

Thai Agriculture

Topics

- **Overview**
- **Historical Background**
- **Output and Inputs**
- **Institutions**
- **Policies**
- **Issues**
- **Prospects**

Historical Background (Prior to 1980s)

Changes in Rural Structure as indirect impacts from colonization

- **Land expansion for rice in the central plain (+ *due to population growth*)**
- **Decline in household manufacture (cottage industry)**
- **Specialization in rice farming**
- **Rice trading by Chinese merchants**

World Agriculture after World War II

- **Increase demand and price of cash crops in the world market**
 - ➔ **due to increases in demand for cash crops by Western countries to revive the industrial and agr. sectors (rubber, maize, cassava, sugarcane, beans..)**
- **Foreign aids: the World Bank, USAID, Rockefeller foundation**

Impacts on Thai Agriculture (prior to 1980s)

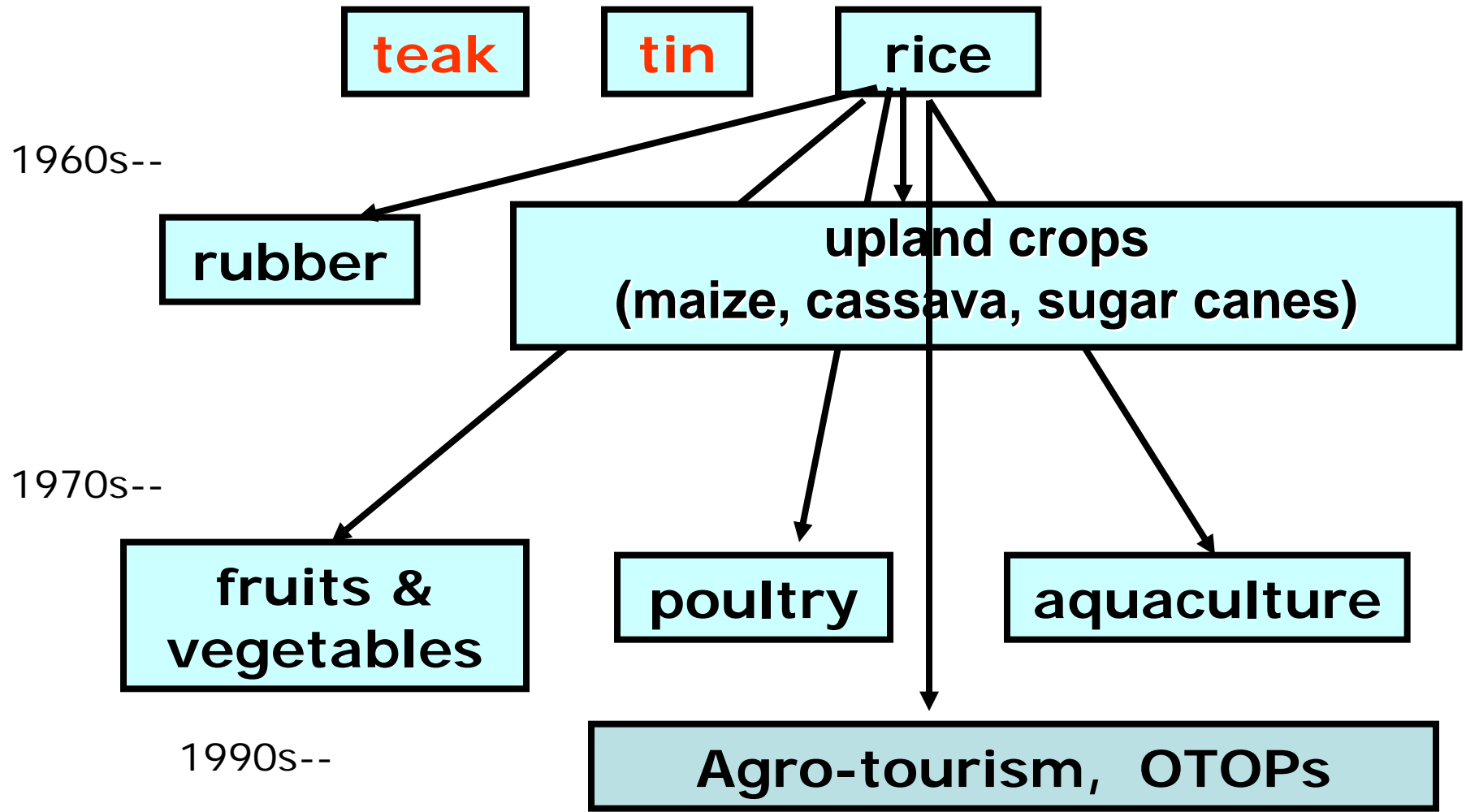
Public Roles

- Introduction of new crops from abroad
- World Bank => NESDB
 - ➔ National Economic (and Social) Development Plan
- Investment in infrastructure
e.g. road, irrigation

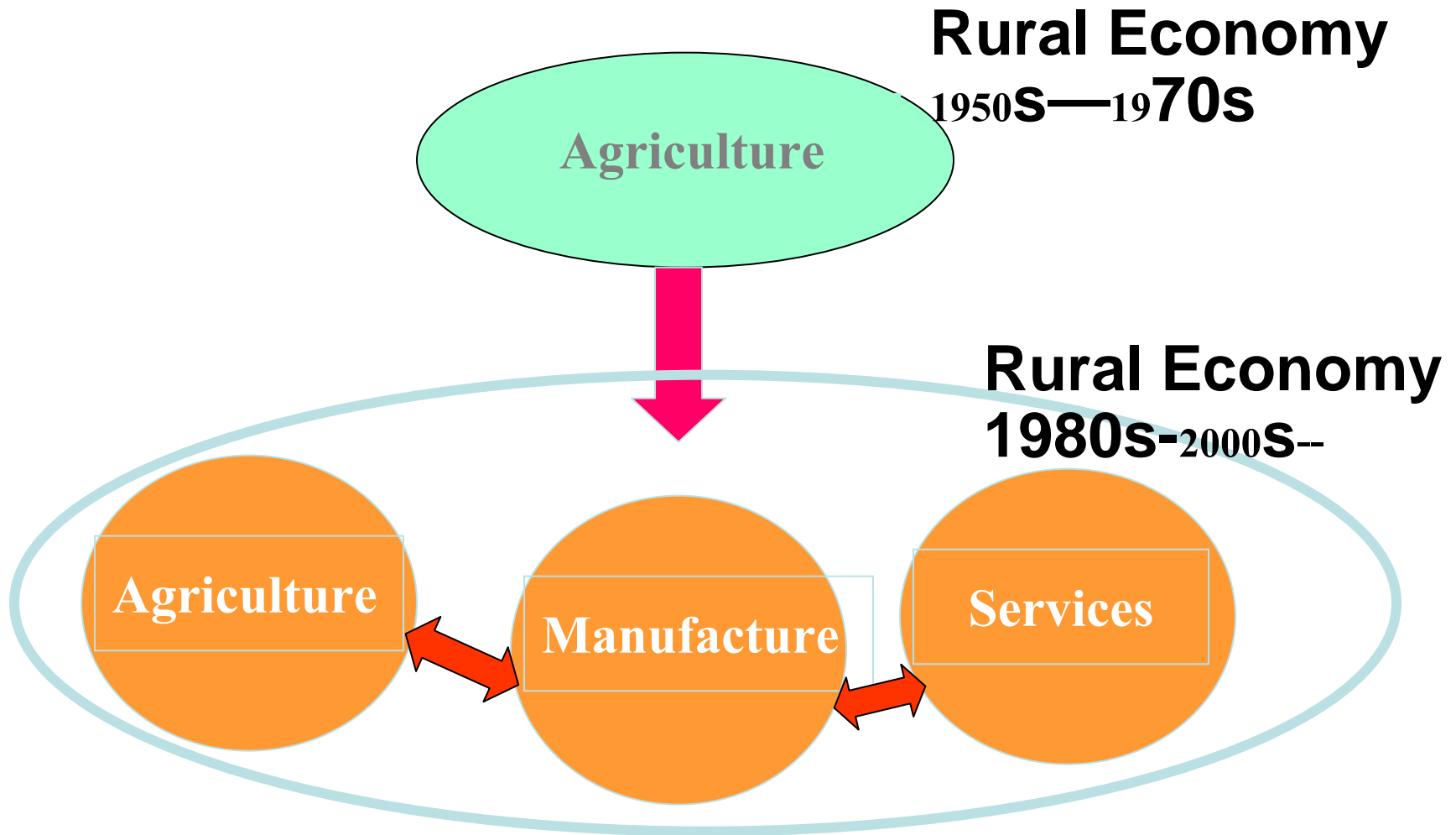
Farmers

- Land expansion & deforestation
- Agri. **diversification** at the national level but **monoculture** at the farm level
- Export-oriented, market-oriented
(responded to favorable world prices of agriculture)

