THE RELATIONSHIPS BETWEEN METAL PRICES AND FINANCIAL VARIABLES IN KOREA

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Abstract
This study is on the relationship between metal prices and financial variables. The metal prices in this study include precious (or noble) metal prices and nonferrous metal prices. The precious metal consists of gold and silver. The LME (London Metal Exchange) index is used for the nonferrous metal price. The financial variables of this study are classified by stock return, interest rate, foreign exchange rate (KRW/US$). This research results show that interest rate and foreign exchange rate are closely related with the precious metal prices but not with the nonferrous metal price. It is interesting that interest rate and foreign exchange rate are positively related with gold price and negatively related with the silver price, which is statistically significant. In the case of stock return it is vice versa. Even though the results of this study were found in the case of Korea the implication can be extended in other countries and they can be useful in government's policy making and investors’ financial decision making.

Keywords
Precious metal, nonferrous metal, stock return, interest rate, foreign exchange rate

1. INTRODUCTION
Metal is the essential material in all the fields of industry. It is natural that the change of metal price affects the economies. Financial variables such as stock price, interest rate, foreign exchange rate are influenced by the business cycle. It is necessary to understand the relationship between metal prices and financial variables in government’s policy making and investors’ financial decision making. This necessity is the background of this study.

2. METHOD AND RESULTS
2.1 Data and model
The metal prices in this study include noble metal prices and nonferrous metal prices. The noble metal consists of gold and silver. The nonferrous metal consists of aluminum, copper, zinc, tin, nickel, lead. The price information of these nonferrous metal can be observed in the LME (London Metal Exchange) index. The financial variables of this study are classified the stock return, interest rate, foreign exchange rate (US$/KRW), from the year 2000 to 2009, ten years by the monthly data. For each financial variable multiple regression analysis are performed using time serial model in which the metal prices are explanatory variables and financial variables are explained variables.

2.2 Results of research
The results of this research are as follows:

The first is that the interest rate and foreign exchange rate among the three financial variables are closely related with the metal prices.

The second is that the gold and silver prices are significant variables for explaining the financial variables, but nonferrous metal prices are not.
The third is that the interest rate and foreign exchange rate are positively related with gold price but they are negatively related with the silver price, which is statistically significant.

The forth is that the stock return is negatively related with gold price and positively related with silver price, which is not statistically significant.

3. CONCLUSION

This study shows that metal prices are important variables for explaining financial variables. The interest rate and foreign exchange rate are related with metal prices. The noble metal (gold and silver) price is more important than nonferrous metal price. But the stock price is not related with them, which is unexpected result. It is necessary to extend this research for different countries to generalize the conclusion and to explain the differences of the results.

LITERATURE


