Soviet Economic History and Statistics

1) Economic system in Russian agriculture after 1861
2) Revolution of 1905-07, 1917, War Communism, New Economic Policy
3) Industrialization Debate and How the Command Economy Emerged
4) Soviet Statistics
5) Was the Transition to the Command Economy Inevitable?

Transitions from ME to CPE and back

- 1918-20 - War Communism (directive planning)
- 1921-29 - NEP market economy
- 1929-91 – Command Economy
- 1992-onwards - Market Economy

Land system after Emancipation Act of 1861

- Land was divided in two parts - about half remained the property of the landlords, the rest was given to the peasants (6-12 hectares plots). The government bought out land from the landlords, so the peasants were indebted to the government
- Heavy burden of redemption payments (abolished after 1905-07 revolution)
- Inequality in land distribution
- Agricultural commune (communal land tenure) was an obstacle for economic growth - egalitarian institution (taxes, redemption payments, communal works were the responsibility of the commune) - dismantled in 1906 by Stolypin's decree

Stolypin reforms of 1906

- Dissolution of the community – mir –obschina. Peasants got the right to leave the community - khutor and otrub peasants households
- Mortgages for peasants to buy out land from the landlords
- Migration to new territories

Lenin's article “The Last Valve”:

elimination of the commune is the last valve that could be opened in the overheating steam machine of the tsarist regime without liquidating large land ownership. No more valves to avoid the explosion(revolution).

Russian economy in the beginning of XX century

- Two major hurdles for development of agriculture - large land ownership and agricultural commune
- In 1913 GDP per capita (on a PPP basis) was about $1000 (in US$ of 1985), a bit higher than in Japan
    - In Europe - over $2000, in USA over $3000 at that time
    - Level of $1000 GDP per capita was reached in South Korea and Taiwan in 1965

Economics of War Communism (1918-20)

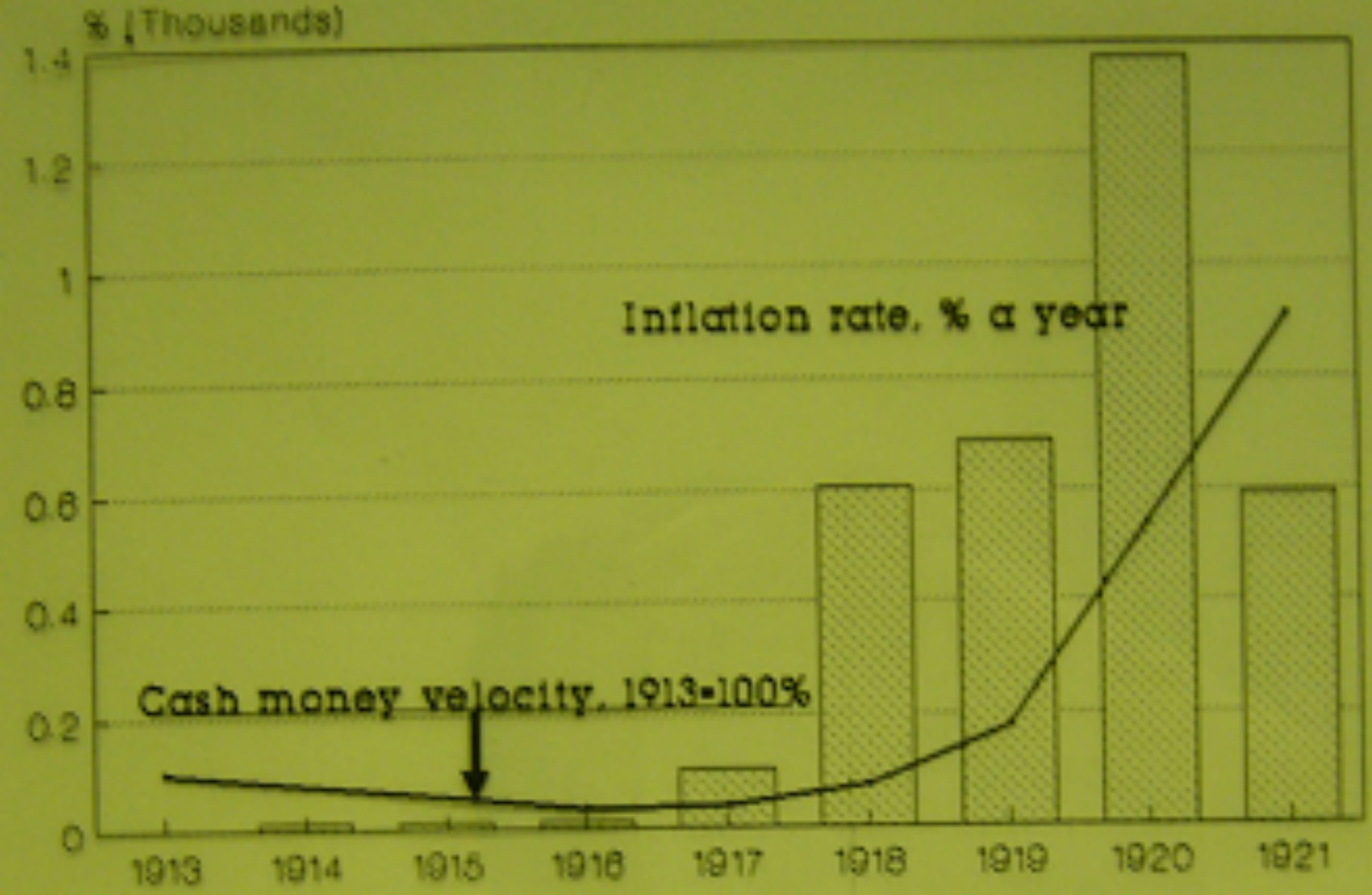
- ***Prodrazverstka*** **- mandatory deliveries of grain, expropriation of almost all peasants' produce**
- **Nationalization of industrial enterprises; VSNKh (Supreme Soviet of national economy) created to manage nationalized enterprises**
- **Rationing of supplies, accounting in physical units**
- **Labor is obligatory, 70- 90% of wages paid in kind. Differentiation of wages (skilled - unskilled) virtually disappeared**
- **Rationing of consumer goods, some distributed for free**
- **Taxes abolished, debts annulled, wages paid in kind**
- **Private sector eliminated, private trade in grain - prohibited**
- **Monetary circulation - hyperinflation**
- **Credit and banking - eliminated. People's Bank, formed out of nationalized banks in 1917, was merged with the Treasury in 1918 and subordinated to VSNKh**

Hyperinflation in War Communism: Indices of money supply, prices, and the volume of national income, 1913=1

Years	Money Supply	Prices	Volume of National Income
1913	1.00	1.00	1.00
1916	3.40	1.43	-
1917	5.57	2.94	0.75
1918	16.60	20.76	-
1919	36.80	164.00	-
1920	135.20	2420.00	-
1921	702.00	16800.00	0.38

Source: Vainshtein, A.L., *Tseni i Tsenoobrazovaniie v SSSR v Vostanovitelniy Period.* 1921-1928 gg. (Prices and Price Formation in the USSR during Reconstraction Period, 1921-1928). Moscow, 1972, p. 31; *Narodnoye Khozyaistvo SSSR v 1958 godu* (National Economy of the USSR in 1958). Moscow, 1959, p. 52.

Fig.10. Money velocity and inflation rates in 1913-21 and 1985-94



Hyperinflation in War Communism

- MV=PY
- In the first stage (1913-17) the amount of currency in circulation grew faster than prices (money velocity decreased). In 1918-1921 prices rose much faster than money supply (money velocity grew).
- Cagan effect: sharp drop in the demand for real cash balances as inflation develops
- During high inflation opportunity costs of holding money increase, demand for real cash balances shrinks, and the velocity increases
    - MV=PY - self sustained process: increase in P=>increase in V=> increase in P

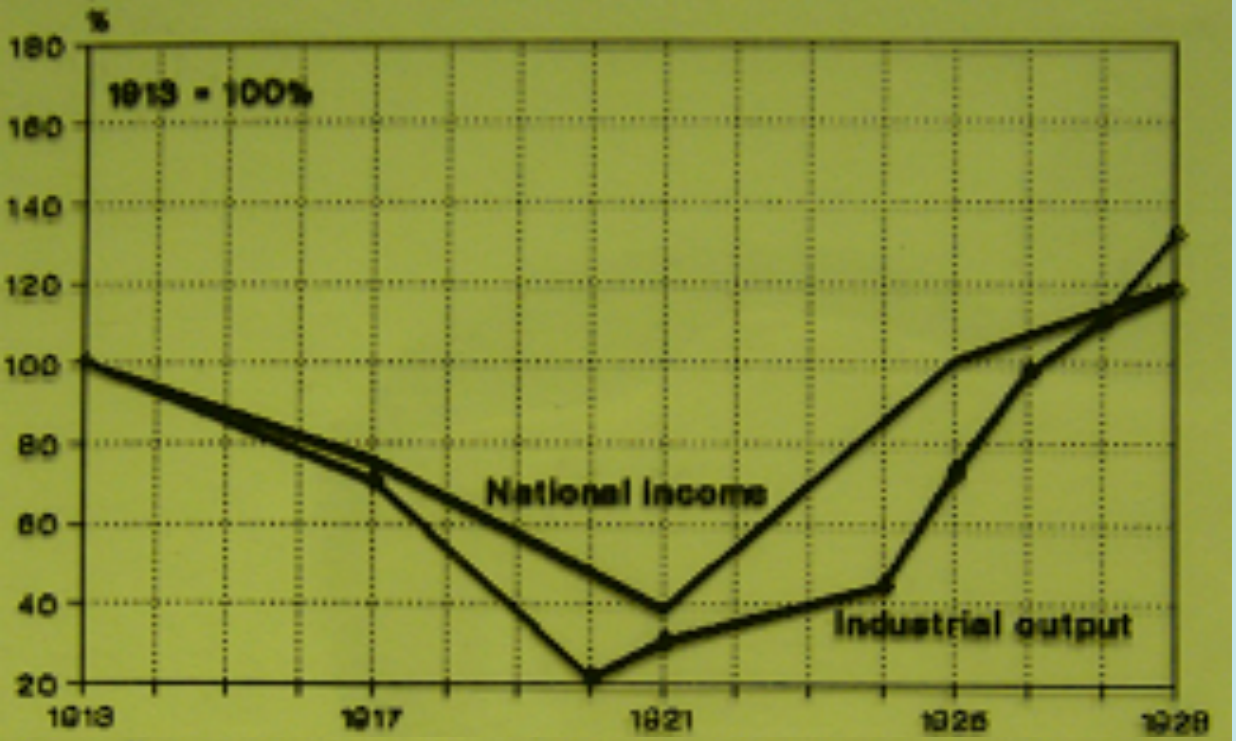
War Communism

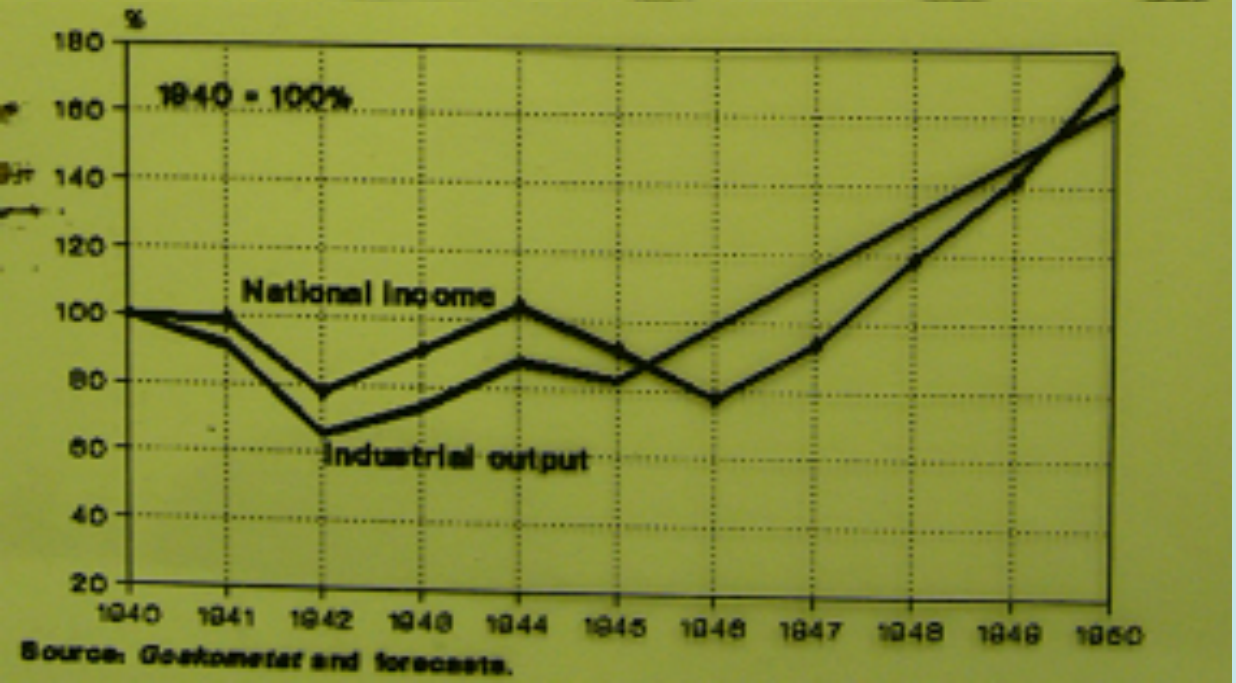
• Over the period of 1913-1920 in Russia industrial output fell by 80%, agricultural output - by half. Recovered to pre-recession levels only by 1925-26

• Was super-centralized economic system of WC brought to life by the ideology of bolsheviks or by extreme circumstances of the Civil War?

