THE IMPLEMENTATION OF MARGINAL COST PRICING TO THE DECISION MANAGEMENT

Aminullah Assagaf[1]

University of Dr. Soetomo
SURABAYA, INDONESIA
E-mail: assagaf29@yahoo.com

ABSTRACT

The concept Margnal Cost Pricing (MCP) is particularly relevant when used inthe environment of State-owned Enterprises, especially for companies engaged in the field of community serviceand has strategic position in national economic growth. Pricing controlled by the government and the House of Representatives is considere dessential in order to preserve the stability of the business, avoid inflation and unemployment. Therefore it is important for the ministry of state enterprises to study the application of MCP concept, since relevant research results have shown that the this concept has been widely used by developed countries such as American and European countries, especially in determining the electricity rates, train fare, bus fare, ships fare, and publicutility rates provided by the government. In an environmentof State-owned Enterprises there were none research result that led to the implementation of this concept due to the following difficulties: (a) the mechanism that is influenced by political considerations, (b) consideration of qualitative decision-makers with out using a quantitative basis, (c) lack of dissemination of this concept and its nation-wide applicationis very limited,(d) there has been no comprehensive studies in the environment of state-owned enterprises related to the application of this concept, (d) in adequate financial statementsor unadjusted yet since the accounting information is not realistic because of historical based reports, and others. Technically, the application of the MCP concept in the environment of state-owned enterprises can be done, however the willingness and commitment of stake holders are very required.This is where therole of corporate management in the environment of state-owned enterprises or the ministry of state-owned enterprises as share holders as well as annual general meeting board initiatesteps that begins with the study to convince the feasibility and benefits of the MCP implementation. The benefits are especially in improving the performance of related state-owned enterprises, reducing the burden of subsidies, and improving public services. Furthermore, this paper is expected to inspire the decision makers in the environment of state-owned enterprises such as state

electricity company, railway company, Pelni, Damri, Hospitals, Pertamina, Gas, and other public facilities provided by the government.

Keywords: The Application of MCP in Pricing, Pricing Mechanism, Selected Case Studies

INTRODUCTION

Marginal cost pricing (MCP) has long been recognized in many developed countries which are controlled by the state companies or private companies. Companies that are controlled by the government are related to the lives of the society, as a state enterprise, related to consumer protection, and concerning all actions of a company that are detrimental to the society. The purpose of this MCP concept is especially in the sense of achieving the optimal level if the company makes maximum profit,and getting minimum loss when the company gets loss. Maximum profit or minimum loss does not mean harming the consumer society but it means that the company internally determines certain quantity and price which have optimal results, which means raising or lowering the price (P) that can reduce the profitor increase the loss. The same thing also happens onthe determination of the quantity(Q) of the optimal production or sales to increase or reduce the production or sale, that can reduce the profit or increase the loss company. This concept is ideal to be used in environments of State-owned Enterprises that expand the community service tasks and have become agents of economic development. This is particularly forstate-owned enterpriseswhich still rely on subsidies that weigh on state finances, or which are expected tobe come a source of revenue for the state budget, and is closely related to social and economic life, so the companies need funds for expansionon an on going basis, such as electricity (PLN), rail transport (PJKA), public buses (Damri), sea shipping (Pelni), airflight (Garuda and Merpati), clean water (PDAM), telecommunications (Telkom andIndosat), fuel (Pertamina), gas (PGN), freeway (Binamarga), airportrunway (AngkasaPura), as well as other infrastructure companies. In practice, the companies usually determine its selling price based on the cost price plus a certain amount of profit, and consider external factors and internal factors such as competition advantages which are reflected by the company's value. In case the company has value then the consumers will not take price as their priority, so that kind of companies can set higher prices than the prices of other goods. Unfortunately, not all companies are able to achieve high value and consumers have different income levels. For the people who have middle to lower in come, they generally consider the price factor; therefore a company must choose apricing strategybased on the cost structure.

