



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

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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): 147.

DOI: <https://doi.org/10.51737/2766-5100.2022.147>

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Abstract

The trend to different cost and price in simulated stock market is searched in this paper. It is found that the TR increases when Q increases. TR changes from 0 Yuan to 50,000 Yuan when Q becomes from 100 to 3600. Meantimes AR decreases from 24 Yuan to 16 Yuan. The PR and TC will increase when the Q increases. The PR changes from 0 Yuan to 17,000 Yuan and TC becomes 35,000 Yuan when Q becomes 3600.

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 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 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

--- (1)

It has

--- (2)

So -- (3)

To suppose the total cost function as

--- (4)

It has

--- (5)

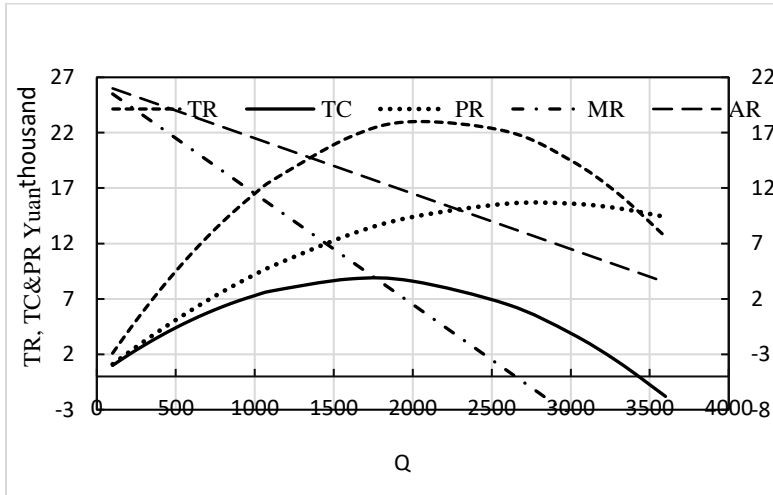
And --- (6)

So -- (7)

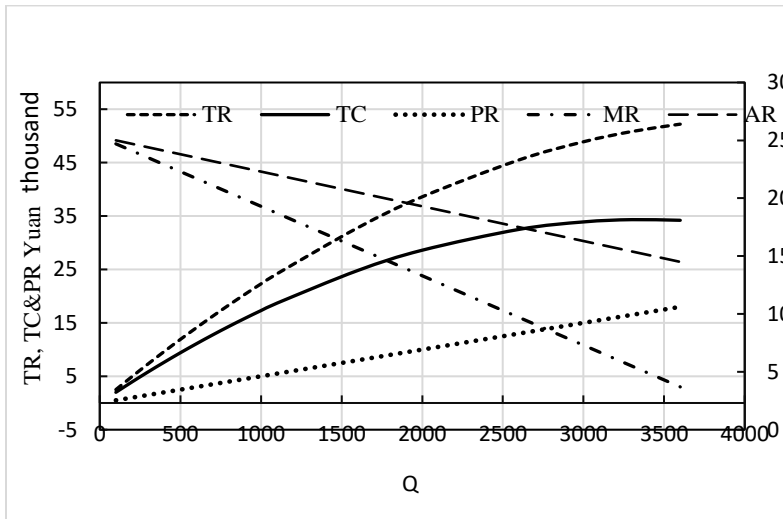
Here P is the demand, Q is quantity, TC is cost, a, b & a₁, b₁, c₁ is the constant.

When the condition has been given as 1000 share with cost and price the equation will be completed which is exhibited below. According to the modelling equation the maximum profit and quantity will be calculated. $Q=100\sim 3600$ 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

