MARR) on the reference case scenario ceteris paribus.

B. The Pattern of Cash Flows Upstream Oil And Gas Projects In Indonesia

Cash flow of the parties in the upstream oil and gas projects in Indonesia without investment credit can be seen on Figure 2.

The government's cash flow is cash in flow on after the production phase consists of the government's share of the First Tranche Petroleum (FTP) and Equity to Be Split (ETBS), Domestic Market Obligation (DMO), taxes, and deducting DMO fee.

Contractor's cash flow are divided into cash flow at the stages of exploration and development and cash flow at the production stage. Cash flow on the exploration phase and development phase are expenses such as legal fees, tender, seismic and G&G studies, exploration drilling, exploration administration, development cost (development drilling,

production facilities, general administration) and other costs. Contractor cash flow at the production stage consists of the cash in and cash out are taken into account during the current year. Contractor Cash in flow are contractor's share of the FTP and ETS, cost recovery, DMO fee, and Investment credit (if governed by the contract). While cash-out covers all of expenses such as DMO, taxes, the additional capital expenses i.e work overrun well and operational expenses.

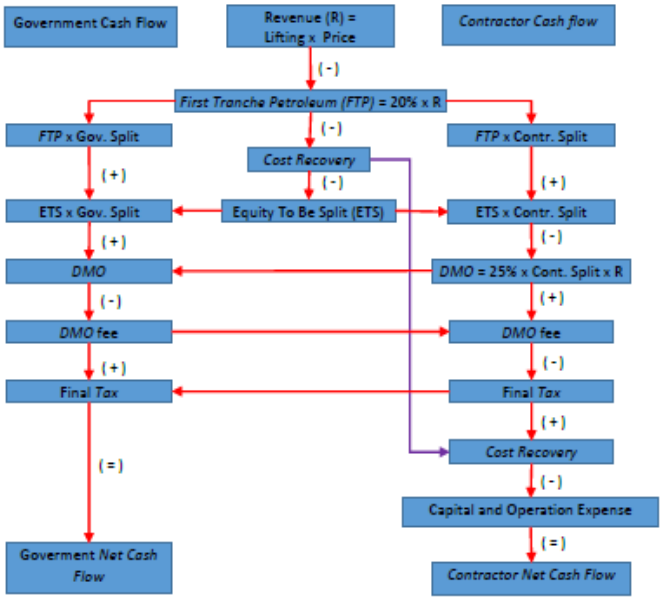

Fig. 2. Schematic cash flow at psc upstream oil and gas projects in indonesia[1]

III. METHODOLOGY

This study uses a static DCF methods (PoD version and modified version) to enumerate the interest value of "AAX" oil field project on the valuation date of December 31th, 2015. In the calculation of the price of "AAX" crude oil was considered the same as the price of belanak crude oil. "AAX" and belanak crude oil was a kind of crude oil that extracted from the same basin.

DCF version PoD was static DCF based on the submission rules of Plan of Development (PoD). This model use the average price of the last five years Indonesian Crude oil Price as the future price and single discount factor, 10% as minimum attractive rate of return (MARR) for the calculation of project cash flow. The calculation of the modified DCF model use the long-term price estimated an existing in the World Oil Outlook 2015, Organization of Petroleum Exporting Countries (OPEC). MARR is calculated from the company's WACC plus additional risk based on location, type of activity and the type of drilling. Therefore, investments and transactions are conducted in US dollar denomination, so that the risk country is negligible.

Project duration is 30 years, starting from December 12, 2004 until December 11, 2034. For simplicity it was assumed to time of the contract effectively began in 2005, so that the time index by 2005 was t = -10, time index for the year of valuation date, 2015 was t = 0 and end of contract, 2034 was t = 19 (see Figure 3)

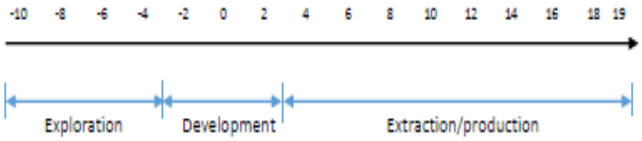

Fig. 3. time Scheme of "AAX" oil field project valuation

From Figure III it is known that spending on exploration activity has been going on at time t = -10 to t = -4. Spending on construction and development has occurred at t = -3 up to t = 4 and revenues will be received in early 2019, when t = 4.