Marginal cost approach is one of the marginal cost pricing techniques, where the price is set at the optimal level on condition that the marginal cost(MC) equals marginal revenue(MR). In the event that prices are set by the government and

parliament, the price of the various quantity of sales, the demand curve is horizontal, the MR curve coincides with the price(MR=P). MR obtained from the change in total revenue(ΔTR) is divided by the change inquantity(ΔQ) and the result isequal to theprice(P). Levels of P and Q are achieved at optimal condition ofMR=MC, orMR=P=MC,so this approach is commonly referred to as the marginal cost pricing(MCP). In other words, marginal cost pricing approach is the price level and quantity achieved atMR =MC as an optimal condition, which results in maximum profit or minimum loss. This approachappliesto the price decision by the company at various markets such as monopoly, monopolistic, perfect competition and oligopoly market. In terms of pricing policy is controlled by the government, particularly in relation to the lives of many people and to the socio economic stability of society, then this approach his highly relevant to the especially the public utilities company such as electricity rates, water rates, telecommunications, and others.This approach can be used by the State Owned Enterprises(State-owned Enterprises) to control subsidies through pricing that result in the best condition for the consumer and result the lowest subsidies or minimum loss for the companies them selves. For private companies, this approach can be used in pricing strategies that can generate maximum profit. The company's decision to the target of production quantity, sales and price can be treated as the reference for the company to generate maximum profits. Interms of quantity and price realization are smaller or larger, then the maximum profit can not be maximally achieved. The question that arises is that this approach is not often found in the practice of decision-making,both at the state-owned and private companies. This approach is difficult to apply for companies, especially because(a) this approach requires the formulation of marginal cost and marginal revenue; therefore, the information structure of costs, revenue, pricing and demand structure is needed, (b) the price-related decision is not only based on cost structure but also on the company's value judgment, (c) the decision refers to the degree of price competition, (d) a simple approach is considered tobe faster, such as "cost plus margin", (e) a more complicated approach is difficult to be understood by the decision maker, (f) the decision for subject by the management in determining the price, and(g) the cost structure reported by the accounting are often not realistic since it is based on historical records, profit management policy, and data manipulation to describe a particular performance that is not relevant to the actual conditions. To implement this MCP the completeness of information is required for more realistic calculation to support the management or decision makers. Based onthe above description, the issue that arises is how to implement the concept of MCP in State-owned Enterprises environment to achieve optimal conditions in terms of the company's operations and customer service.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS
Literature showed that the implementation of marginal cost pricing is commonly found in some countries, including(1) Implementation of Marginal Cost Pricing in

Transport-Integrated Conceptual and Applied Model Analysis, which is reported through www.mcicam.net by: European Commission-DGTREN; Fifth Frame work2004, which was reported by Esko Niskanen and Chris Nash, with contributions of partners on March 2, 2004, (2) Marginal Cost Pricing in the American Utilities, reported in Southern Economic Journal; Vol. 33 Issue 3, p. 421, 1967 or via www.connection.abscohost.com, (3) Marginal Cost Pricing Implementation Paths to Setting Rail, Air and Water Transport Charges. Reported by the European Commission, Partners, 28 November 2002 via www.mcicam.ne, (4) Marginal Cost Pricing Implementation Paths to Setting Urban and Inter urban Road Transport Charges, reported via www.transport-research.info,updated 25July,2014, (5) Marginal Cost Pricing in Hydro-Thermal Power Industries: Is a Capacity Charge Always Needed? Reported by M.Soledad Are llano and Pablo Serra, the Universidadde Chile, July 2007 and via www.dii.uchile.cl, (6) Marginal Cost Pricing: Adigest of the California experience, reported in Contemporary Economic Policy, June 29,2007, volume17, issue 1, page 20-32, and via www.thefreelibrary.com, (7) Marginal Cost Pricing of Airport Runway Capacity, La Guardian Airport NewYork, reported by Alan Carlinand Rolla Edward Park, 1970,via www.rand.org/papers/p4134.html, and (8) The Marginal Cost Working Group(MCWG) which already has 50American utilities companies participating in MCGW, reported via www.nera.com, 2014.