•Lenin's views on socialism and market

- **before 1921 (Socialism is a non-market economy)**
- **1921-23 - NEP - economic policy to allow more competitive state sector to gradually replace «non-competitive» private sector**
- **1923 - «On cooperation» - market socialism**





Over the period of 1913-1920 in Russian national income fell probably by more than 2/3 (industrial output – by 80%, agricultural output - by half). Recovered to pre-recession levels only by 1925-6

New Economic Policy (1921-29)

- **End of 1920-early 1921 - Antonov's revolt in Tambov**
- **February -March 1921 - Kronshtadt revolt**
- March 1921 - X Party Congress, NEP introduced
- NEP - most successful period of Russian economic history

• Never before and never after Russian/Soviet economy demonstrated such high growth rates (about 20% a year even after the recovery ended in 1925)

New Economic Policy (1921-29)

- *Prodnalog* - a new agricultural policy
- Trusts and syndicates in industry
- Cooperation
- Private sector
- Labor and wages
- Monetary system
- Credit and banking
- Foreign trade and foreign direct investment
- Industrial immigration from abroad
- Economic performance under NEP
- Was NEP consistent with socialism?
- NEP problems - the Scissors Crisis

New Economic Policy

- *Prodrazverstka* (food requisitioning) was replaced by a *prodnalog* (food tax) - 20% of produce, later 10%; first - in kinds, later - in monetary form (as compared to ~ 20% tax during prodrazverstka and over 10% tax in 1913)
- Trusts: associations of industrial enterprises
  - By the end of 1922, 90% of industrial enterprises were united in 421 trusts
- Syndicates - voluntary associations of trusts
  - By the end of 1922, 80% of trusts were united into syndicates
- *Khozraschet (self-financing)*: enterprises free to use profits after making fixed payments to the budget
- Labor market was reinstated
  - Wages paid in monetary form
  - “Labor armies” eliminated, labor exchange created (unemployment increased from 1,2 mln. in 1924 to 1,7 mln. in 1929, but urban employment increased nearly 50%)

New Economic Policy

- Private sector emerged in industry and trade
  - Small private industrial enterprises permitted(up to 20 employees, later - more)
- Share of private sector in the NEP period 1/5 to 1/4 of the industrial output
  - 40-80% of the retail trade
  - Small part of wholesale trade
- Cooperatives of all forms and types developed rapidly
  - By 1927, agricultural coops produced 2% of total agricultural output and 7% of marketed agricultural output
  - By 1928, about 28 million people were involved in non-producers' coops - marketing, supply & procurement,and credit cooperatives
  - 60-80% of retail trade was conducted by cooperatives by the end of 1920s
  - In 1928, 13% of industrial output was produced by cooperatives

New Economic Policy

- New monetary unit – *chervonets* – introduced in 1922
  - *Chervonets* had gold content and was freely convertible on the currency market (1,94 rubles = $1, the exchange rate of the tsarist ruble)
  - Depreciated *sovznaki* withdrawn from circulation in 1924
  - Budget deficit eliminated, inflation stopped
- Credit system restored
  - Gosbank (State Bank) reestablished in 1921
  - On October 1, 1923: 17 independent banks (33% of all credits); on October 1, 1925: 61 banks (52% of all credits)
  - Banks competed among themselves; trade (non-bank) credits became widespread

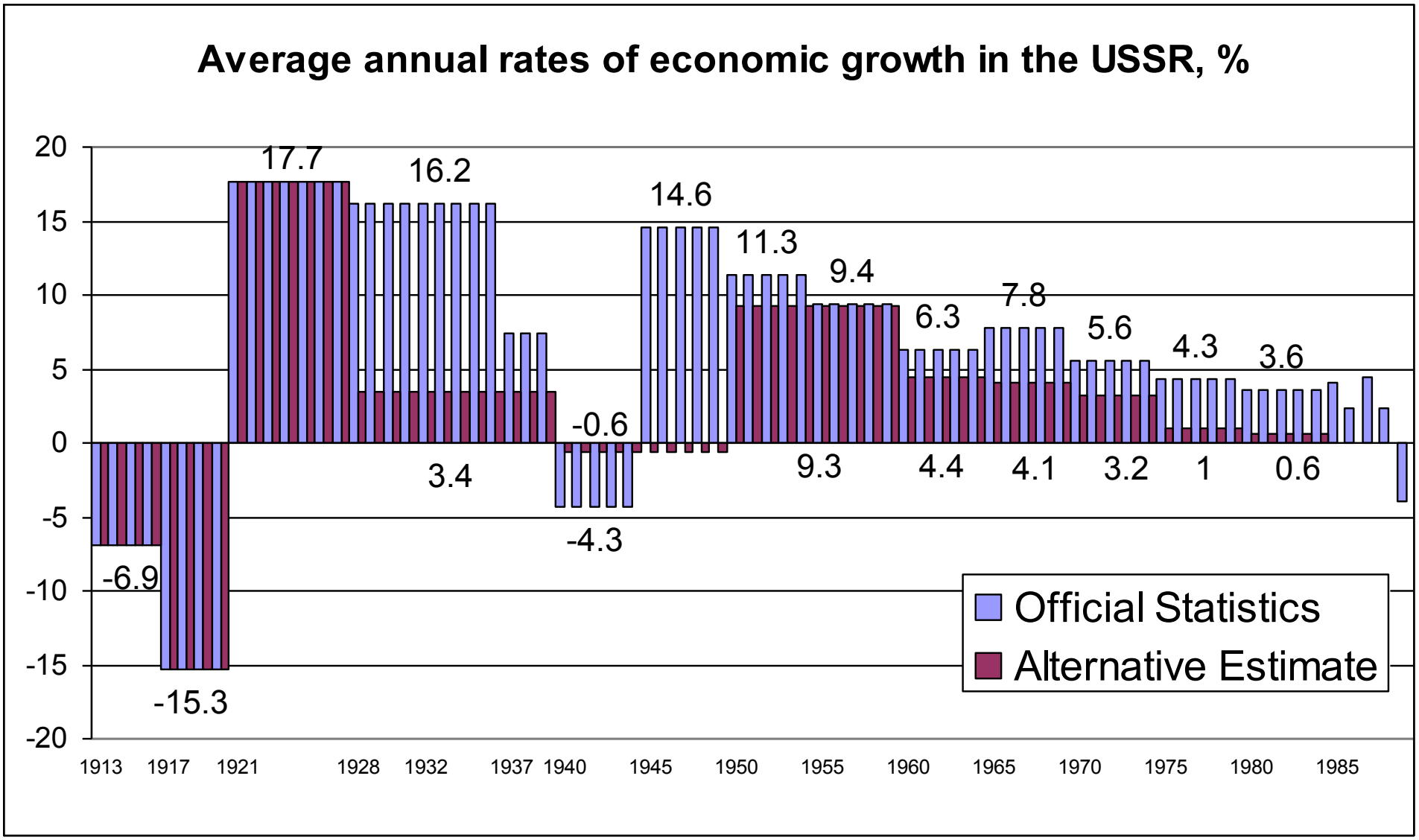
New Economic Policy

- **Capital inflow**
  - A number of enterprises leased to foreign firms under “concession arrangements”
  - Concessions in 1926-27: 117 agreements, 18000 employees, 1% of industrial output
  - Concessions provided more than 60% of output in lead and silver mining; almost 85% in the extraction of manganese ore; 30% in the extraction of gold
- **Immigrant workers**
  - Thousands of workers from the West offered assistance, knowledge, and experience to the young Soviet republic
  - From 1920 to 1925, a total of 20,000 immigrants from the US and Canada arrived in the USSR
  - STO decree “On American Industrial Immigration”

Economic performance under NEP

- In 1921-25 industrial production increased more than threefold
    - Reached 1913 levels
- Agricultural production grew twofold
    - Exceeded the 1913 level by 18 percent
- In 1921-28 the average rate of growth the national income was 18%
- In 1928 national income per capita was 10% higher than in 1913 (better record than in the US that did not experience wars on its territory)

NEP was the most successful period for the Soviet economy



Source:Noviy mir,1987,No.2,p.192-95; Narodnoye Khozyaistvo SSSR(National Economy of the USSR) for various years.

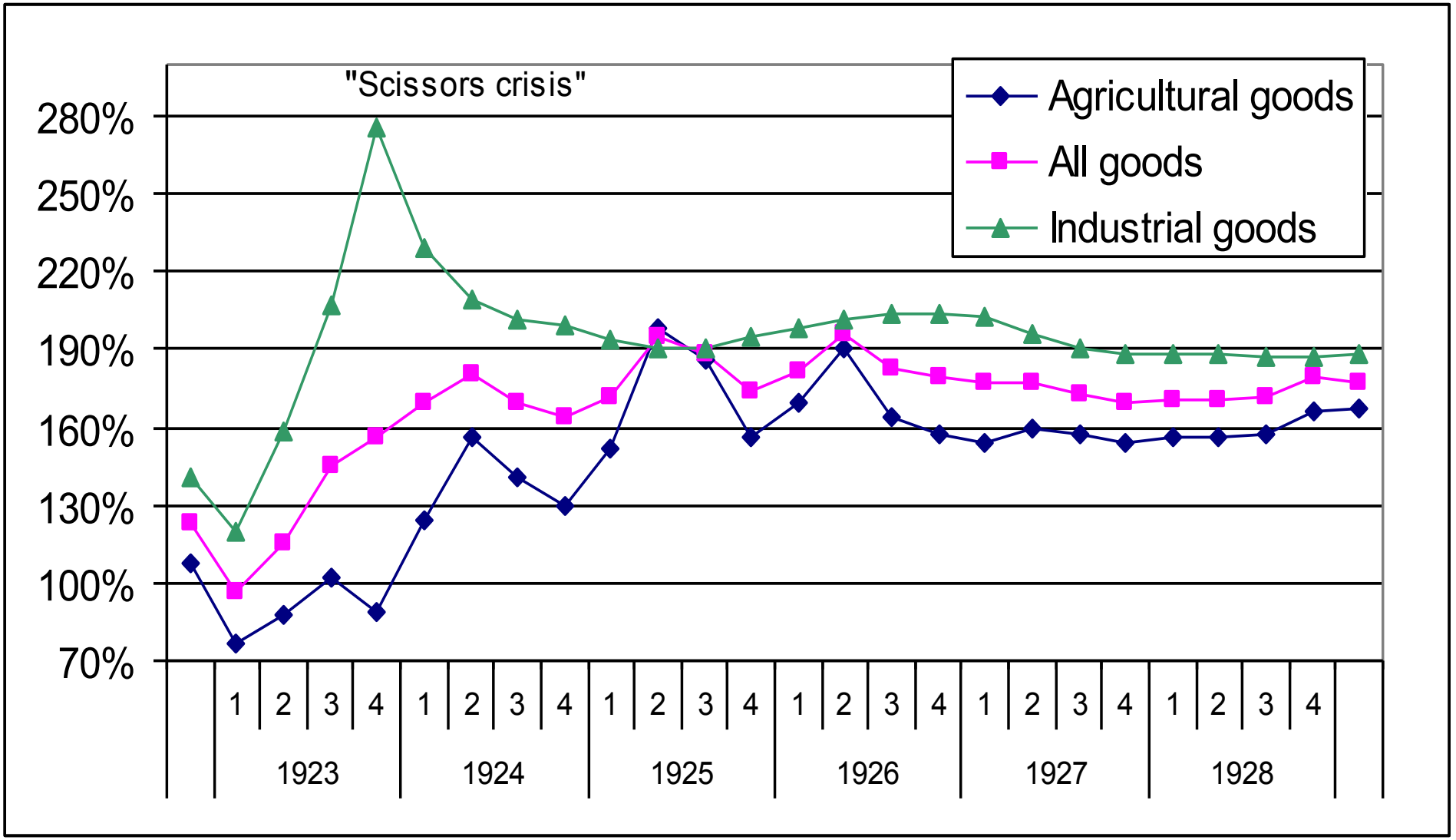
Was NEP consistent with socialism?

- NEP was a *socialist* market economy
- Private capital sector did not play a decisive role
- State trusts accounted for 2/3 of industrial output, coops - for 13%, private firms - 20-25%
- “Commanding heights” - transportation, communication, banking, etc. - controlled by the government
- Functions of the government: soft price regulation (hard - from 1925) to achieve balanced economic growth

NEP problems - the Scissors Crisis

- Disproportion in prices
  - Prices for industrial goods grew much faster than prices for agricultural produce
- Factors contributing to price scissors:
  - Acute shortage of industrial goods due to greater reduction of industrial output
  - Slower restoration of productivity in industry
  - Most important: Oligopolistic (imperfect) competition in industry due to creation of trusts and syndicates by the end of 1922

