

Can Migrant Workers Go Back to Agriculture?

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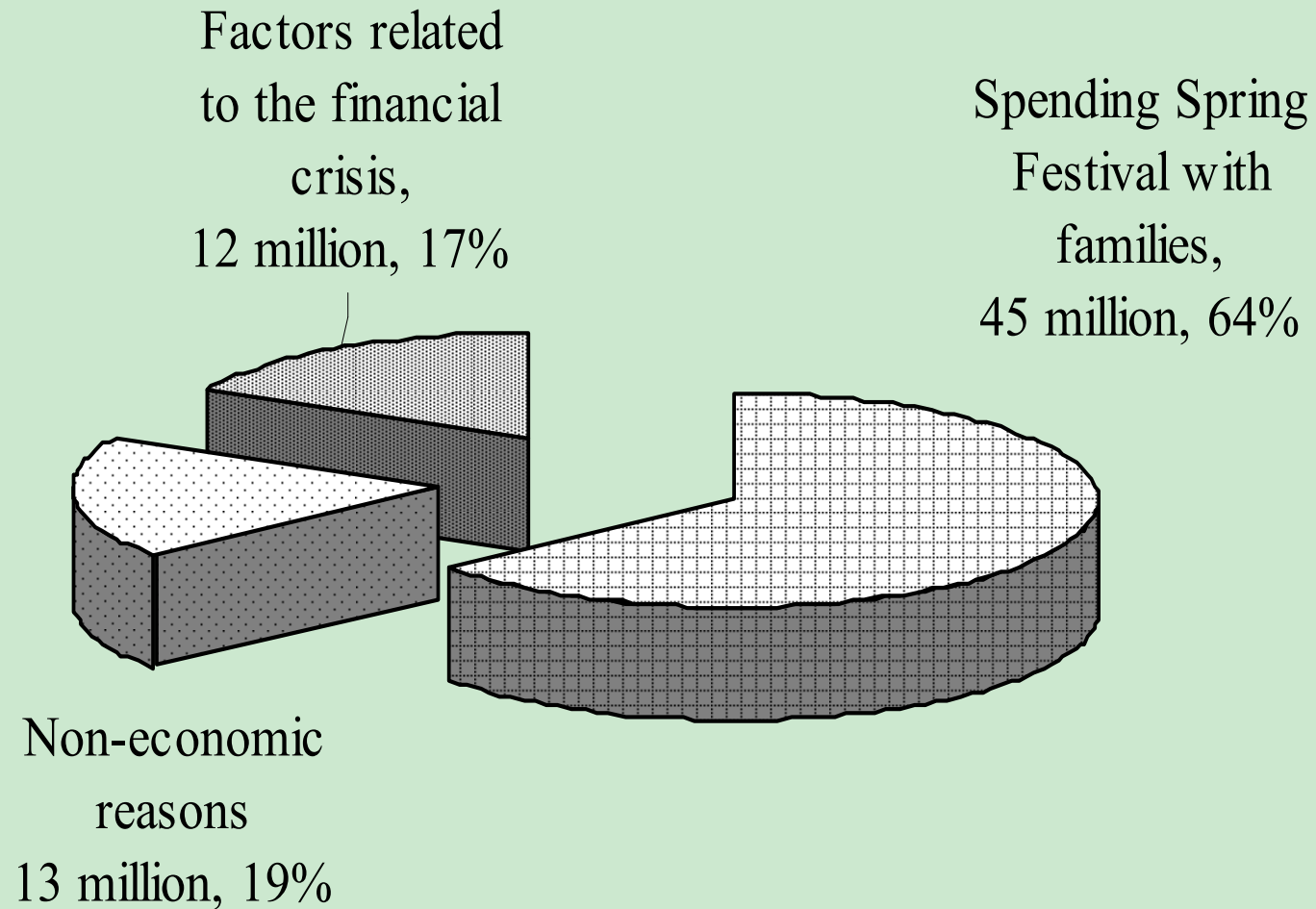
Institute of Population and Labor Economics
Chinese Academy of Social Sciences
12th-14th June 2010, St Andrews

Outline

- Motivation
- Data
- The rise of labor cost in agriculture
- The fall of labor input and the rise of capital input in agriculture
- The increase of marginal labor productivity in agriculture
- Conclusions

Motivation

Motivation



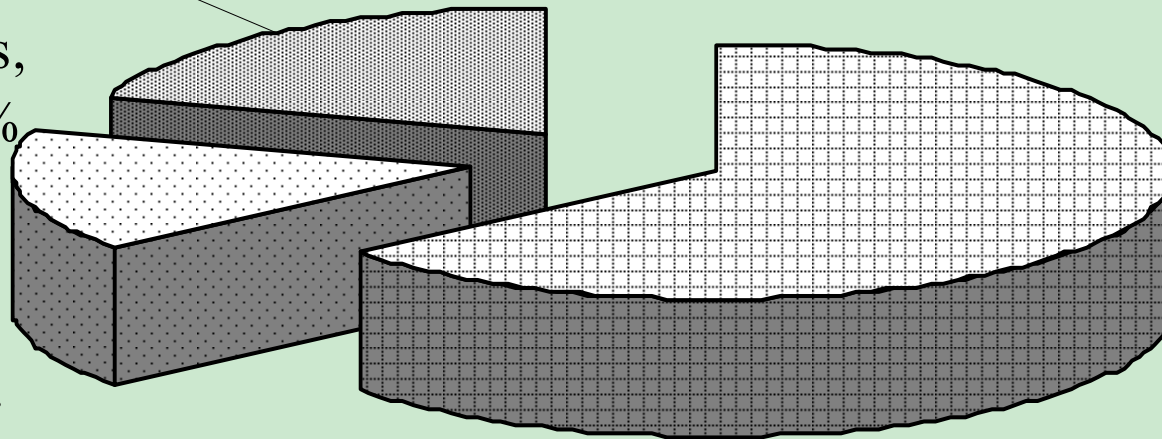
Reasons of Migrants Returning Home

Motivation

Employed in local enterprises or started business or looking for jobs, 14 million, 20%