In the environment of State-owned Enterprises, this concept should be applied since it has already been proven in many developed countries, especially to pricing decision which are related to public service or in connection with thelives of many people such as electricity rates, transportrates, water rates, gas prices, fuel prices, and others. The goalisto obtainthe optimal pricethat is notdetrimental to the publicanddoes not burdenthe subsidies from state budget. As a hypothesis, it is believed that the implementation ofthe conceptis possible to implement by management of the company in State-owned Enterprises environment since its internal datais available.What is more importantis that the ways the management company convince the stake holders through communication between agencies, accuracy of data, and preparation of the calculation model in which its results can be quantitatively verified that the price set is to produce optimal financial performance.

RESEARCH METHODOLOGY
The concept of MC Precommends pricing policy (P) and quantity (Q) that can be optimally achieved at the balance of marginal revenue (MR) and marginal cost (MC). Optimal conditionsare achieved in the form of maximum profit or minimum loss, such as the recommendation of electricity rate in the preparation of Present and Future Financial Management of State Electricity Company (Aminullah Assagaf, 2014: P48-49).
For the implementation ofMPCat the State-owned Enterprises environment, the time series - based secondary data is needed, which are based on the adjusted

financial report at a certain period. Cost structureandquantityof data are used in the econometric model sales to obtain the corresponding cost function as C=a +bQ2. The value of MC is obtained from the derivative of cost function, while MR is obtained from the structure of the selling price and quantity. Further more, based on the balance of MR = MC it is obtained the price state at the best conditions prevailing along the curve of MC. The conditionof MR=P as described below is a consequence of price fixing by the regulator and does not follow the market mechanism as generally occurred in State - owned Enterprises environment.

The results have showed thattheState-owned Enterprisesare still facing difficulties in the implementation ofthis MCP concept, due to (a) the basis for determining the price which still use numbers based on historical - based financial report so that the reports do not describe realistic conditions, (b) pricing mechanism through technical departments of government and the House of Representatives forward the interests of the political and less attention to the financial aspects and economic optimization, (c) lack of efforts in convincing the stakeholders, (d) few studies or experiences in the country which are related to the implementation of the MCP, and(e) the commitment of management and the company policy which are not supporting yet.

The following is the description of the concept of optimal condition achievement through the balance ofMR=MC. Costfunction (C) =40+2Q2, marginal cost (MC) =4Q, the price (P) =20, total revenue (TR) =20 Q, and marginal revenue (MR) =20, profit (F) =TR – C = 20 Q- 40 – 2 Q2. If MR = MC is 20 = 4Q, then Q = 5 with a maximum profit of Rp 10 is obtained. In the case of Q is smaller or larger than 5, then the profit gained is not as optimalas the profit ability calculations described below. Profit ability is optimally obtained atQ = 5 so that anything that is larger or smaller than that will produce smaller profit, which is Profit$_{(Q=5)}$= 10(maximum profit), Profit (Q =6) =8 and P(Q =4) =8 as described below. If the cost function change where the fixed cost sincrease to 60 or C=60+2Q2 and the profit (F) =20Q-60-2Q2. The balance of MR=MCis achieved at position of Q=5, which results minimum loss, therefore it means that the bigger or smaller than that will result a greater loss. Loss(Q =5) =-10(minimum loss), loss (Q =6) =-12andLoss(Q =4) =-12 as described above.

