



# The Modelling of Shares and Best Conditions in Stock Market with High Investment on Economics

Xu R\*

*Yantai Intitution of Technology, Mechanical Electricity Department, Yantai, China*

\*Corresponding author: Xu R, Yantai Intitution of Technology, Mechanical Electricity Department, Yantai 264005, China; E-mail: [xurun1206@163.com](mailto:xurun1206@163.com)

## Abstract

The relationship between investment and shares is established to find the intrinsic nature. It is found when the best labour is 7.5 the number of shares is 440 thousand with the intersection of 1 RMB which is turnover point. When the best capital is 1RMB the cost will be 7.5 RMB and the turnover point is 310 thousand of the number of shares with the 5 RMB. It is found the 50,000Yuan are the smallest average cost intersecting with 1RMB at any capital with  $\gamma$  of 107638 in investment. Meantime 50,000 shares and 300,000 shares are turnover point with 1Yuan and 5 Yuan revenue according to best capital. The biggest total share will happen which attains more than 300,000 shares at  $P_k=1670 \sim 6730$  and  $P_l=1000 \sim 4030$ /unit ie. Low  $P_l$  firstly and it will increase with low  $P_k$  secondly. So, we firstly choose low  $P_l$  and then low  $P_k$ . The smallest shares cost will be minimum in the condition of labour with high  $P_k$ . It is observed when labour is one the minimum TC is 10,000~20,000 with  $P_k=3500$ . The one will be high with  $P_k=2000$  which reaches more than 500,000.

**Keywords:** Modelling; High investment; Shares; Stock market; Economics

## Introduction

The investment and shares is a behaviour with investing much money and requiring revenue from investment and shares in stock market. This process includes buy and sale shares in order to form the profile of shares, so it is a process which completes these two functions in whole process. The profit is calculated through revenue and shares which is an important factor in this process. In this paper the revenue has been computed and drawn from their relation with cost. The revenue and AC, AVC & AFC which is shares is investigated for searching their change in these processes. For the better benefit it must be studied further it can gain the profit use. Since the stability is key as for this procedure. How we can define stable and low-cost parameter is significant matter. For the inference the different drawing between profit cost and quantity is made to analyze the change and low cost situation in this study. The constant labour L & capital K is defined to fit to cost value for this process [1-3]. The least total cost has an important role with the quantity & labor. Because the least one is

evaluate the cost per labor under the best labor and capital on economics. If the cost is big, it will increase cost burden. Only if the least cost can decrease the cost price and the reasonable choose may be used in determining the total cost. Because of its availability it may be chosen for other factor such as the random price promotion. In this paper the revenue is adopted from higher value to check the piece and the cost value. So as to higher revenue the low cost value and low pieces is necessary. For the sake of the least total cost the best labor and capital has been established firstly and then determined the least total cost equation with quantity and labor [4,5].

## Modelling and Discussions

The Investment and shares have been established according to modelling with economic equations that has a certain role in stock market. So, Cobb-Douglas function is used to complete the modelling. The detail establishment and modelling is as related literature.

The Cobb-Douglas function is

**Received date:** 02 March 2022; **Accepted date:** 08 March 2022; **Published date:** 11 March 2022

**Citation:** Run Xu (2022). The Modelling of Shares and Best Conditions in Stock Market with High Investment on Economics. SunText Rev Mat Sci 3(1): 124.

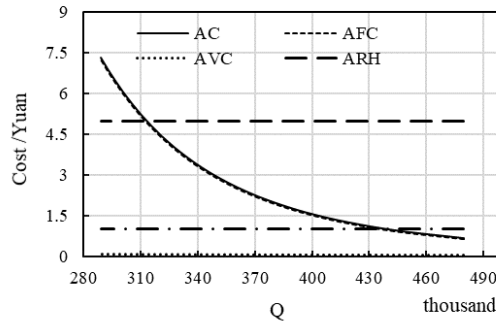
**DOI:** <https://doi.org/10.51737/2766-5100.2022.124>