Diversification at the national level



Structure of Thai Rural Economy



Thai Agriculture

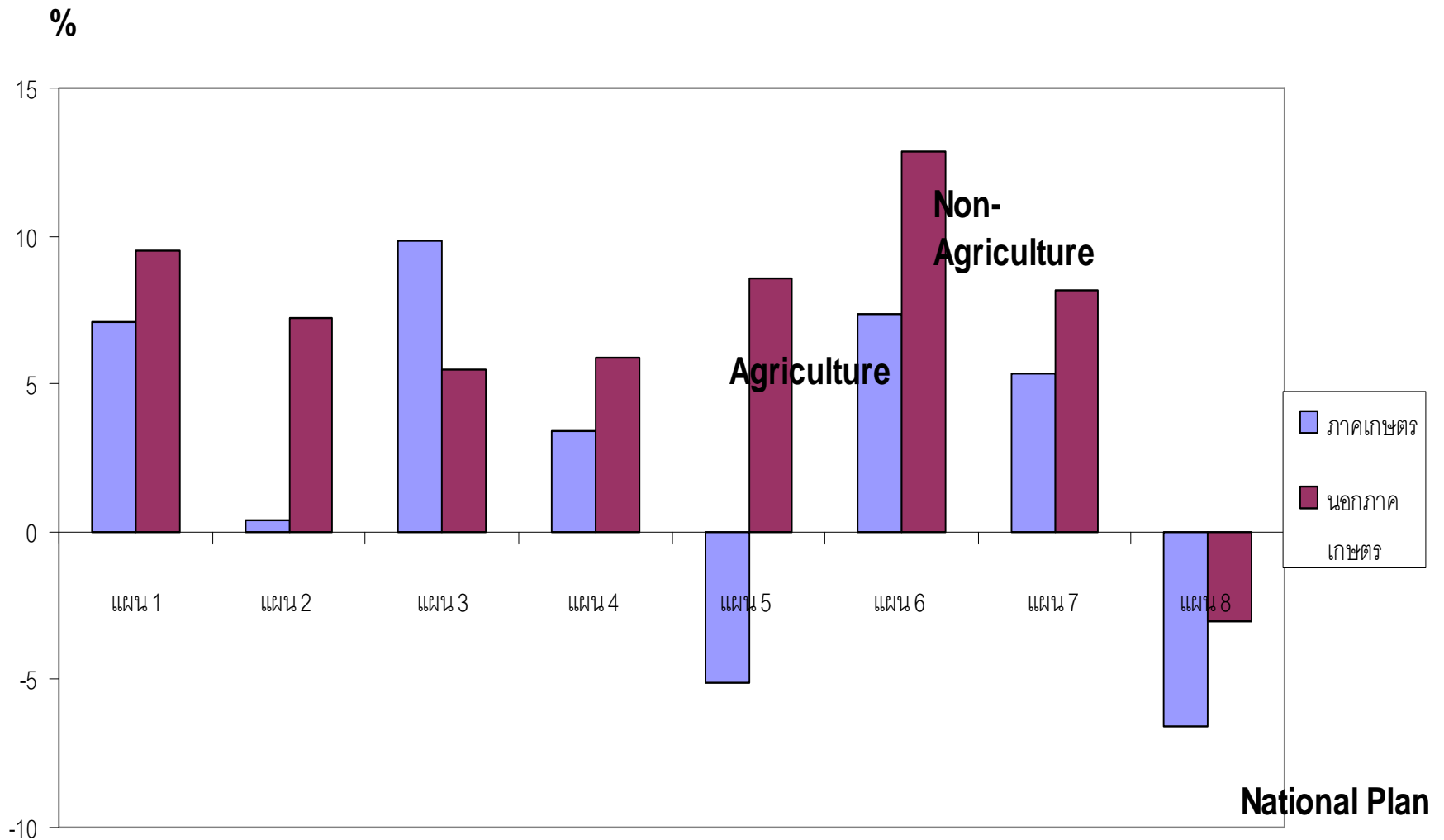
Siamwalla et.a. “Ch 2: Agriculture” in The *Thai Economy in Transition* edited by Peter Warr, Cambridge University Press, 1993

Outputs

Output markets

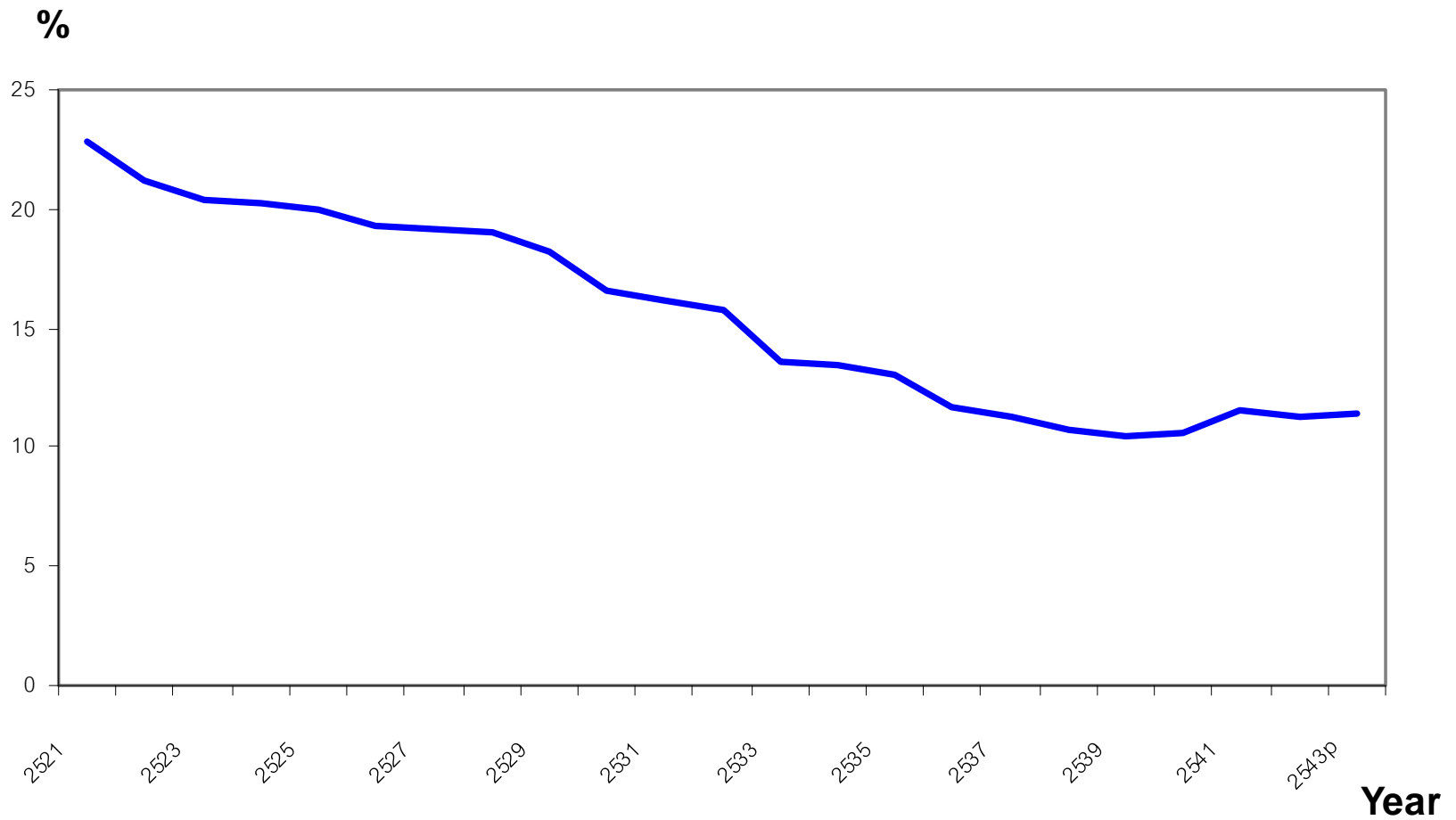
- Arm's length markets
- Contract farming

GDP's Annual Growth Rate



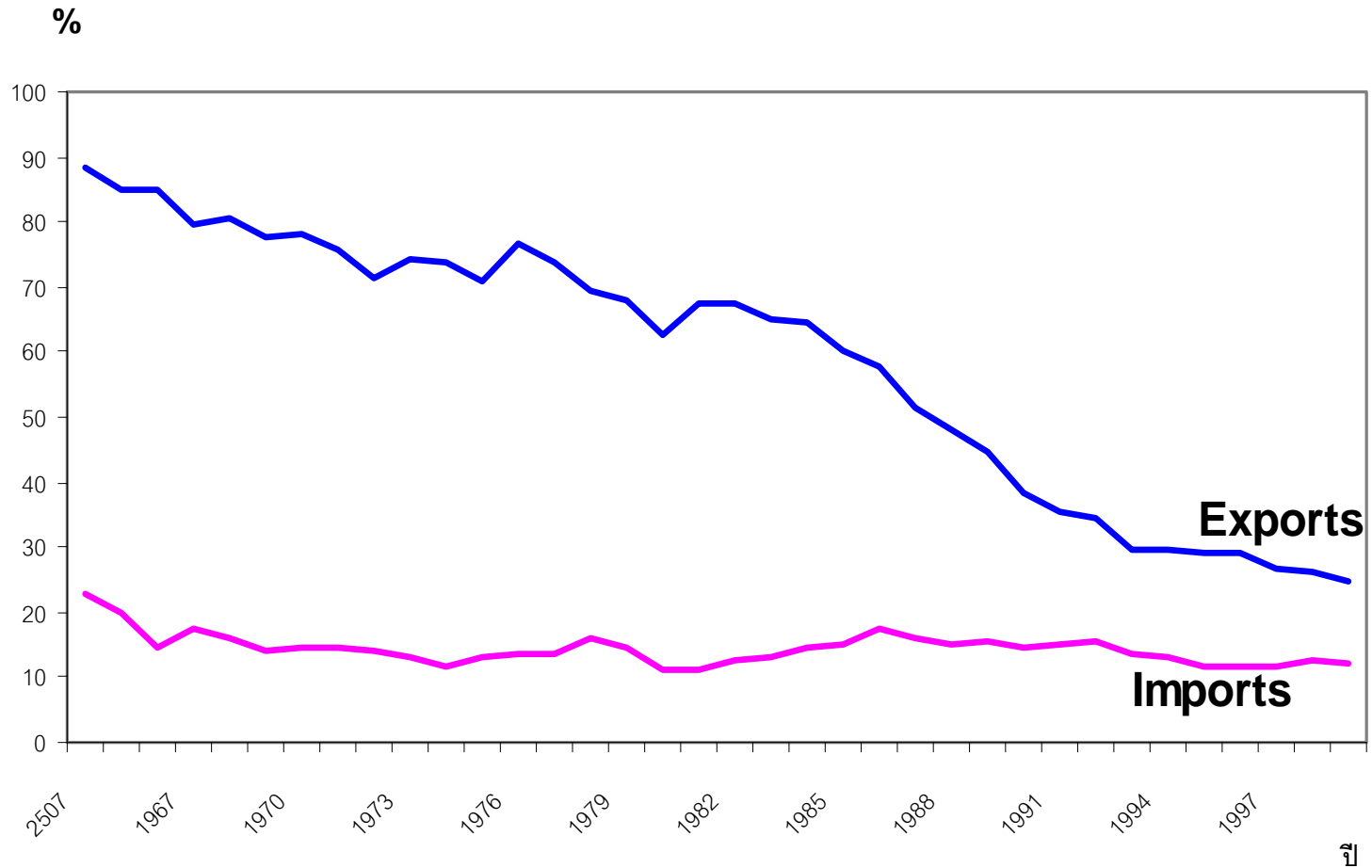
ที่มา: คำนวณจากข้อมูลสำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ และ World development