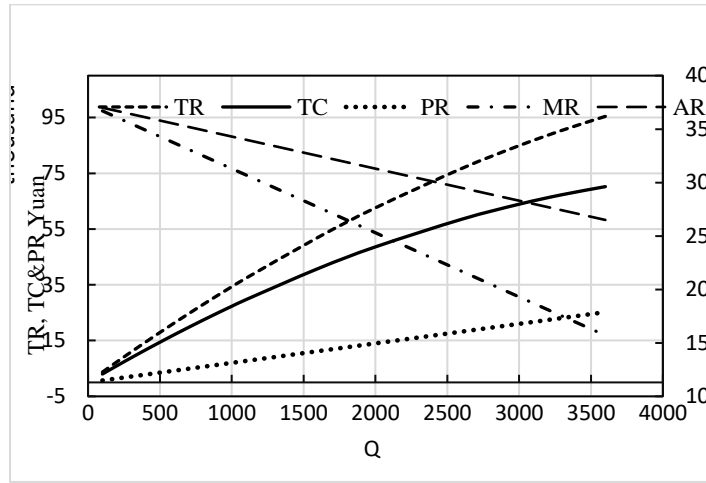
has been related in this paper. There are two conditions as 1 and 2 which differs from the other. The, b and a1, b1 & c1 is the coefficients whilst TC, Q, Pr & P is the terminology as above. The maximum quantity and profit is Solved according cost equations for four conditions which will be discussed in below.



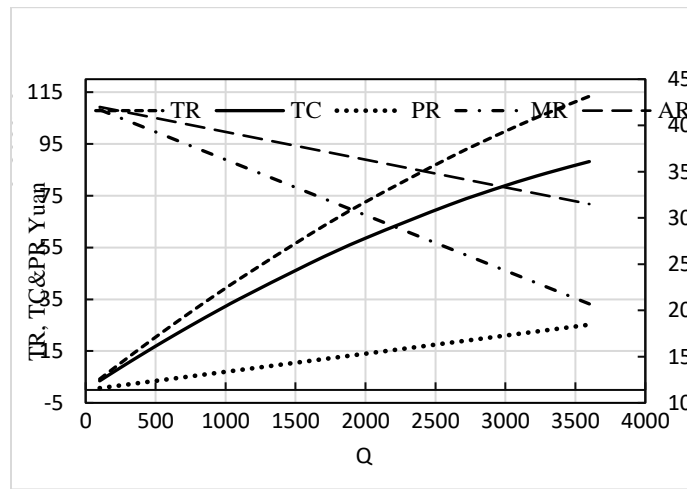
a. 10Yuan/one cost/ 15 Yuan price



b. 20Yuan/one cost/ 25 Yuan price



c. 30Yuan/one cost/37 Yuan price



d. 35Yuan/one cost/42 Yuan price

Figure 1: The graph of TR, TC, PR, MR & AR and Q=100~3600 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	-0.005	15.5	-0.003	10.0	0	10	520	2,702	15
2	-0.003	25.3	-0.003	20.3	0	20	833	4,166	25
3	-0.003	37.3	-0.003	30.3	0	30	1,167	8,167	37
4	-0.003	41.3	-0.003	35.3	0	35	1,000	6,000	42

The Figure 1(a~c) shows that TR, TC and Pr is from 2,000, 1,500, 1,500 Yuan to 50,000Yuan, 35,000Yuan, 17,000Yuan respectively. MR and AR decreases from 24, 24 Yuan to 4 Yuan and 16 Yuan respectively. They are all proportional line with Q. The Figure 6 shows that the relationship between TR, TC, PR, MR & AR and Q with the part of 0~3600. It is known that when

Q=3600 the TC will be 35,000 Yuan which is the highest result here. MR and AR is little about from 24 Yuan to 4 Yuan and 16 Yuan respectively. The maximum price of them is 4166 Yuan and the quantity Q is 833 when TC is 20 Yuan according to modelling, whilst they are 2702 Yuan and Q is 520 Yuan when TC is 10. Since the high TC and price the former is higher than



the later. It is included in this study conclusion however it must be pointed out to find. The compare value has been known that the all the data will increase with the same $Q=100\sim 3600$ to compare the different cost value when it is 10 Yuan cost and 20 Yuan cost with the same cost of 25. As it is known that PR increases arrangement from 23,000 to 38,000 Yuan the difference to be 15,000 Yuan. 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 3600 in maximum profit and the maximum profit is 17,000 Yuan which is concluded in this study. The PR changes from 1,000 Yuan to 17,000 Yuan when Q is from 100 to 3600. It is predicted that TC is parabolic which maximum is 35,000 Yuan with $Q=3600$ meantime the TR increase from 0 to 50,000 Yuan with $Q=0\sim 3600$.

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