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Sources of Growth in the Food Industry: Impacts of Promotion for Rural Development

Prepared for the International Conference on
*New Common Agricultural Policy 2013+: Legislative Solutions to the
Challenges of the EU Agriculture*

Organized by the National Research Institute
of Agricultural and Food Economics

June 10-12, 2013
Suchedniów. Poland

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Waseda University
Tokyo, Japan

What I did in this study

How the performances in the food industry as well as agricultural production sector have changed after 2000 was examined using a Solow type of growth accounting model. The data collected by the EU KLEMS project have been used.

What I found in this study

The TFP based production growth has been observed after 2004 in the food industry for the sampled new EU member countries of Czech Republic and Slovenia. The performance seems to be better than the agricultural production sector. There seems to be the cases which Pillar II type policies benefitted the rural economy.

Previous studies

Increase in variability in TFP growth for agriculture has been observed among existed EU15 countries as well as new EU member countries after the EU enlargement of 2004.

This increase in variability in TFP growth for agriculture might have been induced partly by the emphasis on the importance of rural development through the Pillar II type policy measures.

Significance of this current study

The food industry was added to the same examination to better understand the implications of the increased importance of rural development after 2000 among EU15 and new member countries. A comparison was made against the data from non-EU member countries.



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and
Productivity growth is inevitable as a source of
growth in agriculture and the food industry.

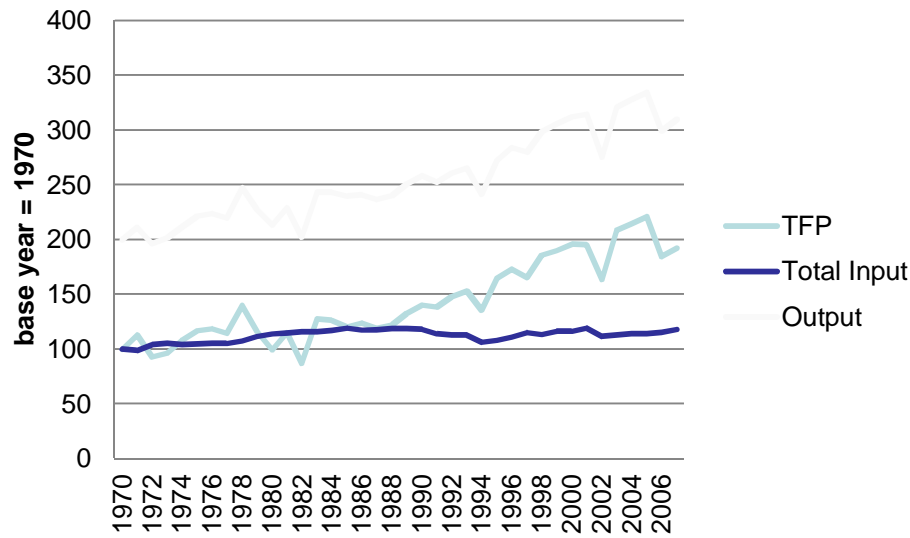
A Solow type growth accounting model was used to explain output growth by productivity growth and total input growth.

Data: EU KLEMS, Gross Value added adjusted for price changes, Hours of work as labor variable, Capital stock, shares are National level aggregated data with five input variables (land, labor, fertilizer, machinery and livestock)

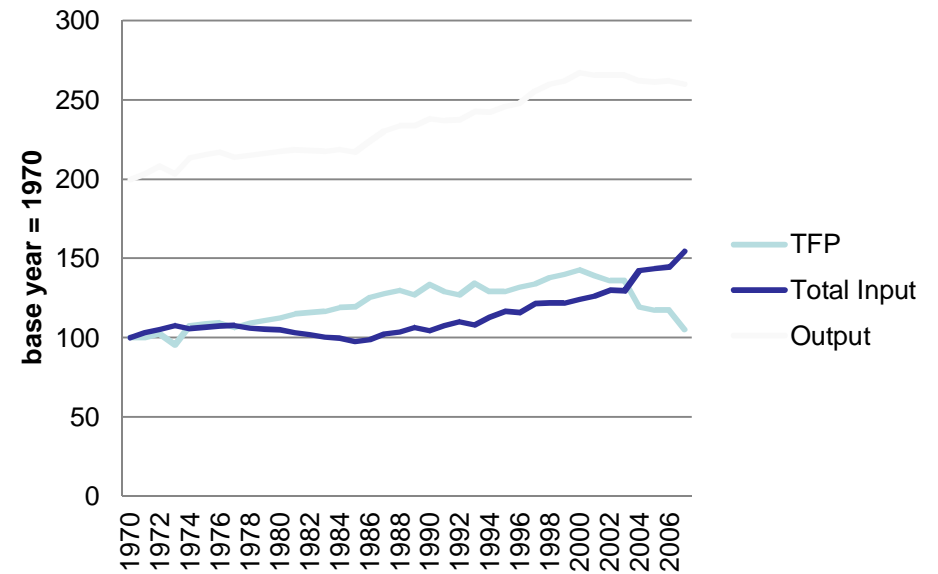
Scope: Changes in TFP (total factor productivity) contribution in output growth were examined for the data of 1995-1999, 2000-2003 and 2004-2007 for the new member countries, and 1995-1999 and 2000-2007 for the EU15 countries and non-EU member countries.

