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The Modelling of Maximum Profit and Its Quantity with High Price in Stock Share on Economics

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Abstract

The trend to high price share is searched in this paper. It is found that the TR increases when Q increases. TR changes from 3,000 Yuan to 40,000 Yuan when Q becomes from 100 to 1100. Meantime's AR decreases from 28 Yuan to 36 Yuan. The PR and TC will increase when the Q increases. The PR changes from 2,000 Yuan to 32,000 Yuan and TC becomes from 1,000 Yuan to 7,000 Yuan when Q becomes from 100 to 1100. It is known that the relationship of PR=TR-TC in the curves.

Keywords: Maximum profit; Its quantity; Modelling; Economics; Modelling; TR(total revenue); TC(total cost); MR(marginal revenue); AR(average revenue) ; PR(profit) ; MC(marginal cost); High price

Introduction

The economics modeling of maximum and its quantity at high price has been established in order to investigate their intrinsic relationship. Meantime it is important to estimate the maximum of them in an enterprise manufacture and finance. In this study the stock share is searched to try to find the intrinsic relationship. For the sake of modelling the maximum profit and quantity in stock market the data is arranged to solve the constant of linear and parabolic equation. Only we know the price and quantity can the share be certain to do investment correctly. The base data is important to determine the constant to model. It will be discussed in detail because of its scientific method. It will give us convenience and rapidness & correct result to help us to determine the investment. In short the maximum profit and quantity on stock market is been built in this study. Only if they are calculated can the further other relationship be drawn to discuss further their relationship. The reasonable and scentific value can be solved and other information can be gained for checking the right and more information. The high price share has been investigated here to see the difference to low price [1-5].

Calculation Course and Discussions

When the condition has been given as 1000 share with cost 8.6 Yuan and price 30 Yuan the constant and equation will be completed which is exhibited below. The quantity is 2,020 in maximum profit and the maximum profit is 40,820 Yuan according to the modelling equation. 100~1100 and 100~3600 is defined as below Figure 1-6 to discuss in detail. The former is actual condition and the latter is the predicted. They are fit well to modelling equation. The coefficient a and b & a, b, c has been solved according to the modelling equation discussed as below. In this study TR is total revenue; TC is total cost; MR is marginal revenue; AR is average revenue; PR is profit; MC is marginal cost; Q is quantity (Figure 1-3).

The TR increases when Q increases. TR changes from 3,000 Yuan to 40,000 Yuan when Q becomes from 100 to 1100. Meantime AR decreases from 28 Yuan to 36 Yuan when Q becomes the same. At last MR maintains 32~42 Yuan. MC is the same value to MR. from Figure 1 it is known that PR and TC will increase when the Q increases. The PR changes from 2,000 Yuan to 32,000 Yuan when Q is from 100 to 1000 and TC becomes

from 1,000 to 7,500 Yuan when Q becomes from 100 to 1100. Figure 3 shows that the TC decreases from 0 Yuan to 5,000 Yuan according to Q from 0 to 1750. Figure 4 shows when the Q scope is 100~3600 the TR will increase from 500 Yuan to 170,000 Yuan and AR will decrease. Figure 4 shows TC is parabolic which maximum is 170,000 Yuan with Q=3600 meantime the PR increase from 0 to 180,000 Yuan with Q from 0 to 3600. There is MR=MC in terms of Q the same (Figure 4-6).