Price indices for industrial and agricultural goods,1913=100%



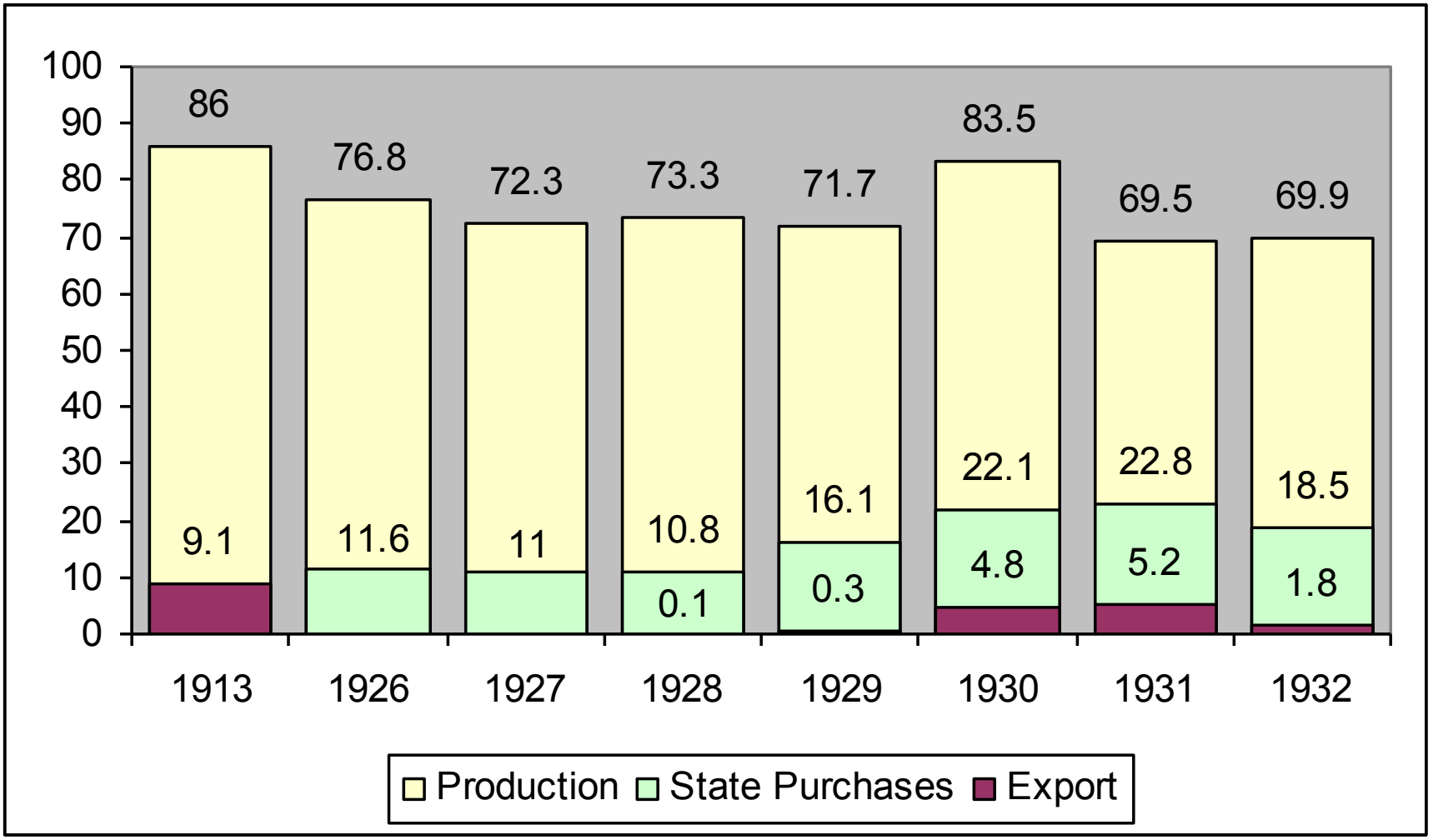
Scissors Crisis

- Trusts and syndicates were basically monopolies at the markets for industrial goods
- The price increase resulted in oversupply of industrial goods
  - Example: in 1922/23 *Sel'mash* syndicate sold only ¼ of its output, the rest was stockpiled
  - By fall 1923 inventories were twice the size of the estimated sales of forthcoming year
- Intervention of the government: price regulation (costs+average profit margin), then direct price setting

Industrialization Debate and How the Command Economy Emerged

- The Industrialization Debate and the Grain Procurement Crisis
- How the command economy emerged
  - ***Collectivization***
  - ***Central planning in industry***
  - ***Private sector and foreign concessions***
  - ***Labor and wages***
  - ***Monetary circulation***
  - ***Taxation, finance, and prices***
  - ***Credit system***
  - ***Foreign trade***

Grain production, procurement, and export, million tons



Source: Malafeev A.N. Istoriya Tsenoobrazovaniya v SSSR.1917-1963(The History of Price Formation in the USSR.1917-63).M., 1964, pp. 126-127, 136-137, 173.

Grain Procurement Crisis

- In 1925 everyone understood that the country needed industrial modernization
- Only one way to get the modern equipment: purchase it from abroad
- Main export item in pre-revolutionary Russia: grain
- Economic path to increase state grain purchases: - raise procurement prices and channel peasants' savings into industrial investment
- But the state resorted on non-economic methods
    - Forced expropriation of grain from peasants
    - Prices of grain not raised (while prices of consumer goods grew rapidly)
    - *Prodrazverstka* was used for grain procurement in 1928

How the Command Economy Emerged

- **XV party Congress (1927)**
  - **Confirmed the policy of collectivizing agriculture (on a voluntary basis)**
  - **Approved the first Five-Year Plan (1928-1932)**
- **Collectivization in agriculture began in the summer of 1929**
  - **By the end 1929, 14% of all peasant' farms had been collectivized**
  - **By the end of February 1930, 60%, had been collectivized**
  - **In 1930-1931, 1 mln. peasants' farms (4-5 mln. people) were expropriated; 380,000 farms (about 2 mln. people) were resettled**
  - **Other estimates put the number of liquidated rich farms at 3 million, I.e. 11-12% of all farms**
  - **Price of industrialization: terrible famine of 1932-1933**

How the Command Economy Emerged

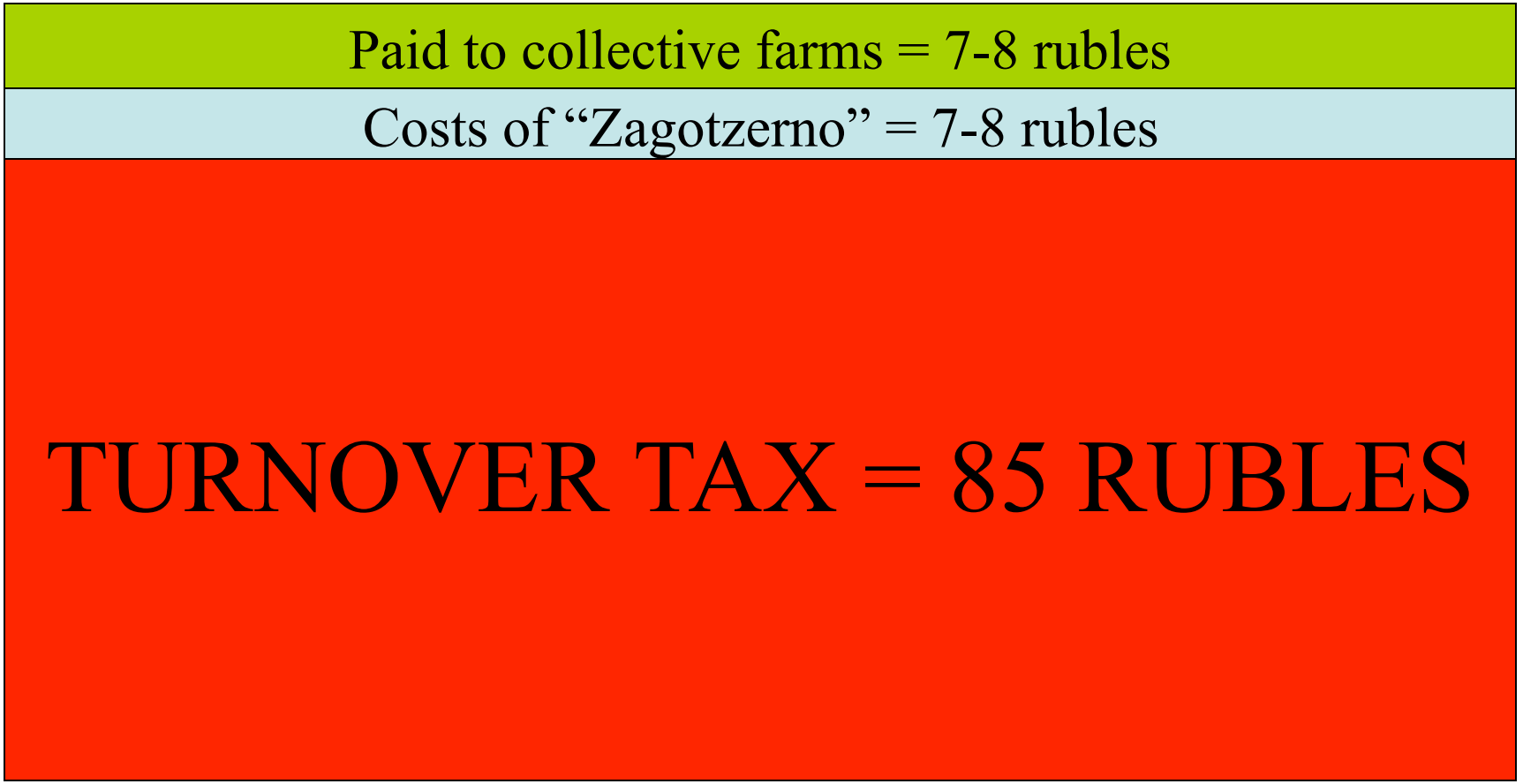
- Trusts were given production plans in 1927
  - By the beginning of 1930s trusts ceased to exist
  - Syndicates transformed into *GLAVKs*, intermediate management body between industrial ministries and enterprises
  - By the end of 1930, only 5% of industrial supplies were delivered by agreement between producer and consumer (wholesale trade) as opposed to 85% in 1929
- Collective farms in fact became part of CPE
  - Their main task was to fulfill the plan
  - System of obligatory delivery of products to the state according to fixed norms and at a fixed prices
  - Before 1933 - “contractation”, after - production quotas

How the Command Economy Emerged

- Small-scale private traders and entrepreneurs were squeezed out
  - In 1928-33, the share of private sector in output decreased from 18 to 0.5% in industry, from 97 to 20% in agriculture, from 24 to 0% in retail trade
  - Almost all concessions liquidated by 1933
- Tax reform
  - 63 types of taxes during NEP were replaced by two basic taxes: turnover tax and profit tax
  - With the introduction of obligatory production quotas, tax system was no longer a mean of regulation

How the Command Economy Emerged

- "Zagotzerno" sold grain to the state mills at 104 rubles. The proceeds were used as follows:



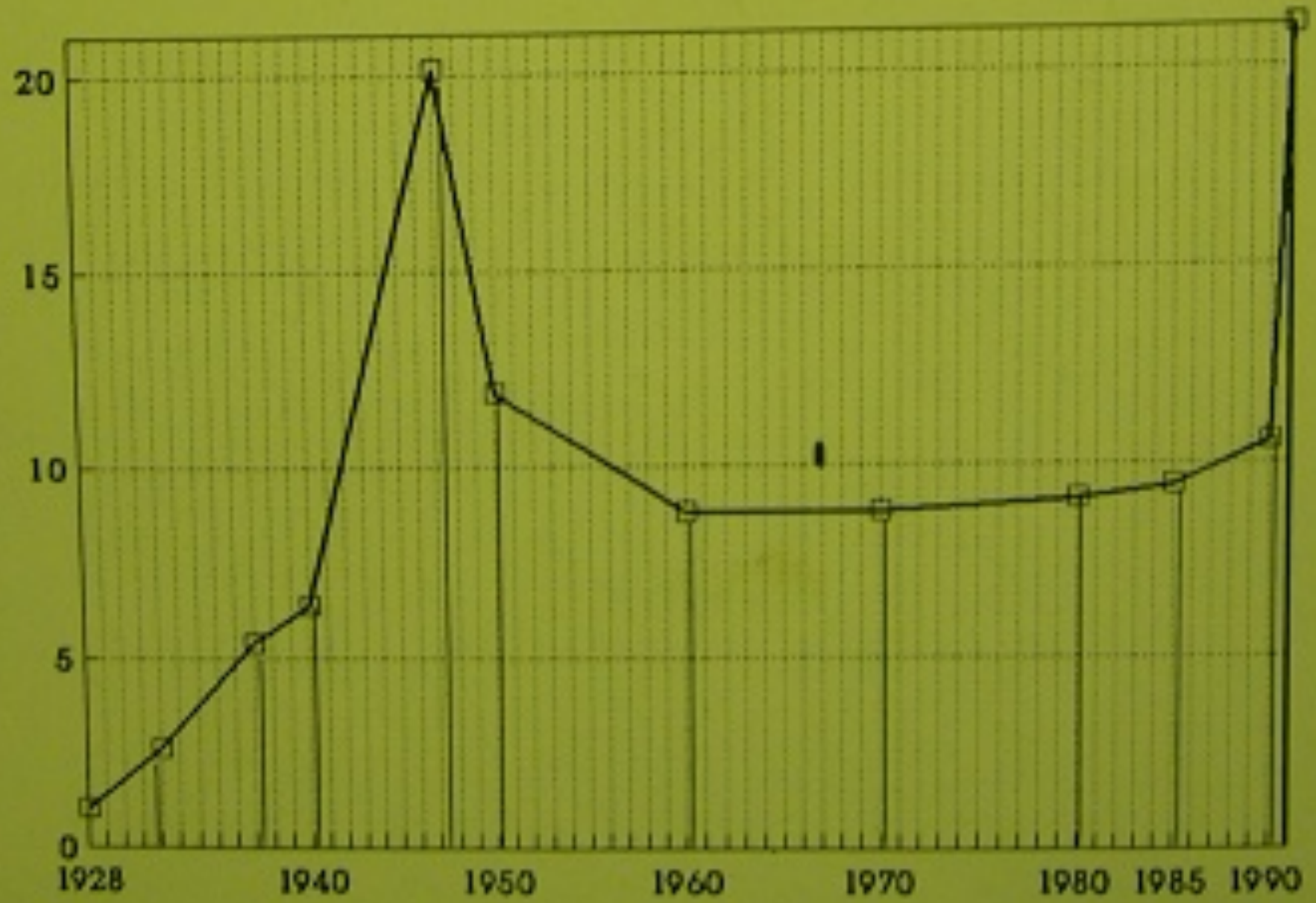
How the Command Economy Emerged

- Credit reform 1930-1932
  - Commercial credit replaced with direct centralized bank credit
  - Circulation of commercial notes abolished
- Credit system replaced with planned bank financing
  - Be 1933, Gosbank accounted for 97% of all short-term credit
- By the war, only seven banks remained
  - Gosbank, Vneshtorgbank, and five long-term investment banks (in 1959 five long term credit banks were merged into “Stroibank”
- Chervonets could no longer be exchanged for gold

How the Command Economy Emerged

- Gosbank began to pump money into circulation
  - 1.3-1.4 billion rubles in 1926-27, 2.8 billion in 1930, 8.4 billion in 1933, 11.2 billion in 1937
  - The rise in prices on the open market; state prices remained stable; this caused acute “goods famine”
- Rationing system introduced in 1928
  - First bread, then - basic foodstuff, then - manufactured goods
  - By 1934, 50 million people were receiving rationed supplies from centralized and local funds
- By the end of the First Five-Year Plan (1928-1932) the command economy began to dominate all spheres of economic life

Retail trade price index, 1928=1



Source: Goskomstat.