Figure 1
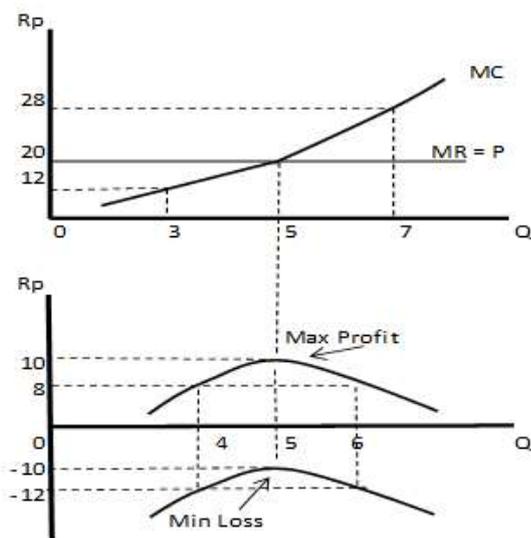
In relation to the optimal pricing policy, EvanJ . Douglasin his book Managerial Economic - Analysis and Strategy (P 423s/d427) suggested the balance approach of MR=MCin the calculation modelof markup and marginal pricing in the following equation, wheree; the price elasticity of demand, dP; price change, dQ; changes in the quantity of sales, P; price, Q; quantity of sales, andCM; contribution margin. Mark up pricing and marginal pricing are formulated as P=AVC+X%   (AVC)   or   the   equation   P=AVC+CM   is   used. Marginal approach requires MR = MC, started from TR = PQ, and then proceeded with the calculation of MR and MC. MR=P+Q(dP/dQ) = P+(QP/P. DP/dQ) = P(1 +Q/P. DP/dQ) =P(1 +1/e). The conditions of MR = MC that MC=P(1 +1/e), or the price level P=MC(E /e+1).

Since MC equals AVC then the equation of the price level above can be P=AVC (e /e+1). Further more, (e /e+1) +1/(e +1) =1 or (e /e+1) =1-(1 /(e +1), then the optimal price level in the equation P=AVC (1-1/e+1) or P=AVC+(-1 /e+1) AVC can be obtained. For example,e=-5 then the price set is P=AVC+(-1 /-5+1) AVC or P=AVC+(-1 /-4) AVC or P=AVC+(25%) AVC with make up 25% of AVC. Prices formulated in this model reflect the optimal price markup which is derived from the balance of MR=MC.

RESEARCH AND DISCUSSION
The implementation of MCPis widely used in developed countries, especially by companies associated with public service and which the prices are controlled by the government as a national regulator. This MCP concept should be nationally implemented in the State-owned Enterprises environment; however there has not been a study conducted which its result can lead to its implementation.Many

difficulties are faced by the state enterprises, such as already been explained in the preceding section, that should be overcome, unfortunately the regulator and the decision makers have not willingly realized and committed to the importance of this MCP concept to optimize the state-owned enterprises financial performance, to improve their servicesto the community, and to reduce the subsidies that burden the state budget.

Pricing Mechanism in State-owned Enterprises Environment

The price fixing in the environment of state-owned enterprises is donethrough(a) the decision ofthe annual general meeting, the approval ofthe governmentandthe House of Representatives, (b) management decisionsandapproval ofthe annual general meeting, and (c) management decisionsandapproval ofthe board of commissioners, and(e) management decisions. The mechanism of price fixing by state-owned enterprises which are considered as strategic and affect the livelihood ofthe society is initiated from the management of state-owned enterprises tothe Minister of State - owned Enterprises as stake holder, to be decided in the form of annual general meeting, thenbe reviewed by there lated department or the minister concerned and be reported to the Coordinating Minister and then decided by the governmentto be proposed to the House of Representatives.

