

Agriculture's Role in Economic Development

AEB 2104

Agricultural Economics

<http://www.geocities.com/dsolisw/AEB2104.html>

What is economic development?

- ***Economic development*** can be defined as efforts that seek to improve the economic well-being and quality of life for a community.
- ***Economic development*** is conventionally measure by tracking the average living standards grows.
 - ***Wealth***: Gross Domestic Product (GDP)
 - ***Capital***: Machineries, roads, etc.
- ***Human capital***: is the stock of productive skills and technical knowledge that people bring to the work place.

Development process

Buildup of capital wealth
(*Capital accumulation*)

Structural transformation



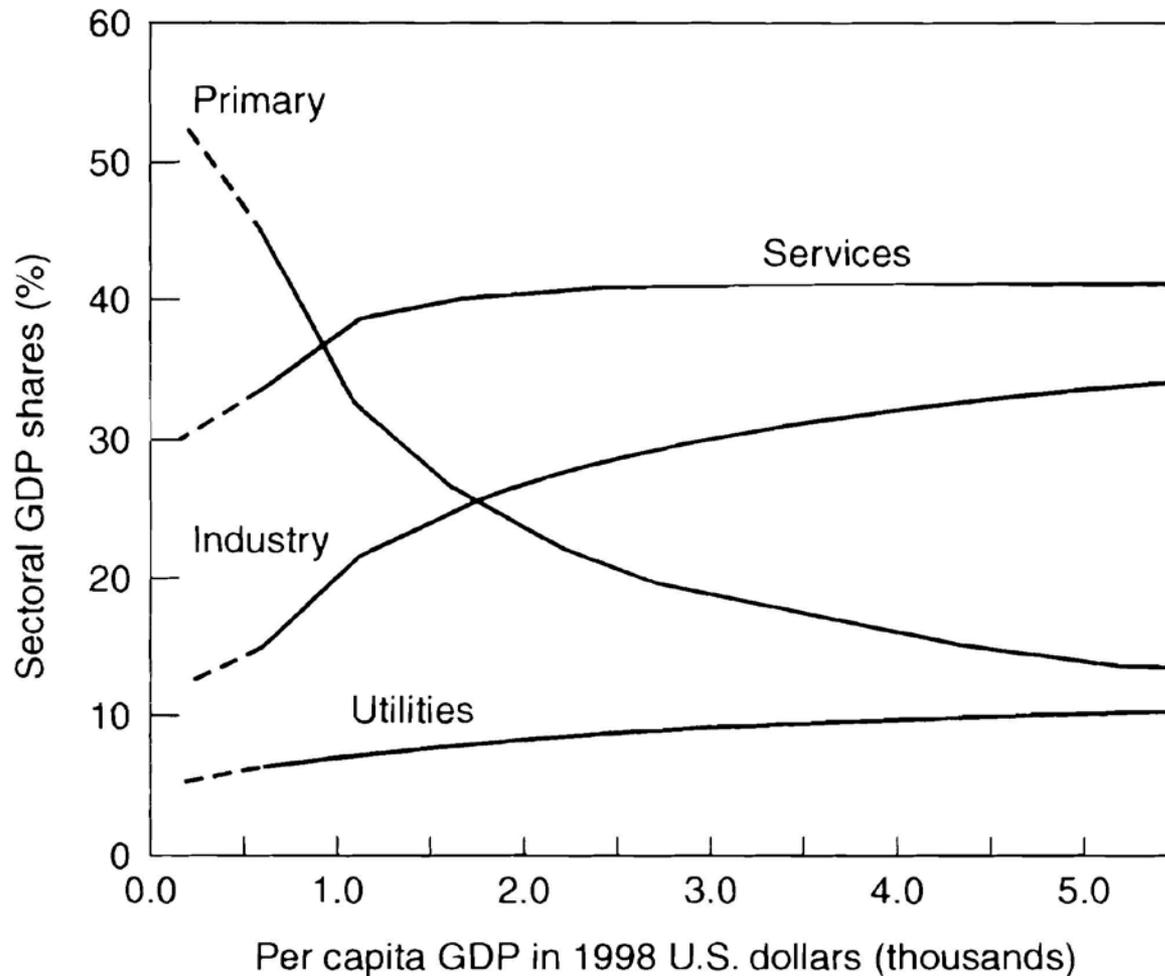
Structural transformation

- The ***economic structure*** is described in terms of shares of production and labor employment among the different sectors of the economy.
- The economic sectors are:
 - ***Primary***: agriculture, forestry, fishing and mining.
 - ***Manufacturing***: textiles, electronics, construction, etc.
 - ***Services***: banking, communication, entertainment, education, etc.
 - ***Others***: research and development.