Rationing of consumer goods and legal restriction on labor mobility in the USSR

- Rationing of Consumer Goods
  - 1918-21, War Communism
  - 1928-35, Industrialization
  - 1941-47, Great Patriotic War and post-war recovery
  - 1970s - onwards, rationing of some food supply in medium-size cities due to reluctance to increase prices
- Restrictions on Changing Jobs
  - 1918-21, War Communism
  - 1932 - end of 1950s, restrictions for peasants not having passports
  - 1938-1956, restrictions for workers of state enterprises

Soviet Statistics

- Material balances system
- How price and output indices were calculated
- Alternative estimates versus official statistics
- Reliability of Soviet official data

Value, price and volume indices

Type of index	Method of computation
Value of output	Direct comparison: the value of output in the current period in current prices divided by the value of output in the base period in base prices
Price of output	Monitoring price changes for a sample of goods (several hundred commodities) assuming that price dynamics for each of those goods is representative for the whole group of similar goods, and weighting these price changes by the value of goods in the group
Volume of output	Deflating the value index, i.e. dividing the value index by the price index

Measuring real economic growth: international statistical practice

- Growth is measured by deflating value indices
- Price indices calculated for representative goods
- Inaccuracies and errors are unavoidable:
  - Quality and consumer characteristics of goods changes over time
  - New products appear (what was the price of a personal computer in 1930?)

Value, price and volume indices

Value index

$$I_{value} = \frac{\sum_i q_i^1 p_i^1}{\sum_i q_i^0 p_i^0}$$

Volume indices

$$I_{volume}^{Laspeyres} = \frac{\sum_i q_i^1 p_i^0}{\sum_i q_i^0 p_i^0}$$

$$I_{volume}^{Paashe} = \frac{\sum_i q_i^1 p_i^1}{\sum_i q_i^0 p_i^1}$$

Price indices

$$I_{price}^{Laspeyres} = \frac{\sum_i q_i^0 p_i^1}{\sum_i q_i^0 p_i^0}$$

$$I_{price}^{Paashe} = \frac{\sum_i q_i^1 p_i^1}{\sum_i q_i^1 p_i^0}$$

p_0, q_0 - prices and volumes of output in the base period,

p_1, q_1 - prices and volumes of output in current period.

Example: Calculation of the volume and price indices

	Textiles	Machines
Production in 1928, units	100	50
Price in 1928, rubles	1	2
Production in 1980, units	200	1000
Price in 1980, rubles	10	10

$$I^{1928}_{volume} = \frac{\sum_i q_i^{1980} p_i^{1928}}{\sum_i q_i^{1928} p_i^{1928}} = \frac{200 + 2000}{100 + 100} = \frac{2200}{200} = 11$$

$$I^{1980}_{volume} = \frac{\sum_i q_i^{1980} p_i^{1980}}{\sum_i q_i^{1928} p_i^{1980}} = \frac{2000 + 10000}{1000 + 500} = \frac{12000}{1500} = 8$$

$$I^{1928}_{price} = \frac{\sum_i q_i^{1928} p_i^{1980}}{\sum_i q_i^{1928} p_i^{1928}} = \frac{1000 + 500}{100 + 100} = \frac{1500}{200} = 7.5$$

$$I^{1980}_{price} = \frac{\sum_i q_i^{1980} p_i^{1980}}{\sum_i q_i^{1980} p_i^{1928}} = \frac{2000 + 10000}{200 + 2000} = \frac{12000}{2200} \approx 5.5$$

Indices differ due to structural changes in production

Soviet statistics

- In 1925 indices of output began to be calculated in terms of current wholesale prices
- From the late 1920s, the growth of real volume of output was constantly overstated

Soviet statistics

- Until 1925 volume indices in the USSR were calculated as elsewhere
- In 1925-1950s, rates of real growth rates were calculated in 1926/27 prices
    - All new types of products entered the calculation in *current* prices (when they first appeared in the market)
- Indices of wholesale prices were not calculated until the late 1950s
- Calculation of price indices did not include new products
    - Although these items showed the most rapid price increase

Reliability of Soviet official statistics of output in comparable prices, by industry

Reliability	Product nomenclature	Industries
LESS RELIABLE	Large variety of products, rapidly changing nomenclature	Machine-building Consumer goods industries Construction Communication Services
MORE RELIABLE	Small number of products, slowly changing product-mix	Mining Electric energy Wood industries Primary manufacturing Agriculture Railway transportation

Reasons for distortions in official statistics

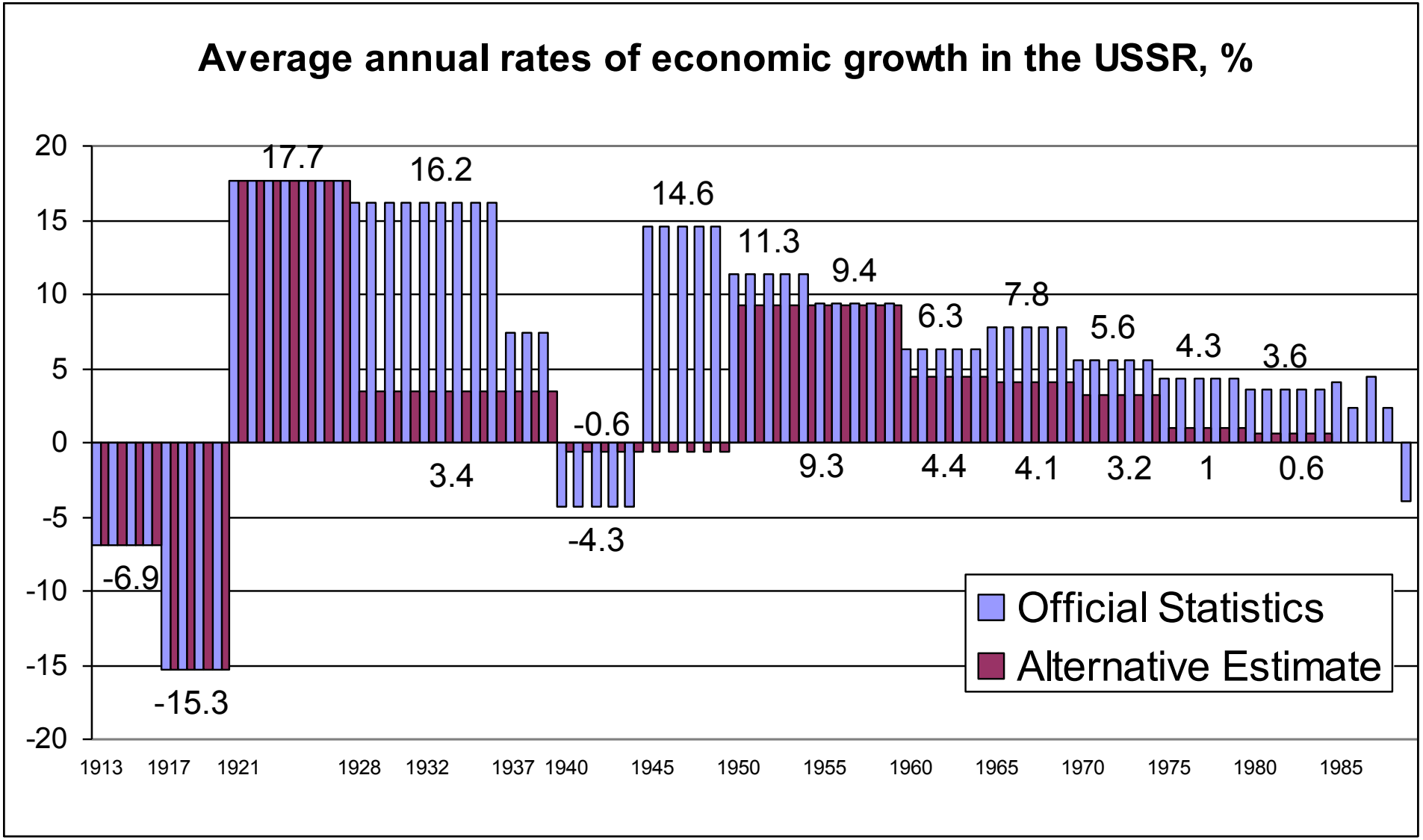
- Outright falsification of the data
  - “Cotton Affair”
  - 3% of industrial output and 5-25% of raw material output were falsified
  - For example, statistics tracked the “hopper weight” of the grain (the entire volume unloaded from the combine hopper) instead of the actual weight
- Erroneous practices of calculating the volume of production (new goods included in current prices)
- Price indices were not calculated in the 1930s-1940s (except retail trade price index); later price indices were computed with the exclusion of new goods (that were subject to creeping inflation)

Soviet official data on economic development 1928-90 (1928=1)

	1928	1932	1937	1940	1950	1958	1960	1970	1980	1985	1990
National income produced											
- in constant prices	1	1.8	3.9	5.1	8.4	19.1	22.0	43.8	71.5	85.1	90.8
- in current prices (1958=19.1)	-	-	-	-	-	19.1	21.6	43.2	68.9	86.1	
- national income price deflator[a] (1958=100%)	-	-	-	-	-	100	98	99	96	101	
Gross industrial output											
- in constant prices	1	2.0	4.5	6.5	11.2	25.2	33.8	78.0	136.5	162.5	
- in current wholesale prices of enterprise (1955=100%)	-	-	-	-	-	-	-	395	651	849	
- in current wholesale prices of industry (1960=100%)	-	-	-	-	-	-	100	216	362	446	
- index of wholesale prices of enterprise[a] (1955=100%)	-	-	-	-	-	-	-	106	98	107	
- index of wholesale prices ofindustry[a] (1960=100%)	-	-	-	-	-	-	100	95	90	92	
Labor productivity in industry	1	1.4	2.6	3.4	4.7	8.2	10.2	16.7	26.2	30.6	
Gross agricultural output											
- in constant prices	1	0.9	1.1	1.1	1.1	1.7	1.8	2.4	2.8	3.0	
- in current prices (1960=100%)	-	-	-	-	-	-	100	211	310	443	
- in constant prices (1960=100%)	-	-	-	-	-	-	100	138	153	170	
- index of wholesale prices[a] (1960=100%)	-	-	-	-	-	-	100	153	203	261	
Gross investment in constant prices[b]	1	4.5	7.0	9.1	18.5	47.1	57.3	111.9	182.9	218.4	
Retail trade turnover of state and cooperative trade[c]											
- in current prices	1	3.4	10.7	14.8	30.5	57.4	66.7	127.6	222.4	266.6	
- in constant prices	1	1.3	2.0	2.3	2.6	6.4	7.6	14.5	24.4	28.3	
- price index[a]	1	2.6	5.4	6.4	11.9	8.9	8.8	8.8	9.1	9.4	
Real per capita income (1940=1)	0.5-0.6[d]	-	-		1	-	2.5	4.0	5.8	6.5	

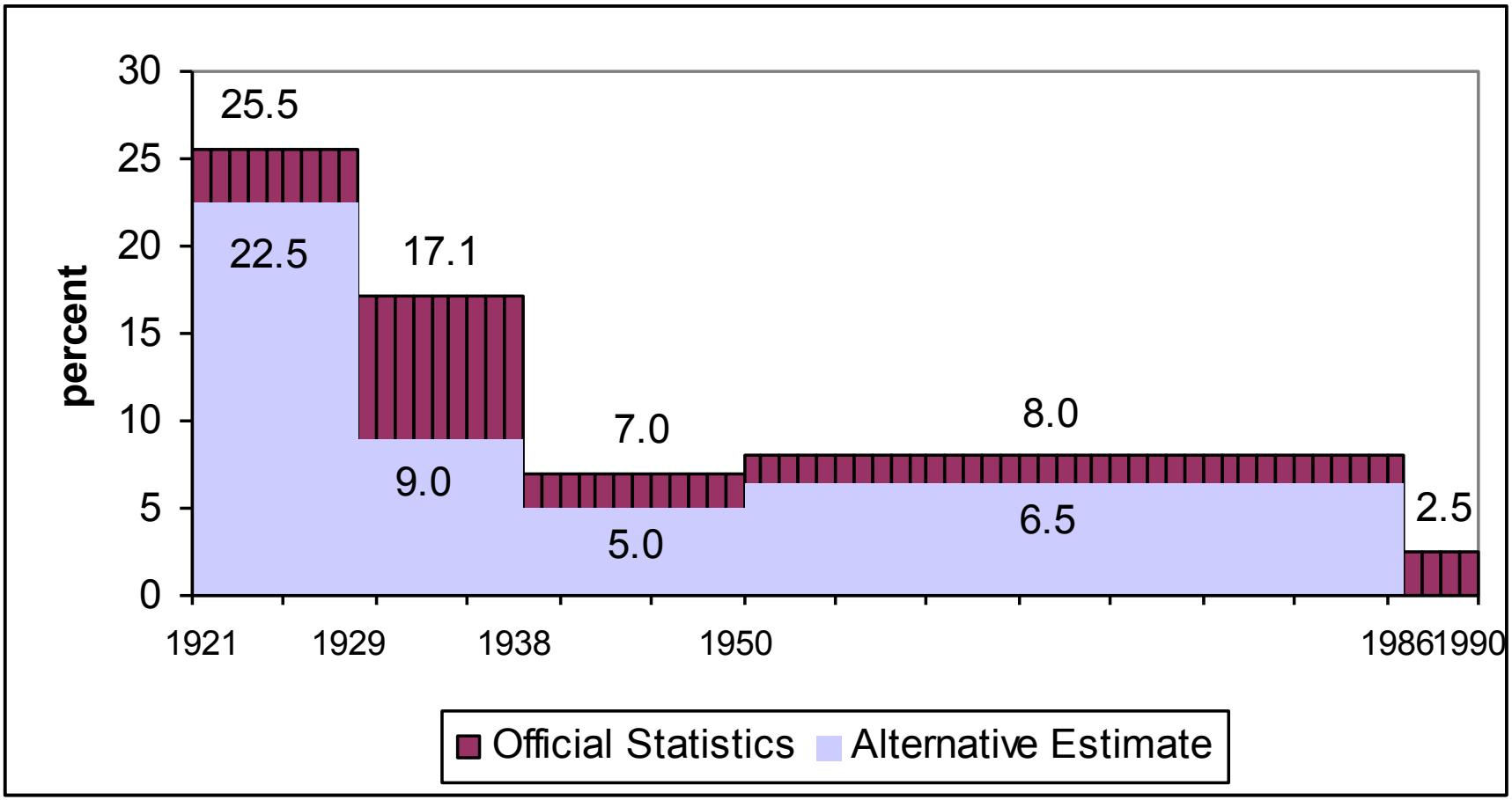
[a]Price indices calculated as the ratio of the growth indices in current and constant prices.
[b]In relation to fourth quarter data, at annual rate.
[c]Excluding private trade and farmers' markets turnover,which dropped from 36.9 percent of the overal trade in 1926/27 to 2.6 percent in 1990.
[d]Estimate.
Source: *Narodnoe Khozyaistvo SSSR* (National Economy of the USSR) for various years; Malafeev A.N., *Istoriia tsenoobrazovaniia v SSSR. 1917-1963* (The History of price Formation in the USSR . 1917-1963. Moscow, 1964, p. 82, 407-8.