Austria

AUS Sources of Growth in the Agricultural Sector



AUS Sources of Growth in the Food Industry

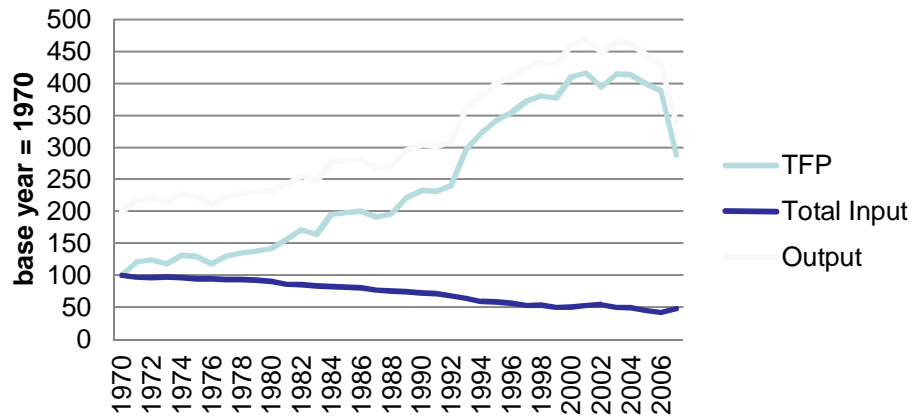


Austria Food Industry

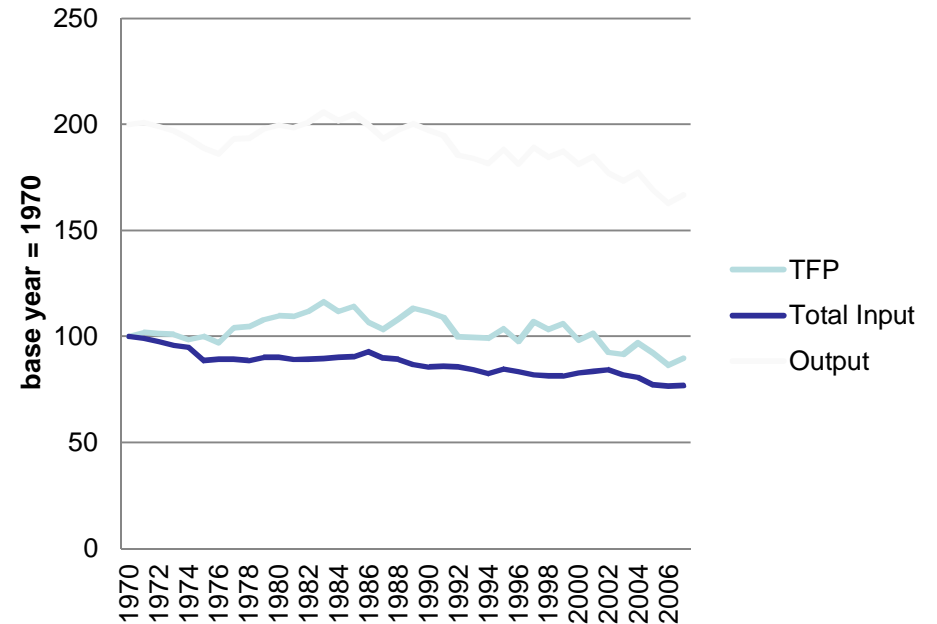
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	3.4	1.4	2.1
2000 — 2007	0.2	4.6	-4.5

Denmark

DNK Sources of Growth in the Agricultural Sector



DNK Sources of Growth in the Food Industry

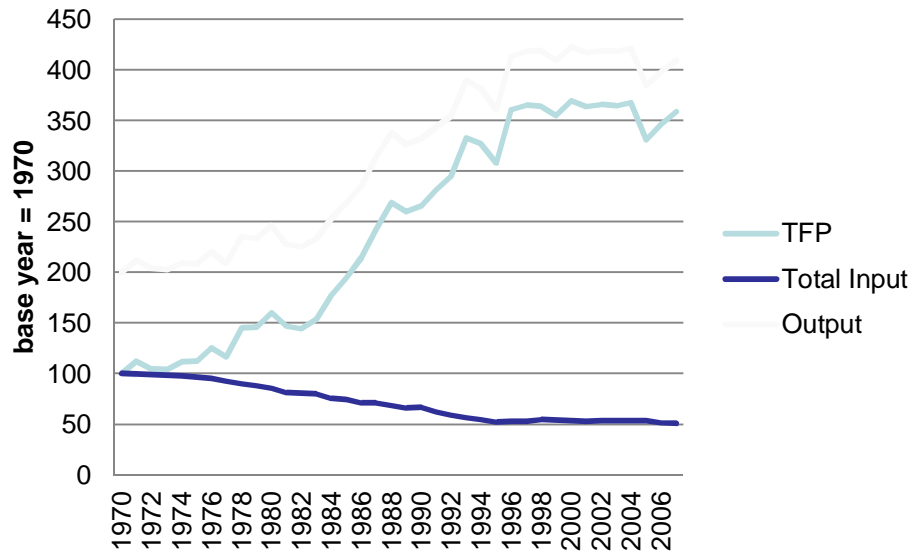


Benchmark Food Industry

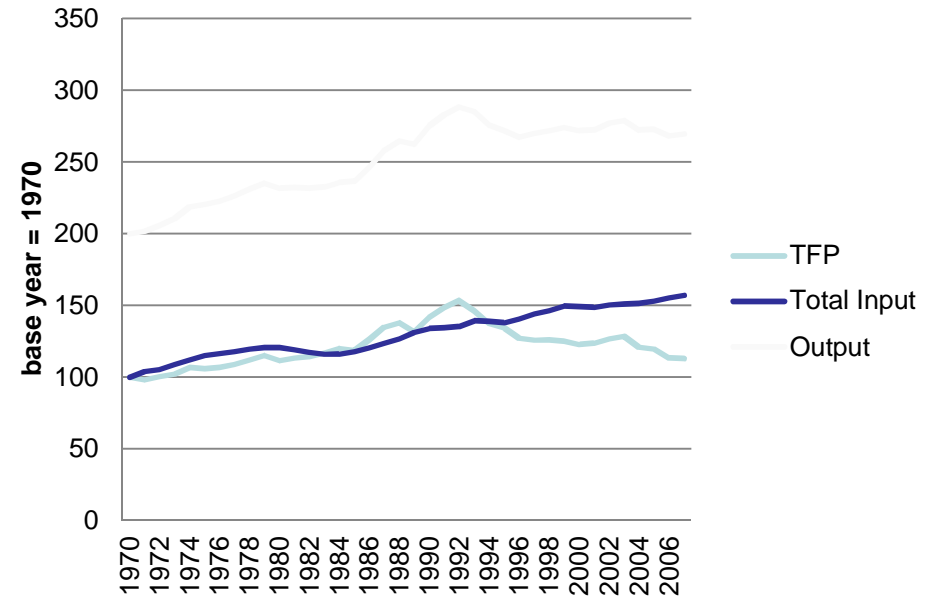
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995— 1999	-0.3	-0.8	0.5
2000— 2007	-2.2	-0.6	-1.4