Share of Agricultural GDP

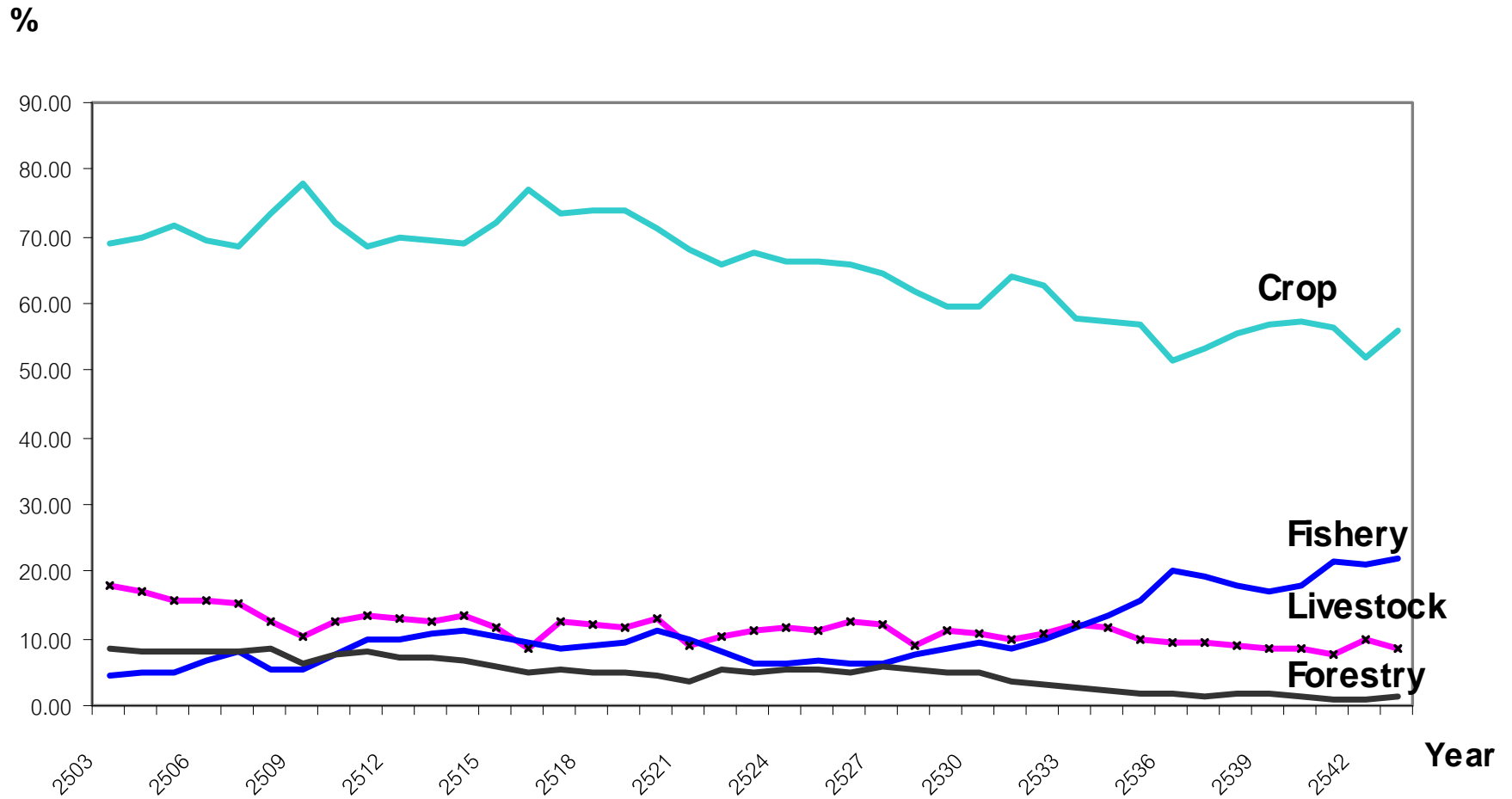


ที่มา : สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ

Shares of Agriculture in Total Exports and Imports



Share of Agricultural GDP by Sectors

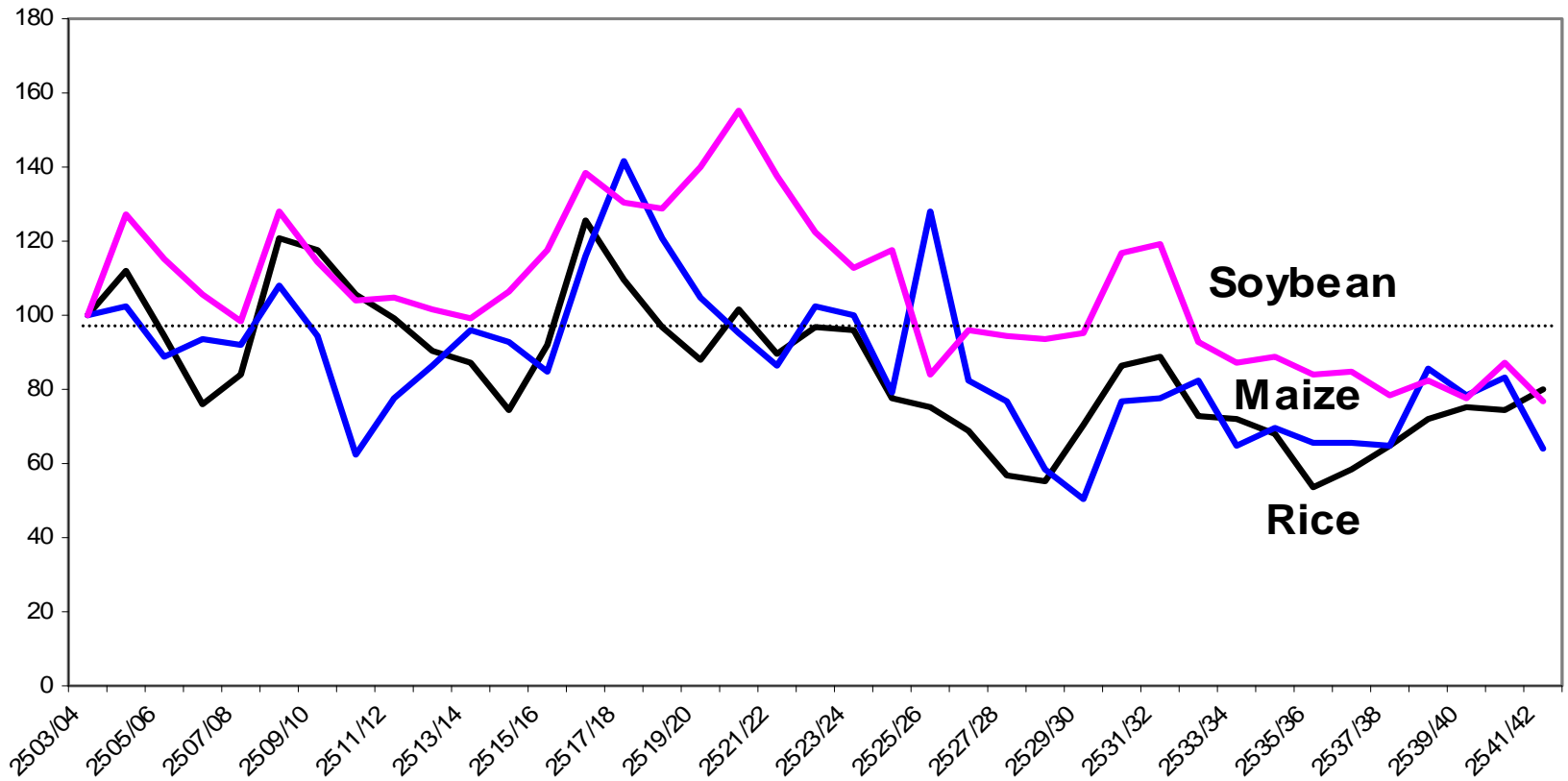


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Crop

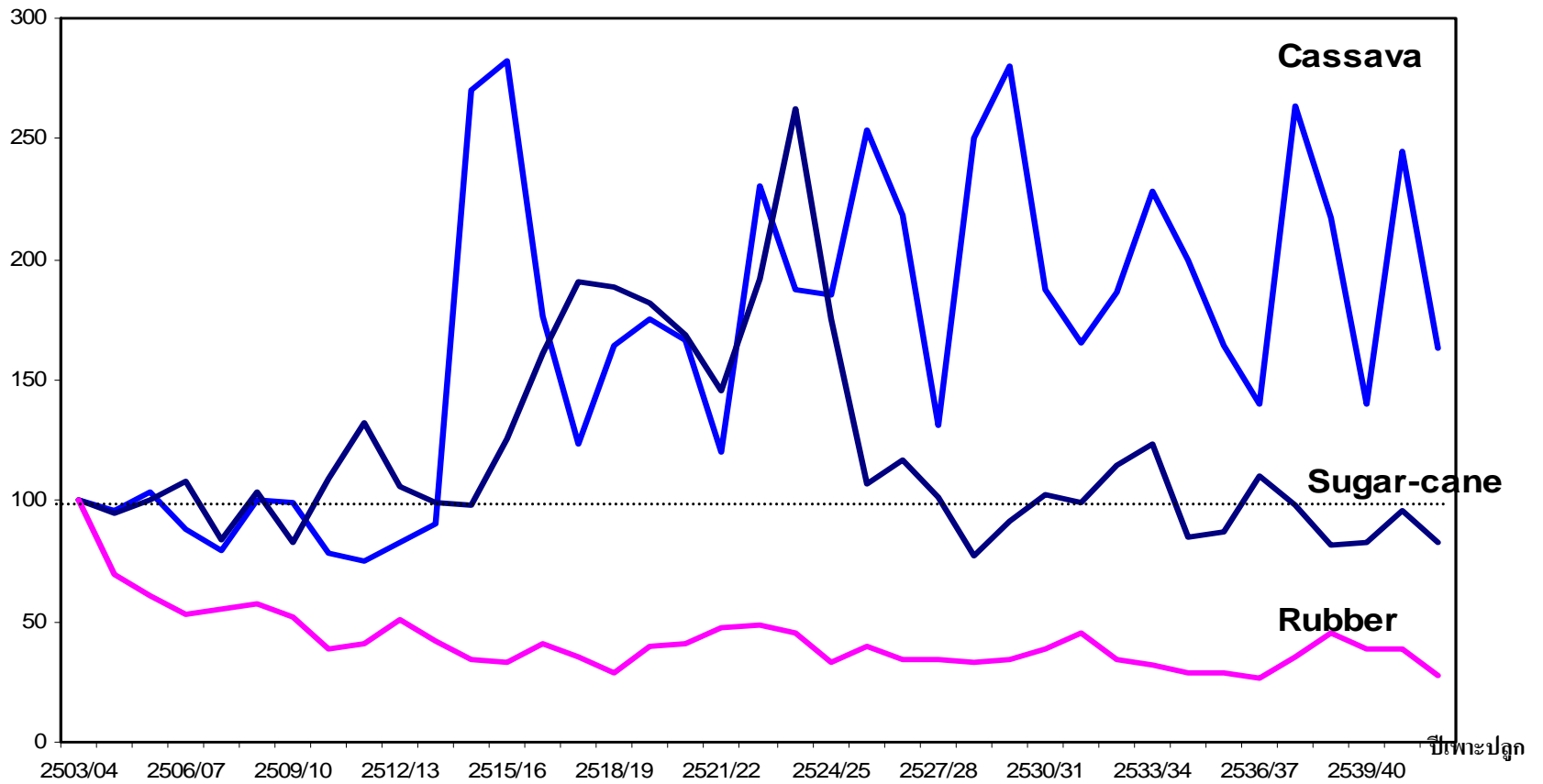
- **Diversification of upland crop after the World War II**
 - land expansion
 - export oriented
- **Diversification to fruits and vegetables since 1980s**
 - As national income grows
- **Declining importance of crop as livestock and fishery sectors grow**
 - Income grows
 - Declining crop prices