Development and agriculture

- In general, the proportion of people directly engage in farming falls as standards of living rise.
 - As people became more productive, fewer hands are needed to produce any given amount of food.
 - Food demand is inelastic (grows more slowly than income do).
- Consequently, agricultural labor declines and labor moves to other parts of the economy.

Economic development and structural transformation



Per Capita GDP and Economic Structure

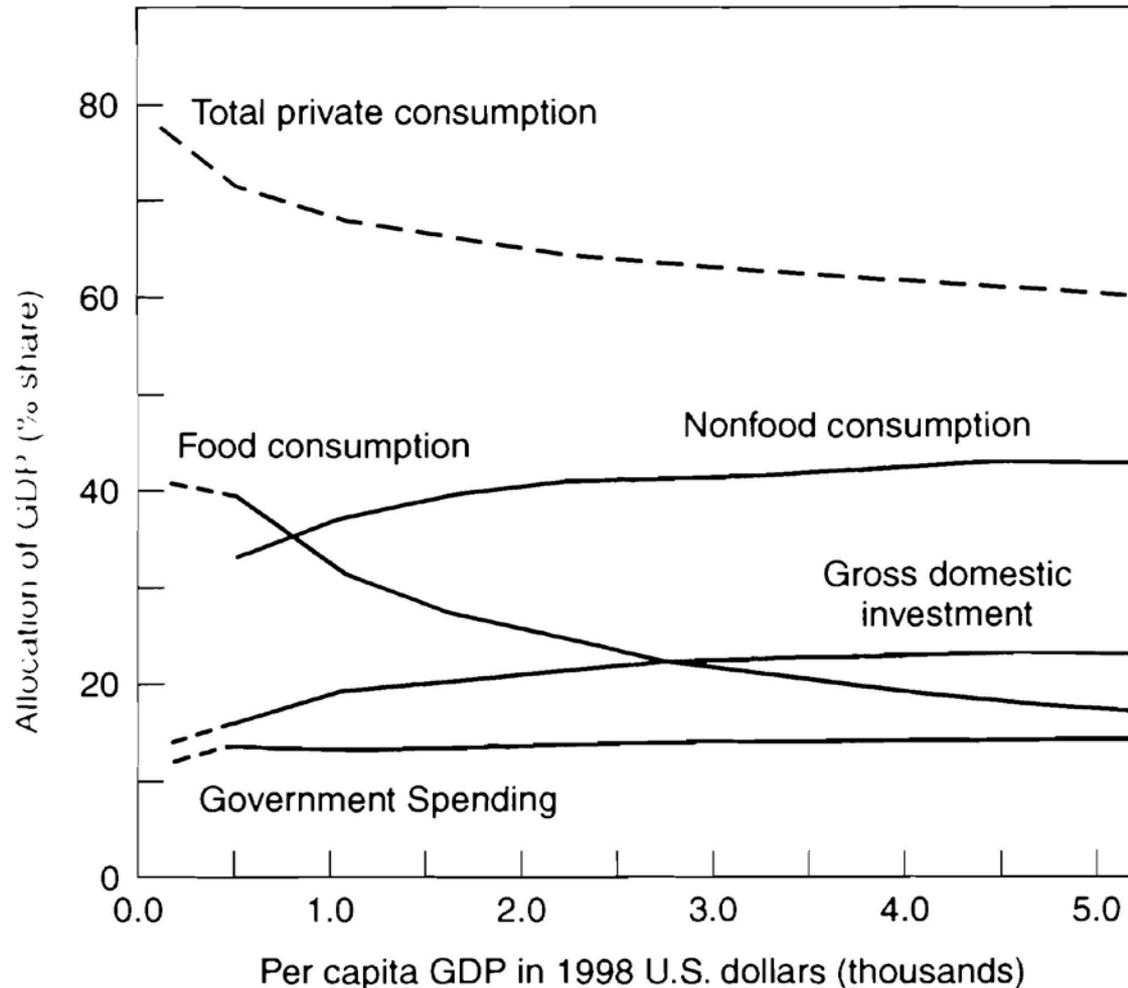
	Per Capita GDP (1997 US\$)	Agriculture's GDP Share	Industry's GDP Share	Service Sector's GDP Share	Other Sectors' GDP Share
Japan	37,850	2	25	60	13
United States	28,740	3	22	64	11
Brazil	4,720	14	23	50	13
Malaysia	4,680	13	34	41	12
Mexico	3,680	5	20	68	7
Thailand	2,800	11	29	50	10
Colombia	2,280	16	16	64	4
Egypt	1,180	16	25	53	6
Indonesia	1,110	16	25	41	18
China	860	20	40	29	11
India	390	27	19	43	11
Kenya	330	29	11	54	6
Bangladesh	270	30	9	53	8
Nigeria	260	45	8	32	15
Tanzania	210	48	7	31	14

SOURCE: World Bank. *World Development Report 1998/99*. New York: Oxford University Press, 1999.