Spain

EAP Sources of Growth in the Agricultural Sector



ESP Sources of Growth in the Food Industry

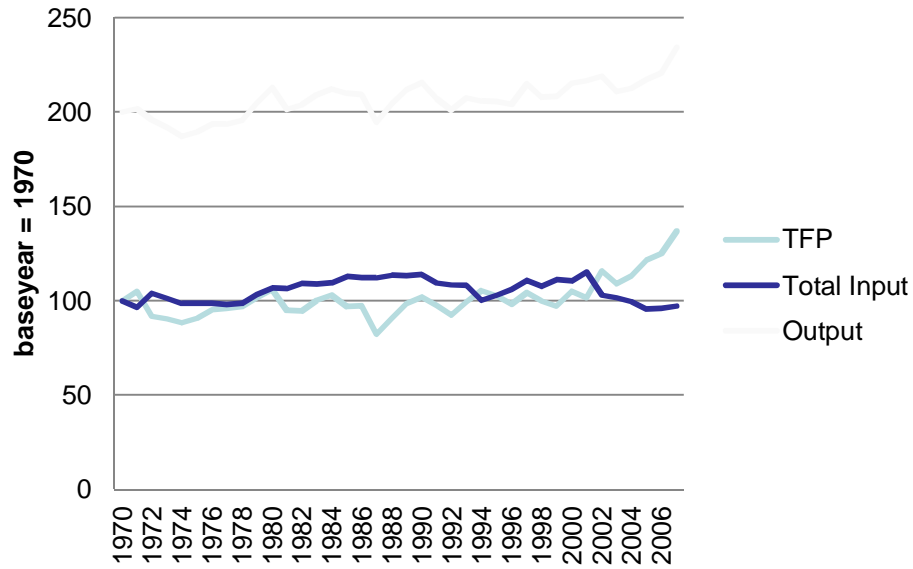


Spain Food Industry

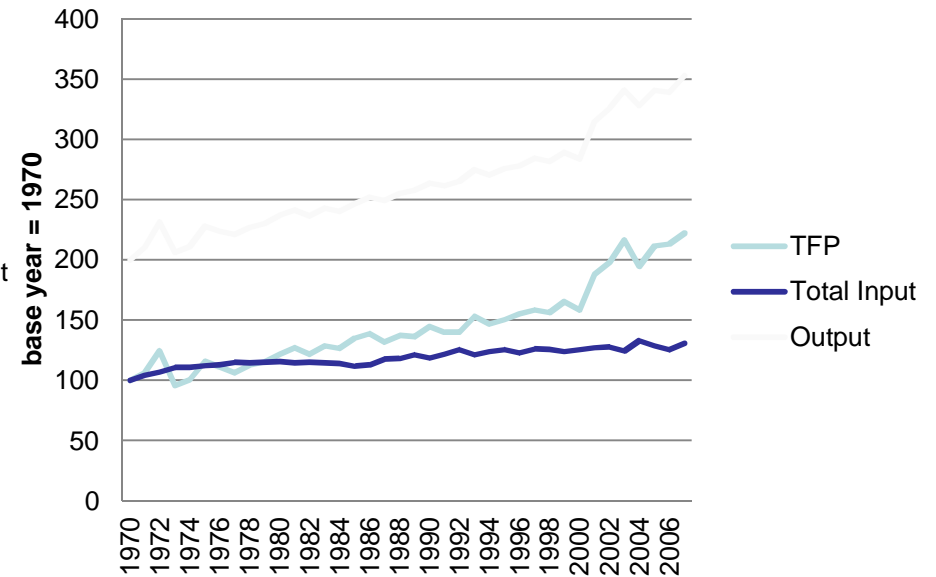
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	1.1	3.0	-2.0
2000 — 2007	0.0	1.2	-1.2

Finland

FIN Sources of Growth in the Agricultural Sector



FIN Sources of Growth in the Food Industry

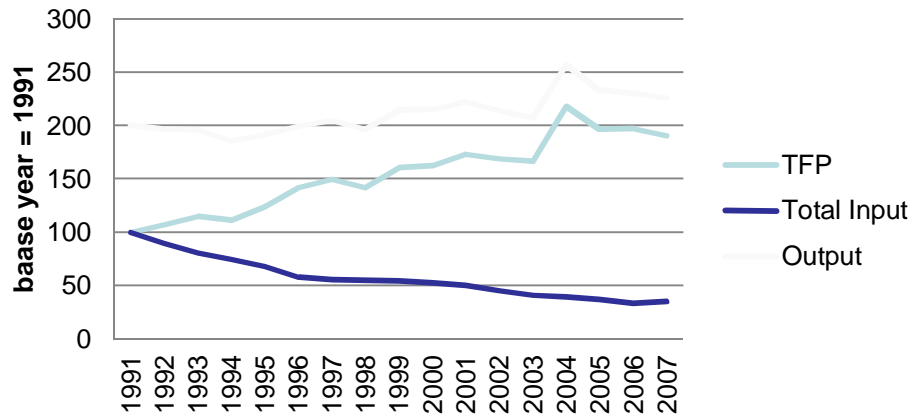


Land Food Industry

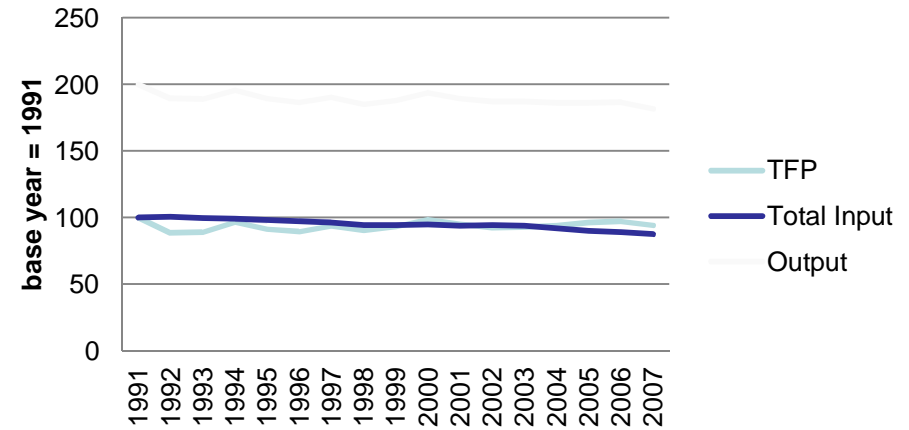
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995— 1999	2.0	-0.4	2.4
2000— 2007	5.8	0.6	5.4

