SUNTEXT REVIEWS

SunText Review of Material Science
ISSN: 2766-5100

Open Access
Research Article
Volume 3:1

The Compare Modelling of Maximum Profit and Its Quantity with Different Cost and Demand in Stock Share on Economics V

Xu R*

Gyeongsang National University, Metallurgical Engineering Department, Chinju 52828, Korea

***Corresponding author:** Xu R, Gyengsang National University, Metallurgical Engineering Department, Chinju 52828, Korea; E-mail: 13953575073@163.com

Received date: 07 May 2022; **Accepted date:** 10 May 2022; **Published date:** 16 May 2022

Citation: Xu R (2022). The Compare Modelling of Maximum Profit and Its Quantity with Different Cost and Demand in Stock Share on Economics V. SunText Rev Mat Sci 3(1): 146.

DOI: https://doi.org/10.51737/2766-5100.2022.146

Abstract

The trend to different cost and price in simulated stock market is searched in this paper. It is found that the TR and TC increases with parabolic when Q increases. TR changes from 0 Yuan to 100,000 Yuan when Q becomes from 100 to 10,000. Meantime's AR decreases with Q increases. The PR will increase proportionally when the Q increases. The intersection of TR and TC & PR will propose the detailed PR value which is searched.

Keywords: Maximum profit; Its quantity; Modelling; Economics; Modelling; TR; TC; MR; AR; PR; MC; Higher price

Introduction

The economics modelling of maximum and its quantity at different cost and 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. The higher price is the destination of this study for us to search further. 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 scientific value can be solved and other information can be gained for checking the right and more information. The different cost and price shares have been investigated here to see the difference between them [1-6].

Calculation course and Discussions

For the sake of solving share in the stock market the modelling of maximum profit and it's quantity in this study has been built as following two kinds of linear and parabolic formula according to the economics principle.

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

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

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

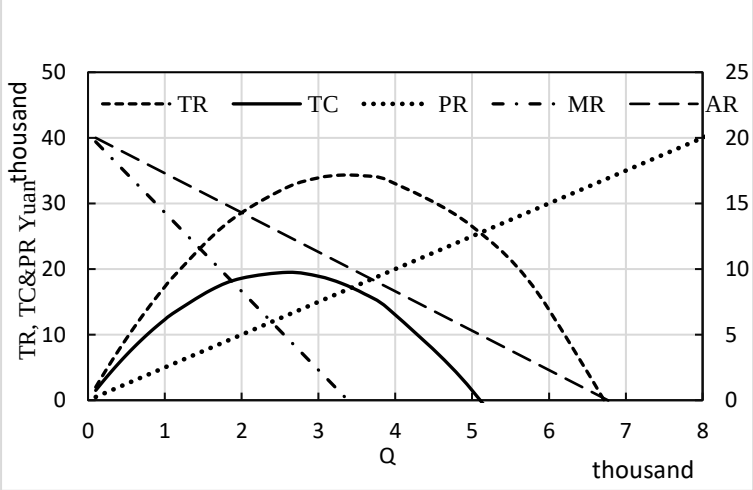
So $c = TC_1 - aQ_1^2 - bQ_1$ (7)

Here P is the demand, Q is quantity, TC is cost, a, b &a1, b1, c1 is the constant (Table 1).