Migrating to cities to look for jobs, 11 million, 16%

Employed in cities, 45 million, 64%



Employment Situation of Returned Migrants after Spring Festival

Motivation

- By the end of the first quarter of 2009, 90 percent of returned migrants during the Spring Festival have already returned to cities and most of them found jobs
- According to the news conference by Ministry of Human Resources and Social Security on August 4, 2009, 95 percent of returned migrants during the Spring Festival have already returned to cities to work

Motivation

- Chinese agriculture is a pool of rural surplus labor and the rural-to-urban migration is a come-and-go pattern in the long time
- The experiences of China's migration during 2008-2009 financial crisis suggest that labor migration has become a one-way process from rural to urban areas and from agricultural to non-agricultural sectors

Motivation

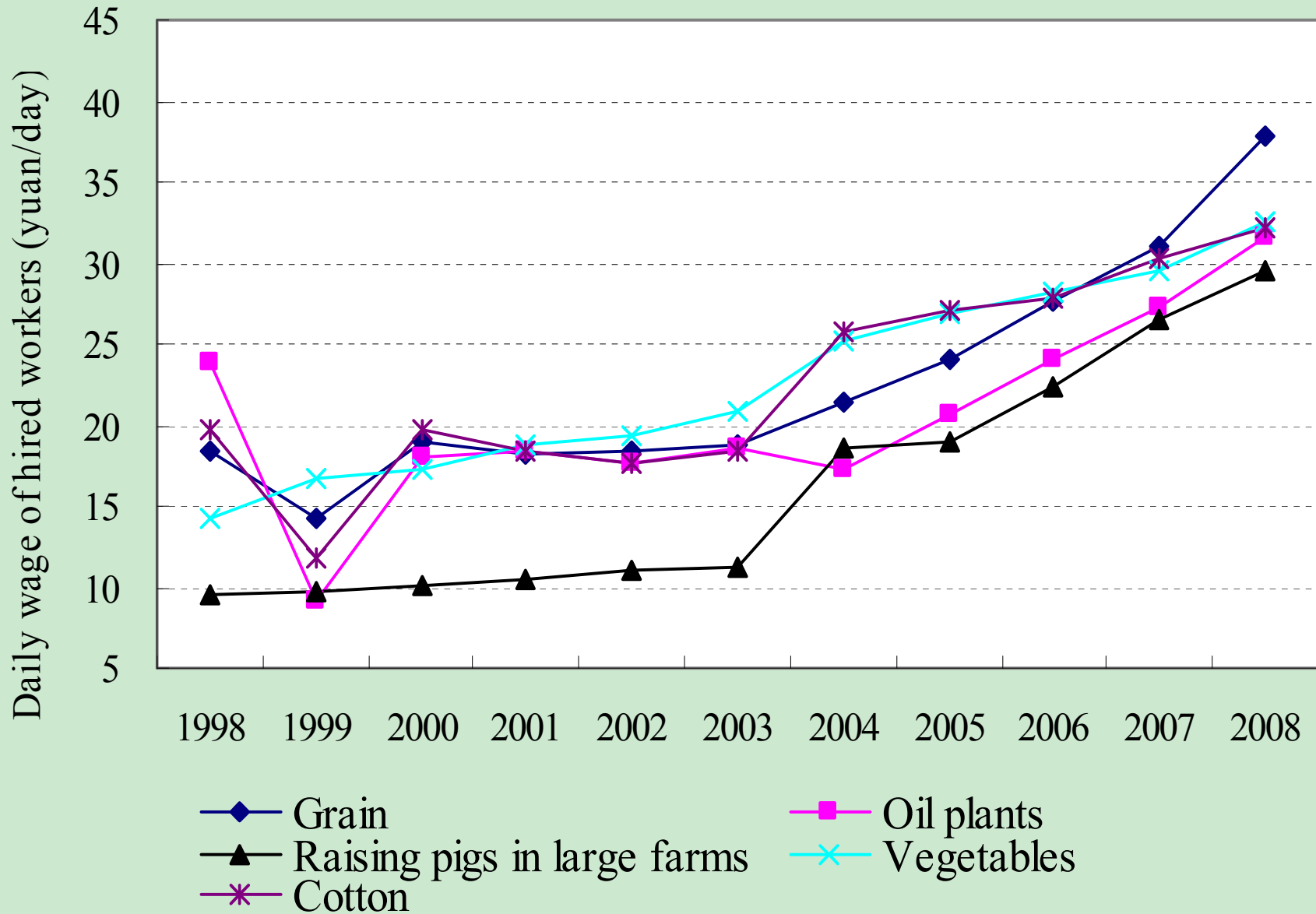
- Why does this happen? Can migrant workers go back to agriculture?
- It would be helpful for us to answer this question by examining the changes in agricultural production mode
- We will look at changes of labor cost, labor input, capital input and marginal labor productivity in agriculture