IV. RESULTS AND DISCUSSION

A. Estimated Financing Plan and The Imposition of Cost Recoverable

The "AAX" Oil field located in West "NTX" Basin (North Western) which has a depth of 73 m below the sea surface (offshore drilling type). The production patterns of "AAX" oil field indicates during the contract period may be lifted crude a number of 100,76 MMstb (Mile Mile Standard tonk barrel that's mean million standard tonk barrel). 82% of the amount produced (82,67 MMStb) will be produced in the first half period of commercial production (see Table II). This field contains reserves of heavy oil only without gas content or water. The contractor who have the interest of the project at this time is "AX" Ltd and "STX" Ltd, with operatorship rights rests with "STX" Ltd

TABLE II. THE PRODUCTION PATTERNS OF "AAX" OIL FIELD

Years	Production		
	Daily, MBOPD*	Yearly, MMstb	Cumulative, MMstb
4	25	9,13	9,13
5	31	11,32	20,44
6	40	14,6	35,04
7	40	14,6	49,64
8	35	12,78	62,42
9	24	8,76	71,18
10	18	6,57	77,75
11	13,5	4,93	82,67
12	10,5	3,83	86,5
13	8,8	3,21	89,7
14	7,4	2,7	92,42
15	6,3	2,3	94,72
16	5,7	2,08	96,8
17	5	1,83	98,62
18	4,5	1,64	100,27
19	4,1	0,5	100,76

a. *MBOPD : mile barrels oil per day (thousand barrels per day)

Production sharing scheme between the contractor and the government before tax (split gross) with final tax rate 44% is 26,7857 % and 73,2143 %.

Table III presents the estimated financing plan and the imposition of cost recoverable "AAX" oil field for the lifetime the project expected to reach MUS $ 1.455.577 (thousand U.S Dollars) .

TABLE III. THE AMOUNT OF EXPENDITURE AND THE IMPOSITION OF COST RECOVERABLE OF "AAX" OIL FIELD PROJECT

Time index	Cash Out, MUS $					Cost recoverable, MUS $	
	Sunk Cost	Capex	Opex	Total	Cumulative	The Imposition	Cumulative
-10	6.140	-	-	6.140	6.140	-	-
-9	6.645	-	-	6.645	12.785	-	-
-8	5.455	-	-	5.455	18.240	-	-
-7	2.790	-	-	2.790	21.030	-	-
-6	2.280	-	-	2.280	23.310	-	-
-5	1.930	-	-	1.930	25.240	-	-
-4	1.520	-	-	1.520	26.760	25.560	25.560
-3	-	3.090	-	3.090	29.850	3.090	28.650
-2	-	4.710	-	4.710	34.560	4.710	33.360
-1	-	10.990	-	10.990	45.550	10.990	44.350
0	-	13.270	-	13.270	58.820	13.270	57.620
1	-	165.250	-	165.250	224.070	5.250	62.870
2	-	118.250	-	118.250	342.320	34.250	97.120
3	-	147.650	-	147.650	489.970	215.700	312.820
4	-	24.000	35.861	59.861	549.831	103.849	416.669
5	-	24.000	39.171	63.171	613.002	96.162	512.830
6	-	24.000	42.205	66.205	679.207	119.424	632.254
7	-	24.000	45.054	69.054	748.260	94.730	726.984
8	-	24.000	44.338	68.338	816.598	88.414	815.398
9	-	35.090	42.848	77.938	894.536	74.943	890.341
10	-	24.000	44.115	68.115	962.650	68.863	959.204
11	-	34.900	45.409	80.309	1.042.959	77.927	1.037.132
12	-	24.000	46.402	70.402	1.113.360	71.558	1.108.690
13	-	34.900	47.093	81.993	1.195.354	79.918	1.188.608
14	-	-	47.910	47.910	1.243.264	50.007	1.238.615
15	-	-	48.344	48.344	1.291.607	49.206	1.287.821
16	-	-	48.665	48.665	1.340.272	50.010	1.337.831
17	-	-	49.285	49.285	1.389.558	49.596	1.387.426
18	-	-	49.414	49.414	1.438.972	50.345	1.437.772
19	-	-	16.606	16.606	1.455.578	16.606	1.454.378
				1.455.578		1.454.378	