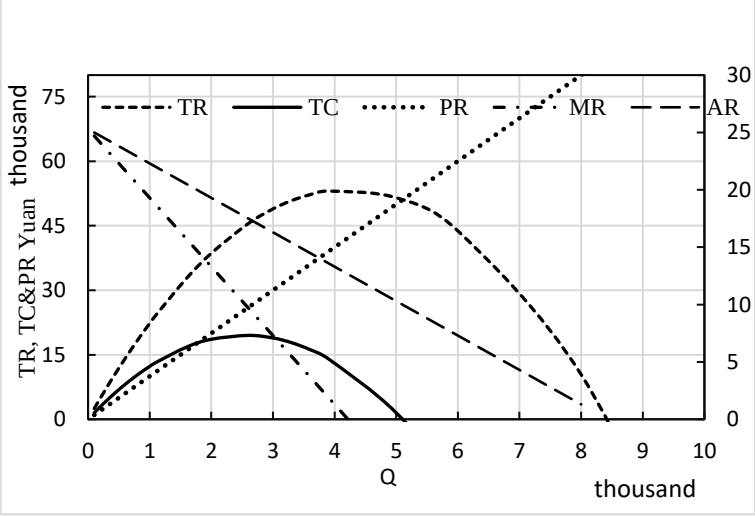
When the condition has been given as 1000 share with cost and price the euqation will be completed which is exhibited below. According to the modelling equation the maximum profit and quantity will be calculated. Q=100~3600 is defined as below Figure 1 to discuss in detail. It is the predicted curve. 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. According to the Table 1 shown below the coefficient has been related in this paper. There are two conditions as 1 and 2 which differs from the other. The a, b and a1, b1 & c1 is the coefficients whilst TC, Q, Pr & P is the terminology as above. The maximum quantity and profit is

Solved according cost equations for four conditions which will be discussed in below.

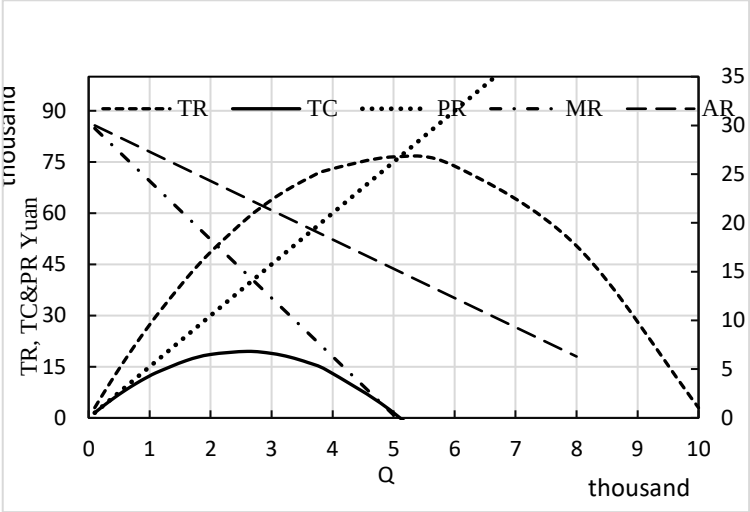
The Figure 1(a~f) shows that the relationship between TR, TC, PR, MR & AR and Q with the part from 0 to 7,000~10,000 in various TC and demand Price. It is known that when Q=3600 the TR will be 35,000 Yuan which is the highest result in Figure 1(a).



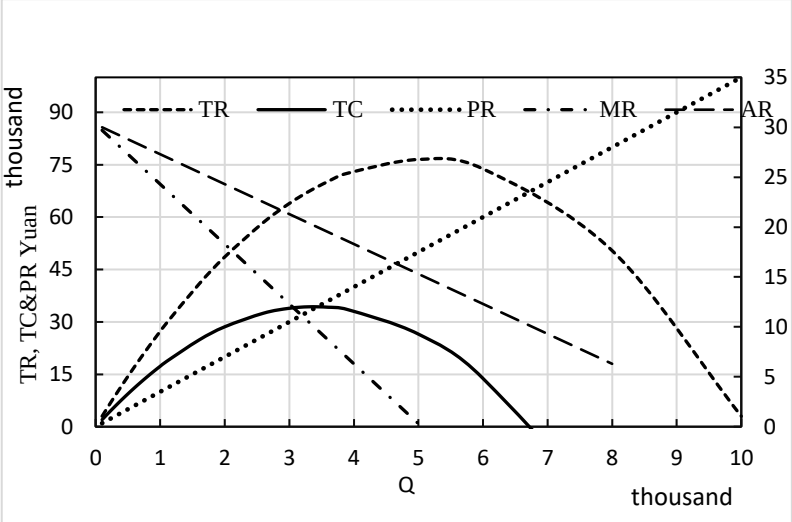
(a) 15Yuan/one/20Yuan Price.