Data

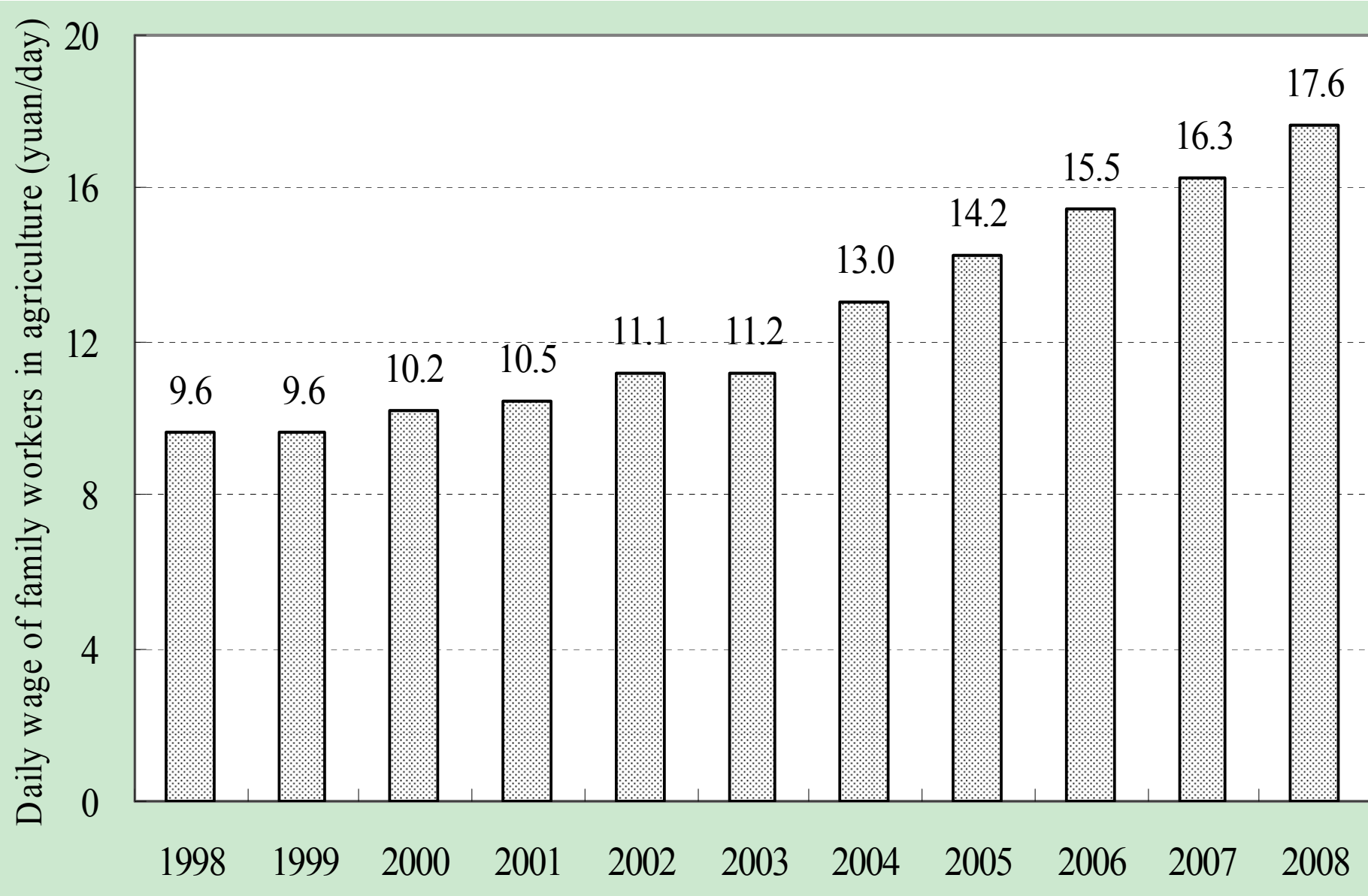
- China's national farm product cost-benefit survey data