B. The calculation of the value of projects interest using static methods of DCF

Based on the current project guidelines namely the rules of of the BP MIGAS No. 0072/ BP0000/2010/S0 the year 2010, hurdle rate or the Minimum Attractive Rate of Return (MARR) for the calculation of DCF version PoD are specified of using single value of 10% for the lifetime the project. Meanwhile "AAX" oil price assumption determined by the average price of belanak crude oil of the past five years amounted to US $ 89,41/bbl (barrel).

On the other hand the input data for setting as a MARR of modified model of DCF are as follows:

- Risk free rate are 3,22 % ($-10 \leq t \leq -1$) and 3,81 % ($0 \leq t \leq 19$)
- Beta of "AX" ltd is 1,29 and "STX" Ltd is 1,67
- Cost of debt "AX" Ltd and "STX" Ltd are 3,97 % and 4,54 %
- Cost of capital "AX" Ltd prior and after the valuation date are 18,0 9% ($-10 \leq t \leq -1$) and 18,68 % ($0 \leq t \leq 19$)
- Cost of capital "STX" Ltd prior and after the valuation date are 14,71 % ($-10 \leq t \leq -1$) and 15,29 % ($0 \leq t \leq 19$)
- Indonesian market risk premium 8,9 % [10]
- Company's tax rate 40 %
- WACC of "STX" Ltd prior and after the valuation date are 11,61 % and 11,96 %
- WACC of "AX" Ltd before and after the the valuation date are 12,62 % and 13,11 %

Subsequently risk scoring projects are determined based on the matrix of upstream oil and gas projects project risk contained in Figure 2.1 as in the Table IV below:

TABLE IV. CALCULATION OF RISK SCORING OF "AAX" OIL FIELD PROJECT

Aktivity Type		Location	Drilling Type	*Risk scoring*
		North Western	Offshore	
Exploration	0,9	0,0957	0,3569	0,0307
Dev & Prod	0,1			0,0034

So MARR of "AAX" oil field project for calculations the modified model of DCF can be calculated as in the Table V below:

TABLE V. MARR CALCULATION OF "AAX" OIL FIELD PROJECT

Years	WACC, %			Risk scoring, %		MARR, %
	"STX" Ltd	"AX" Ltd	"AAX" project	Exploration	Dev & Prod	
2005 -2010	11,61	12,62	12,12	3,07		15,19
2011 - 2015	11,61	12,62	12,12		0,34	12,46
2016 -2034	11,96	13,11	12,53		0,34	12,87

Forecasting the future of oil prices in the modified model of DCF refers to Long-term forecasts average prices of Opec Reference Basket Price (ORB Price) implied in World Oil Outlook 2015 (WOO-2015). Based on the historical data is known that an average price Belanak US $ 2,54/bbl is lower than ORB Price. So the formula to predict Belanak oil prices is ORB price estimate - US $ 2.45/bbl. Estimates of annual average price of belanak crude oil based on ORB price projection from 2016 until 2034 could be seen in the Table VI below:

TABLE VI. PROJECTED ANNUAL AVERAGE PRICE OF BELANAK CRUDE OIL IN US $/BBL.