Having discussed and approved by the House of Representatives, the price fixing proposal is returned to the governmentand to be followed up into action by the enterprises concerned. Inthisprice fixing process, it requires comprehensive discussion in order to considerall aspects. In contrast tothe prevailing priceaccording tothe marketmechanism, the changes can be applied very rapid adjusted to the development of industry and macro environment. The modelof pricing policyset bythe regulator should be more likely offering the implementation of MCP, since the process of price fixing can be discussed and is open to detailed discussion on the calculation mechanism and data used in the model. If necessary, this model can be audited by experts or expert staffs to ensure the accuracy of optimal rate calculation. In favorable conditions, the state enterprises will gain maximum benefit, while at the same time their loss are still subsidized, so that the price set will provide loss at the lowest rate and will result subsidy burden at its lowest. This optimal condition does not mean to the consumersociety, butto set a price in such at certain quantity which can produce the best performance for the state enterprises. Thisis beneficial for both companiesand consumers, since the company policy to set bigger or smaller price and quantity from the MCP simulation results will lead to not maximum profits or not minimum losses.

Selected Case Studies of State-owned Enterprises

One of the study case schosen in this study is the national electricity pricing by the State Electricity Company(PLN) which was established by the stakeholders of state enterprises (SOE), the technical department (Minister of DM) and the approval of House of Representatives. This mechanismis important since electricity service is considered to be strategically related to the life of society at

large and affected to the development of business and national industry. The establishment of electricity price fixing in different countries, as well as through the regulators control, is also conducted by supervising the calculation mechanism, data that are used and optimal quantitative models. MCP approachis now used as a technique that is wide lyused in the calculation of rates of public utilities companiesin developed countries. The process of settingratesis mathematically formulated and becomes calculation standard in the price adjustments every time the economic variable changes or the operational cost structure of the company changes. With the adjustment method, the process is more practical, time is relatively short, and the adjustment is gradual or relatively small. There fore, the process of initial implementation of this approach is needed, through empirical studies and socialization, in order to convincestakeholders

Price and Cost Structure
The price and cost structures of the selected state enterprises can be described by using the time series data of state electricity company from 2005 to 2014.

Table 1. The Structure of Rate and Cost in 2005/2014 (Rp/kWh)

TH	Average rate	Operational AC	Surplus (deficit)

Source: Financial report and statistics of state electricity company

Struktur Tarif dan Biaya 2005 - 2014 (Rp/kWh)

TH	Tarif Rata2	AC Operasi	Surplus (Defisit)
2005	591	710	(119)
2006	628	934	(306)
2007	629	920	(290)
2008	653	1.245	(592)
2009	670	1.005	(335)
2010	699	1.012	(313)
2011	714	1.178	(464)
2012	728	1.181	(453)
2013	818	1.178	(360)

Sumber : Laporan Keuangan dan Statistik PLN

Price is set much lower than the company operational cost, not including the cost outside the operational cost, Electricity business becomes unattractive to businesses because the rates set are very cheap or result loss. Therefore, the goal is to ease the burden on the public and improve services; however the relatively low rates will cause losses and will reduce services since the market participants are dominated only bystate electricity company as public utility. Losses occur because people use electricity beyond the normal requirements as explained in the law of demand; the lower the price, the more the product and services are used in the term of quantity. As a result,the state electricity company is notable to meet the needs of both consumers and potential consumers, while other companies but this state companyare not interested since it is not worthy for them.
Cheaper price and increased demand result bigger subsidy burden at for the state budget, thus inhibiting the development of other sectors and later are detrimental

to societyin general. For example, the financial fund for other development sectors such as education, health, and other infrastructures are in a weak position since the state budget is only used to subsidy the electricity. For example, based on financial report of the state electricity company in 2012 and 2013, the subsidies were Rp 103 billion and Rp 101 trillion.

Price Implications on Subsidies

The implication of very cheap price or unadjusted price for several years while the economic variables that affect the cost structurehave increased, is incontrollable subsidy burden as reported in *Manajemen Keuangan PLN Masa Kini dan Masa Depan* (AminullahAssagaf, 2014). When this mechanism is still maintained, then the subsidy burden at the state budget, in the near future, will become more severe and even the consumers will feel entitled to the benefit of cheaper electricity rate. This is a very serious implication since the business and industry also enjoy the subsidy given. This can happen because even the government and House of Representatives are seem harder to give economic rate to those commercial sectors because considering that their productivity will be troubled, can result inflation and workers termination, evenlead to the moving out of the industries to other countries such as Vietnam and Thailand. Besides, the entrepreneurs and the business and industries owners which are sometimes also as members of the House of Representatives, have access tothe price adjustments decision making and have strong relationship with the power holder in the government.