The Rise of Labor Cost in Agriculture

Wage Increase of Hired Workers in Agriculture

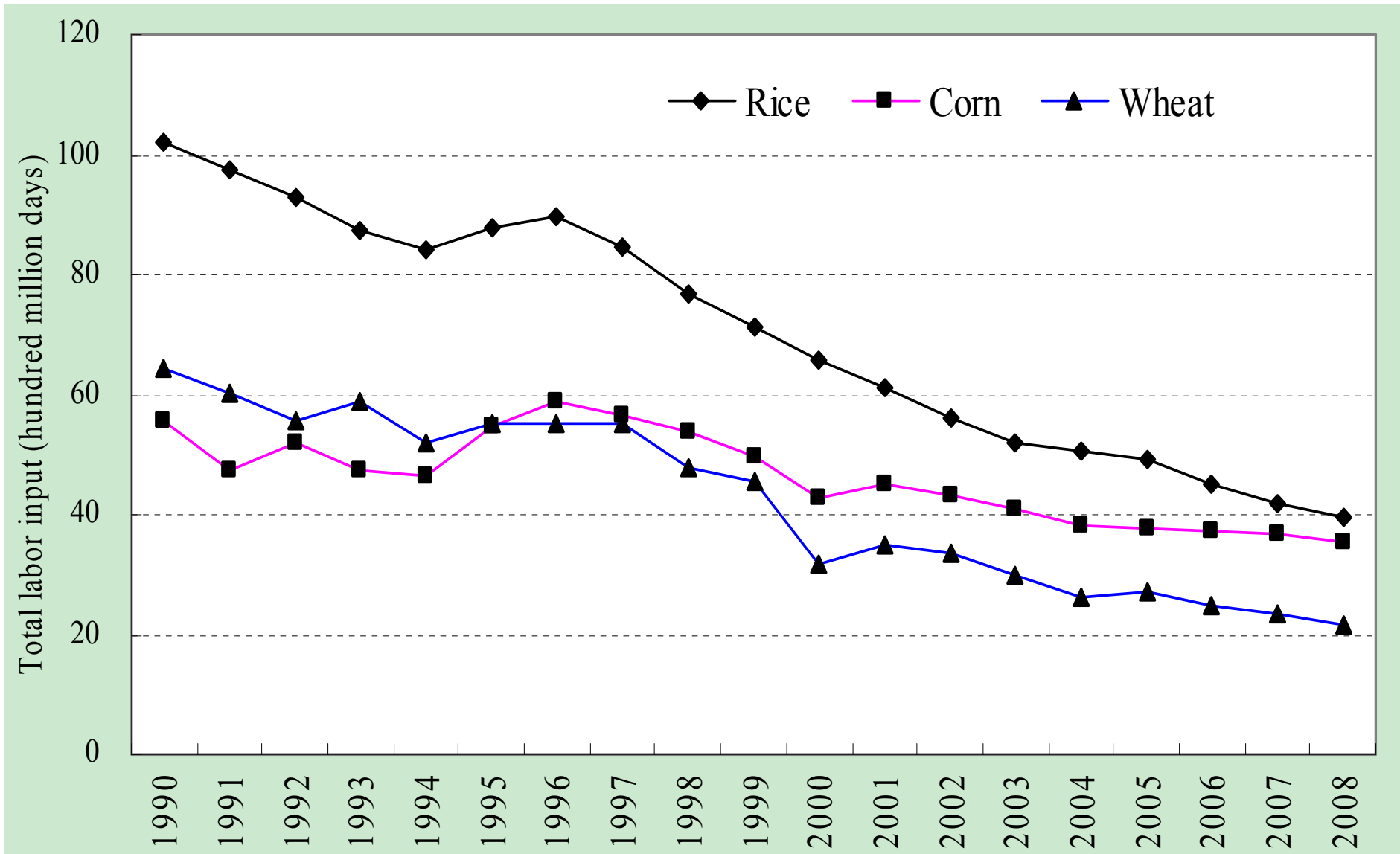


Wage Increase of Family Workers in Agriculture