Germany

GER Sources of Growth in the Agricultural Sector



GER Sources of Growth in the Food Industry

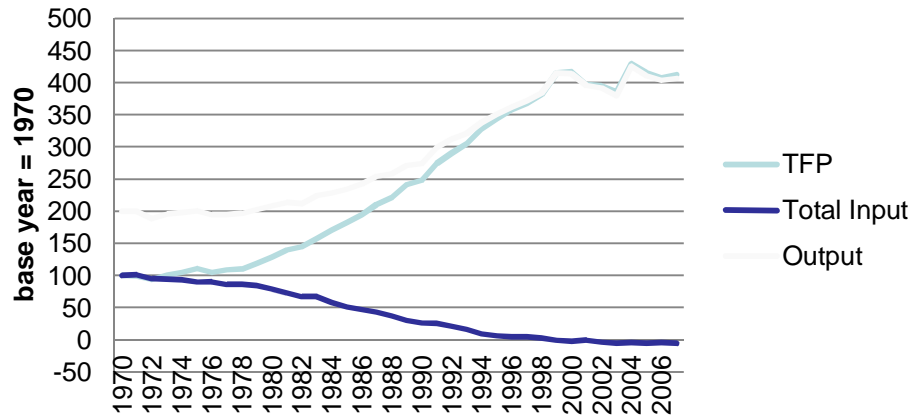


Germany Food Industry

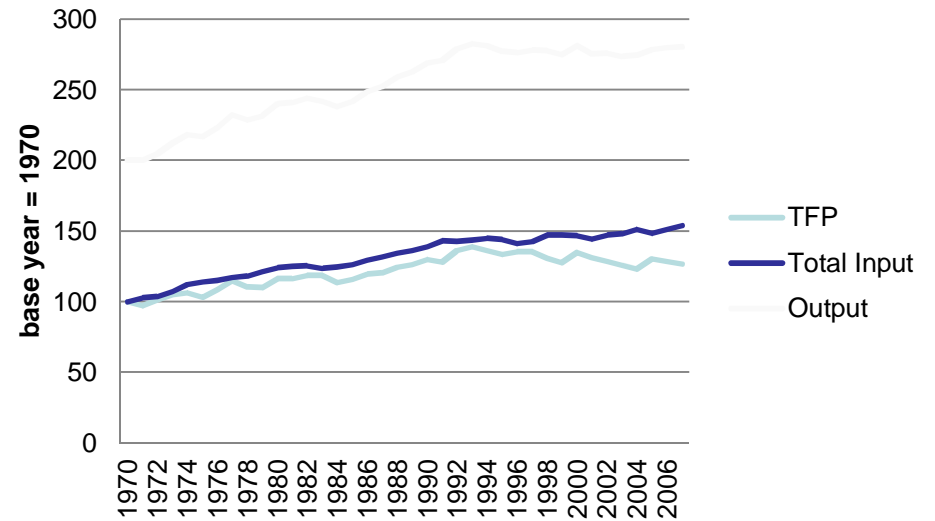
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	-0.4	-0.9	0.6
2000 — 2007	-1.7	-1.0	-0.6

Italy

ITA Sources of Growth in the Agricultural Sector



ITA Sources of Growth in the Food Industry

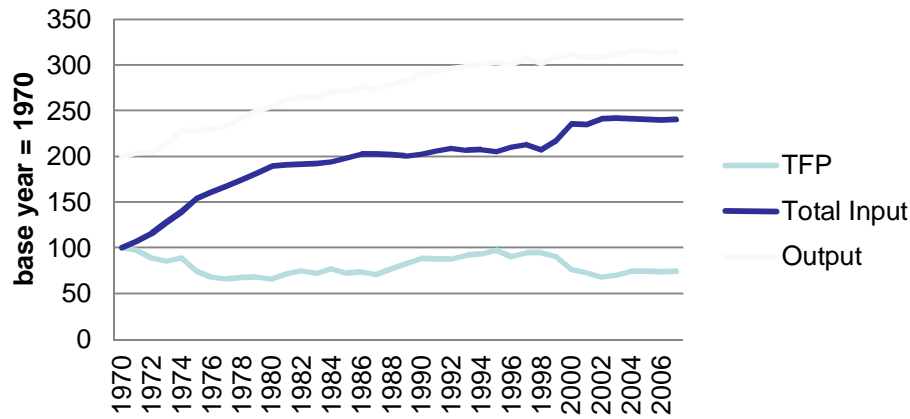


U.S. Daily Food Industry

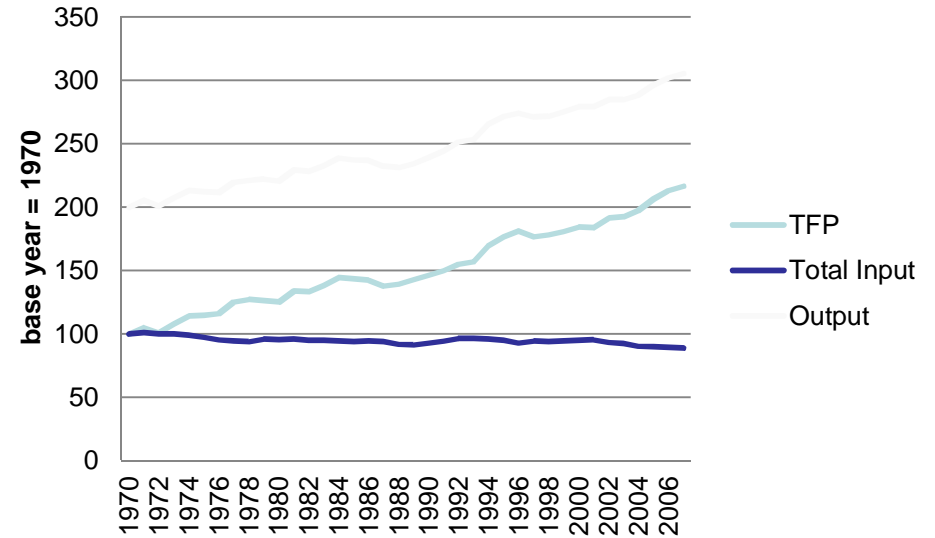
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	-0.3	0.7	-1.0
2000 — 2007	0.1	1.0	-0.9