Index of Real Farm Price 2503 (1960) = 100



ที่มา : สำนักงานเศรษฐกิจการเกษตร

Index of Real Farm Price 2503 = 100



Livestock

- **expansion**
 - **income grows**
 - **export demand for poultry**
 - **low feed prices**
 - **large agribusiness with contract farming methods in 1970s**
 - **(negative) restrictive policies affecting the slaughtering industry**

Fisheries

- **Shift from fishing to aquaculture (the latter half of 1970 - early 1980)**
 - **trawler revolution in 1960s ==> exhaustion of the resources**
 - **increase in oil prices**
 - **introduction of 200-mile exclusive economic zones in the 1970s**
 - **improvement of technology for aquaculture (by public research & private investment)**

- **shrimp culture (the latter half of 1980)**
 - **a severe epidemic of a viral disease in catfish culture**
 - **Taiwanese technology in raising of tiger prawns**
 - **export**
 - **At the expense of mangrove forest**

Forestry

- **Rapid rate of deforestation (1960s-1970s)**
 - demand for ag. land due to population pressure & export boom
 - road expansion & forest clearing technology that lowered cost

Thailand's Forest Area and Its Share in Total Area (1961-1993)

Year	Forest Area (M. Hectares)	% share in Total Area
1961	27.41	53.42
1973	22.17	43.21
1976	19.84	38.67
1978	17.52	34.15
1982	15.82	30.83
1985	15.09	29.4
1988	14.38	28.03
1993	13.35	26.02

Source: Thailand's Royal Forest Department

Average Rate of Forest Loss during 1961-1993

<i>Year</i>	<i>Rate of Forest Loss (%)</i>
1961-1973	1.77
1973-1976	3.70
1976-1978	4.14
1978-1982	2.55
1982-1985	1.58
1985-1988	1.60
1988-1993	1.43

Source: Calculate from the previous table

Mangrove Area during 1975-1991

Year	Mangrove Forest Area ('000 Hectares)	%share in Total Area
1975	312.70	0.61
1986	196.43	0.38
1991	173.61	0.34

Source: Thailand's Royal Forestry Department

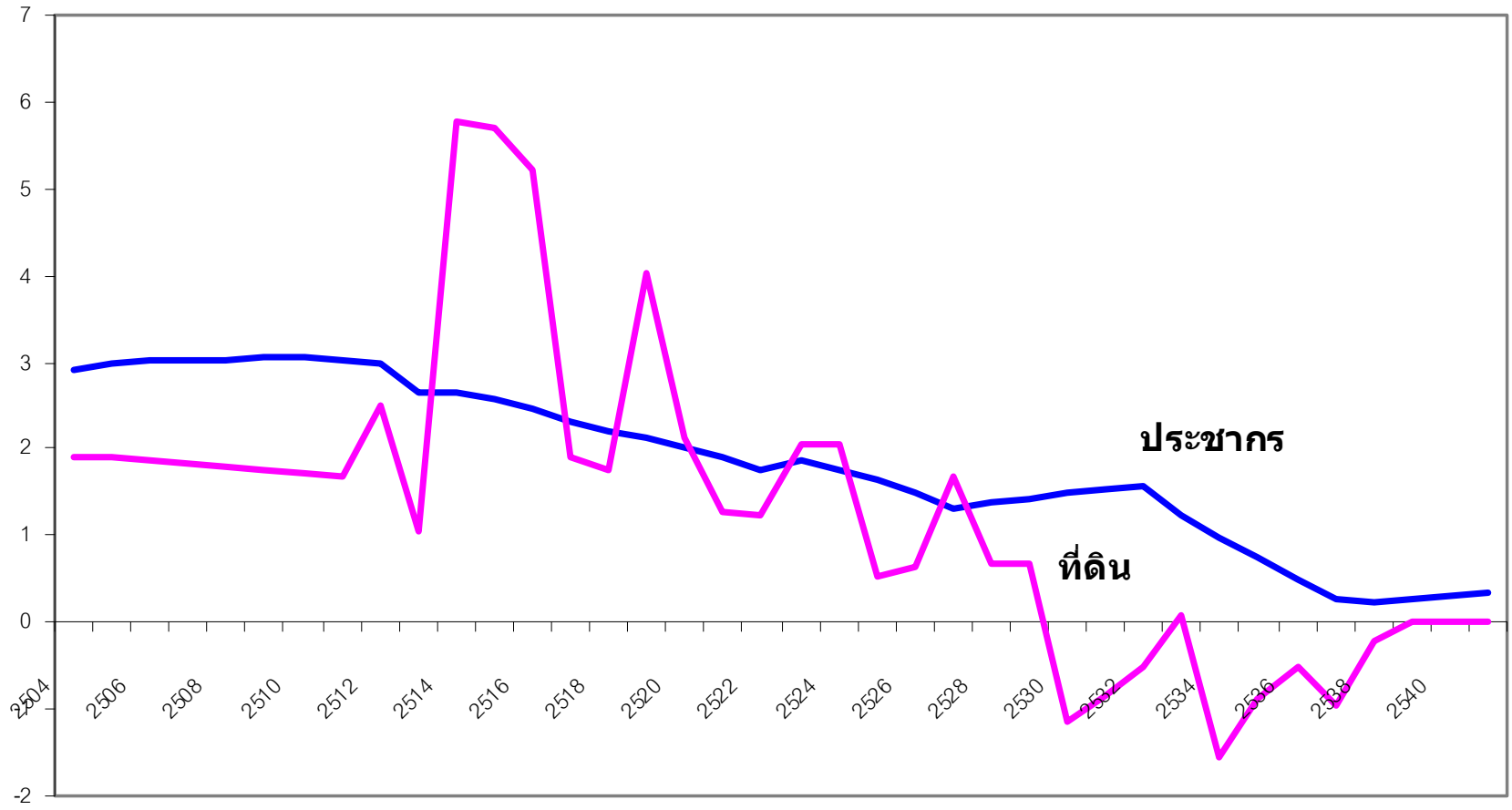
Inputs

Land

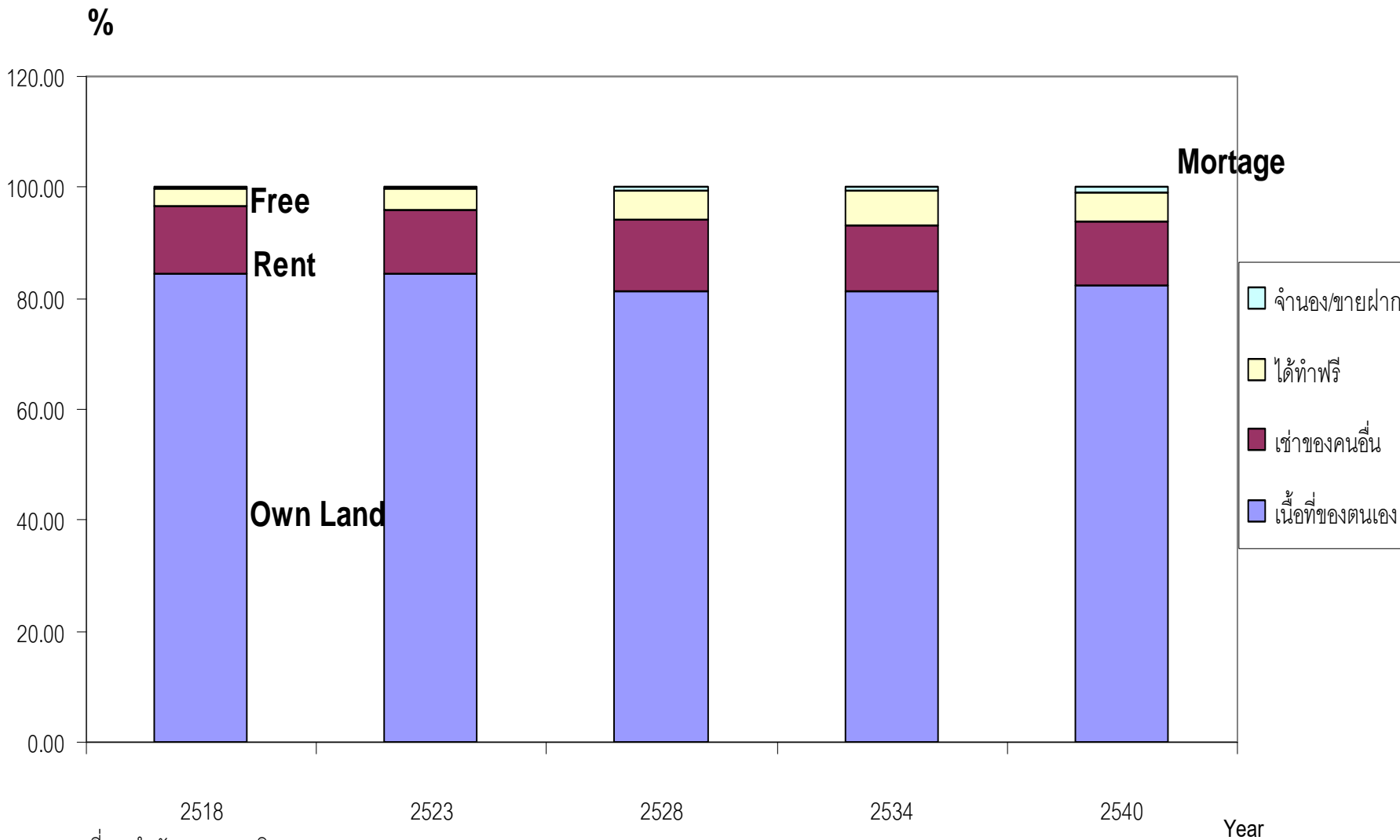
- **Declining but then increasing land-labor ratio**