Year	ORB Price	Belanak
2016	60	57,5
2017	65	62,5
2018	70	67,5
2019	75	72,5
2020	80	77,5
2021	85	82,5
2022	90	87,5
2023	95	92,5
2024	99	96,5
2025	103	100,5
2026	107	104,5
2027	111	109
2028	115	113
2029	119	117
2030	123	121
2031	127	124,5
2032	131	129
2033	135	133
2034	139	137

The results of the PoD model of DCF calculations generate total revenue MUS S 9,008.409 and value of project interest of "AAX" oil field MUS $ 367,860. Meanwhile modified model of DCF produces total revenue MUS S 9.369. 968 and value of project interest of "AAX" oil field MUS $ 222.775. So there is a difference amount of MUS $ 145.095 between both of them.

Whereas the oil price assumptions difference between the two models DCF did not cause a large difference in the total value of the project revenue. DCF version PoD result total revenue amount MUS $ 9.008.409 and DCF version Modification produce total revenue amount MUS $ 9.369.968 throughout the project life. Likewise, during the first five years of production, the DCF version POD generate total revenue of MUS $ 5.580.327 and the DCF version modification model produces total revenue of MUS $ 5.202.164 at the same period.

So DCF version PoD produce higher value of interest because using the discount factor is lower than the DCF version Modification. It due to the DCF model modification judging this project is more risky by into account the project risks based on the activity, type of drilling and location.

Although these two models generate positive cash flow during the production period, but after a year to 12 its value is much decreased (see Table VII). This decrease is logical because of the production patterns known until in the year to 12 have produced as many as 86,51 MMSTB of total 100.76 MMSTB crude oil that can be extracted during the contract period.

TABLE VII. REVENUE, NET CASH FLOW PRESENT VALUE AND VALUE OF PROJECT INTEREST THE "AAX" OIL FIELD

Time Index	DCF Version PoD			DCF Version Modification		
	Project Revenue, MUS $	PV of Contractor NCF, MUS $		Project Revenue, MUS $	PV of Contractor NCF, MUS $	
		yearly	Cumulative		yearly	Cumulative
-10	-	(15.926)	(15.926)	-	(25.252)	(25.252)
-9	-	(15.669)	(31.594)	-	(23.725)	(48.977)
-8	-	(11.693)	(43.287)	-	(16.908)	(65.885)
-7	-	(5.437)	(48.724)	-	(7.507)	(73.392)
-6	-	(4.039)	(52.763)	-	(5.326)	(78.718)
-5	-	(3.108)	(55.872)	-	(3.914)	(82.632)
-4	-	(2.225)	(58.097)	-	(2.431)	(85.063)
-3	-	(4.113)	(62.210)	-	(4.395)	(89.458)
-2	-	(5.699)	(67.909)	-	(5.957)	(95.415)
-1	-	(12.089)	(79.998)	-	(12.359)	(107.774)
0	-	(13.270)	(93.268)	-	(13.270)	(121.044)
1	-	(150.227)	(243.495)	-	(146.403)	(267.447)
2	-	(97.727)	(341.223)	-	(92.815)	(360.262)
3	-	(110.932)	(452.154)	-	(102.674)	(462.936)
4	815.837	284.600	(167.554)	661.563	242.452	(220.484)
5	1.011.638	105.750	(61.804)	876.913	81.928	(138.556)
6	1.305.340	130.454	68.650	1.204.500	104.441	(34.115)
7	1.305.340	106.361	175.011	1.277.500	87.007	52.892
8	1.142.172	83.103	258.114	1.181.688	69.863	122.755
9	783.204	34.212	292.326	845.340	29.594	152.349
10	587.403	23.904	316.230	660.285	21.036	173.385
11	440.552	14.179	330.409	514.924	12.996	186.381
12	342.652	10.572	340.981	415.826	9.780	196.161
13	287.175	6.490	347.471	361.350	6.457	202.618
14	241.488	6.508	353.980	314.667	6.123	208.741
15	205.591	4.629	358.608	277.090	4.517	213.258
16	186.011	3.789	362.397	259.022	3.751	217.009
17	163.167	2.716	365.113	234.513	2.827	219.836
18	146.851	2.218	367.331	217.631	2.340	222.176
19	43.988	529	367.860	67.158	598	222.775
	9.008.409	367.860		9.369.968	222.775	