Netherlands

NLD Sources of Growth in the Agricultural Sector



NLD Sources of Growth in the Food Industry

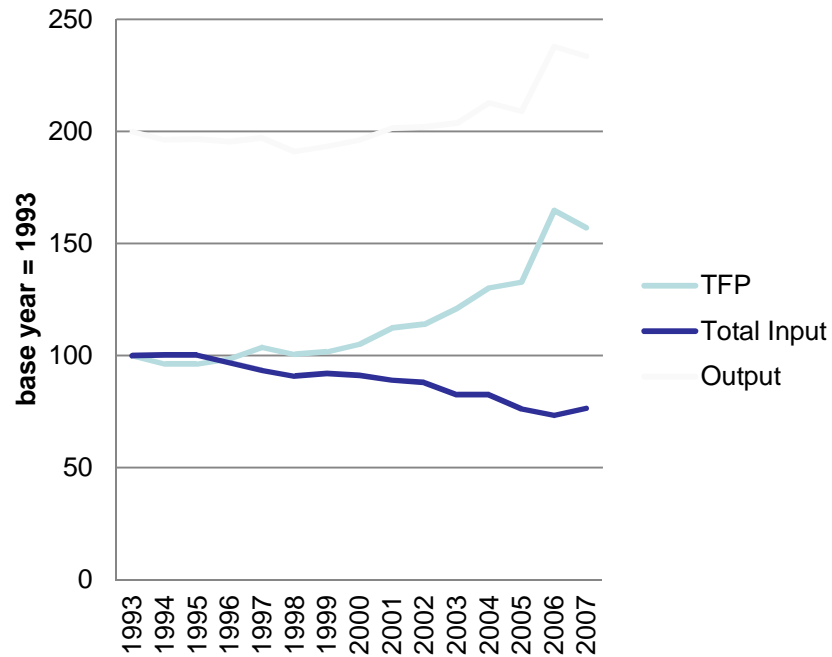


Netherlands Food Industry

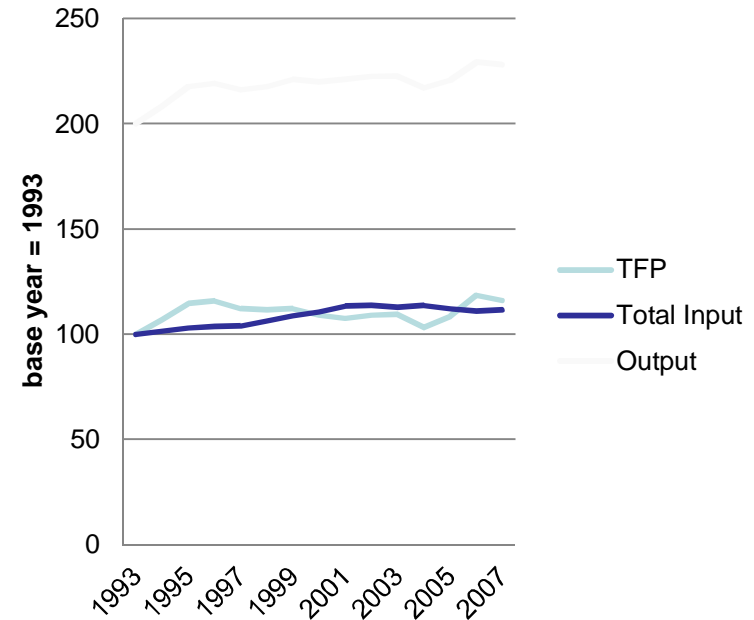
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	0.5	0.0	0.5
2000 — 2007	1.5	-0.9	2.6

Sweden

SWE Sources of Growth in the Agricultural Sector



SWE Sources of Growth in the Food Industry

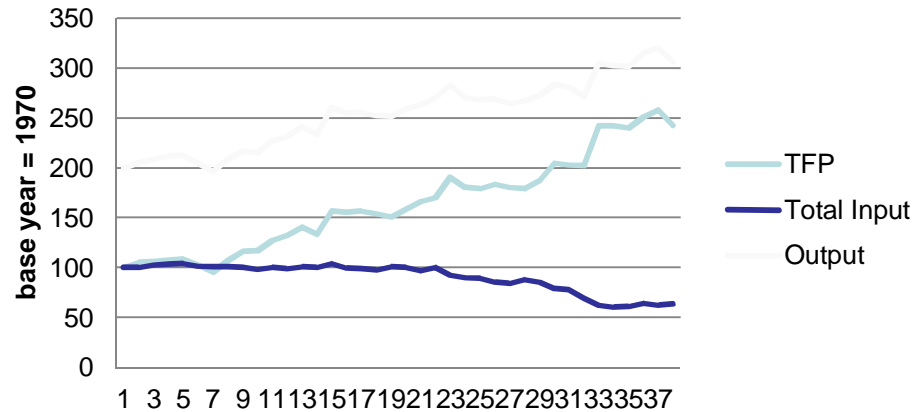


Sweden Food Industry

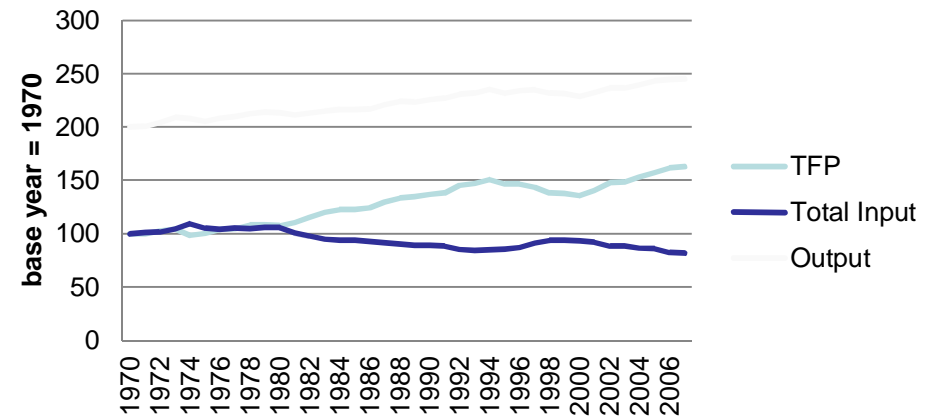
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	0.9	1.6	-0.8
2000 — 2007	1.1	0.6	0.5