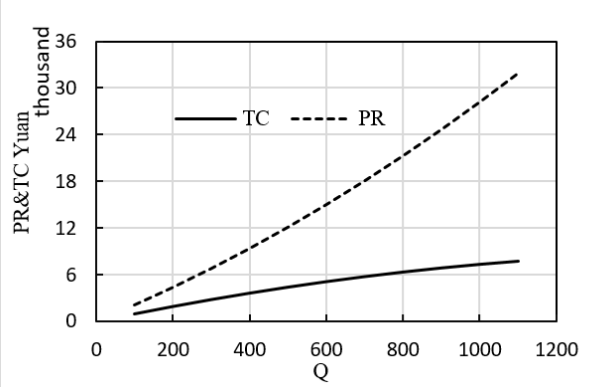

Figure 1: *The graph of Pr and TC & Q=100~1100.*

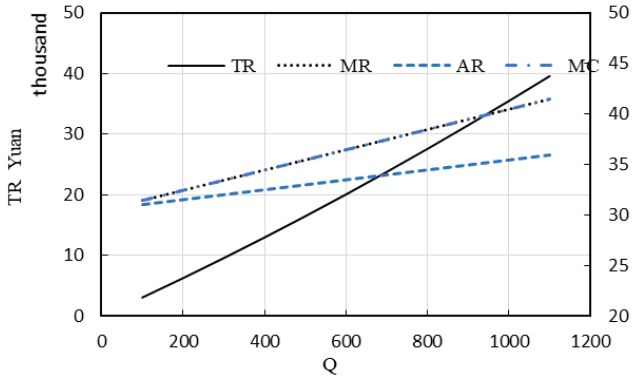

Figure 2: *The graph of TR, AR, MR and MC & Q=100~1100*

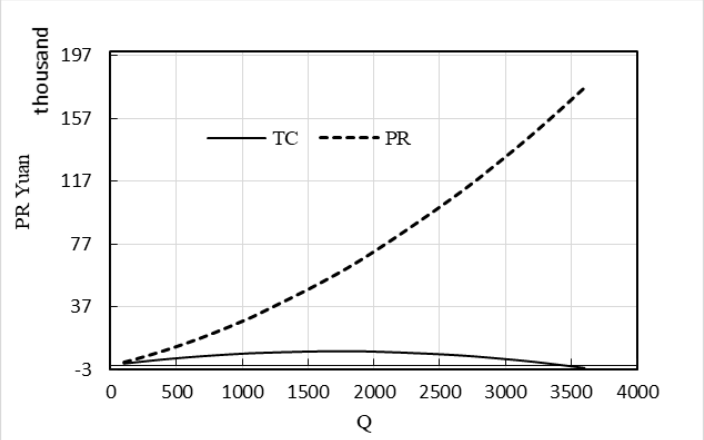

Figure 3: *The graph of PR and TC, Q=100~3600.*

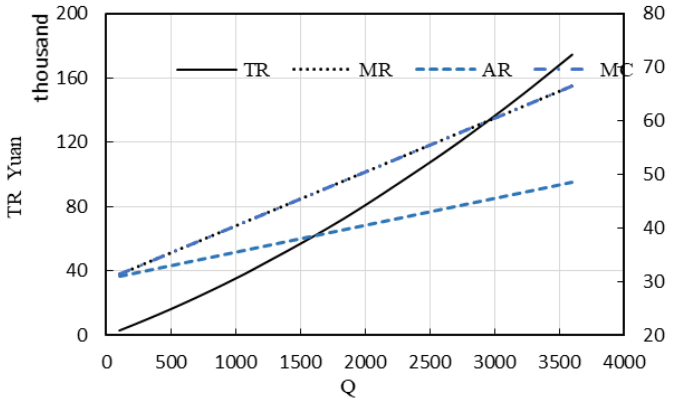

Figure 4: *The graph of TR, MR, AR and MC & Q=100~3600.*

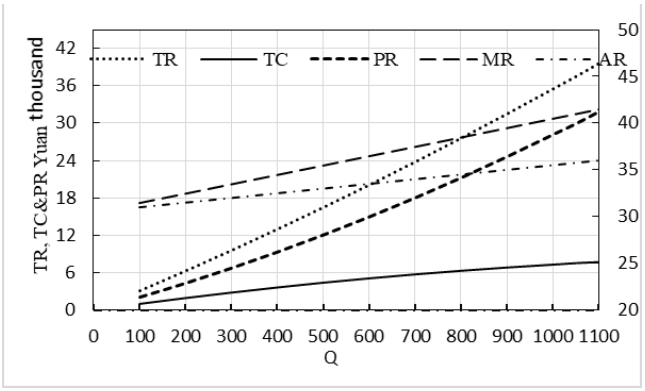

Figure 5: *The graph of TR, TC, PR, MR &AR and Q=100~1000.*

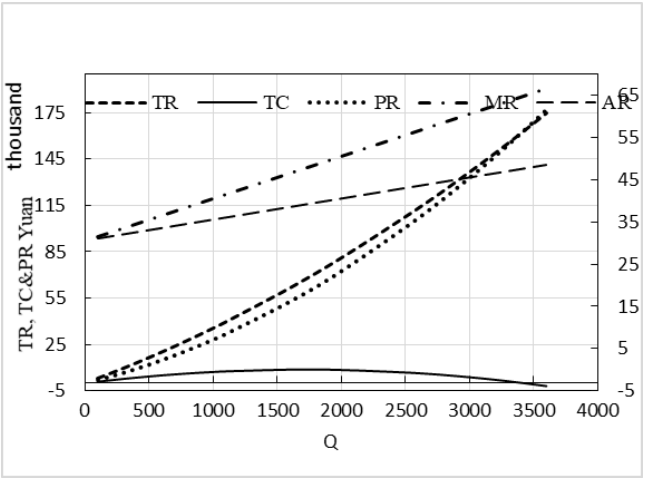

Figure 6: *The graph of TR, TC, PR, MR &AR and Q=100~3600.*

The modelling of maximum profit and it's quantity in this study has been built as following. To suppose the product demand function as

$$P = aQ + b \quad (1)$$

It has

$$a = \frac{P_1 - P_2}{Q_1 - Q_2} \quad (2)$$

$$b = p_1 - aQ_1 \quad (3)$$

To suppose the total cost function as

$$TC = aQ^2 + bQ + c \quad (4)$$

It has

$$b = \frac{(Q_1^2 - Q_2^2)(TC_1 - TC_3) - (Q_1^2 - Q_3^2)(TC_1 - TC_3)}{(Q_1^2 - Q_2^2)(Q_1 - Q_3) - (Q_1^2 - Q_3^2)(TC_1 - TC_2)} \quad (5)$$

And $a = \frac{-b(Q_1 - Q_2) + TC_1 - TC_2}{Q_1^2 - Q_2^2}$ (6)

So $c = TC_1 - aQ_1^2 - bQ_1$ (7)