The sensitivity analysis against the value of project interest on calculation results of the DCF version PoD done by altering the price, capital expenditures (capex) and operational expenditures (opex) on the reference case scenario ceteris paribus. The results of the sensitivity analysis indicates the value of project interest is highly sensitive to changes in crude oil prices. The decline in oil prices of 60% of the reference price case cause the value interest decreased to MUS $ -2.193. This is a decrease of 100,6 % of the initial values MUS $ 367.860 (see Table VIII and Figure 4)

TABLE VIII. THE SENSITIVITY ANALYSIS ON THE VALUE OF PROJECT INTEREST OF DCF VERSION POD FOR OIL PRICE, CAPEX TARGETS, OPEX TARGETS.

Price, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	(2.193)	125.908	247.545	88.174	608.489	728.803
	%Change	-100,60	-65,77	-32,71	32,71	65,41	98,12
Capex, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	462.038	430.645	399.252	336.467	305.074	273.681
	%Change	25,60	17,07	8,53	-8,53	-17,07	-25,60
Opex, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	387.954	381.256	374.558	361.161	354.463	347.765
	%Change	5,46	3,64	1,82	-1,82	-3,64	-5,46

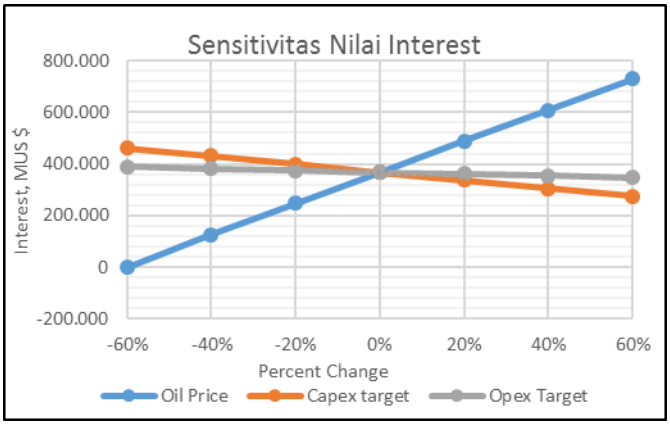

Fig. 4. Graph of the sensitivity of interest value towards price changes, capex targets and opex targets.

Besides oil prices, capex targets, and the opex targets, the change of MARR also have a major influence on the interest value. The changes to the company's capital structure, risk free rate, and the beta will alter the value of MARR. Table IX, Figure V and Figure VI presents sensitivity analysis on interest project value of the DCF version Modification to changes in oil prices, capex targets, opex targets and MARR.

TABLE IX. SENSITIVITY ANALYSIS ON VALUE OF PROJECT INTEREST OF THE MODIFIED DCF MODEL FOR OIL PRICE, CAPEX TARGETS, OPEX TARGETS AND MARR

Price, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	(82.546)	22.193	125.444	320.106	417.437	514.769
	%Change	-137,05	-90	-44	44	87	131
Capex, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	322.196	289.056	255.915	189.634	154.731	117.347
	%Change	44,63	29,75	14,88	-14,88	-30,54	-47,32
Opex, % Change		-60%	-40%	-20%	20%	40%	60%
Interest Value	MUS $	238.675	233.375	228.075	217.475	212.174	206.874
	%Change	7,14	4,76	2,38	-2,38	-4,76	-7,14
MARR Value			6,87%	9,87%	15,87%	17,87%	19,87%
Interest Value	MUS $		477.656	333.695	136.219	88.964	48.445
	%Change		114,41	49,79	-38,85%	-60	-78,25