NEP was the most successful period for the Soviet economy, whereas in the 1930s the growth rates fell markedly

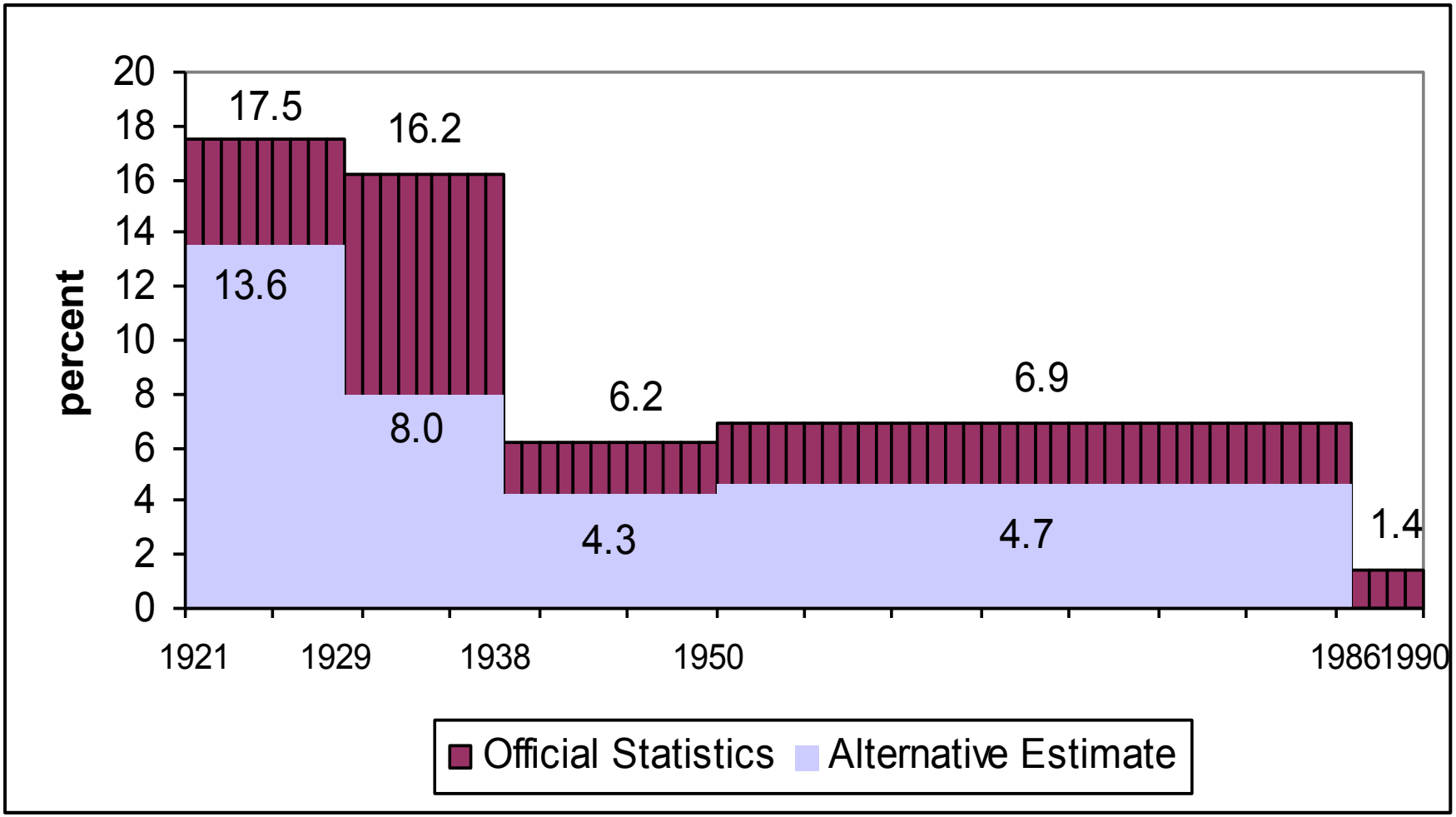


Source:Noviy mir,1987,No.2,p.192-95; Narodnoye Khozyaistvo SSSR(National Economy of the USSR) for various years.

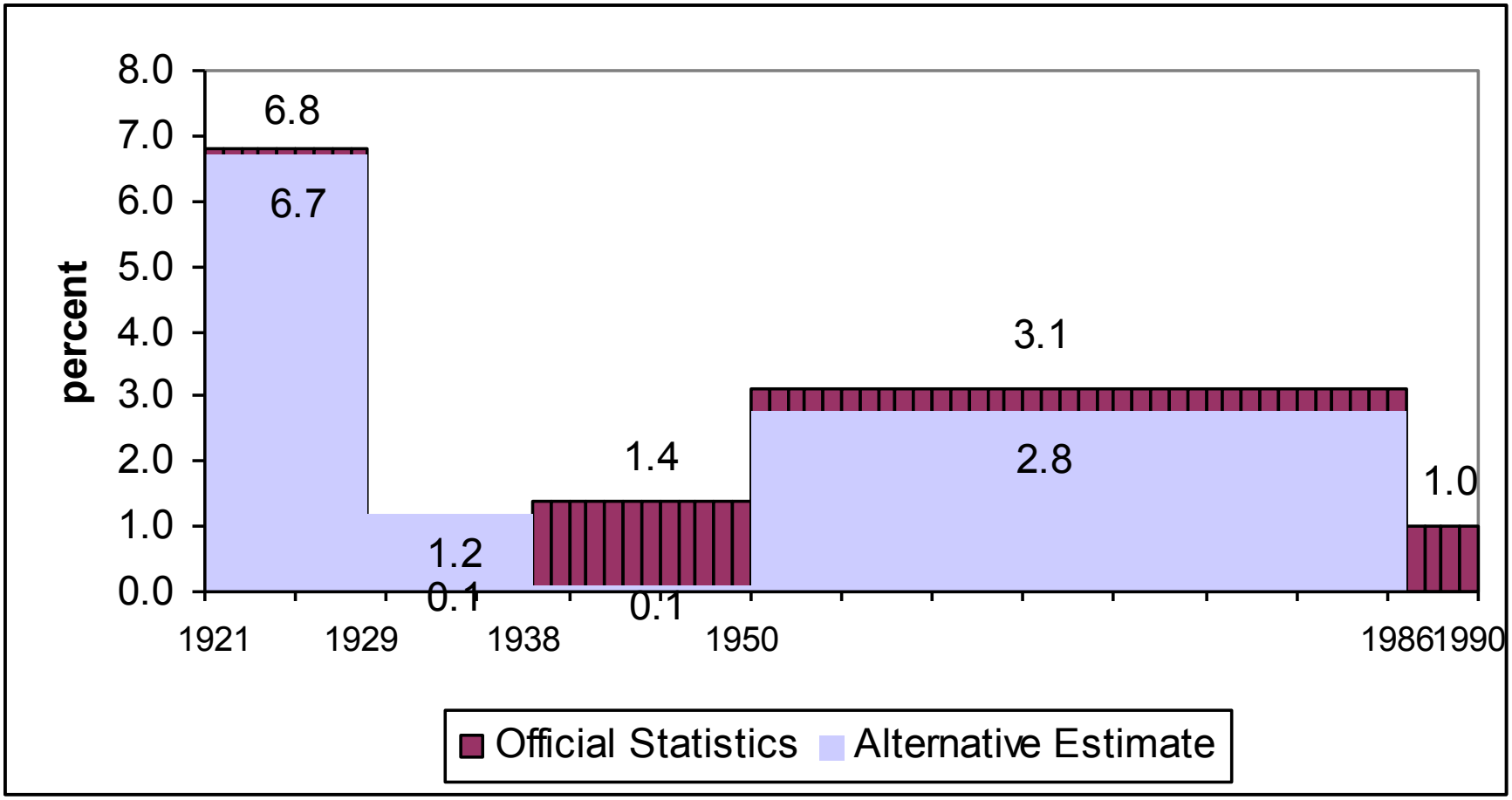
Average annual growth of industrial output



Average annual growth of national income



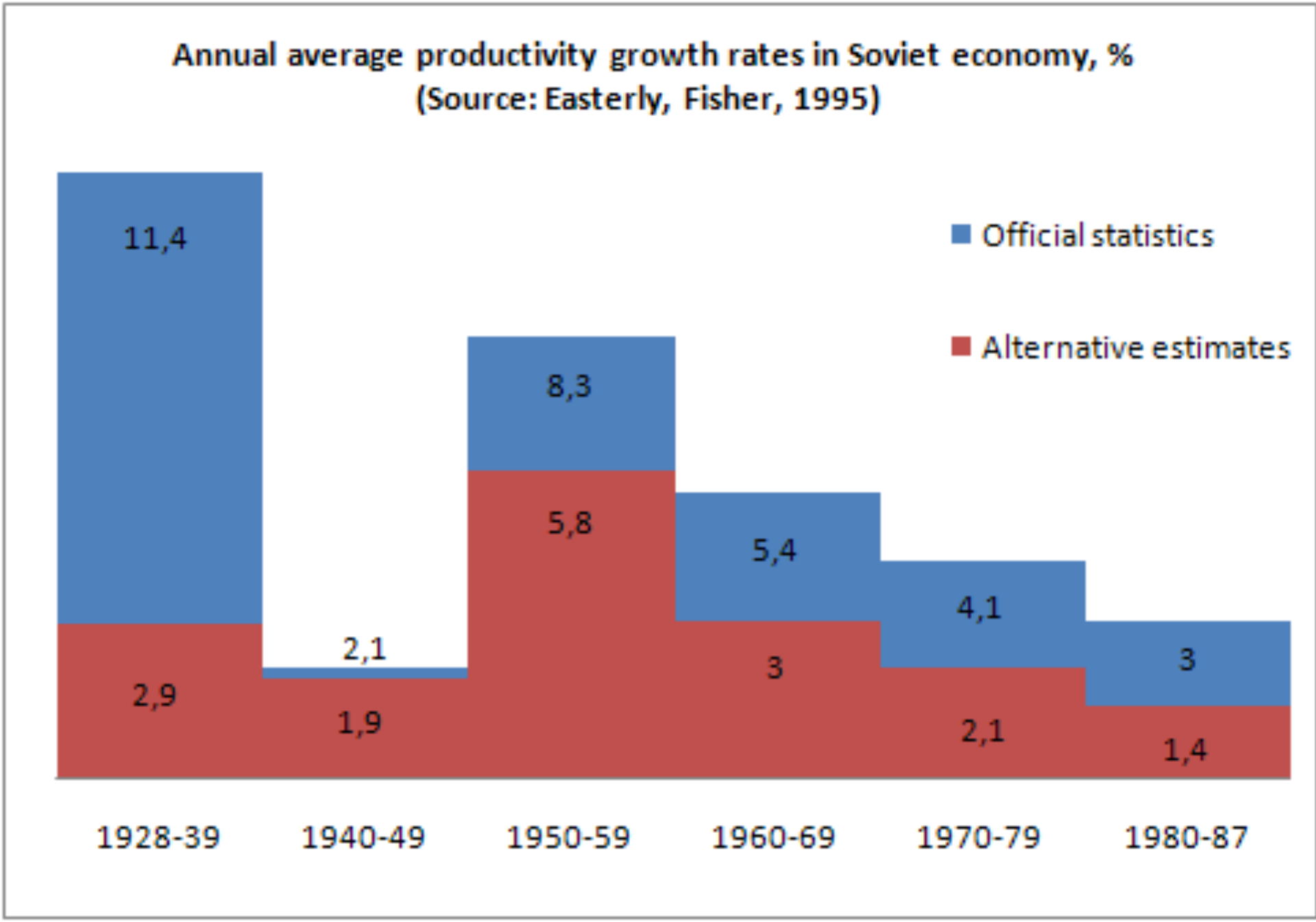
Average annual growth of agricultural output



Soviet real rates of economic growth in the 1930s, various estimates, annual averages, %

Estimate	National income	Industrial production	Agricultural production
Official statistics, 1928-37	16.5	18.1	0.9
Bergson, Kuznets, 1928-37	4.8(GNP)	11.3	1.1
Khanin/Sel'unin, 1928-40	3.4	-	-
Bolotin, 1929-38	8.0	9.0	1.2

Source: *Narodnoye Khozyaistvo SSSR* (National Economy of the USSR) for various years; Bergson A., Kuznets S., eds. *Economic Trends in the Soviet Union.* Cambr., Mass., Harvard University Press, 1963, p. 36, 155, 208; Sel'unin V., Khanin G. "Lukavaya Tsifra" (Deceptive Figure). - *Novyi Mir,* 1987, N2, p. 181-201; Bolotin B. "Sovetskyi Souz v Mirovoi Ekonomike, 1917-1987 gg." (The Soviet Union in the World Economy, 1917-1987). - *MEiMO*, 1987, N11, p. 145-157; N12, p. 141-148.