อัตราการเติบโตของประชากรและการใช้ที่ดิน เพื่อการเกษตรของประเทศไทย

Growth Rate %



Farm Holding Land

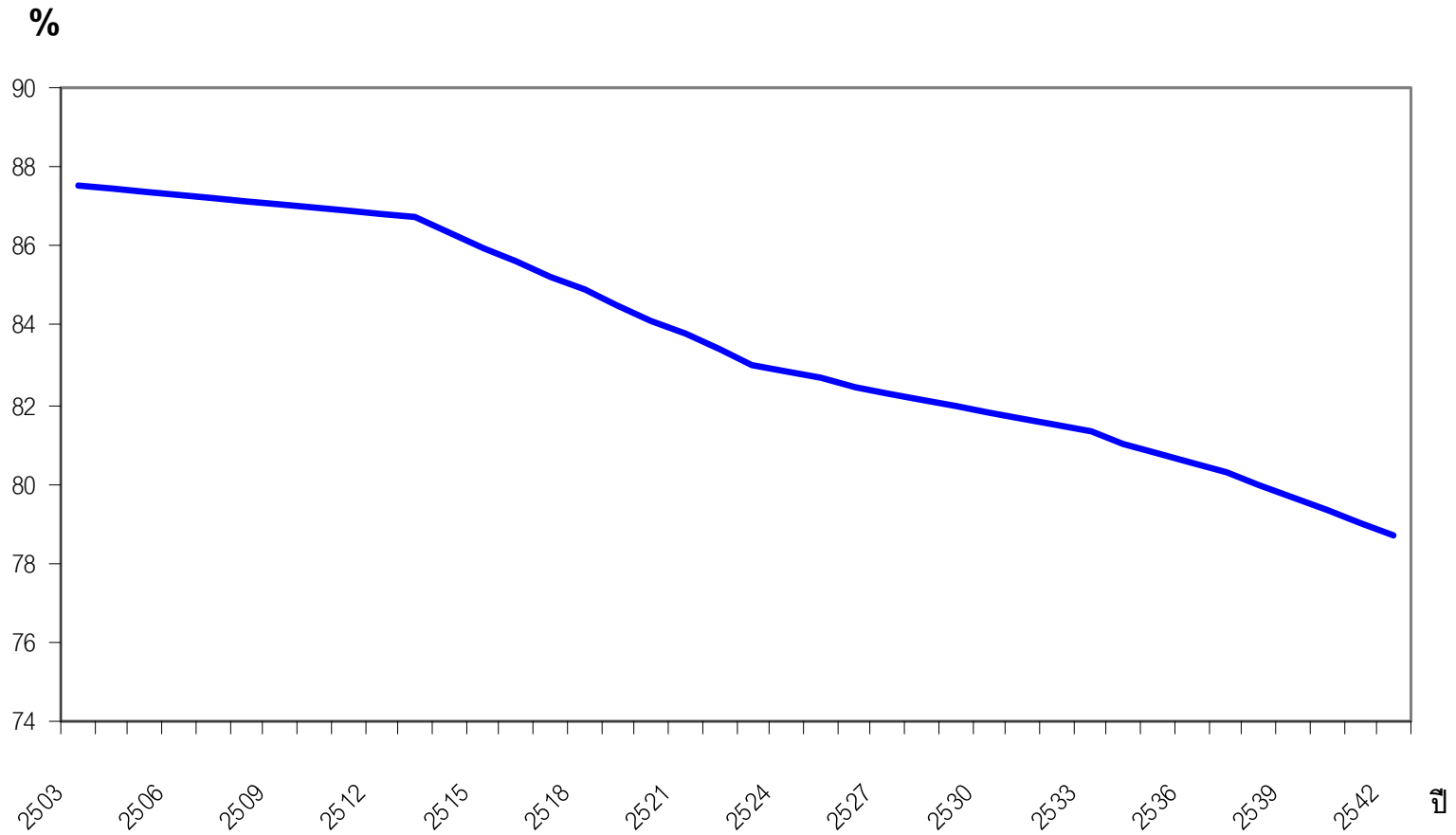


ที่มา: สำนักงานเศรษฐกิจการเกษตร

Labor

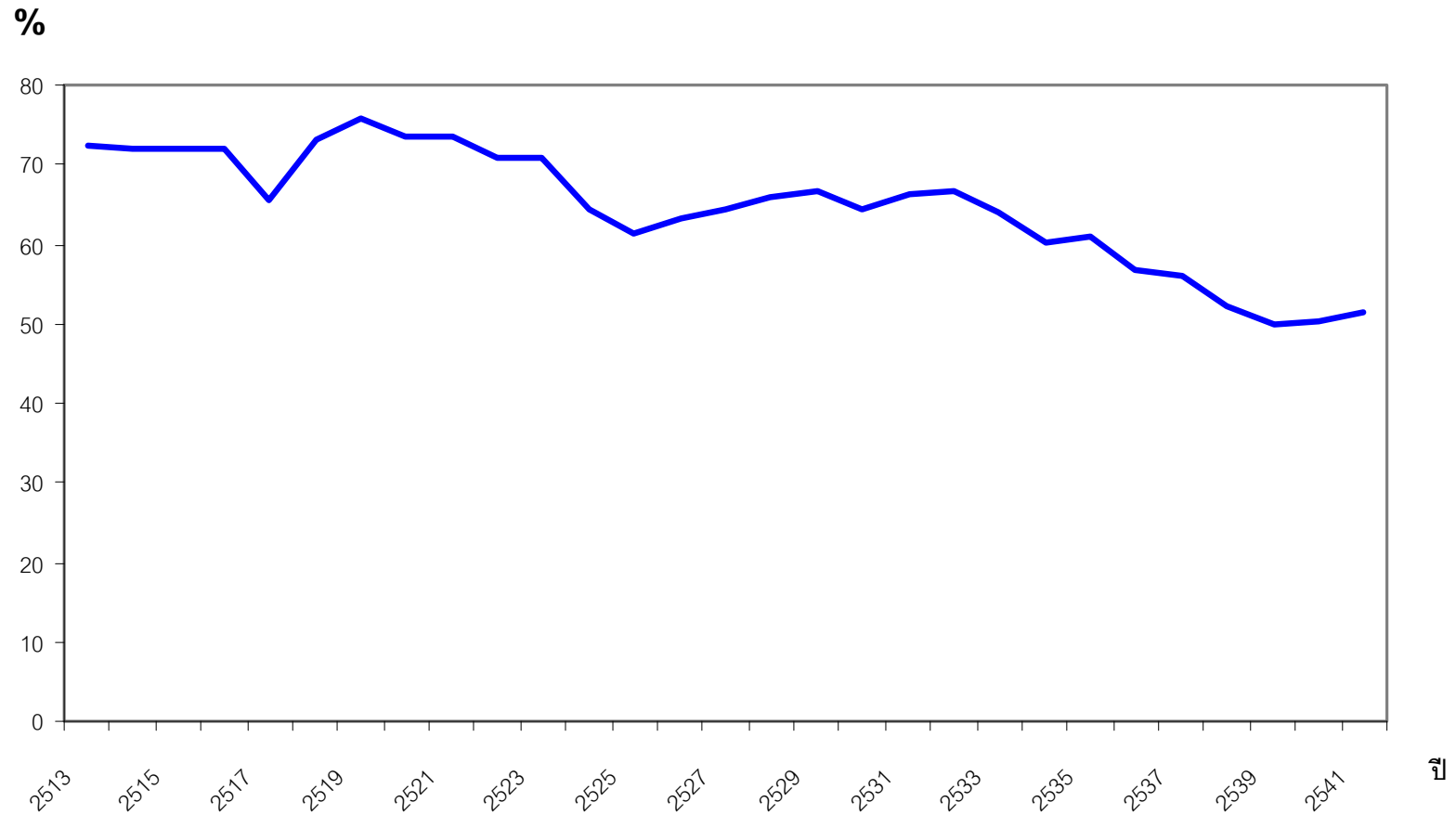
- **rapid increase in labor force in 1970s**
 - high birth rates in the late 1950s and the 1960s
- **slow decline of labor force in agr. sector**
 - land availability
 - biased data
- **schooling improve agr. productivity**