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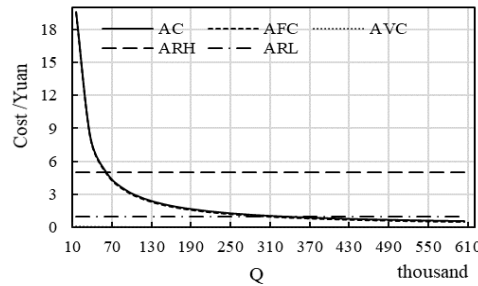
$$Q = \gamma L^\alpha K^\beta \quad (1)$$

Here Production quantity  $Q$ ;  $\gamma$  is technique coefficient;  $\alpha$  is producing labour;  $\beta$  is capital elasticity.  $K$  is capital;  $L$  is labour; AFC is average fixed cost; AVC is average variable cost; AR is the average revenue; TR is total revenue. The calculated constant is  $\gamma=107638$ ;  $\alpha=1.25$ ;  $\beta=-0.26$  respectively. The parameter  $Pl$  is

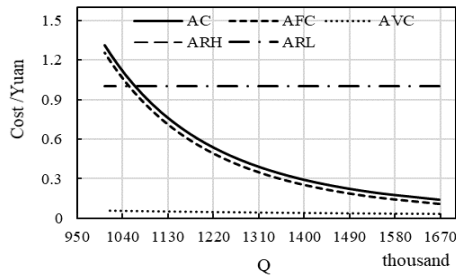
labor price and  $Pk$  is capital price. They are from 2000 to 3000 and from 5000 to 3000 Yuan respectively. Turnover is in terms of 5Yuan per share and  $Q$  is piece of shares. Table 1 shows the parameter of constant value with labor and capital & quantity. It is chosen that 10groups value to acquire average ones. The detail narration is expressed as below (Table 1) (Figure 1).



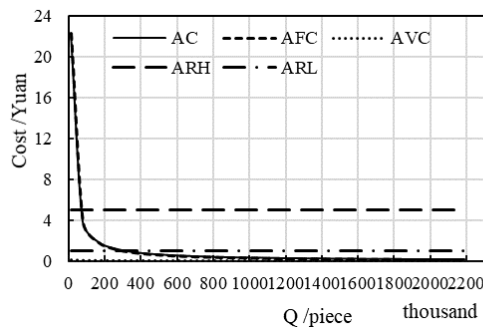
(a)  $L=7.5$ ;  $Pl \& Pk=3000 \& 5000$ .



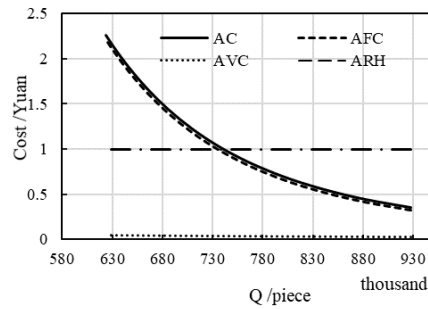
(b)  $K=60$ ;  $Pl \& Pk=3000 \& 5000$



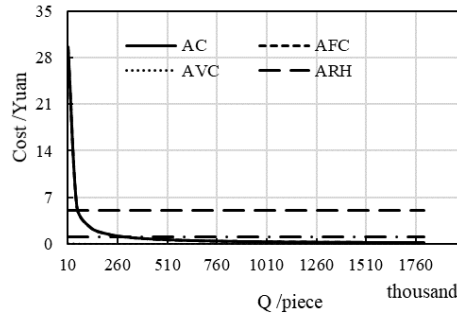
(c)  $L=20.7$ ;  $Pl \& Pk=3000 \& 3000$ .



(d)  $K=100$ ;  $Pl \& Pk=3000 \& 3000$ .

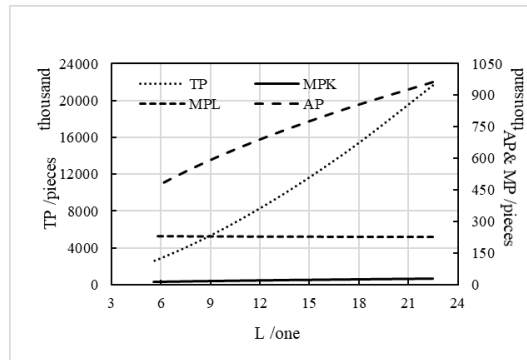


e)  $L=14; P_l \& P_k=2000 \& 3000$ .