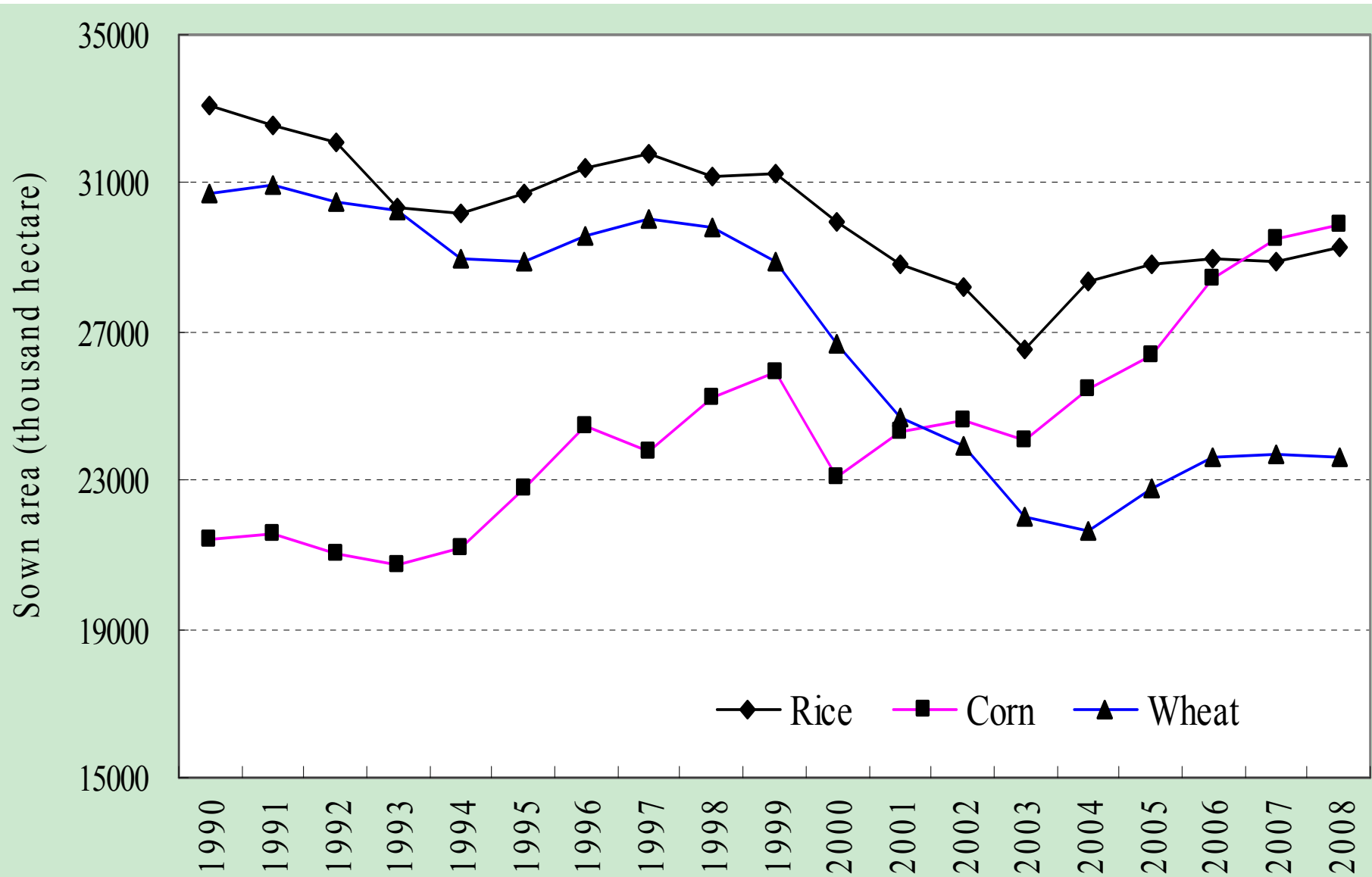


The Fall of Labor Input and The Rise of Capital Input in Agriculture

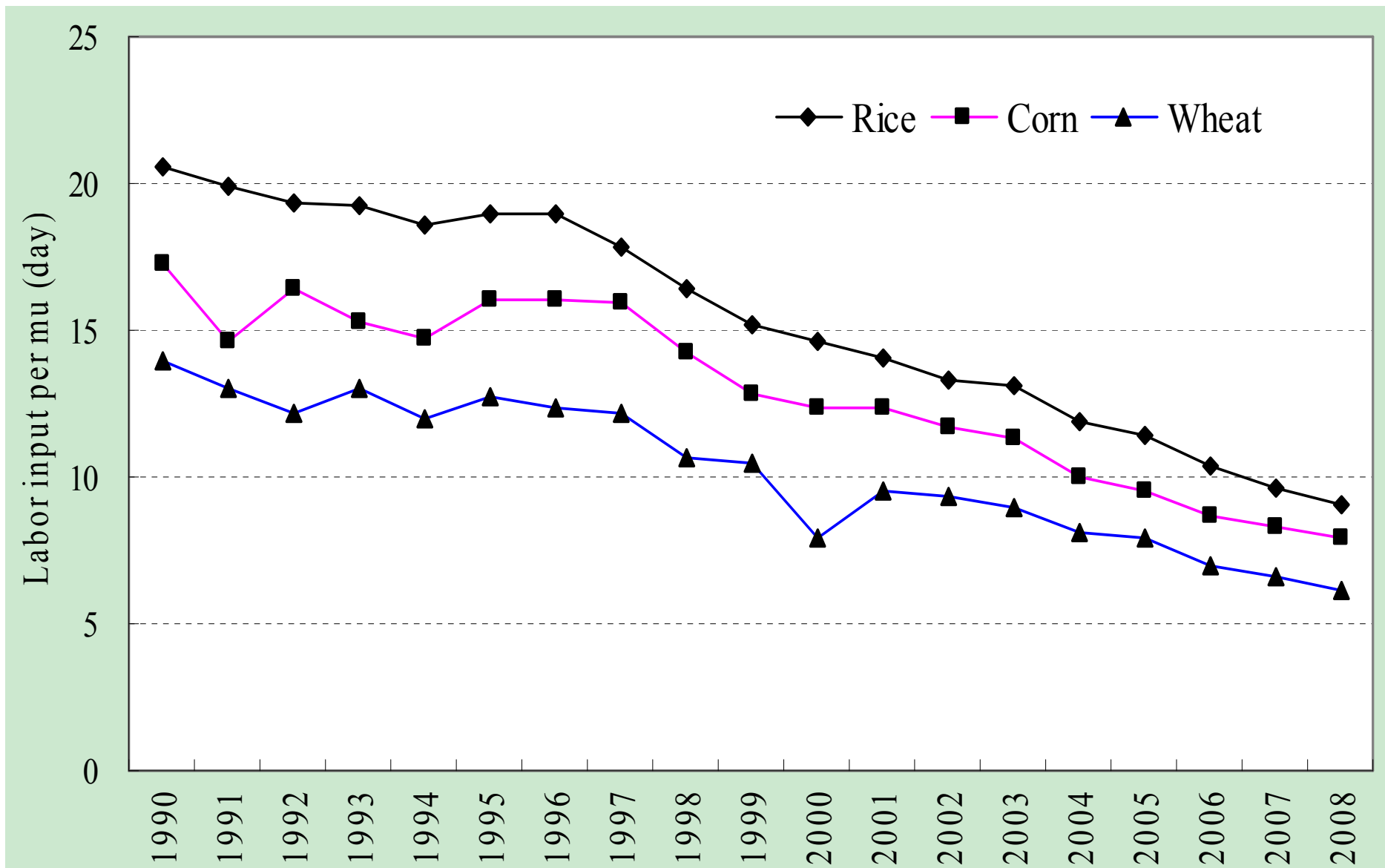
The Fall of Total Labor Input of Three Grain Crops



