VARIABILITY OF FOODGRAIN PRODUCTION IN CHINA

By

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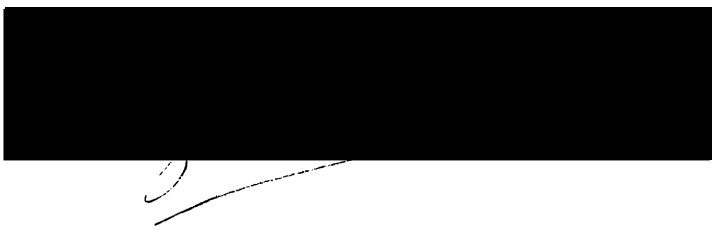
DECLARATION

I declare that the substance of this thesis has not already been submitted for any degree and is not being currently submitted for any other degree.

I certify that any help received in preparing this thesis, and all sources used, have been acknowledged in this thesis.



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Abbreviations and Other Notes

APRS:	agricultural production responsibility system
MAAF:	Ministry of Agriculture, Animal Husbandry and Fishery of China
SSB:	State Statistical Bureau of China
Region:	province, autonomous region or metropolitan city
Foodgrain:	sum of rice, wheat, maize, soybeans, tubers, sorghum, millet and other-grains
Other-grains:	foodgrain excluding rice, wheat, maize, soybeans, tubers, sorghum and millet
Other-regions:	sum of the following eight regions: Menggu, Jilin, Beijing, Hebei, Jiangxi, Fujian, Yunnan and Xizang (Tibet)
Residual grain:	sum of all crops whose data are not available
Residual region:	sum of all regions whose data are not available
yuan:	Chinese currency (3.7 *yuan* $\approx$ US \$1)
jin:	Chinese weight unit (1 *jin* = 0.5 kg)
mu:	Chinese land measure (1 *mu* = $\frac{1}{15}$ ha)
Mt:	million metric ton

Abstract

Variability of Chinese foodgrain production bears important implications for the security of China's basic food supply and of her 800 million rural residents' income. It also has great bearing on the stable development of other sectors of the Chinese economy and on resource allocation in China. As well, it affects the stability of the world grain market.

In this thesis, the pattern of China's foodgrain production variability over time and space is explored by decomposing the square of coefficient of variation. The technique of variance decomposition is employed to examine the sources and changing patterns of Chinese foodgrain variability from 1949 to 1985. Special effort is made to appraise the institutional effect on the changed variability. To model the relationship between input usage and foodgrain output variability, a stochastic production function with error components is developed and applied to a set of survey data from China. In general, the results suggest that the influence of input changes on variability is not significant and that macro-policy or institutional effect is substantial. Most of the analyses are based on data at regional or provincial level.

It must be mentioned that unavailability and inconsistency of data are major obstacles to any study of the Chinese economy over recent decades. In particular, they cause difficulties in choosing the analytical techniques to be used and in discussing the results obtained.

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