United Kingdom

UK Sources of Growth in the Agricultural Sector



UK Sources of Growth in the Food Industry

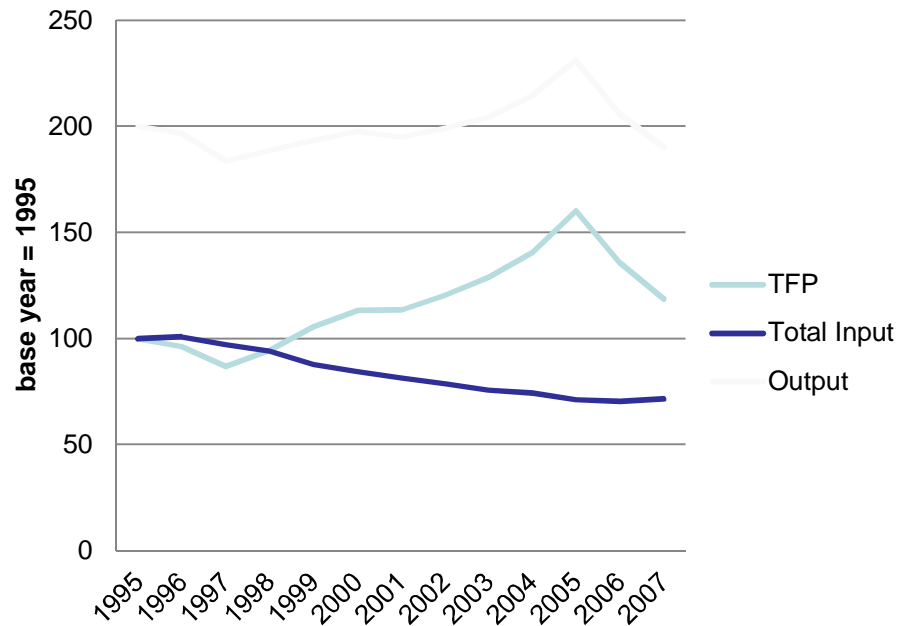


United Kingdom Food Industry

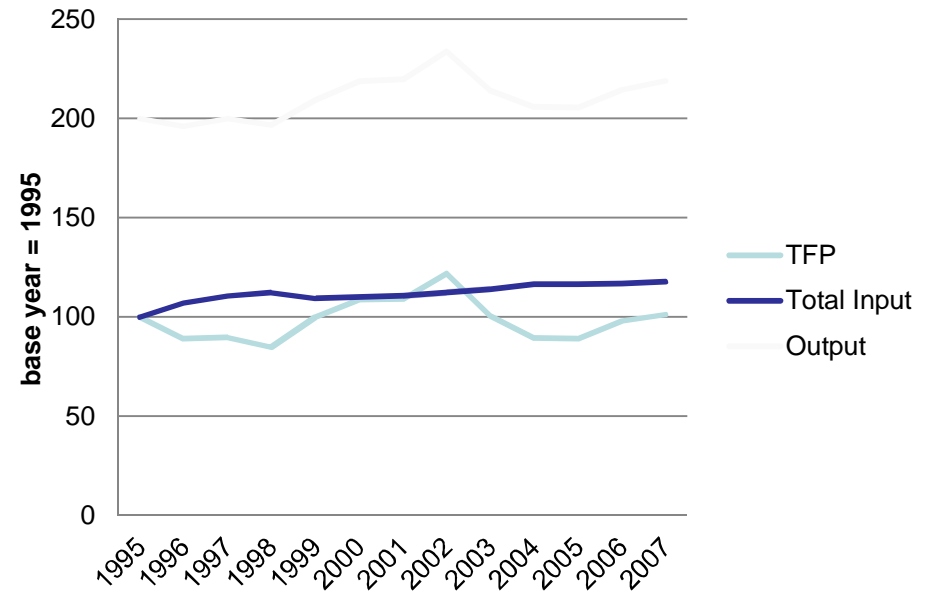
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995 — 1999	0.6	2.2	-1.7
2000 — 2007	1.0	-1.6	2.4