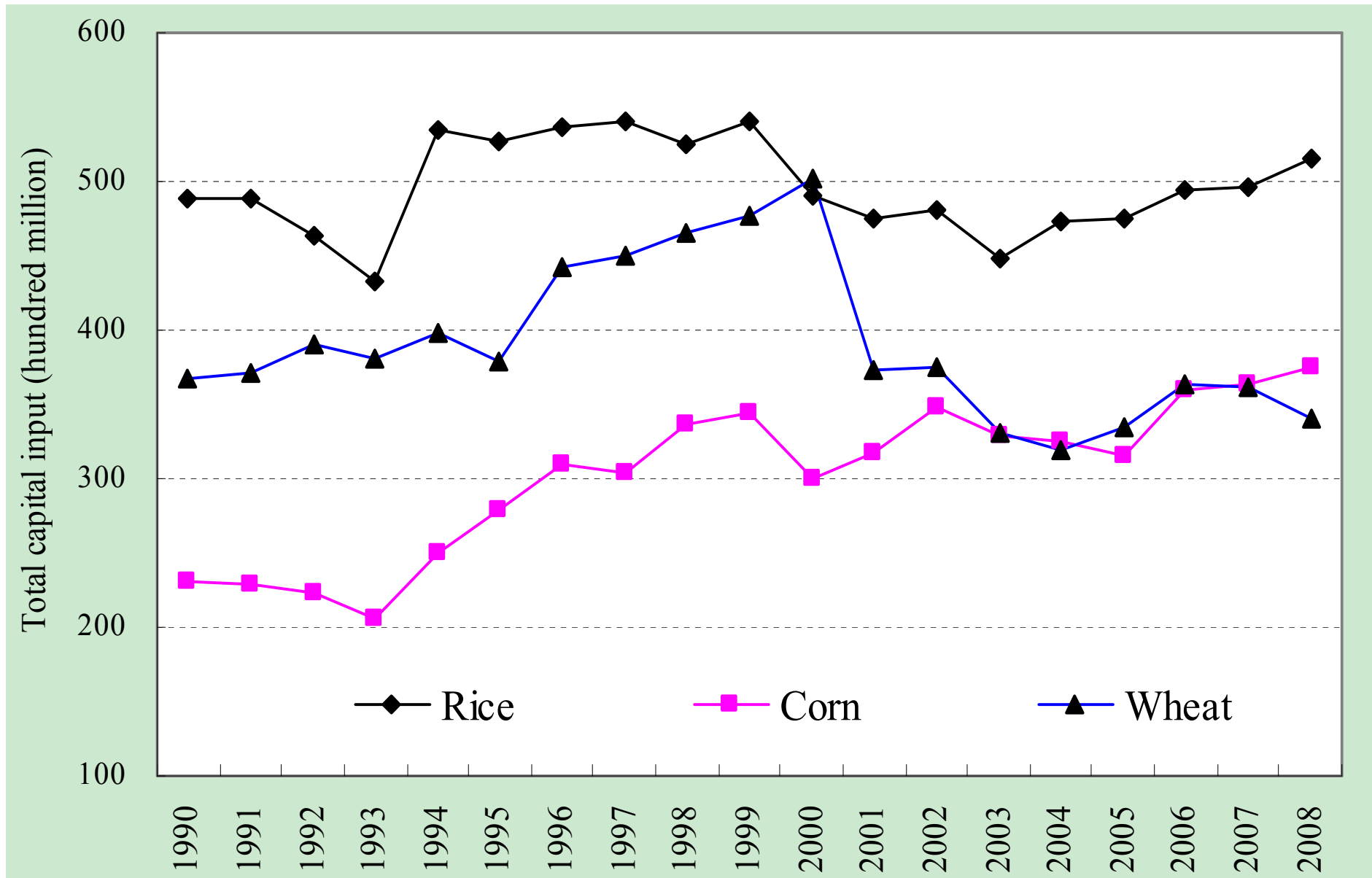
Sown Area of Three Grain Crops



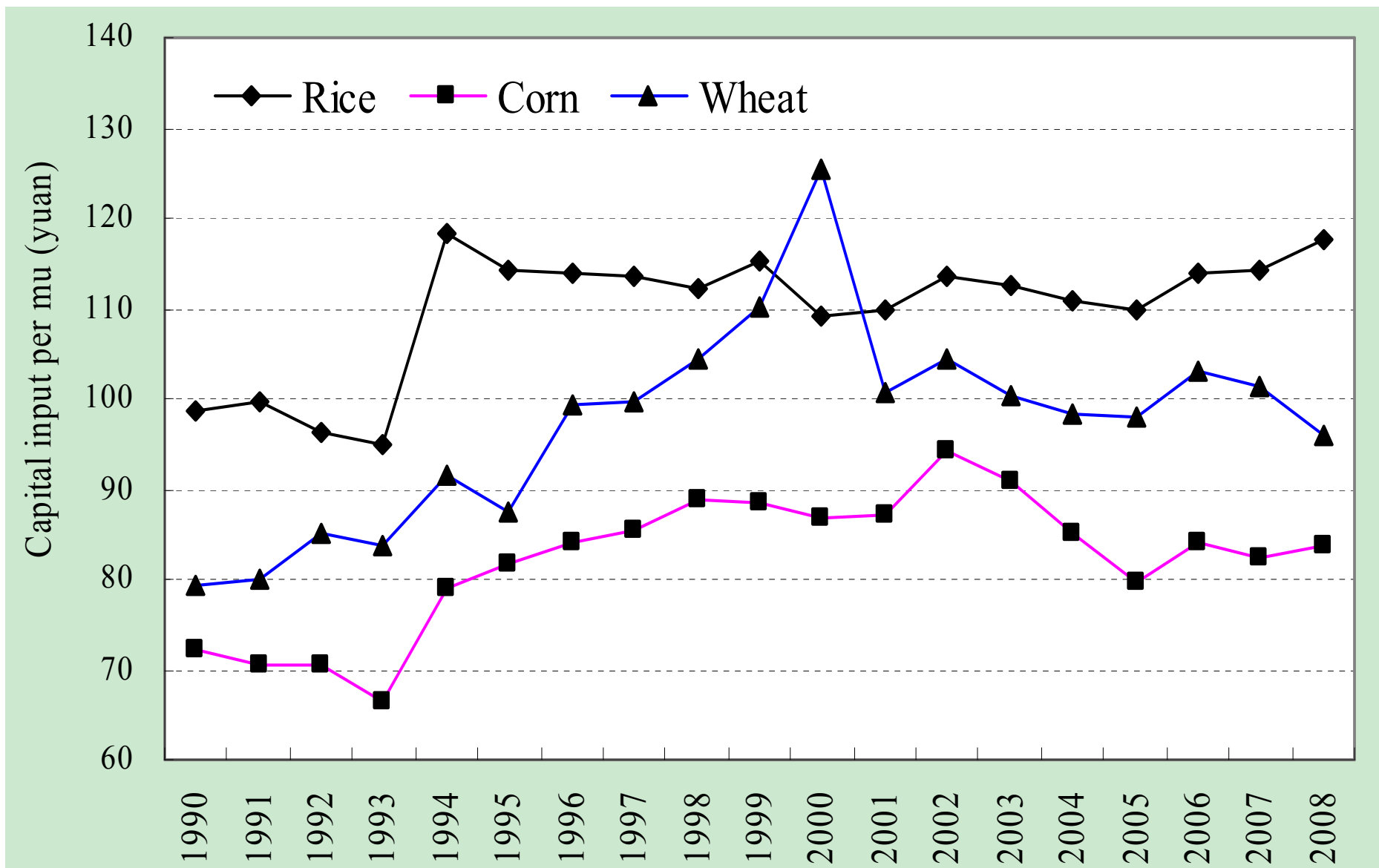
The Fall of Labor Input Per Unit of Crops