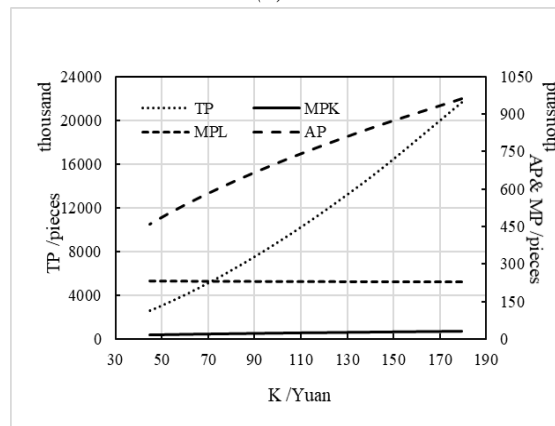


f)  $K=100; P_l \& P_k=2000 \text{ and } 3000$ .

Figure 1: The relationship between cost and number of shares according to different conditions.



(a)  $L$



(b)  $K$

Figure 2: The relationship between maximum & marginal production and number of capital and labor.

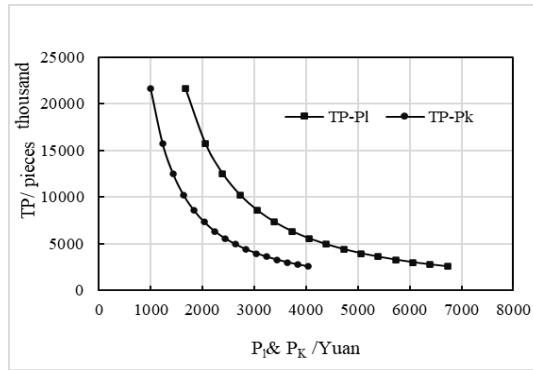


Figure 3: The relationship between maximum production and price of labor & capital.

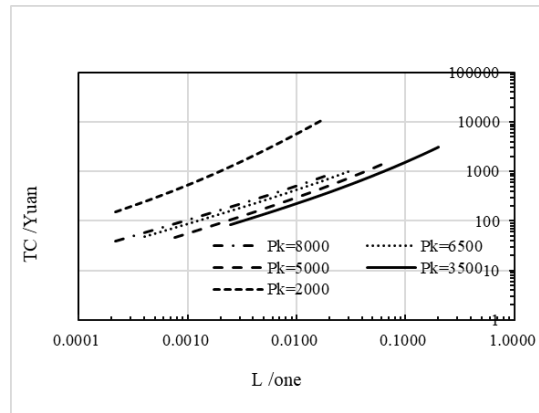


Figure 4: The minimum cost with labor quantity and 100000 pieces under different Pk.

Table 1: The conditions of original parameters and coefficient.

| Parameters No. | l   | K   | Q        | $\alpha$ | $\beta$ | $\gamma$ |
|----------------|-----|-----|----------|----------|---------|----------|
| 1              | 0.1 | 0.1 | 10, 000  | -        | -       | -        |
| 2              | 0.2 | 0.2 | 20, 000  | -        | -       | -        |
| 3              | 0.3 | 0.3 | 30, 000  | 1.69     | -0.41   | 141391   |
| 4              | 0.4 | 0.4 | 40, 000  | 1.41     | -0.29   | 111396   |
| 5              | 0.5 | 0.5 | 50, 000  | 1.29     | -0.22   | 104575   |
| 6              | 0.6 | 0.6 | 60, 000  | 1.22     | -0.18   | 102107   |
| 7              | 0.7 | 0.7 | 70, 000  | 1.18     | -0.15   | 101010   |
| 8              | 0.8 | 0.8 | 80, 000  | 1.15     | -0.13   | 100461   |
| 9              | 0.9 | 0.9 | 90, 000  | 1.13     | -0.12   | 100166   |
| 10             | 1   | 1   | 100, 000 | 1.12     | -0.11   | 100000   |
| Average        | -   | -   | -        | 1.27     | -0.26   | 107638   |