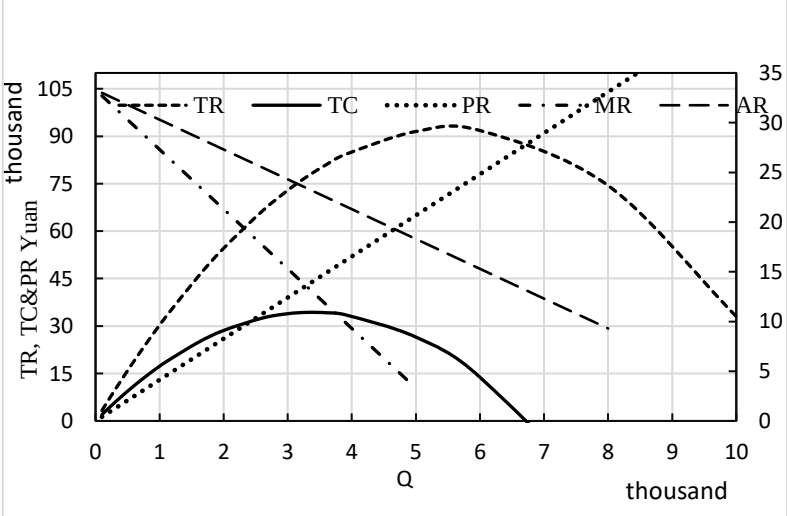
(b) 15Yuan/one cost/ 25 Yuan price



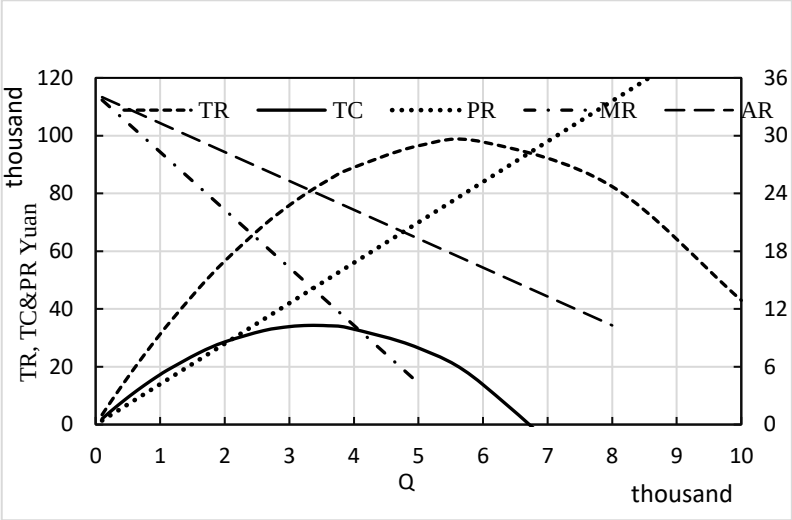
(c) 15Yuan/one cost/30 Yuan price



(d) 20Yuan/one cost/30 Yuan price



(e) 20Yuan/one cost/33 Yuan price



(f) 20Yuan/one cost/35 Yuan price

Figure 1: *The graph of TR, TC, PR, MR & AR and Q=0~7,000 &10,000 with various cost and price.*

Table 1: *The coefficients and parameters are shown with different conditions.*

Parameters / Conditions	a	b	a_1	b_1	c_1	TC, Yuan	Q	Pr, Yuan	P /one
1	-0.003	20.3	-0.003	15.3	0	15	833	4.166	20
2	-0.003	25.3	-0.003	15.3	0	15	1,667	16,666	25
3	-0.003	30.3	-0.003	15.3	0	15	2,500	37,500	30
4	-0.003	30.3	-0.003	20.3	0	20	1,667	16,666	25
5	-0.003	33.3	-0.003	20.3	0	20	2,167	28,166	33
6	-0.003	35.3	-0.003	20.3	0	20	2,333	32,666	34