Total Capital Input of Three Grain Crops



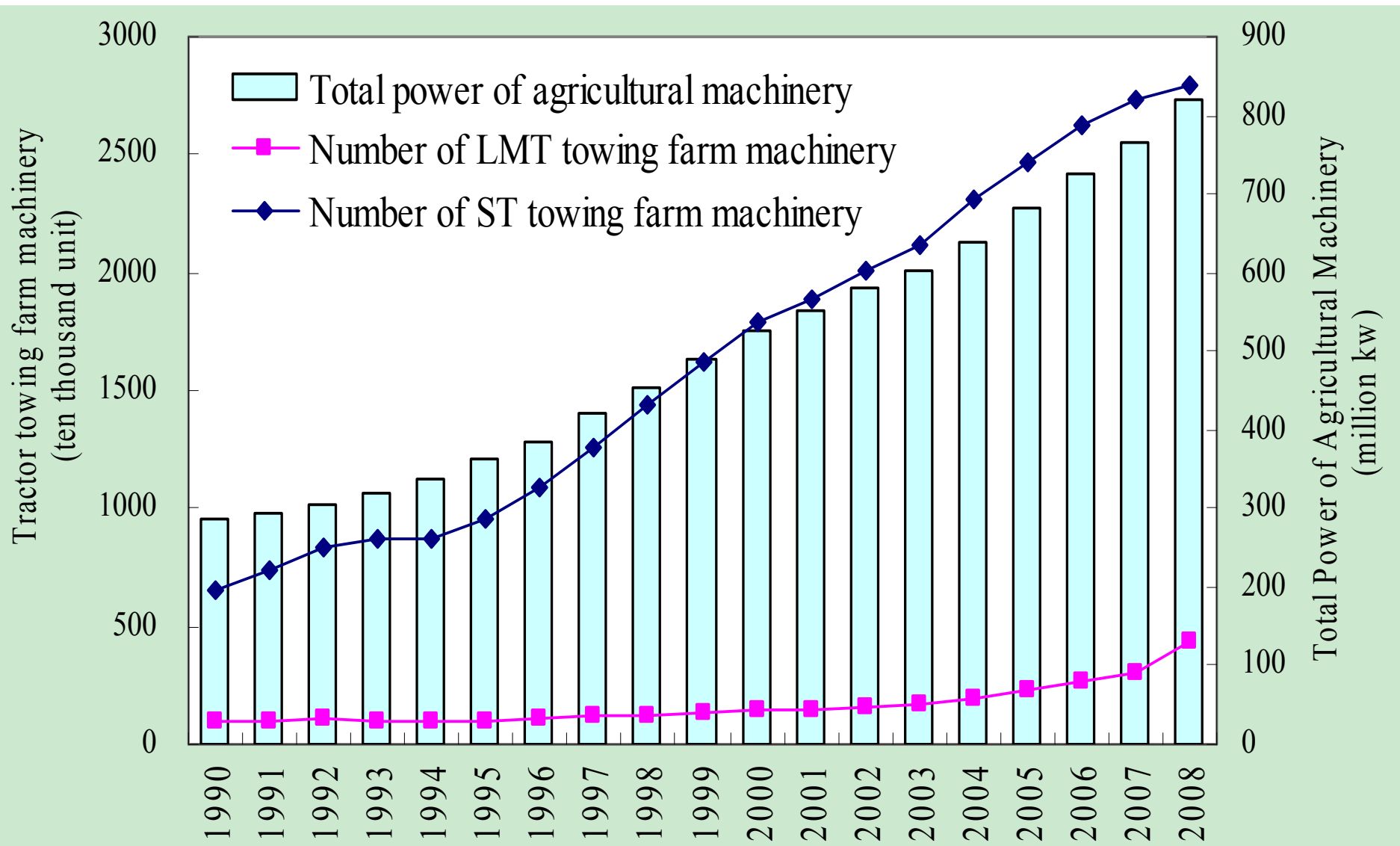
Capital Input per unit of Three Grain Crops