Share of Agriculture in Total Population



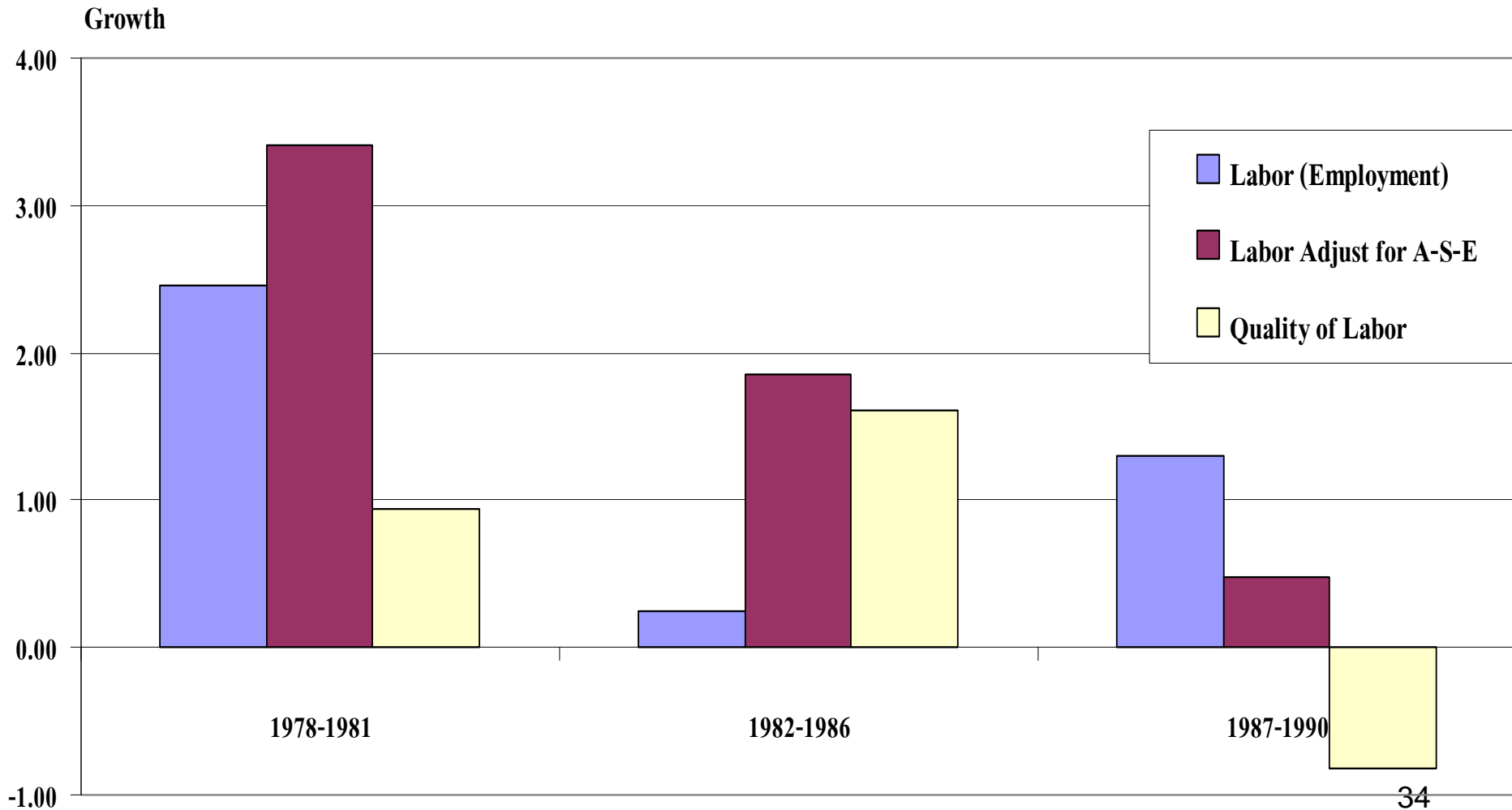
ที่มา : World development indicator 2001 (World Bank)

Share of Agriculture in Total Labor Force



ที่มา : World development indicator 2001 (World Bank)

การเติบโตของการจ้างงานและคุณภาพแรงงาน ในภาคเกษตร



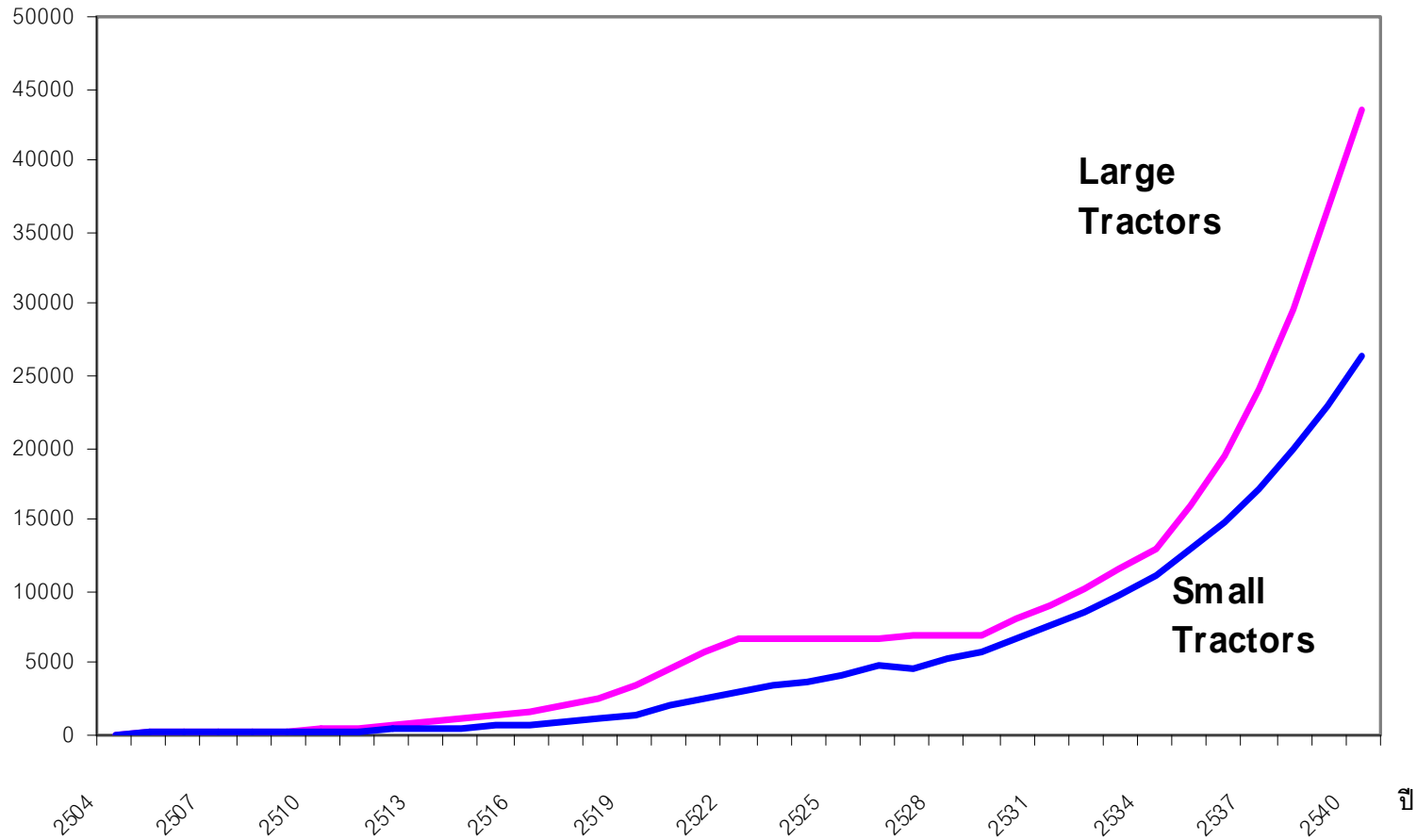
Public Capital

- **expansion of road, irrigation (until 1983)**
 - **irrigation system was designed for rice, but actual cultivation shift away from rice**

Private Capital

- **clearance of new lands, land development, planting perennials, in livestock and in machinery**
 - shares in cost of crop production is less than 10%

Index of number of tractors 1961 = 100



Source: Office of Agricultural Economics

New Technology

- **Acceptance of new crops, not land-intensive technology**
 - land is abundant
 - self-sufficiency in food
 - research follows rather than led comparative advantage
- **Farmers' trial and errors in horticultural sector and swine industry**

