

# The Research on Relations between Economic Benefit of Industrial Enterprises and Price of Industrial Products

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## 1.Introduction

In this article, we' ll study the relations between economic benefit of Industrial enterprises and price of Industrial products by the method of correlation analysis, and try to come to the conclusion of how to improve economic benefit.

Industrial products price include ex- factory price of industrial enterprises' products(signed as ex- factory price of industrial products) and purchasing price of raw materials, fuels and power(signed as purchasing price of raw materials) in accordance with Chinese statistical scheme. Herein economic benefit of Industrial enterprises means total profits of Industrial enterprises.

## 2.Data

We use the data of Henan province from January to December in 1999 in the following table as our original data to be analyzed. It includes two kinds of data: the one is ex- factory price of industrial products and purchasing price of raw materials, the other is total profits of all state-owned and non-state-owned above designated size industrial enterprises.

Table 1

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total profits (100 million Yuan)	2.48	2.49	4.46	4.78	5.13	6.66	5.47	6.2	8.72	8.42	10.76	16.51
Ex-factory price indices	94.1	94.1	94.2	95.0	96.0	95.4	95.2	95.5	95.3	96.4	96.8	97.2
Purchasing price indices	91.8	91.6	93.9	94.3	93.3	94.1	95.7	93.9	95.1	95.8	96.9	95.7

Notes: Price indices equal 100 in the corresponding period of preceding year;

## 3.Correlation analysis

By the method of Pearson correlation analysis and using SPSS software, we can get some result as follows:

Tables 2

	Total profits	Ex-factory price indices	Purchasing price indices
Total profits Pearson correlation	1.000	0.876**	0.740**
Sig.(2-tailed)	.	0.000	0.006
N	12	12	12

Notes: \*\*. Correlation is signification at the 0.01 level (2-tailed).

The results mean that there are positive correlations between total profits and the indices ex-factory price and purchasing price, and the correlation coefficients are 0.786 and 0.740. To reduce auto-correlations, we give some new indices which include ex-factory price indices of the ultimo, ex-factory price indices of the ultimo before, purchasing price indices of the ultimo, and purchasing price indices of the ultimo before. By the method of multivariate regressive analysis, we can come to the conclusion that ex-factory price indices and purchasing price indices of the ultimo before have deep effects on total profits of these six indices. So we can set up an regressive equation as follows:

$$y = -320.881 + 2.677x_1 + 0.770x_2$$

(3.624)(1.347)

$$R^2 = 0.806$$

$$F = 18.725$$

Where  $y$  stands for profits,  $x_1$  stands for ex-factory price indices, and  $x_2$  stands for purchasing price indices of the ultimo before.

This result means that about 80.6% of the changes of total profits can be explained by ex-factory price indices and purchasing price indices of the ultimo before. If ex-factory price indices increase (or decrease) one percent, total profits will increase (or decrease) 267.7 million Yuan, if purchasing price indices of the ultimo before increase (or decrease) one percent, total profits will increase (or decrease) 77 million Yuan.

#### 4. Conclusion

Our study shows that the economic benefit of industrial enterprises is much affected by ex-factory price indices and purchasing price indices of the ultimo before, especially ex-factory price indices.

#### References

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2. Technological Economy, Wu Qishan and Zhao Yijin