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Review Article

The Modeling of Car Cost and Revenue & Best Condition in Manufacturer on Economics

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Abstract: The relationship between revenue and cost is established to find the intrinsic nature. It is found when the best labour is 98 the cost is low and the number of cars are 1.4 with the intersection of 80 thousand RMB which is turnover point. When the best capital is 498RMB the turnover point is 0.5 of the number of cars with the 50 thousand RMB. The minimum total cost has been established to find the labor and piece. It is found the 1Yuan are the minimum total cost at labor of 0.001 with γ=0.02 and Pk=200. The biggest total cost will happen which attains 250 product at labor being 480.

Keywords: Modeling; cost; cars; factory; revenue; economics.

1. INTRODUCTION

The investment and product is a behavior with investing a certain money and requiring revenue from investment and product in stock market. This process includes buy and sale product in order to form the profile of product so it is a process which completes these two functions in whole process. The profit is calculated through revenue and cost(ie. AC, AVC, AFC) 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 AC, AVC &AFC and product 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 profiț cost and quantity is made to analyze the change and low cost situation in this study. The constant labor L & capital K is defined to fit to cost value for hub forging process [1-4].

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.

2. MODELING AND DISCUSSIONS

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

The Cobb-Douglas function is
$$Q = \gamma L^{\alpha} K^{\beta} \text{ --(1)}$$

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Table-1: The conditions of original parameters and coefficient

Parameters No.	L/one	K/one	Q/m	α	β	γ
1	10	10	0.25	-	-	-
2	20	20	0.5	-	-	-
3	30	30	0.75	1.69	-0.41	0.009
4	40	40	1	1.41	-0.29	0.016
5	50	50	1.25	1.29	-0.22	0.019
6	60	60	1.5	1.22	-0.18	0.021
7	70	70	1.75	1.18	-0.15	0.022
8	80	80	2	1.15	-0.13	0.023
9	90	90	2.25	1.13	-0.12	0.023
10	100	100	2.5	1.12	-0.11	0.024
Average	-	-	-	1.27	-0.26	0.020

Here Production quantity Q; γ is technique coefficient; α is producing labour; β 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 γ=1076; α=1.25; β=-0.26 respectively. The parameter P_l is labor price and P_k is capital price. Turnover is in terms of 50~80 thousand Yuan per minute and Q is piece of product. The total product is 25,000Yuan in every minute. 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.

It is found when the best labour is 98 the cost is low and the number of cars are 1.6 with the intersection of 50 thousand RMB which is turnover point from Figure 1(a~b). When the best capital is 498RMB the turnover point is 0.3 of the number of cars with the 80 thousand RMB. So the balance value is 50~80 thousand RMB which could be satisfactory with both situations because the average revenue can't be intersected with average cost line in the case of the best labors. It is regulated that the capital and labor price is from 50 Yuan to 500Yuan both in Figure 1(b) so the intersection is formed.
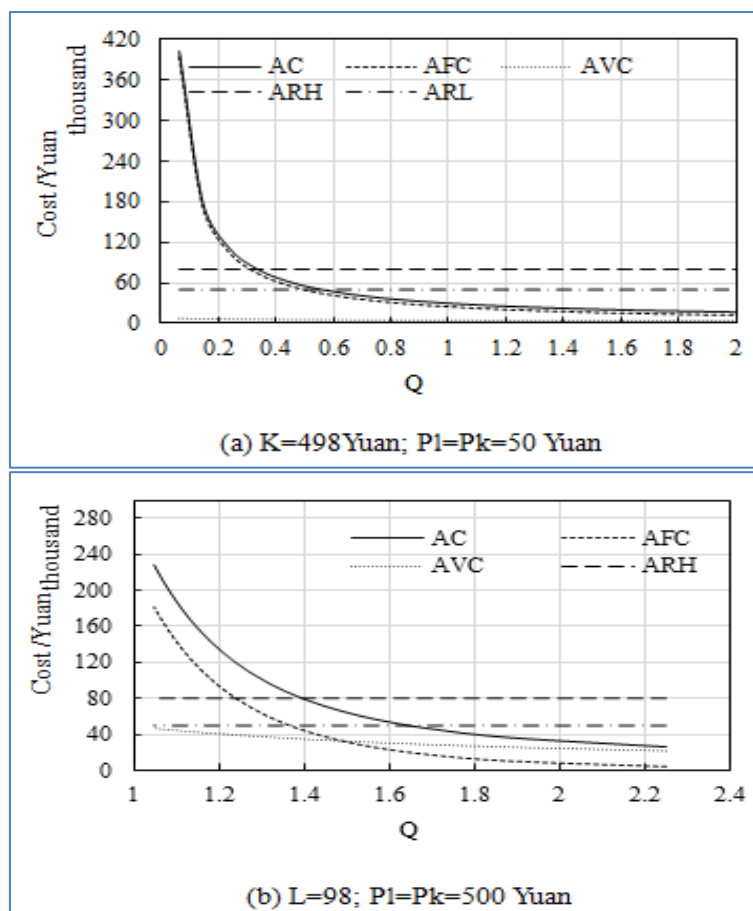