MR and AR is little both about 20 Yuan. The maximum price of them is 4166 Yuan and the quantity Q is 833 from Table 1. Whilst TC is 20,000 Yuan with Q=2,500 according to modelling. Maximum PR attains 26,000Yuan. From Figure 1(b) TR is 57,000 when Q=4,000 whilst TC is 17,000 Yuan when Q=2,500. Maximum PR 54,000Yuan. It is included in this study conclusion however it must be pointed out to find. MR and AR is 25 Yuan. The maximum price of them is 1,6666Yuan and the quantity Q is 1,66 7. In Figure 1(c) TR is 75,000 Yuan when Q=5,000 meantime TC is 170,000 when Q=2,500. PR is 75,000 Yuan and MR and AR both is 30 Yuan. The maximum quantity is 2,500 with maximum price of 37,500. In Figure 1(d) TR is 75,000 Yuan with Q=5,000 and TC is 32,000 Yuan with Q=3,000. PR is 68,000 Yuan. The maximum price is 1,667 Yuan with the quantity of 16,666. MR and AR is 30 Yuan. In Figure 1(e) TR is 90,000 Yuan and TC is 32,000 Yuan with Q=5,500 and 3,000. Maximum MR and AR is 34 Yuan. PR is 82,000 Yuan. The maximum price is 2,167 with the quantity of 28,166 Yuan. In Figure 1(f) TR becomes 100,000 Yuan with the Q=5,500 and TC is 37,000 Yuan with the Q=3,200. PR is 30,000 Yuan. Maximum MR and AR 34 Yuan. The maximum Price is 32,666 Yuan and maximum quantity is 2,333 (Figure 1).

As it is known that in Figure 1 (a) at the intersection of TR and PR the PR becomes 26,000 Yuan with the Q=5,200 whilst the intersection of TC and PR is 18,000 Yuan with Q=3,500. In Figure 1(b) At the intersection of TC and PR the PR value becomes 16,000 Yuan with the quantity Q=1,800. The intersection of TR and PR is 54,000 Yuan with Q=5,000. In Figure 1(c) the intersection of TR and PR becomes 75,000 Yuan with Q=5,000. The intersection of TR and PR is 68,000 Yuan with the Q=6,700 in Figure 1(d).The one of TC and PR is 32,000 Yuan with Q=3,000. That of TR and PR & TC and PR is 82,000 Yuan & 90,000 Yuan and 30,000 Yuan &30,000 Yuan respectively in the Figure 1 (e & f). It means the former is the total revenue which is the same to profit, the latter is the total cost which is the same to profit. So the former is bigger than the later. With the TC and demand price increasing the tendency of them will be bigger. From the graph above it is found the maximum profit and quantity is not consistent well. So the other factor will be hidden here which is concluded. The one which is solved in Table 1 is lower somewhat.

Conclusions

The quantity is 37,500 in maximum profit and the maximum profit is 2,500 Yuan which is calculated in this study. According to the intersection of PR and TR&TC the actual value will be attained. Maybe there is other cause to wield between these two differences. It is predicted that TR and TC is parabolic which maximum is 90,000 Yuan with Q=6,700 meantime the TR increase from 0 to 100,000 Yuan with Q =5,500.

References

1. Compilation group of economics textbook series. Microeconomics. Econ Sci press. 2013; 112-114.
2. Liang R. Microeconomics. Peking University Press. 2012; 115-118.
3. Xu R. The modeling of total cost and revenue in stock market on Economics. Saudi J Engineering Technol. 2021; 6: 307-309.
4. 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.
5. 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.
6. Xu R, Hur B, The modeling of shares and middle parameter of the best condition in stock market on Economics. SunText Rev Mat Sci. 2022; 3: 126.

Citation: Xu R (2022). The Compare Modelling of Maximum Profit and Its Quantity with Different Cost and Demand in Stock Share on Economics V. SunText Rev Mat Sci 3(1): 146.