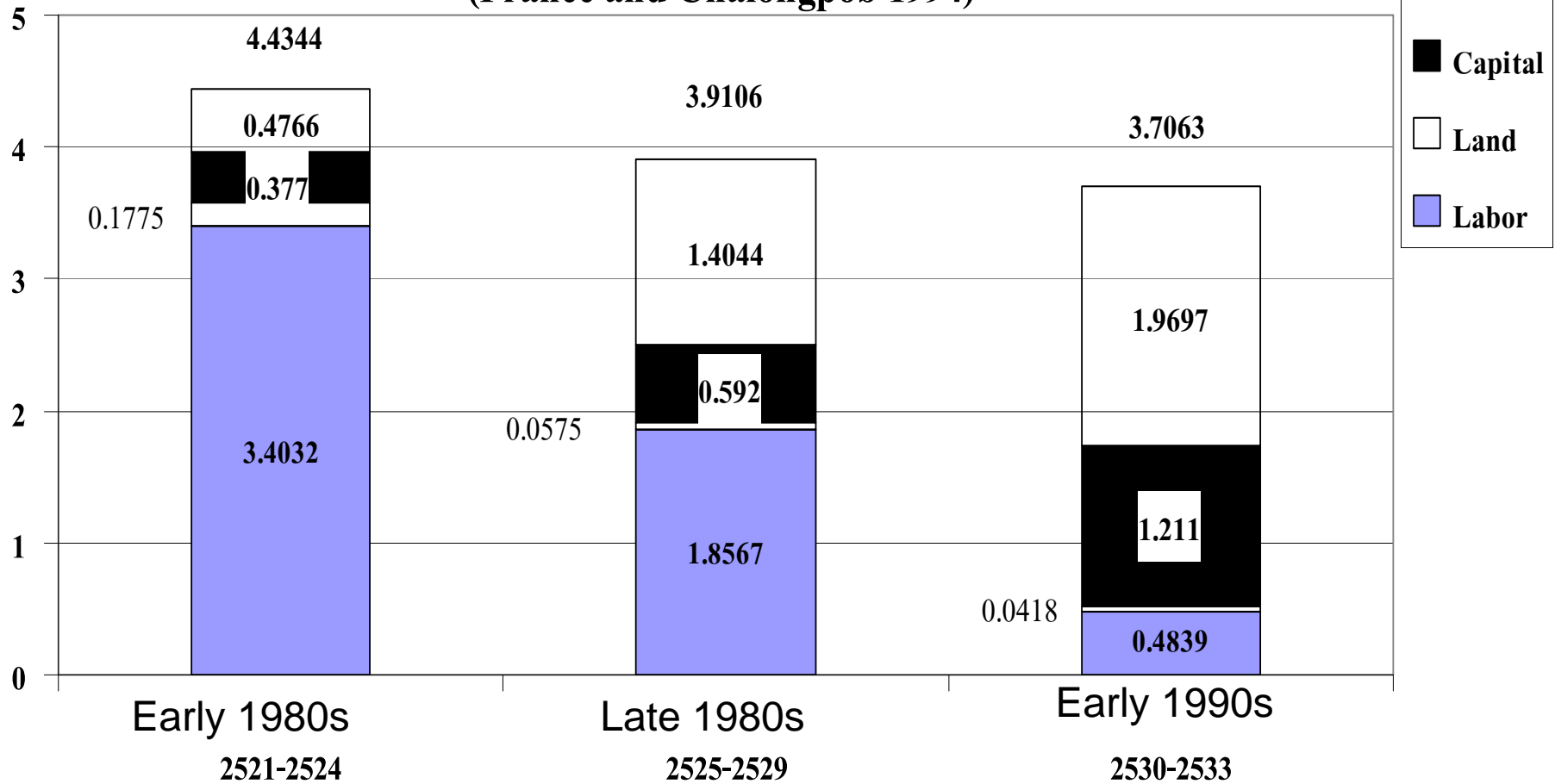
Growth Accounting

- **to explain output growth per capita (1961-85) and its sources**
- **growth declines**
- **schooling contributed greatly**
- **output price & land-labor ratio had negative impact during 1976-85**

Growth Accounting in Agriculture

(Pranee and Chalongsob 1994)

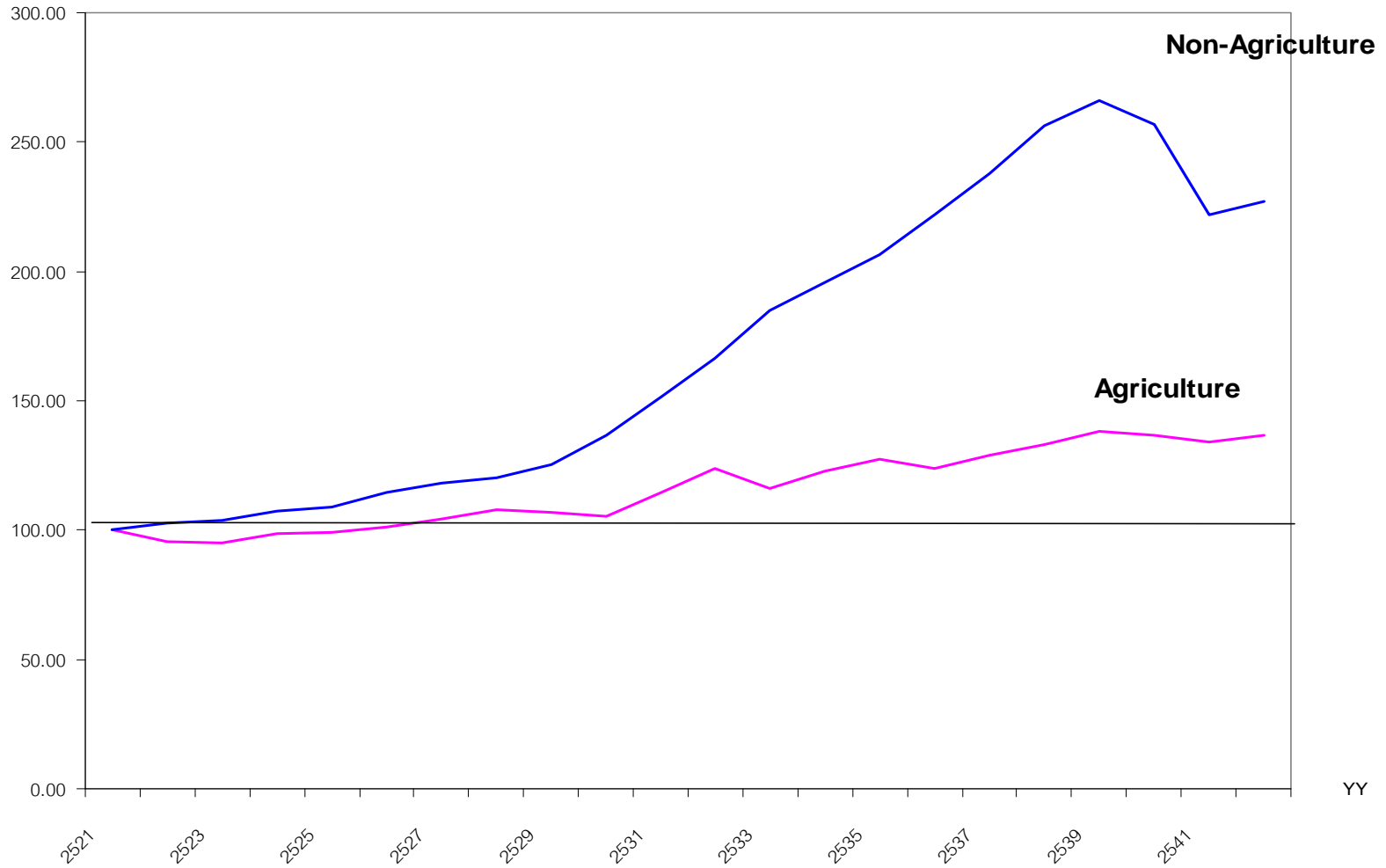
Growth(%)



Farm Household's Income, Expenses, and Debts

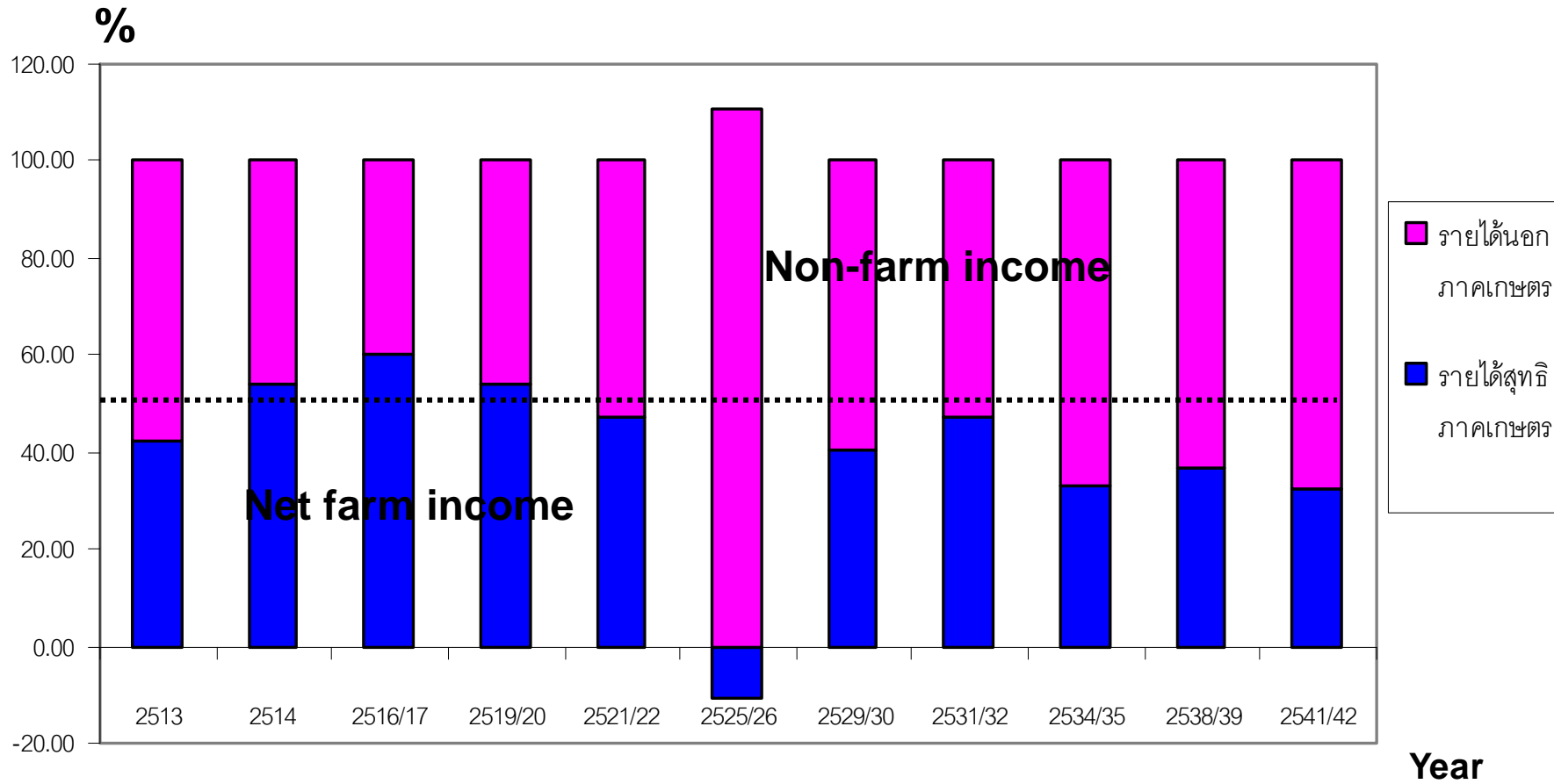
- Real **per capita income** has grown slower than the non-agr. sector
- Major **source** of household income and household expense has come from **non-farm activities**
- **Net farm income** is not sufficient to cover household expenses
- **Debt** occurs some years, some areas