This is where theimportance ofthe MCP concept implementation in the environment of State - owned Enterprises take place to adjust the amount ofsubsidy may be adjusted from time to timewith the development and changes in economic variables that can affect the company's operational cost structure, as well as evaluatethe performance of management which is not only service-based but also financial - basedaspects. This is because financial report - based performance has some draw backs since the data informed refer to the history of transactions and are not realistic anymore after some periods. This can be even more unrealistic if the management does creative accounting such as management earning, and others which tend to only describe the condition based on targeted condition such as expecting bonus, preparing initial public offering, avoiding the tax burden, and so on.

The Application of MCP in Pricing

By using time series dataof state electricity company from 2005 to2013, the following can be used to calculatethe magnitude ofthe costfunction parametersby using SPSS software, and furthermore is used to determine the optimal rates along the MC curve known as MCP. The selection of a cost function model is considered by the data distribution or scatter diagram, by also considering the determinant coefficientor R2 adjuster. The cost function used is C=a +bQ2, where the cost C, aconstant, basdirectional coefficientand Q is the

quantity of kWhsol do relectricity consumption. Data of operational cost and quantity of electricity sales (TWh) that are used in the SPSS simulationare:

Table 2. Cost and Selling Price in 2005-2014

TH	Operational cost (Rp M)	Q (Twh price)

Source: financial report and statistic of state electricity company

TH	Biaya Opers (Rp M)	Q Twh Jual
2005	76.024	107
2006	105.228	113
2007	111.506	121
2008	160.598	129
2009	135.276	135
2010	149.108	147
2011	185.640	158
2012	203.115	172
2013	220.911	188

Sumber : Laporan Keuangan dan Statistik PLN

The result of SPSSsimulation showed that the cost function wasC=33 533+5.656Q2. The parameter of cost function is displayed on the following SPSS table:

Table 3 SPSS Analysis Result

Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	33532,980	16029,485		2,092	,075
Q²	5,656	,732	,946	7,724	,000

a. Dependent Variable: C

Based on the above cost function, it is obtained that, MC=11, 31Q. If the actual prices at the last period is at P=818 then TR=88Q, so it is obtained that, MR=818. Optimal conditionis achieved at thebalance ofMR=MC, whereMR=Pso that theMCPis obtained from the equationP=P=11.31MC which means the QorQ=P/11.31. If the quantity of sales is amounted to 188 TWh based on the last period realization displayed on the abovetable, then the average rateis P=11.31x188=Rp2,121 per kWh. If the realization of average price is Rp 818 per kWh based on the last period realization displayed on the above table, than the optimal sales quantity for Q = 818 / 11.31 = 72 TWh. Referring to the actual sales quantity Q=188, the optimal price of Rp 2,121 perkWh, then the optimum profitability is achieved, which is a function of profitability F=TR-TC or FQ=2,121-33,533 to 5.656 Q2 or F=(2,121 x188) - 33 533 - (5.656 x1882), or the maximum profit of F=165.383 trillion.