(a) K=498Yuan; Pl=Pk=50 Yuan

(b) L=98; Pl=Pk=500 Yuan

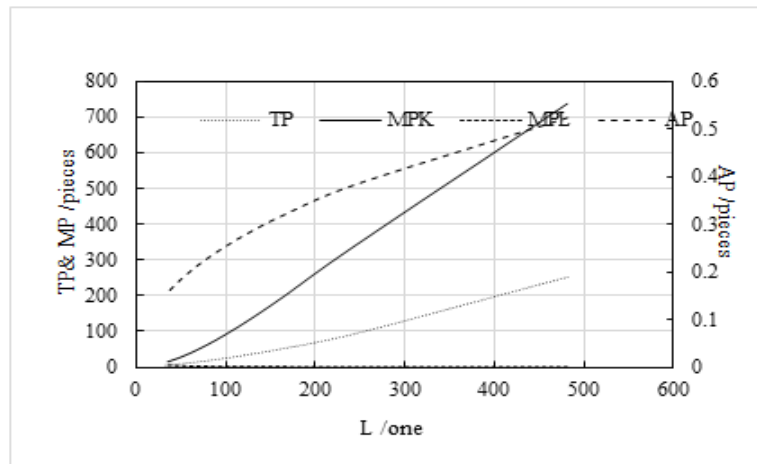**Fig-1: The relationship between cost and number of cars in one minute**

Fig-2: The relationship between maximum &marginal production and number of labor
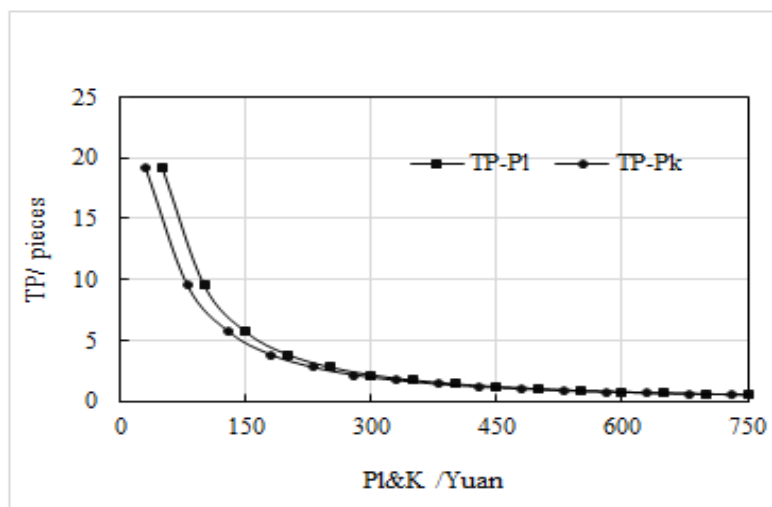

Fig-3: The relationship between maximum production and price of labor &capital

From Figure 2 the best total product will increase when the labor increases from 0 to 250. The average product will increase too from 0.15 to 0.5 numbers while labor increases. The best product explains that the increasing labor will increase the revenue. Margin capital product increases steeply near 700. When the price of labor and capital increase the maximum number of product will decrease in Figure 3. It ranges from 20 to 1 product. It expresses that increasing the price will cause maximum product decrease which is not benefit to us. So the price is needed to decrease to certain value like 30~100 Yuan. On the other side the quantity of Pl is bigger than Pk. So Pl>Pk is the effective turn.
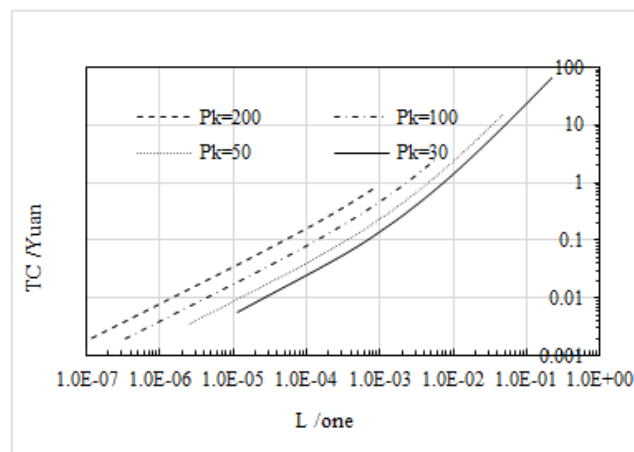

Fig-4: The minimum cost with labor quantity and 0.25 pieces in every minute under different Pk

In Figure 4 it is expressed that the minimum cost will increase with the labor increasing. Meantime it increases when the Pk increases from 30 Yuan to 200 Yuan. In short the AC will intersect with AR ie product so it is benefit to us if the turnover point is small. The smallest product will be in the condition of Pk being 30 Yuan besides labor with high Pk of 200.

3. CONCLUSIONS
1. The minimum total cost has been established to find the labor and piece. It is found the 1Yuan are the minimum total cost at labor of 0.001 with γ=0.02 and Pk=200. Meantime 1.6 and 1.4 products are turnover point with 50 and 80 thousand Yuan revenue at the best labor respectively. The number of value attains 0.5 and 0.3 at the best capital respectively.
2. The biggest total cost will happen which attains 250 product at labor being 480. We firstly choose low Pl and then low Pk. The smallest product cost will be minimum in the condition of labor with high Pk.

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