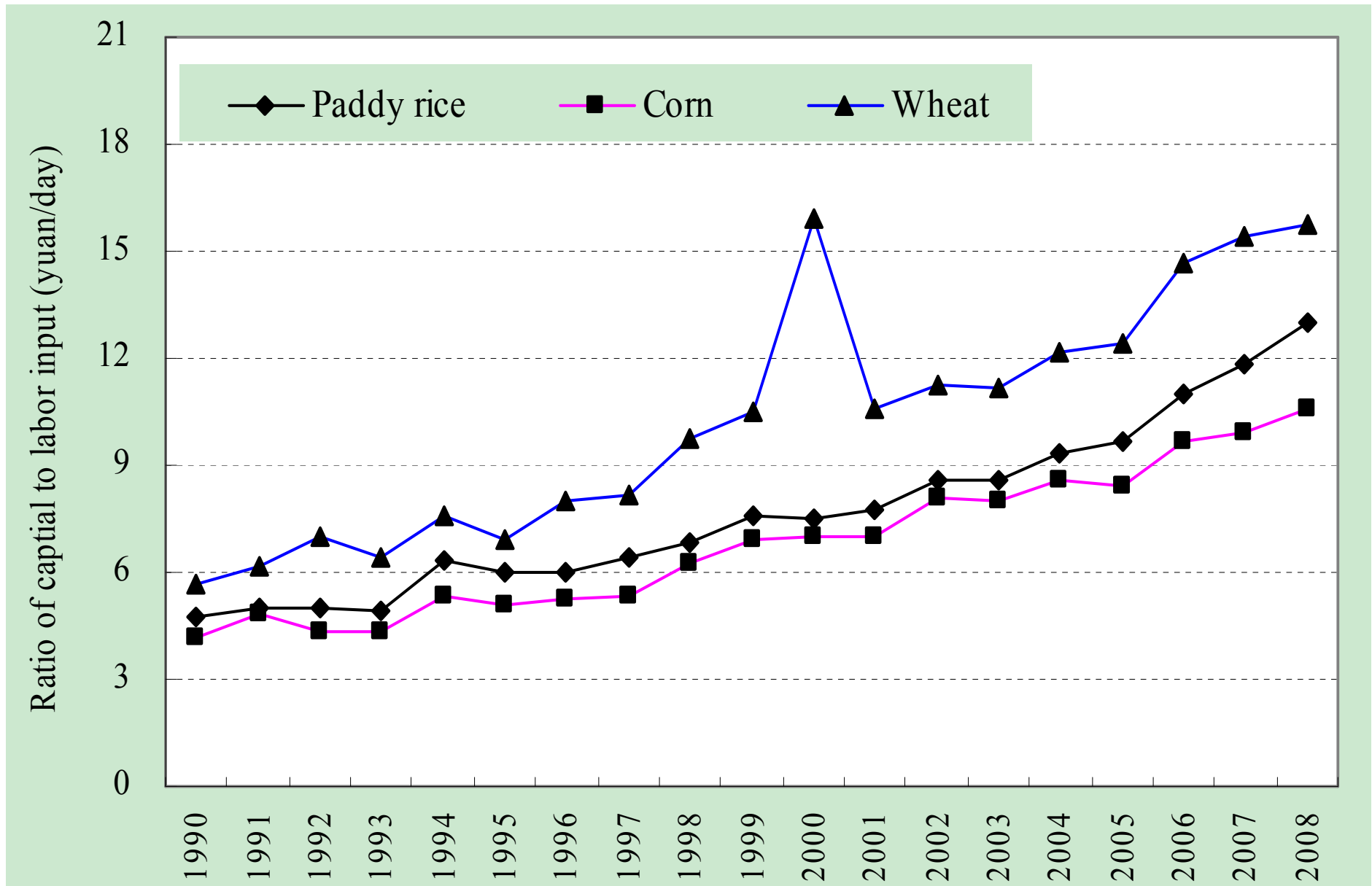
Some Clarifications on Capital Input

- First, tax cut and elimination is a factor reducing capital input
- Secondly, general price index of agricultural means of production underreported the significant deflation of some categories of capital input

Increase of Major Agricultural Machinery



The Rise of Capital-labor Ratio



Increase of Marginal Labor Productivity in Agriculture

Cobb-Douglas Agricultural Production Function of Japonica Rice

- Panel data for 14 provinces
from 1980-2008
- Model specification:

$$\ln Y_{i,t} / L_{i,t} = \ln A + \alpha \ln K_{i,t} / L_{i,t} + \theta \text{year}2004 + \lambda \ln K_{i,t} / L_{i,t} \text{year}2004 + \text{prov}_i + u_{i,t}$$

Production Function Result of Japonica Rice

Dependent variable: $\ln Y/L$	Model 1		Model 2	
	Coefficient	t value	Coefficient	t value
$\ln K/L$	0.801***	33.83	0.817***	33.55
Year2004	-0.202***	-5.29	0.069	0.61
Interaction of $\ln K/L$ and year2004	---	---	-0.154**	-2.54
Provincial dummy variables	Omitted	Omitted	Omitted	Omitted
Constant term	3.028	65.41	3.014***	65.10
Observations	393		393	
Adjusted R^2	0.8313		0.8337	

Marginal Labor Productivity of Japonica Rice

Period	Output Elasticity of Labor	Average Labor Productivity (kilogram /day)	Marginal Labor Productivity (kilogram /day)
1980-2004	0.183	21.22	3.88
2005-2008	0.337	32.21	10.86

Conclusions

Conclusions

- The major findings on agriculture are:
 - (1) The rapid rise of labor cost has happened since 2004
 - (2) Labor input has been falling since the mid of 1990s
 - (3) Major agricultural machinery has been increasing since the mid of 1990s
 - (4) Capital-labor ratio has risen rapidly since the mid of 1990s
 - (5) Marginal labor productivity has risen from period 1980-2004 to period 2005-2008

Conclusions

- The findings indicate that China's agricultural production mode has changed dramatically
- Now we go back to the research question: Can migrant workers go back to agriculture?
- With the fundamental changes in agricultural production mode, the main way to absorb rural laborers is jobs in urban area rather than agriculture

Thanks