It is found when the best labour is 7.5 and 20.7 & 14 the number of shares is 440 thousand with the intersection of 1 RMB which is turnover point from Figure 1(a~f) according to the Pl and Pk from 2000 to 5000. When the best capital is 1RMB the cost will be 310 thousand RMB and the turnover point is 440 thousand of the number of shares with the 5 RMB in Figure 1(a). So, the balance value is 1~5RMB which could be satisfactory with both situations because the average revenue 1RMB can't be intersected with

average cost line in the case of the one higher than 7.5 thousand for example 20.7 & 14. The intersection with 1RMB is 1050 and 740 thousand in the above two cases. The bigger one accounts for the turn with 7.5 and 14 & 20.7. it is expected that the revenue has been increased so that the share decreases to normal level. Meantime the labour is evidently higher according to the Cobb-Douglas function than capital. In Figure 1(b, d & f) the normal share value exhibits the normal one will be formed in this study.



The same value is from 60 to 300 thousand with 5 RMB and 1RMB respectively whatever capital variation is here at different  $P_l$  and  $P_k$ . Therefore, 1RMB is higher than 100 thousand shares and promoting is necessary (Figure 2).

From Figure 2 the best total shares will increase when the  $K$  &  $L$  increases from 40 to 180 and from 5 to 22 respectively. It is under parameter with  $P_l=1000\sim 4030$  and  $P_k=1670\sim 6730$ . The average shares will increase too from 450 to 1,000 thousand too while capital increases. The best shares lie in 22,000 thousand Yuan. It explains that the increasing capital will increase the revenue. When the price of labor and capital increase the maximum number of shares will increase. It ranges from 300 to 22,000 shares. It expresses that increasing the price will cause maximum shares increase.  $MPL$  maintains 200 thousand level meanwhile  $MPK$  stays 15~31.3 thousand (Figure 3).

In Figure 3 the  $TP$  and  $P_l$ & $P_k$  relationship has been exhibited. The  $TP$  will decrease with the  $P_l$  and  $P_k$  increases. Meantime the high quantity is  $T_p$ - $P_l$  with the same production one. It explains that  $P_k$  is more effective parameter than  $P_l$ . The quantity of  $P_l$  is bigger than  $P_k$ . So  $P_l > P_k$  is the effective turn.  $T_p$  decreases from 22,000 to 2,500 while  $P_l$  and  $P_k$  increase from 1,800 to 6800 and 1,000 to 4,000 respectively (Figure 4).

In Figure 4 it is expressed that the minimum cost will increase with the labor increasing. Meantime it increases when the  $P_k$  increases from 2000 Yuan to 8000 Yuan. In short, the  $AC$  will intersect with  $AR$  ie shares so it is benefit to us if the turnover point is small. The smallest shares will be in the condition of capital being 100Yuan with labour of 0.001 and  $P_k$  being 35000 Yuan besides labour with high  $P_k$  of 2000 which accounts for higher  $P_l$  related to  $P_k$ . It reaches the maximum value with minimum cost  $TC$  of 10,000 with laobr of 0.02. If extension the curve it is observed when labour is one the minimum  $TC$  is 10,000~20,000 with  $P_k=3500$ . The one will be high with  $P_k=2000$  which reaches more than 500,000.

## Conclusions

- The biggest total cost has been established to compare the labor, capital, and piece. It is found the 50,000Yuan are the smallest average cost intersecting with 1RMB at any capital with  $\gamma=107638$  in investment. Meantime 50,000 shares and 300,000 shares are turnover point with 1Yuan and 5 Yuan revenue according to best capital.
- The biggest total share will happen which attains more than 300,000 shares at  $P_k=1670 \sim 6730$  and  $P_l=1000\sim 4030$ /unit ie. Low  $P_l$  firstly and it will increase with low  $P_k$  secondly. So, we firstly choose low  $P_l$  and then low  $P_k$ . The smallest shares cost will be minimum in the condition of labor with high  $P_k$ .

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