Czech Republic

CZE Sources of Growth in the Agricultural Sector



CZE Sources of Growth in the Food Industry

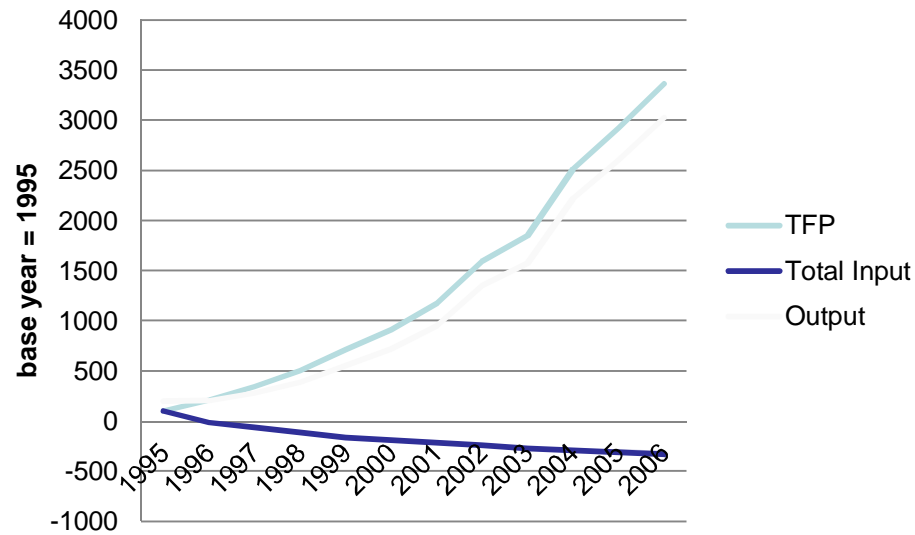


Green Republic Food Industry

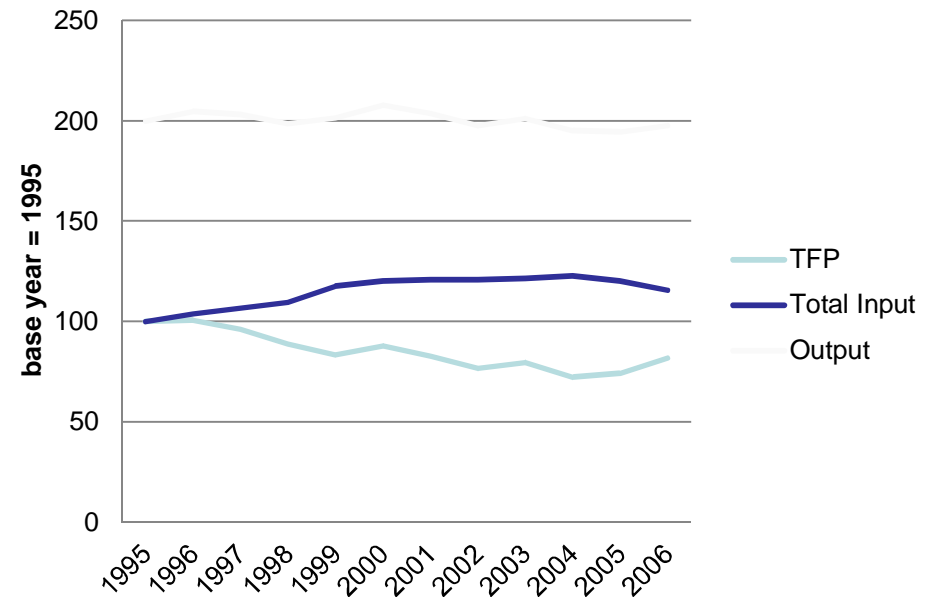
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995— 1999	2.8	2.5	0.2
2000— 2003	-1.2	1.3	-2.5
2004— 2007	5.3	0.6	4.6

Slovenia

SVN Sources of Growth in the Agricultural Sector



SVN Sources of Growth in the Food Industry

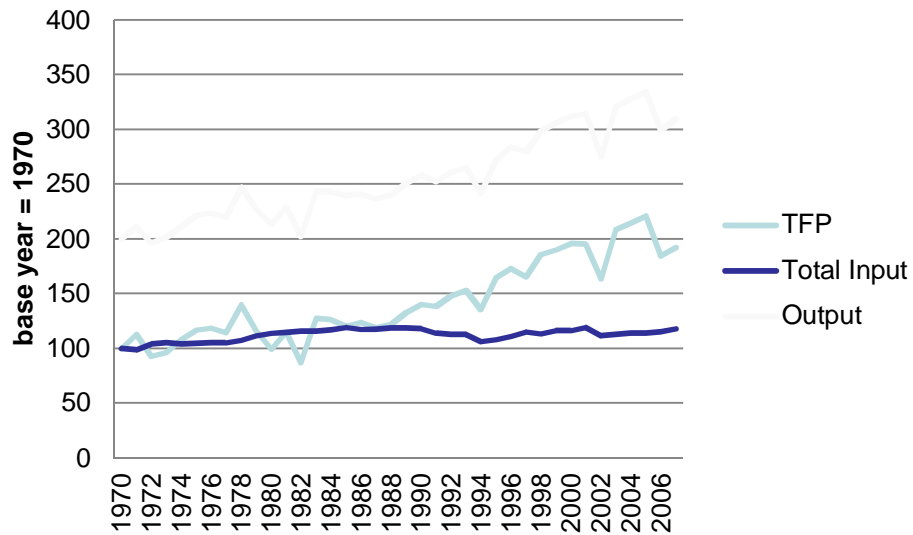


Slovenia Food Industry

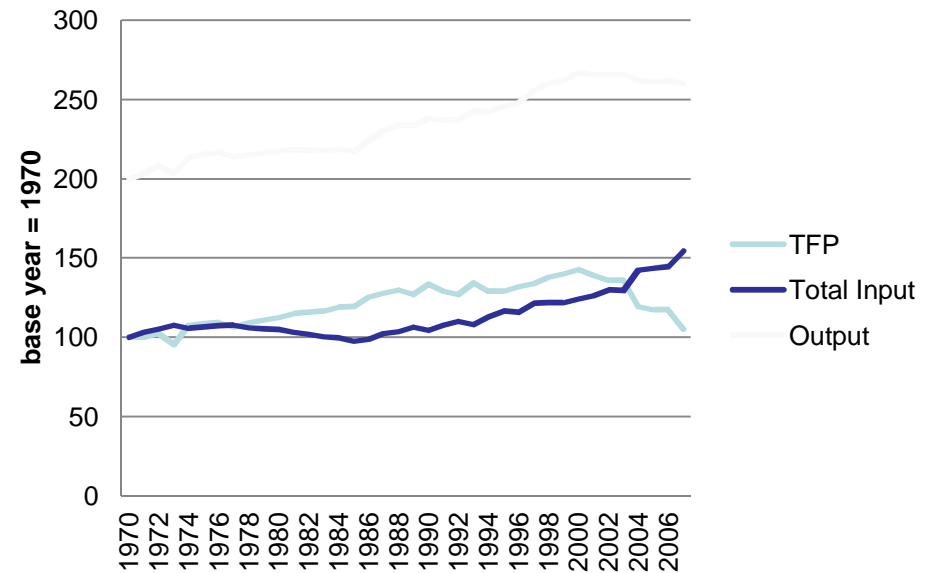
	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995— 1999	0.0	5.1	-4.4
2000— 2003	-2.6	0.5	-3.1
2004— 2006	3.0	-3.3	6.5