Annual average productivity growth rates in Soviet economy, %
(Source: Easterly, Fisher, 1995)
Official statistics
Alternative estimates
11,4
2,9
2,1
1,9
8,3
5,8
5,4
3
4,1
2,1
3
1,4
1928-39
1940-49
1950-59
1960-69
1970-79
1980-87

Soviet official and CIA estimates of GNP and net material product growth rates, annual averages, %

Estimates	1951-55	1956-60	1961-65	1966-70	1971-75
Soviet official - Net material product	11.3	9.4	6.3	7.8	5.6
CIA, GNP - Previous	5.5	5.9	5.0	5.2	3.7
- Revised				4.9	3.0
Soviet alternative (Khanin, Sel'unin), net material product		9.3	4.4	4.1	3.2

continuation

Estimates	1976-80	1981-85	1986	1987	1988	1989	1990
Soviet official - GNP	4.8	3.7	3.3	2.9	5.5	3.0	-2.0
- Net material product	4.3	3.2	2.3	1.6	4.4	2.4	-4.0
CIA, GNP - Previous	2.7						
- Revised	1.9	1.8	4.1	1.3	2.2	1.4	-4.0
Soviet alternative (Khanin, Sel'unin), net material product	1.0	0.6					

GNP by industry, % of total

Sector	Soviet official statistics (current prices)		CIA estimate for 1988	CIA estimate for 1982 at	
	1980	1988	in 1982 prices	Established prices	Adjusted factor cost
Industry	42	34	33	51	32
Agriculture	13	18	19	15	21
Construction	8	10	8	7	8
Transportation	6	6	10	8	10
Communication			1	1	1
Trade	13	12	6	5	6
Services	18	20	21	12	20
Other (including military personnel)	-	-	2	2	2

Source: *Narodhoye Khozyaistvo SSSR v 1989 godu* (National Economy of the USSR in 1989). Moscow, 1990, p. 11; *The Soviet Economy Stumbles Badly in 1989.* CIA and DIA. April 1990, p. 30; *Mesures of Soviet Gross National Product in 1982 Prices.* A Study prepared for the use of Joint Economic Committee. Congress of the United States. Wash. GPO, 1990, p. 23.

GNP by component, % of total

Components	Soviet official statistics (current prices)		CIA estimates in 1982 prices		
	1985	1989	At factor cost		At established prices for 1982
			1987	1982	
Consumption, total	54.2	55.0	55.9	55.3	53.4
-personal consumer expenditure	47.5	48.1			
-provided free by state organization	6.7	6.9			
Investment	32.0	31.1	31.8	30.4	28.1
Other government purchases of goods and services, total[a]	13.8	13.9	12.3	14.3	18.6
-defence		8.2[b]	16-17[c]	16-17[b]	
-non-defence		5.7			

[a] Includes other items.

[b] Defence expenditure financed from the government budget.

[c] Total defence expenditure estimated with no relation to GNP statistics.

Source: *Narodnoye Khozyaistvo SSSR v 1989 godu* (National Economy of the USSR in 1989). Moscow, 1990, p. 11; *Measures of Soviet Gross National Product in 1982*. Wash. GPO, 1990, p. 26, 83; *The Soviet Economy Stumbles Badly*. CIA, 1990, p. 6.

Conclusions

- From the late 1920s, the Soviet statistics overestimated the real rates of growth of output and underestimated the rates of price increases;
- Most significantly real growth rates were overstated for the period of the 1930s;
- The real growth rates of industrial output were much more overstated by official statistics than the real growth rates in agriculture and other resource industries;
- During the first Five Year Plan periods (1930s) real growth rates fell considerably as compared with the NEP period;
- Since the late 1950s, the rates of economic growth were falling constantly, approaching zero level by mid 1980s.

Was the Transition to the Command Economy Inevitable?

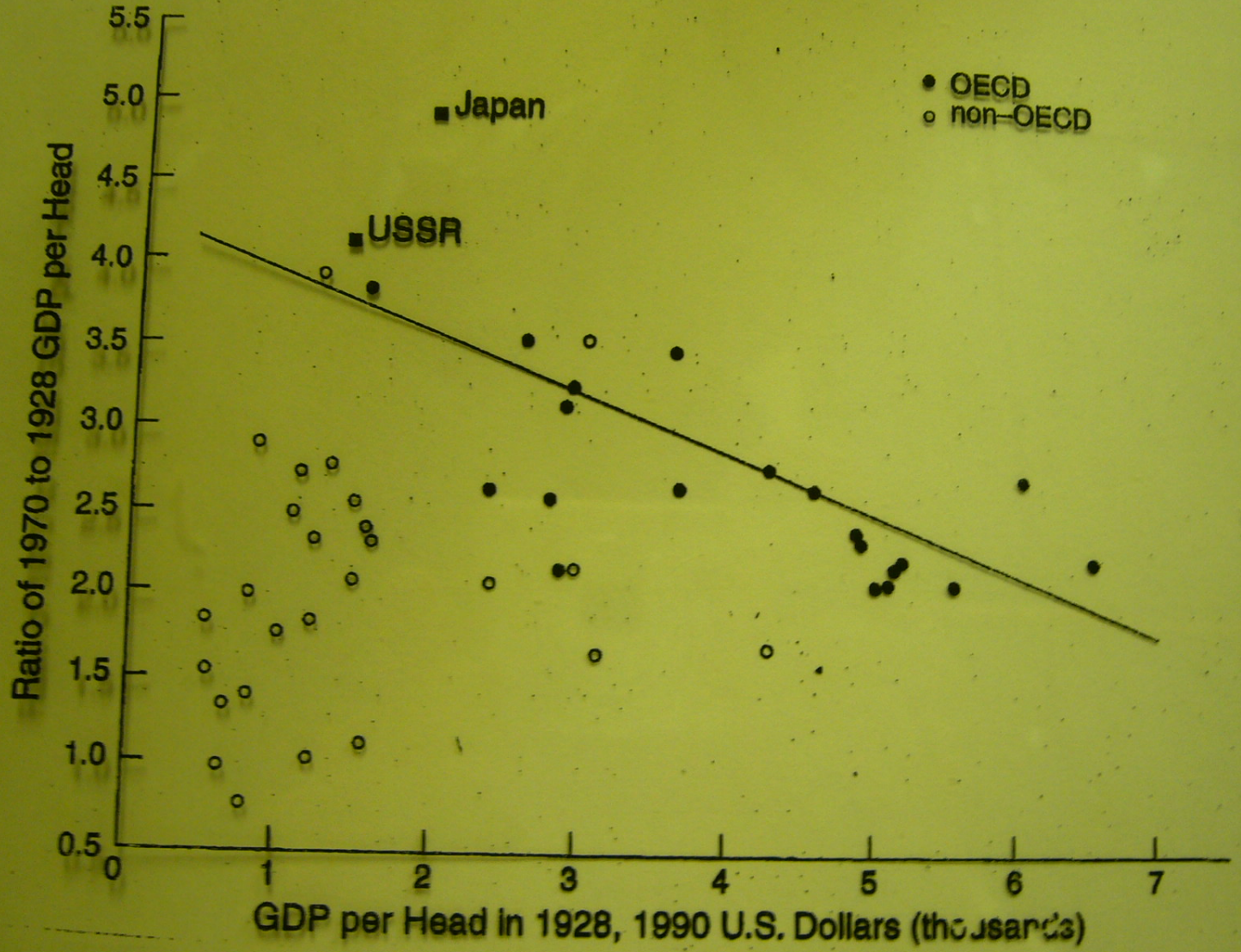
- Achievements of Command Economy
- Costs of transition
  - *Loss of human lives*
  - *Stagnation in agriculture*
  - *Waste of resources in industry*
  - *Lack of improvement of living standards*

Achievements of the Command Economy

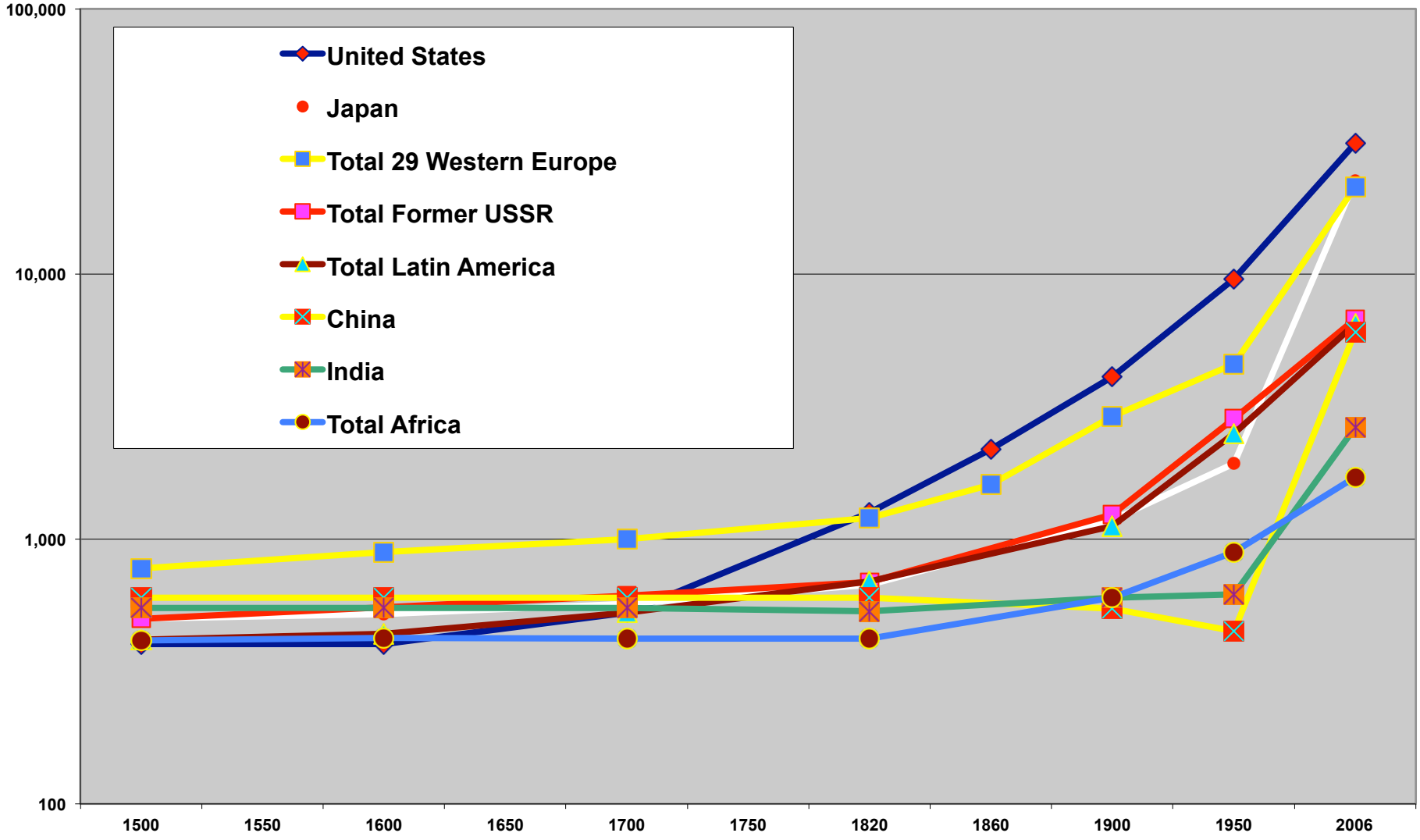
- **Soviet Union was transformed from a backward agrarian country into a strong industrial power in a decade**
  - Stalin found Russia with a plough and left her equipped with nuclear weapons (*Winston Churchill)*
- **Increase in production from 1928 to 1940:**
    - Coal mining – almost 5 times
    - Oil – almost 3 times
    - Electrical power – 10 times
    - Mineral fertilizers – 3 times
    - Cars, tractors, combines, machines – tens and hundreds of times
- **In 1913 Russian GDP was lower than in US, Britain, Germany, France; by 1940 it was second only to the US. Industrial output was at par with France**
- **Hundreds of new cities, thousands of new factories built in the 1930s**
- **Increase in grain procurements (from 10-12 mln. tons in the late 1920s to 30-32 mln. tons in the late 1930s) and exports**