This shows that if the sales quantity is larger or smaller than Q = 188 then the profit is smaller, such asQ=180 profit F=165.061,and Q=200 profit F=164.505 trillion. Based on the price realization P=818 with optimal quantity 72TWh, then theoptimalprofitabilityis achieved, which is a functionof profitabilityF=TR-TC or F=818Q-33,533 to 5.656 Q2 or F=(818 x 72) - 33 533 - (5.656 x722) or the minimum loss of F=3,925 trillion. This shows that if the sales quantity is greater or smaller than Q=72 then the loss will be greater, for example, Q=60Rp4.788 trillion loss andQ = 80 Rp 4.256 trillion loss. The realization of sales quantity 188TWh exceeds the optimal 72TWh, so thatthe optimal price ofRp2,121results maximum profit. On the other hand, the realization ofthe average selling price of Rp 818 per kWh is smaller than the optimal price of Rp 2,121 per kWh so that the optimal quantity of 72 TWh produces minimum loss. Minimum loss or maximum advantage referred to above are described in the following figure,

Figure 2
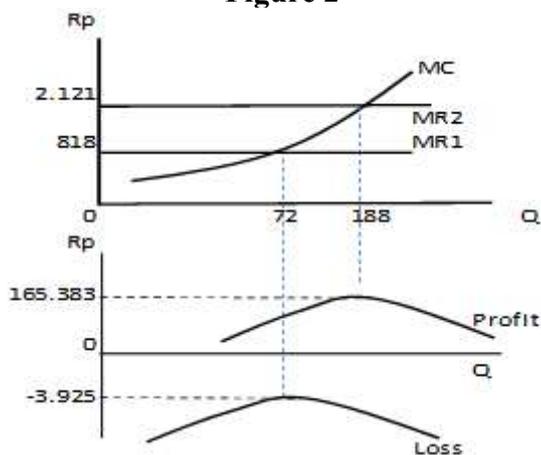
If the time series data of 2005 to 2013 is used for the application of the concept of MCP, the description of operational profit ability of state electricity company that can be obtained is displayed in the following table:

Table 4.

MCP (Est TR dan C)

n	P (11,31 x Q)	Q Twh	TR Est	C Est	Profit Est
2005	1.211	107	129.579	98.322	31.256
2006	1.274	113	143.437	105.251	38.185
2007	1.371	121	166.283	116.675	49.609
2008	1.459	129	188.284	127.675	60.609
2009	1.522	135	204.871	135.969	68.903
2010	1.666	147	245.411	156.239	89.173
2011	1.783	158	280.919	173.992	106.926
2012	1.945	172	334.594	200.830	133.764
2013	2.121	188	397.832	232.449	165.383

Sumber : Laporan Keuangan dan Statistik PLN (data diolah)

Source: financial report and statistics of state electricity company

Thus, so forth that the concept of MCPcan be applied in the short termorapplied every time any changes in the economic and financial variables that affect the cost structure of the company's operations.

The Application of MCP through Gradual and Periodic Price Adjustment
The application of MCP is based on the previously agreed calculations by the stake holders of the company. After this calculation model has already been trusted by the parties, the data have been audited, and have been verified by masters and experts, as well as has been supported by the government and the House of Representatives, this MCP concept can be applied in determining the national electricity rates. Its establishment strategies can be done by considering the adjustment of each quarter or semester, and is initiated by giving socialization to the consumers, for both the calculation techniques and the quantitative models used. Technically it can be applied to describe the optimal rate through discrimination rates but with the average rate equal to MC.

The commitment of company management is consistently required to update its calculations, socialize and convince the partiesto adjust the rate needed effectively. The strategy and policy of the company management are required especiallyin the preparation of the calculations model, the data used, andthe communication between departments that play significant role in pricing decisions.

CONCLUSION AND LIMITATION OF THE STUDY
Conclusion
1. The implementation of MCP conceptis widely used in developed countries, especially by public companies in pricing electricity rates, water rates, trainfare, busfare, public transport fare, shiprates, and rates of public facilities provided by the government.
2. The MCP concept has not become the focus of national researches or studies, although it has been realized that this concept provides optimal solution or companies, especially state-owned enterprises.
3. The MCP concept can be used to improve the financial performance of state-owned enterprises, as well as reduce the amount of subsidies that burden the state budget. For instance, the case study of state electricity company showed that the company was subsidized for eachRp 103 trillion and Rp 101trillion in 2012 and 2013.
4. The difficulties faced by the implementation of this MCP concept can basically be overcome if the stake holders support its implementation. This is where the role ofthe company management is needed to promote this concept and convince all parties about the MCP concept to be implemented effectively.
5. The implementation of the MCP concept need preparation strategy, covers the preparation of the calculations model, the auditmechanism of the data used, effective communication between relevant institutions and technicall implementation of price discrimination system when needed.