Australia

AUS Sources of Growth in the Agricultural Sector

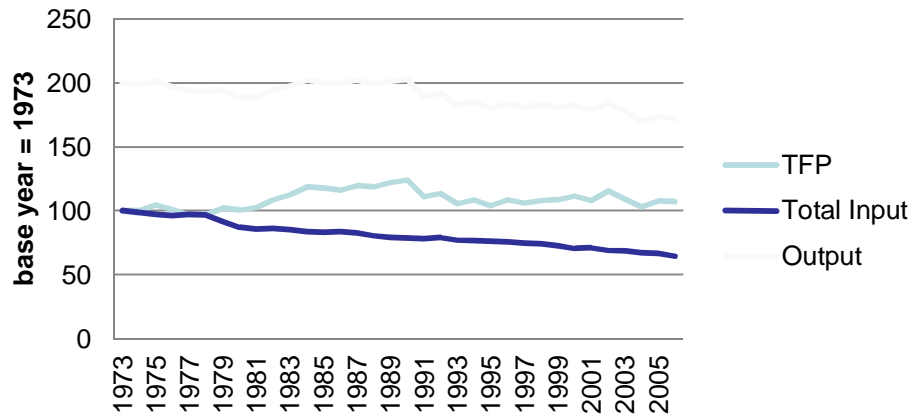


AUS Sources of Growth in the Food Industry

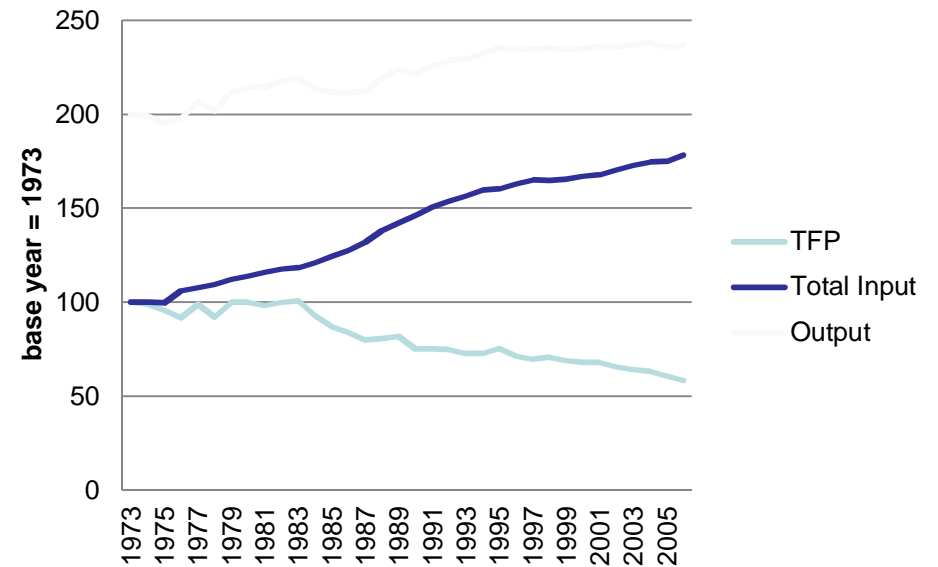


Japan

JPN Sources of Growth in the Agricultural Sector

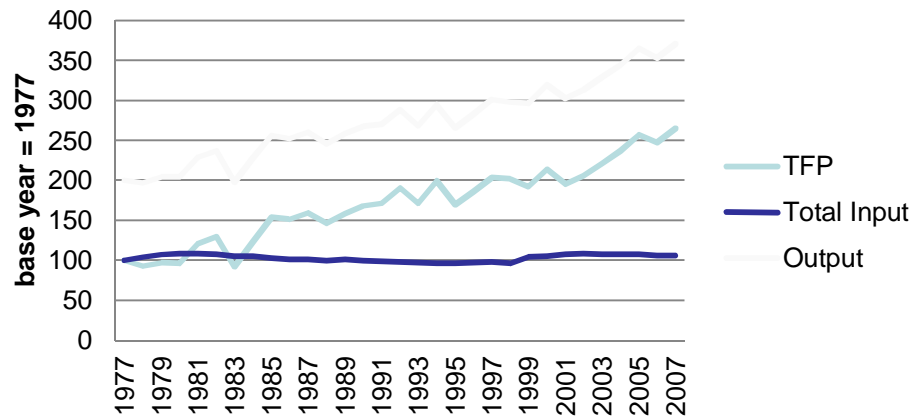


JPN Sources of Growth in the Food Industry

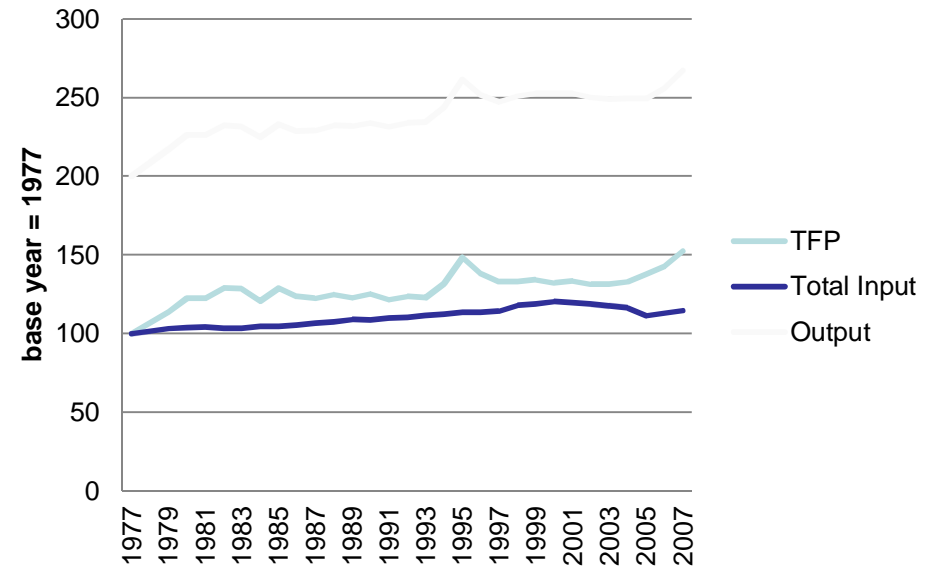


USA

USA Sources of Growth in the Agricultural Sector



USA Sources of Growth in the Food Industry



USA Food Industry

	Change in Y (%)	Change in I (%)	Change in TFP (%)
1995— 1999	-1.2	1.3	-2.6
2000— 2007	1.2	-0.8	1.9



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Observations

The TFP based production growth has been observed after 2004 in the food industry for the sampled new EU member countries of Czech Republic and Slovenia. Disparities exist in the performance of the food industry of the EU 15 member countries after 2000.

Future efforts need to be made to derive solid policy implications

The data on capital stock for the food industry are difficult to obtain. The scholars have been using proxy variables such as the electricity usage data. This current study did not utilize the option to collect the data from non EU-KLEMS data because of the lack of time and resources. Weakness exists in terms of the coverage of the countries for this examination because of the limitation of data availability