Figure 1

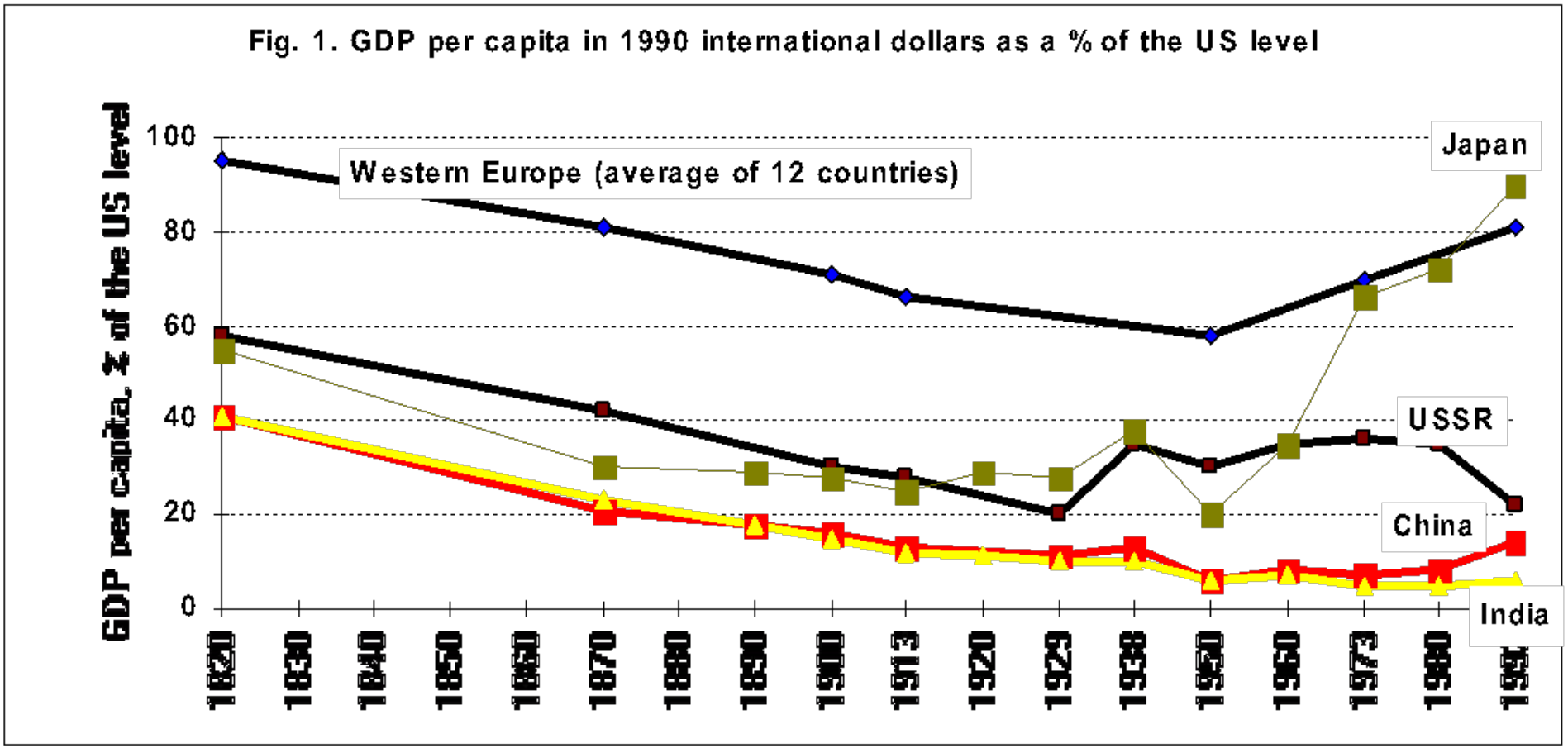
Economic Growth, 1928-1970



PPP GDP per capita in major countries and regions since 1500, 1990 international Geary-Khamis dollars; source: A. Maddison; log scale)



Catch up development: only Japan (+Korea, Taiwan, HK, Singapore) managed to reach the level of GDP per capita of developed countries



Source: Maddison 1995.

GDP per capita in the USSR and Russia, % of the US level (source: A. Maddison,

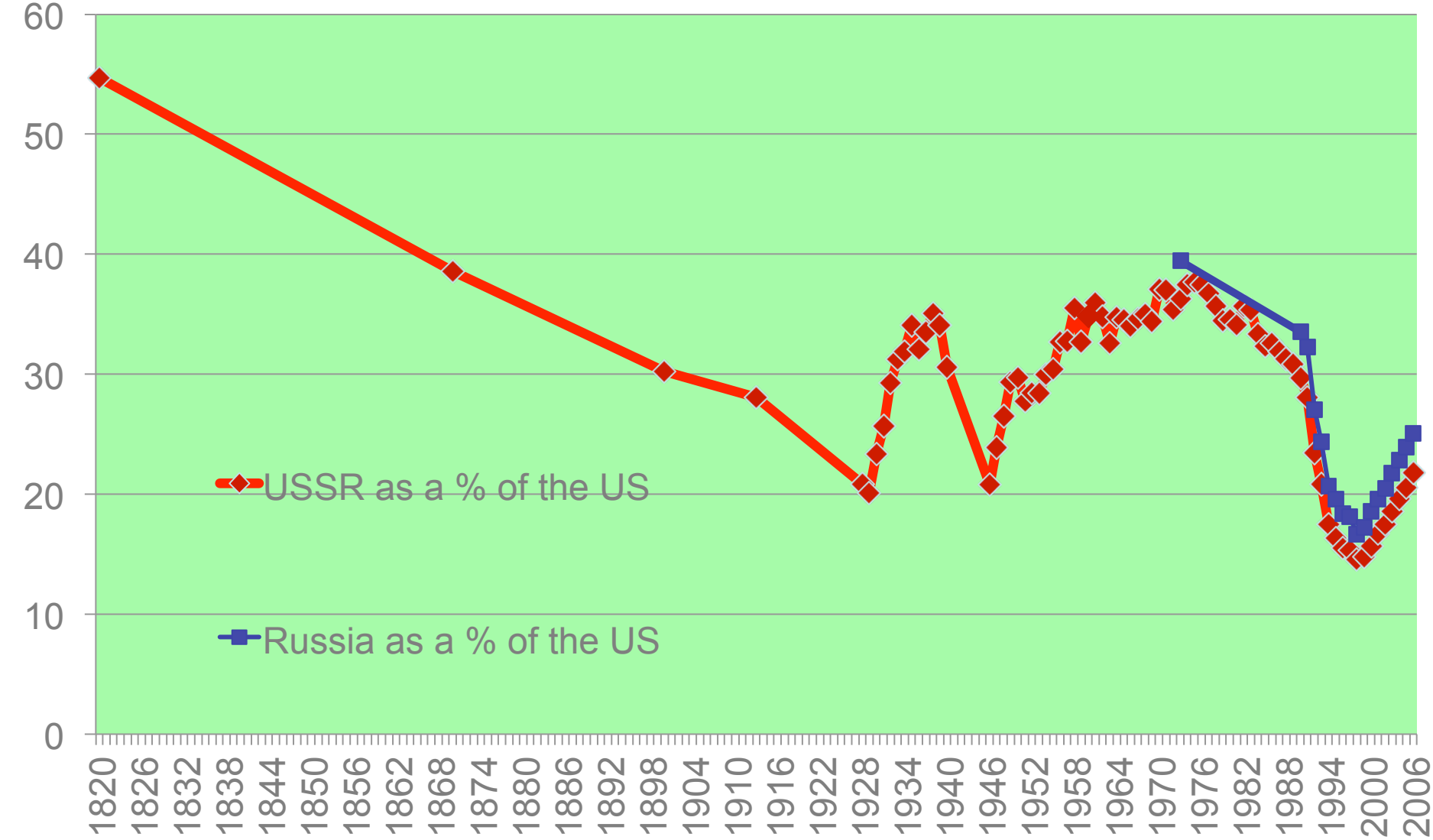
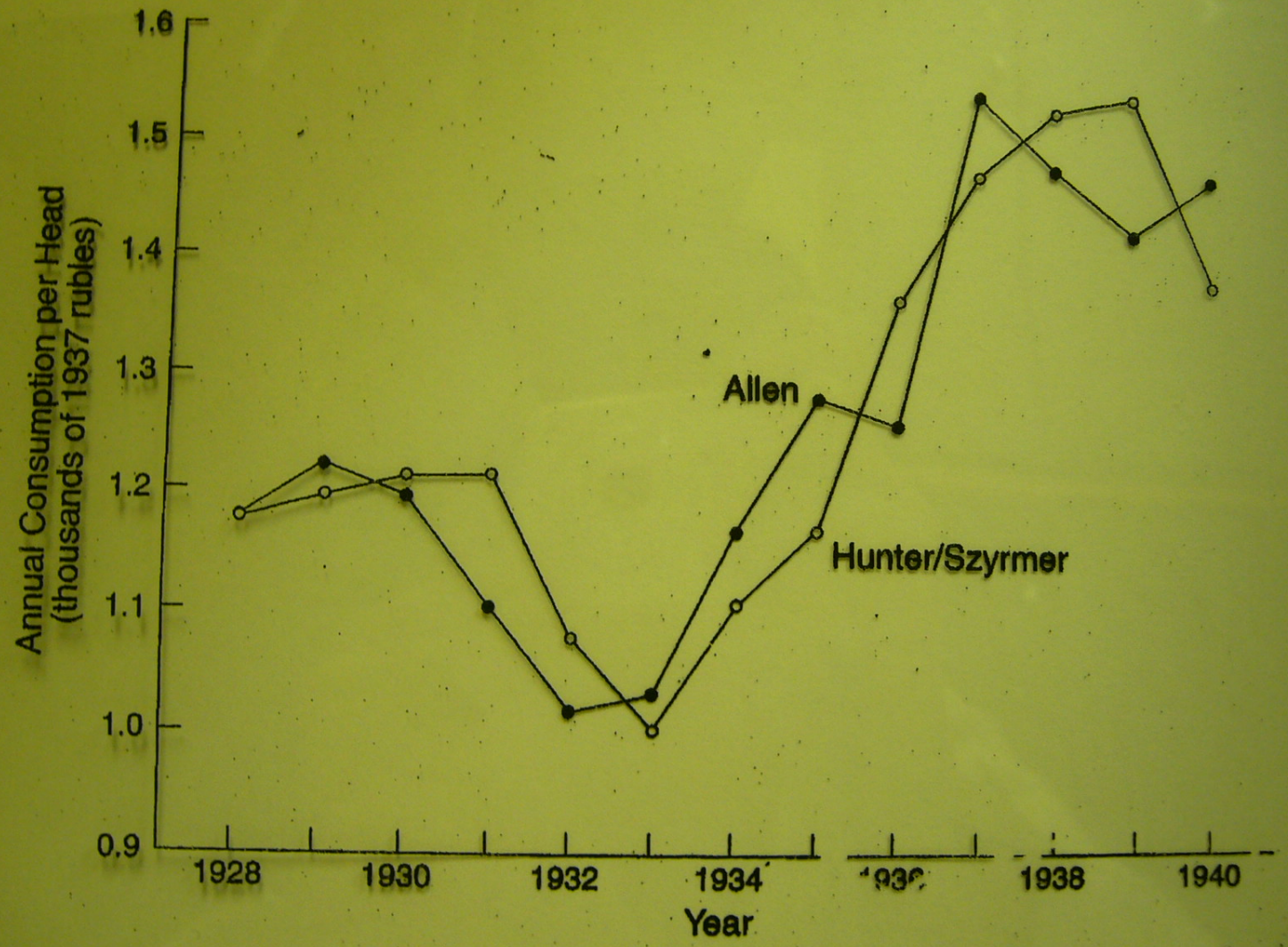


Figure 4

Consumption per Head, 1928-1940



Costs of transition

- Loss of human lives
  - Famine of 1932-1933: up to 5 million people starved to death
  - During two decades (1930-50) the population within the borders of the USSR before Sept. 17, 1939 did not increase
  - Census of 1926 - 147 million; natural increase -2% => by 1950 there should have been +60 million people (27 million - losses in the war; about 20 million - losses due to the reduction of birth rate)
  - Number of death sentences in 1930-53 - over 600,000

Costs of transition

- Stagnation in agriculture - no increase in agricultural output per capita in 1930-1955
- Reduction of growth rates in industry (compared to NEP period) despite the increase in investment/GDP ratio
  - **dramatic decline in capital productivity**