Consumption and development

- Consumption also changes with development
- In general, there is a decline in the ratio of expenditures on goods and services to GDP as an economy develops.
- Thus, savings rise relative to GDP.
 - ***Savings = GDP - Consumption***
- Consequently, there is more accumulation of productive wealth which fuels more economic growth

Economic progress and the composition of consumption



Trying to accelerate structural transformation

- In many occasions governments have attempt to accelerate structural transformations by manipulating market forces.
- An example is the New Economic Policy (NEP) applied in the Former Soviet Union (FSU).
- The idea was to transform FSU into an industrialize economy.
- The FSU was overwhelming agricultural (80%).
- So, the only way to finance the NEP was to indirectly tax peasants.

The New Economic Policy (NEP)

- The idea was to use the foreign exchange earned from selling crops to other countries to pay for imported technology and input to develop industries own by the state.
- The state paid bellow-market prices for crops and forced farmers to buy other good at a high price.
- In addition, agriculture was ***Nationalized*** and ***Collectivization*** was undertaken.
- So, what happened???

Grain area, yield and production in Russia and Ukraine during the 1990s

	Average, 1986–90	1990	1995	1998
Area (million acres)				
Russian Federation	162.2	155.8	136.0	124.7
Ukraine	38.4	36.0	34.4	29.7
Yield (mt/acre)				
Russian Federation	0.64	0.75	0.47	0.38
Ukraine	1.23	1.41	0.99	0.87
Production (million mt)				
Russian Federation	104.3	116.7	63.4	46.8
Ukraine	47.4	51.0	33.9	25.7

SOURCES: USDA Economic Research Service. Food and Agriculture Organization of the United Nations, *FAO Production Yearbook, Volume 52*, Rome, 1999.

Alternative System

- To avoid the failures of the NEP other communist countries (China, Poland, etc.) decided to implement alternative approaches to finance industrialization.
- E.g., China implemented the ***Household Responsibility System*** which allows farms families to decide what to crop to produce and how.
- So, what happened???

Agricultural progress in China since 1980

Crop	1980 Sown Area (million acres)	1998 Sown Area (million acres)	Percentage Change	1980 Production (million mt)	1998 Production (million mt)	Percentage Change
Rice	83.8	78.6	-6.0	140.0	193.0	+37.9
Wheat	72.2	74.1	+2.6	55.2	110.0	+99.3
Corn	49.4	60.0	+21.5	62.6	125.4	+100.3

SOURCE: Food and Agriculture Organization of the United Nations, *FAO Production Yearbook, Volume 52*, Rome, 1999.

Other strategies in non-communist countries: Case of Asia

- East Asia “tiger” Economies:
 - Japan, Singapore, South Korea
 - Decided to produce industrial good for foreign markets using their comparative advantages (“***outward-oriented system***”)
 - 1st producing based on low-paid workers (textiles and toys)
 - Then, they move to more lucrative industry (Cars and electronics)

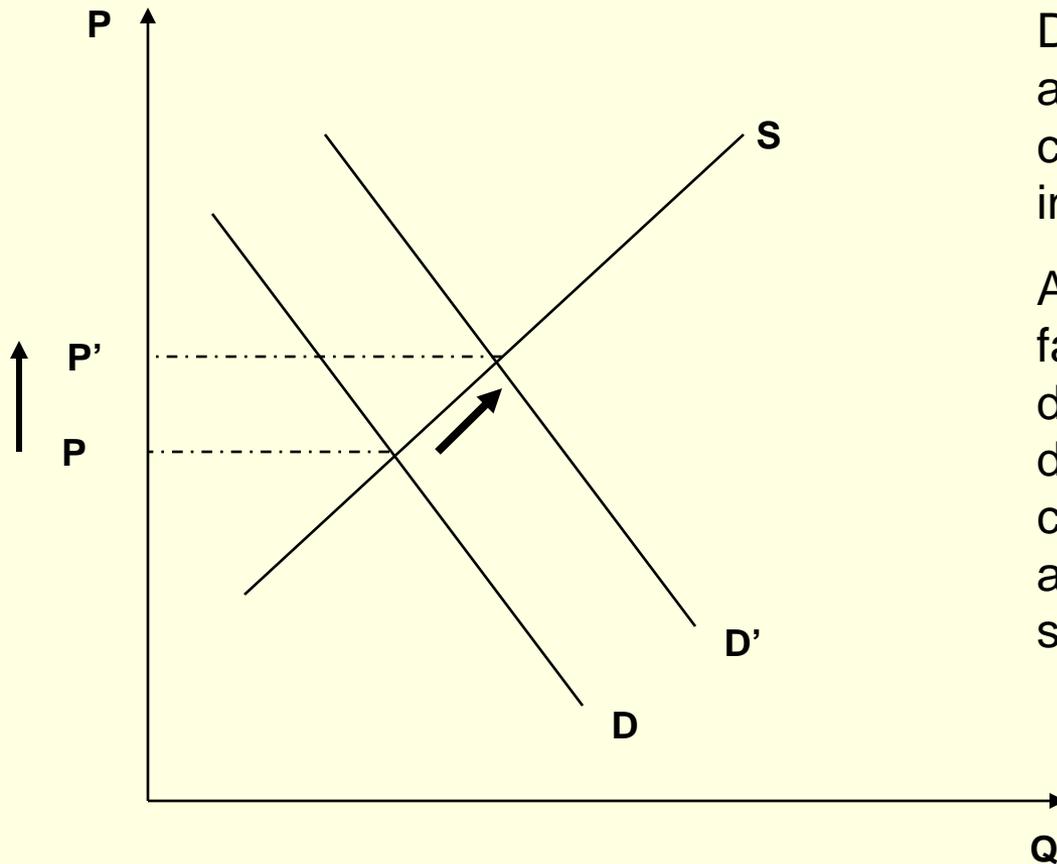
Other strategies in non-communist countries: Case of Latin-American