Limitation of the Study

This studyis limitedby the availability ofsecondary data provided by the state-owned enterprises. Many state companies which are very relevant with the implementation of the MCP concept, but are facing difficulties in the aspects of the information system limitation which is presented in the form of public information. Therefore, this study is limited to the financial information and statistics of utilization presented by State Electricity Company via www.pln.co.id.If there quired information was available, then the calculation of rates based on the MCP could have been done by internal state companies. Therefore its implementation would be easier to conduct by each internal state company.

REFERENCES

Aminullah Assagaf. 2010. Ekonometrika Terapan –Aplikasi permintaan Tenaga Listrik. Penerbit Untag Press. Surabaya

Aminullah Assagaf. 2011. Manajemen Keuangan – KonsepdanAplikasi. Cetakan Pertama. Media Cerdas.Surabaya.

Aminullah Assagaf. 2013. Ekonometrika – Aplikasi SPSS. Penerbit Media Cerdas. Surabaya.

Aminullah Assagaf. 2014. Manajemen Keuangan PLN Masa Kini dan Masa Depan. P65-77 dan P106-117.Zifatama. Surabaya.

Eugene F. Brigham & Phillip R. Daves. 2007. Intermediate Financial Management. Nineth Edition.Prentice Hall. New York

Evan J. Douglas and Scott Callan. 1992. Managerial Economic – Analysis and Strategy. Prentice – Hall

International, Inc. Englewood Cliffs. New Jersey.

Jefrfry M. Perloff. 2001. Microeconomics. Second Edition.Penerbit Addison Wesley. New York.

JeyHeizer and Barry Render. 2009. Operation Management. Perason Education. New Jersey.

Kotler Keller. 2012. Marketing Management. Fourteenth Edition.Pearson Education. New York.

Lawrence J. Gitman and Chad J. Zueter. 2012. Principles of Managerial Finance. Thirteenth Edition. Pearson

Education. New York.

Pauline Weetman. 1999. Financial Management and Accounting – An Introduction. 2nd Edition.Penerbit

Financial Time - Prentice Hall. New York.

RajanSaxena. 2009. Marketing Management. Fourth Edition. Mc Graw – Hill Offeces. New York

Wooldridge. 2009. Introductory Econometrics – A Modern Approach. Fourth Edition. South – Western CengageLearning. USA.

Spyros Makridakis, Steven C. Wheel wright, Rob J. Hyndman. 1998. Forecating – Method and Aplication. Third Edition.John Wiley & Sons, Inc. USA.

www.pln.co.id Laporan Keuangan PLN tahun 2005 sampai dengan 2013

www.pln.co.id Statistik PLN tahun 2013

www.mcicam.net 2004. Implementation of Marginal Cost Pricing in Transport – Integrated Conceptual and

Applied Model Analysis, yang dilaporkan melalui by: European Commission – DG TREN; Fifth Framework.oleh Esko Niskanen and Chris Nash.

www.connection.abscohost.com. 1967. Marginal Cost Pricing in American Utulities, yang dilaporkan melalui

Southern Economic Journal; Vol. 33 Issue 3, p421.

www.mcicam.ne . 2002. Marginal Cost Pricing Implementation Path to Setting Rail, Air and Water

Transportation charges. European Commission.

www.transport-research.info . 2014. Marginal Cost Pricing Implementation Paths to Setting Urban and Interurban Road Transport Charges

www.dii.uchile.cl .2007. Marginal Cost Pricing in Hydro – Thermal Power Industries : Is a Capacity Charge