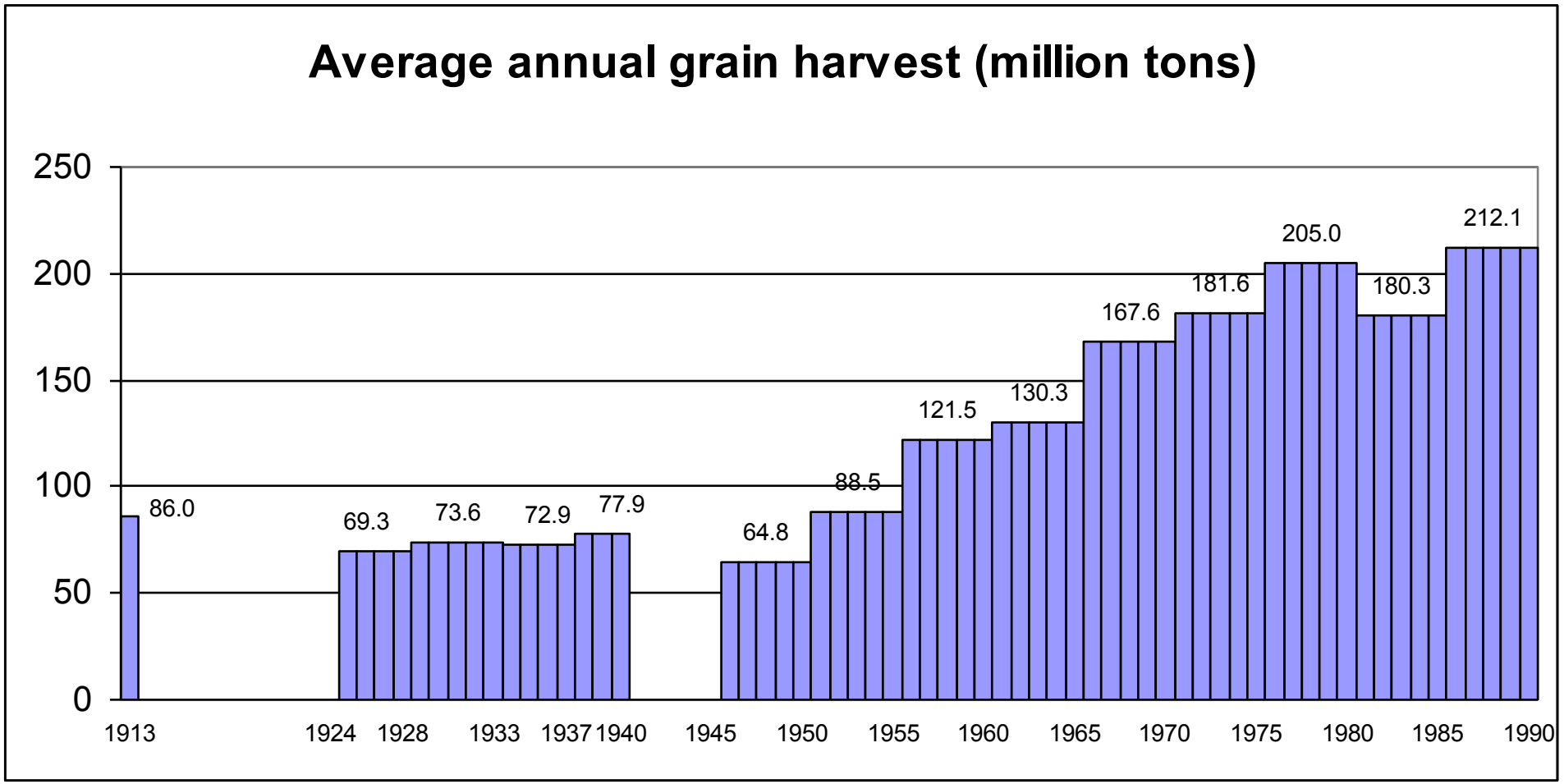
Growth rate = Accumulation rate * MCP

$$\frac{\Delta Y}{Y} = \frac{I}{Y} * \frac{\Delta Y}{I}$$

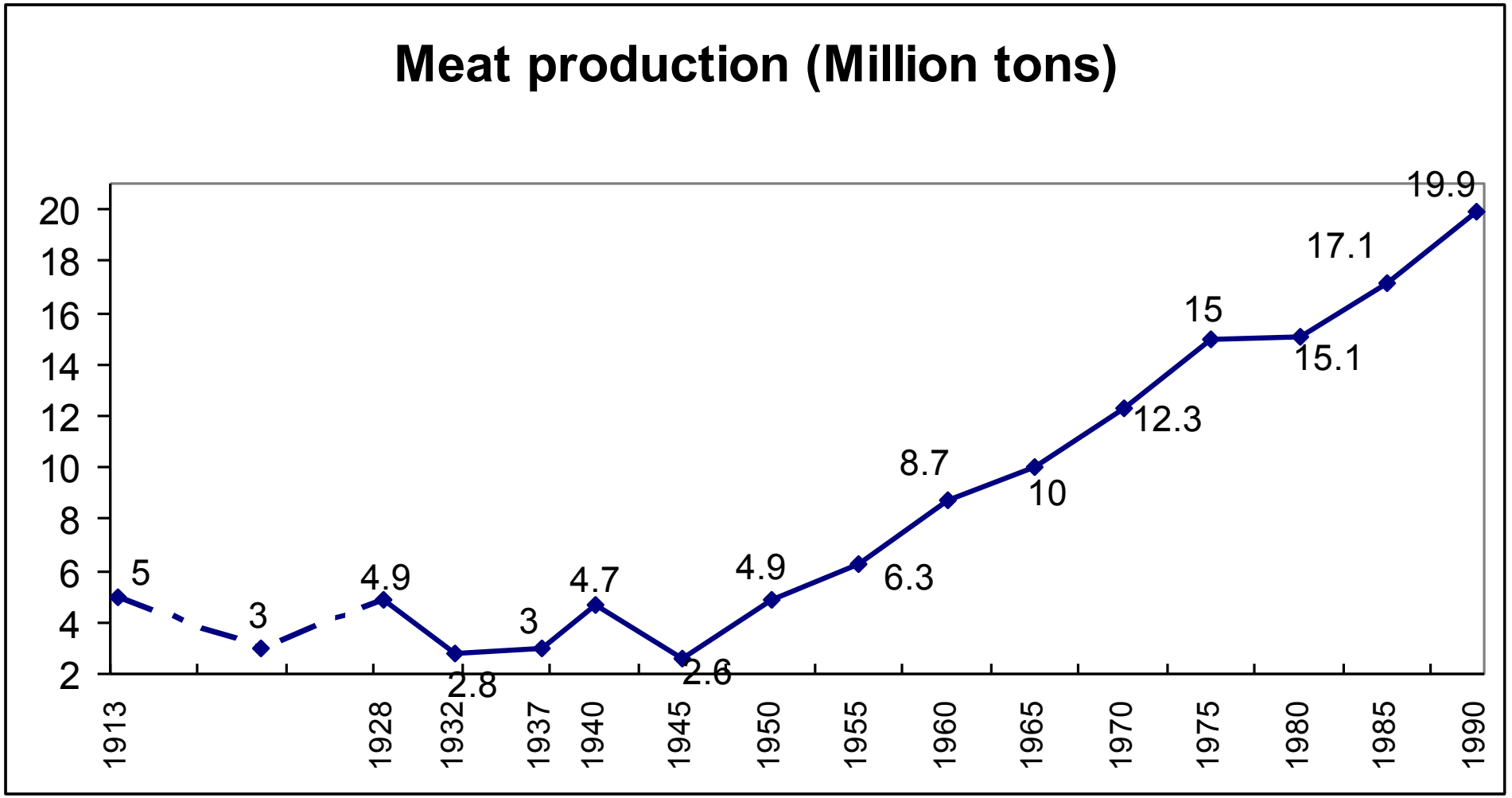
1920s	20%	13%	**20/13**
1930s	10%	26%	**10/26 = 20/52**

- Virtually no growth in real income in the 1930s

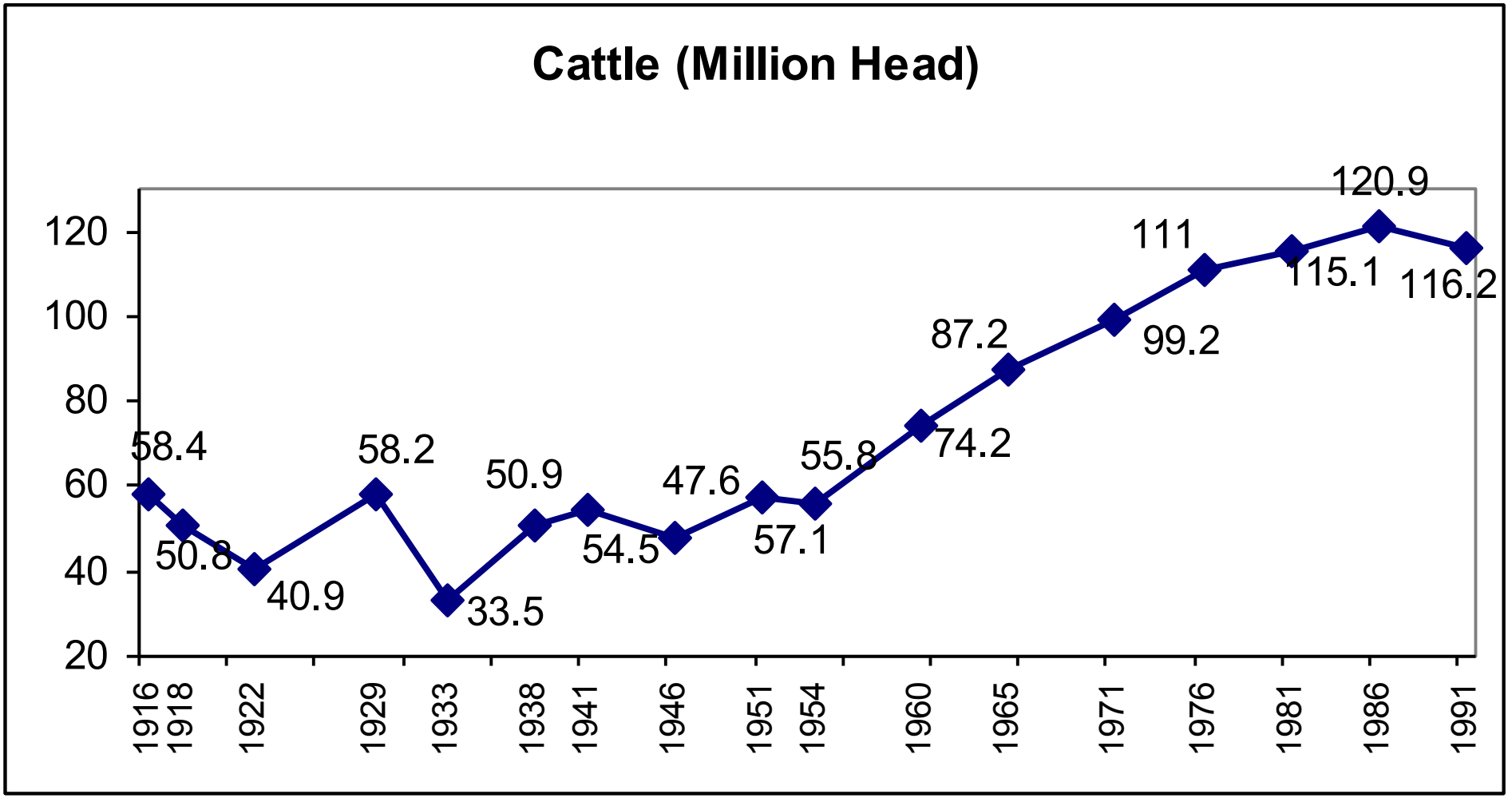
Selected indicators of agricultural development



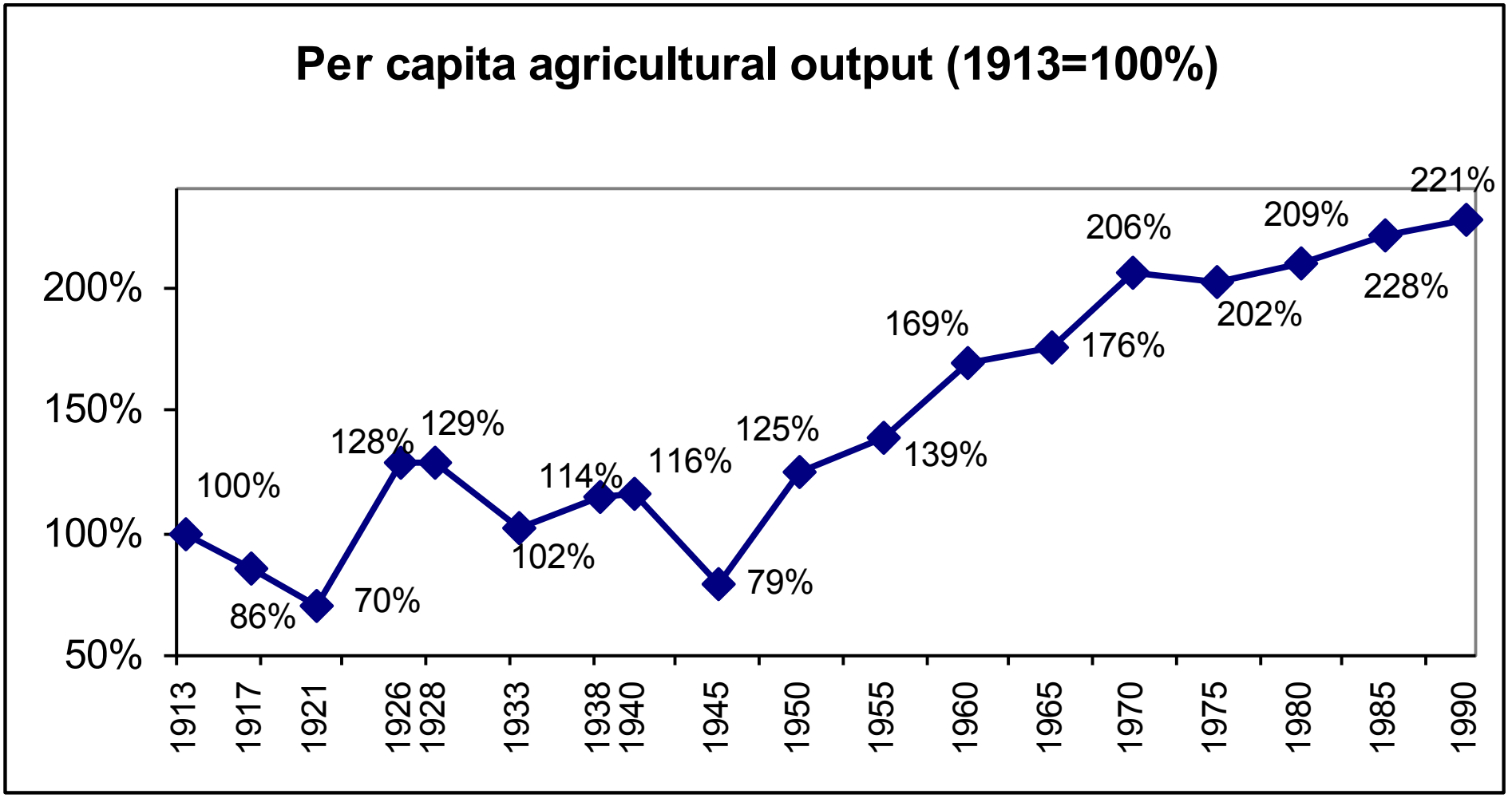
Selected indicators of agricultural development



Selected indicators of agricultural development



Selected indicators of agricultural development



If NEP was so successful economically, why it was rolled back?
Arguments justifying transition to Command Economy

- 1. Centralization of the economy was needed to industrialize the country and to win the war. NEP was efficient, but could not ensure the massive transfer of resources from agriculture to industry, from light to heavy industry, from non-defense to defense industries, from consumption to savings, and from savings to investment

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- This argument is dubious because the increase in grain procurements and exports was not that substantial - additional 20 million tons of grain a year (increase in grain procurements from the late1920s to the late 1930s could have been received with 2% annual increase in grain output in 1928-40 (75 mln. tons => 95 mln. tons). Also, agricultural forced savings were used extremely inefficiently in industry and construction.

If NEP was so successful economically, why it was rolled back? Arguments justifying transition to Command Economy

- **2. Agricultural commune that existed for 1000 years cultivated egalitarian feelings among Russian peasants, so they eagerly accepted the collective farms, there was no mass peasant uprising that was expected as a response to collectivization**

This argument does not stand because:

- **Collective farm was not a commune:**
  - peasants enjoyed personal freedom for over 50 years (after 1861), but lost in after collectivization (were attached to land)
  - peasants lost property (agricultural implements and cattle)
  - 1/3 of peasants' households in the European part of Russia left the commune in 1906-17 (after Stolypin's reforms)
- **There were peasants' revolts and uprisings during collectivization**

Conclusions

- The burden imposed on agriculture was not that heavy (additional 20 million tons of grain a year), but the collective farm system was so inefficient that output did not grow despite new massive investment in agricultural machinery and mechanization, so the moderate burden led to famine
- Savings that were extracted from agriculture and given to industry and construction were large (the accumulation rate doubled in the 1930s as compared to the 1920s), but they were used inefficiently - the command economy in industry was so inefficient that growth rates fell despite the increase in investment