Here P is the demand, Q is quantity, TC is cost, a、b &a、b、c is the coefficient. The Figure 5 and 6 shows that the relationship between TR, TC, PR, MR & AR and Q with the part of 0~1000 and 0~3600. It is known that when Q=1750 the TC will be 5,000 Yuan which is the highest result here. The extension curve TC, TR & PR will have summit at Q=3,500 with 170,000 Yuan &180,000 Yuan respectively It is known that the relationship of PR=TR-TC in the curves.

Conclusions

The quantity is 2020 in maximum profit and the maximum profit is 40,820 Yuan. The PR changes from 2,000 Yuan to 8,000 Yuan when Q is from 100 to 1000. It is predicted that TC is parabolic which maximum is 5,000 Yuan with Q=1750 meantime the PR increase from 0 to 180,000 Yuan with Q =0~3600.

References

1. Compilation group of economics textbook series. Microeconomics. Econ Sci press. 2013; 112-114.
2. Wang L. Microeconomics. Econ Sci press. 2017; 116-119.
3. Liag L. Microeconomics. Peking University Press, 2012; 115-118.
4. Xu R. The modeling of total cost and revenue in stock market on Economics. Saudi J Engg Technol. 2021; 6: 307-309
5. Xu R. The modeling of shares and best conditions in stock market on economics. East African Scholars J Eng Comput Sci. 2021; 3: 146~149
6. Xu R, Hur B, Lim S, Reddy NS, Kim K, Kim J, et al, The modelling of shares and low parameter of the best condition in stock market with high investment on Economics II. SunText Rev Mat Sci. 2022; 3: 128.