Index of Real Per Capita Income



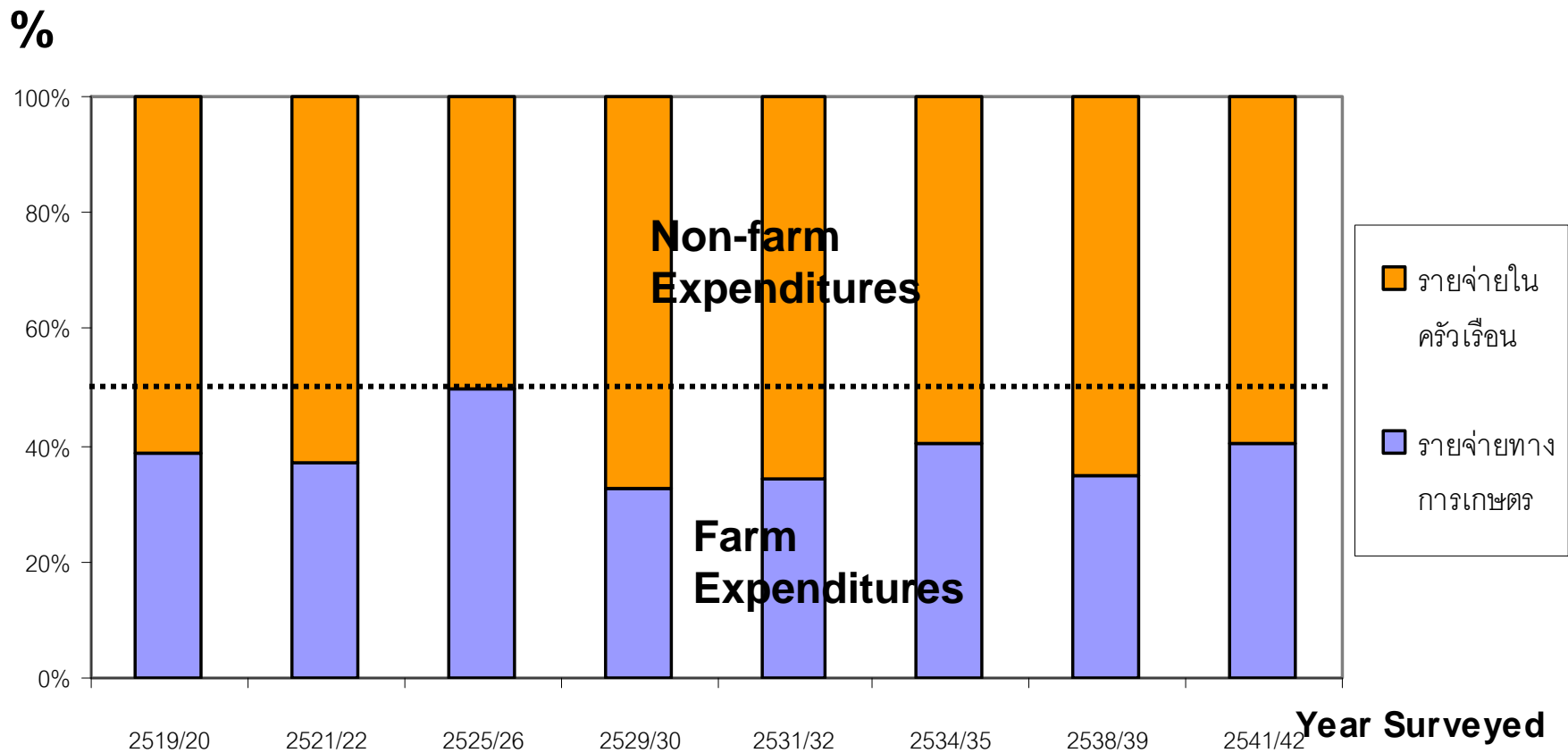
ที่มา : สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ , World development indicators 2001

Cash Income of Farm Households



ที่มา: สำนักงานเศรษฐกิจการเกษตร

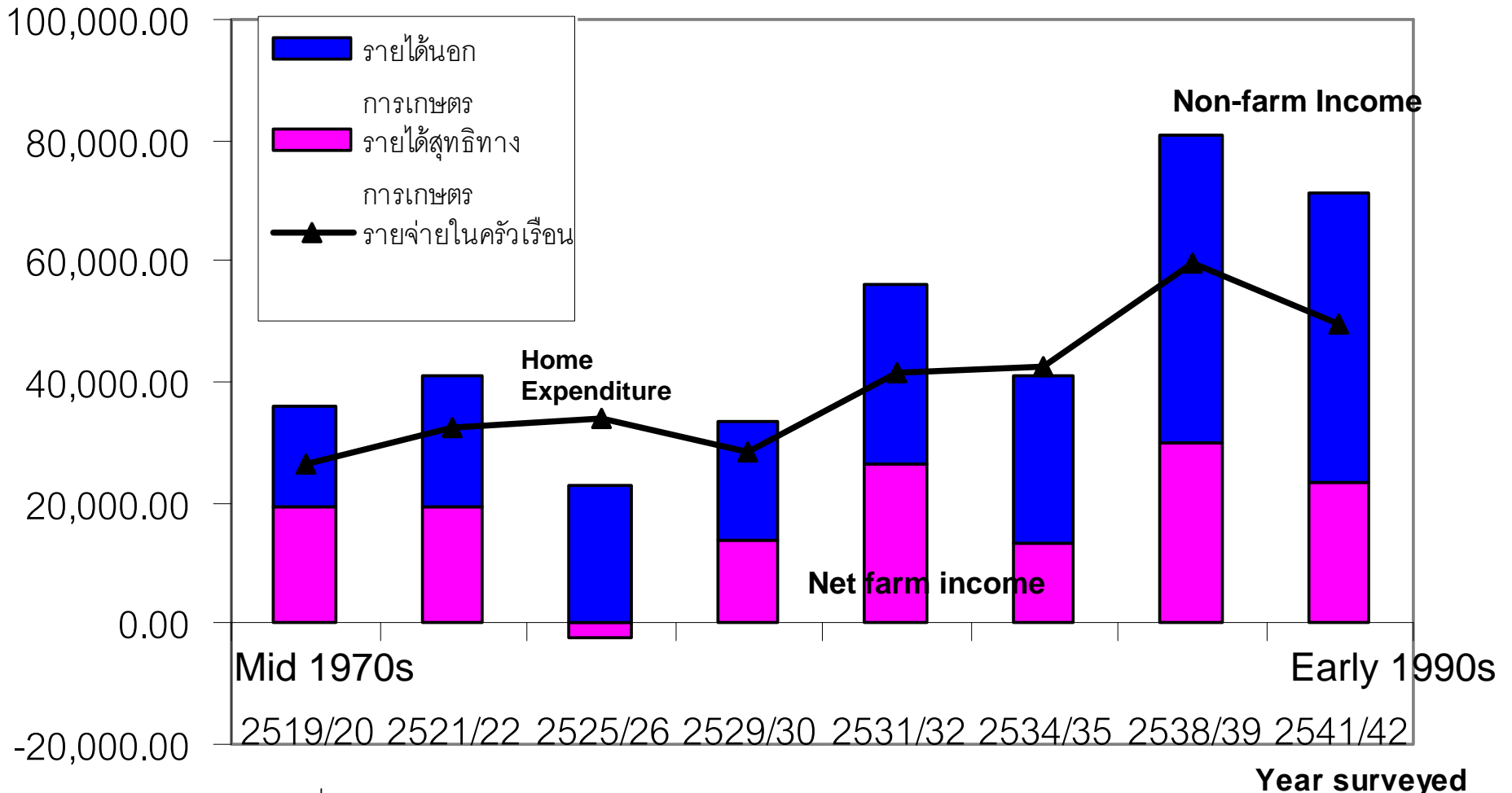
Cash Expenses of Farm Households



ที่มา : สำนักงานเศรษฐกิจการเกษตร

Cash Income and Expense of Farm Households

Baht / household



ที่มา : สำนักงานเศรษฐกิจการเกษตร

Institutions

Land Property rights

- **Tenancy is widespread in the old rice growing parts of the central region and northern valleys**
- **Tenancy is small in the NE**

- **unclear title to land**

- difficult to construct a clear and acceptable set of policies on forestry and conservation
 - cannot use as collateral for long-term loans for investments in agriculture → agr. productivity

- Price of land with legal land title is double of price of land without legal title.

Labor markets

- **Labor demand and labor supply are highly seasonal**
- **Decline in exchange labour**
 - **demand for hired labour**
 - Similar patterns of labor use and not use in one village, therefore, labor have to go to find job outside or need labour from outside. Outside labour can only be hired on a cash-wage basis
 - **supply of landless labour**

- **Labour contracting**
 - e.g. Excess demand for labour in sugarcane
 - interest-free advance by employers
- **Hiring foreign labour**

Foreign Labour from Myanmar, Lao, Cambodia 2009

Business	Employer	Total			M	L	C
		Total	Male	Female			
Total (%)	100.00	100.00	55.03	44.97	100	100	100
		1.5 m. people					
1.ประมง	1.97	4.30	3.72	0.59	3.69	1.62	12.00
2.ต่อเนื่องประมงทะเล	2.70	10.42	4.88	5.54	12.03	1.06	4.83
3.เกษตรและปศุสัตว์	18.01	16.87	10.42	6.45	16.65	16.27	19.30
4.กิจการก่อสร้าง	9.02	16.76	10.82	5.94	16.23	11.40	26.02
10.จำหน่ายอาหารและเครื่องดื่ม	4.53	4.13	2.01	2.11	3.40	11.79	3.59
14.ผลิตหรือจำหน่ายเสื้อผ้าสำเร็จรูป	1.65	3.77	1.55	2.21	3.86	5.52	1.39
24.การให้บริการต่างๆ	19.32	18.13	9.98	8.16	19.72	11.82	10.06
25.ผู้รับใช้ในบ้าน	32.83	9.87	1.65	8.23	9.45	19.18	51 5.27

credit markets

- **share of formal sector loans to farm households rose from about 10% in 1960s → almost 50% in 1980s → 90% since 1990s**
 - 1969 Set up of the Bank for Agriculture and Agricultural Cooperatives (BAAC)
 - 1975 the commercial banks were required to lend a proportion of their portfolio to the ag.sector

- **success in meeting short-term credit needs of rural rich, not long-term**

➤ **substitutes for credit**

- large agribusiness provide capital to farmers to start their career
- Rubber Replanting Fund provide grants to farmers to replant rubber trees

Credit from saving group is too minimal to ag. investment

- **If more capital –intensive, absence of long-term credit will work against farmers without titled land**