- Import–Substitution Industrialization
 - Latin-American
 - To reduce its foreign dependency through the local production of industrialized products
 - What happened???

Reconciling agricultural development and overall economic progress

- There is a clear historical precedent for investing in agriculture productivity so as to stimulate overall development.
- E.g.
 - US (Land Grant Universities, Like FAMU)
 - Japan (Yield improvement program)
 - Green revolution

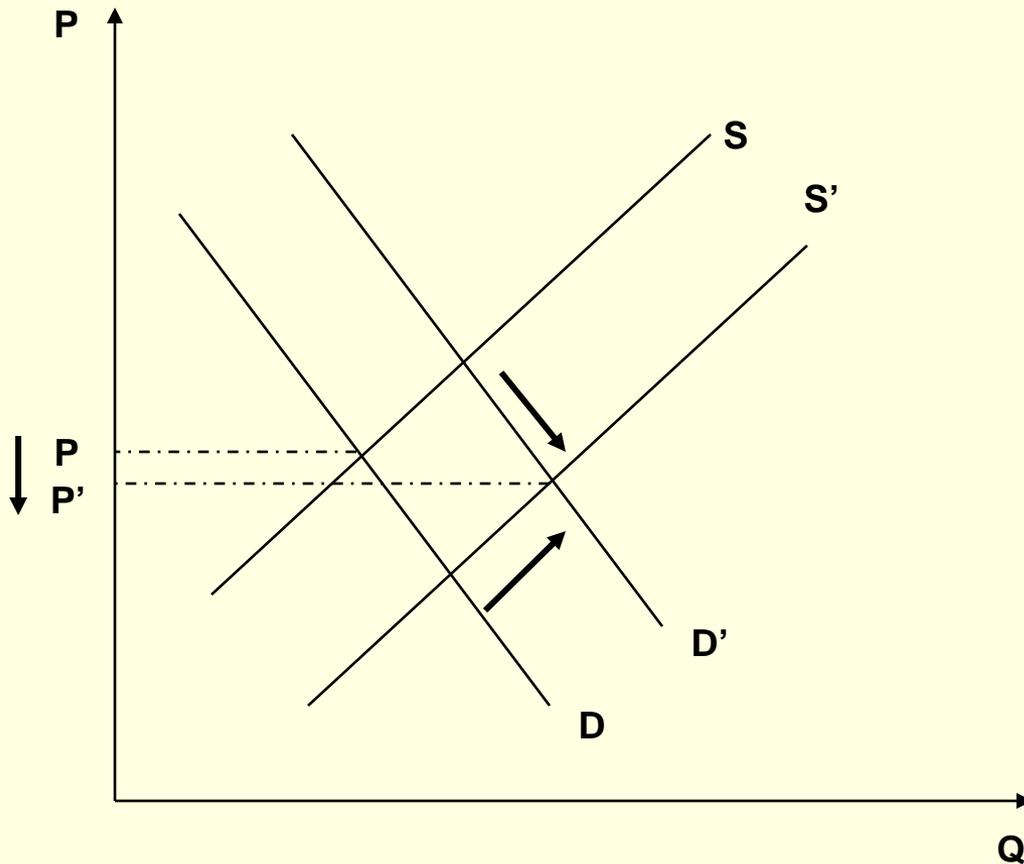
Growth without agricultural investment



Due to population growth and rising living standards, commodity demand increases over time.

Although this would benefit farmers, it would hold back development by diminishing what people can spend in other goods and services and also on savings

Growth with agricultural investment



However, if supply growth with the demand due to an investment in agricultural productivity prices could decrease.

farmers will not be harmed by the lower prices since they will sell more at a lower cost.

Consumer will benefit from lower commodity prices.

Savings will encourage economic development