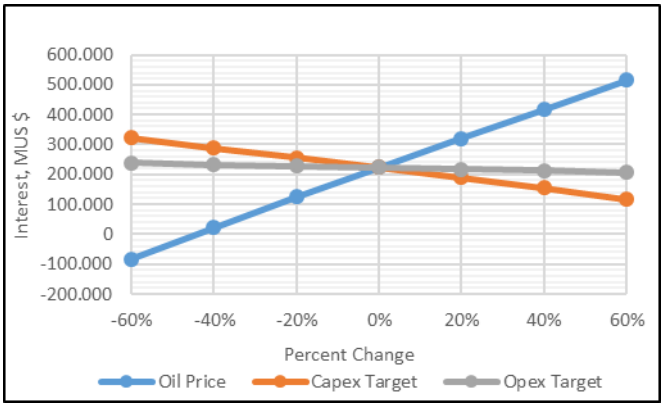

Fig. 5. Graph of the sensitivity of interest value towards price changes. capex targets and opex targets

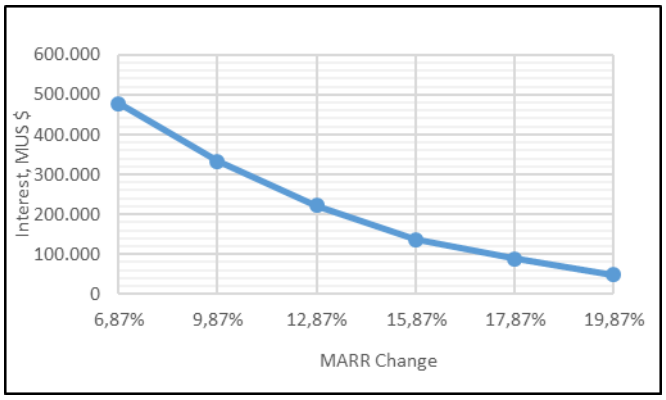

Fig. 6. Graph of the sensitivity of interest value towards MARR change

The sensitivity analysis on the results of the DCF version Modification shows the interest value is sensitive to changes in oil prices and the MARR. If the price of oil down 60% from the initial price, then the interest value would fall to MUS $ -82.546. This Figure is a decrease of 104% of the interest the initial value of MUS $ 222.775. But the price reduction of 40% of the reference case is still generating positive interest value of MUS $ 22,193. While the increase in MARR into 19.87% of the initial value of 12.87% will decrease in interest value by 78.25% to MUS $ 48.455

V. CONCLUSION & SUGGESTIONS

As discussed previously, DCF version PoD that uses a single value of MARR generate higher interest value than DCF version Modifications. The main cause of this difference is the DCF model modification MARR that is higher than the DCF pod because it takes into project risk scoring based on activity, drilling type and project location.Therefore the value of MARR that is used DCF version Modification is better illustrate the actual risk,[6] inferred value of interest of this project is MUS $ 222.775 (based on the results of the DCF model modification).

From the results of the sensitivity analysis are known interest value of the project is sensitive to changes in oil prices and the minimum attractive rate of return. The value of project interest which is sensitive to changes in MARR, causing the single value of MARR of 10% for all conditions tend to generate less precise value. So MARR should be calculated based on market conditions and risks of the project based on location, type of activity and drilling. Therefore it is advisable to Special Task Force for Upstream Oil and Gas Business Activities to consider the use of different discount rates according to the type of drilling, project activity and locations on the DCF method in the calculation of the value of the project.

Although this study shows the value of the oil field project interest "AAX" is positive, but the pattern of annual cash flow stating this project would not be sufficiently profitable after the year to 12. These results imply this project must assess the application of technology enhanced oil recovery (EOR) for optimize the amount of oil extracted in the year 13 to the end of the project.

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interest recovery, if it was set in the contract