

## Russian Economic History

Lecture 4: Soviet Growth Model and Collectivization

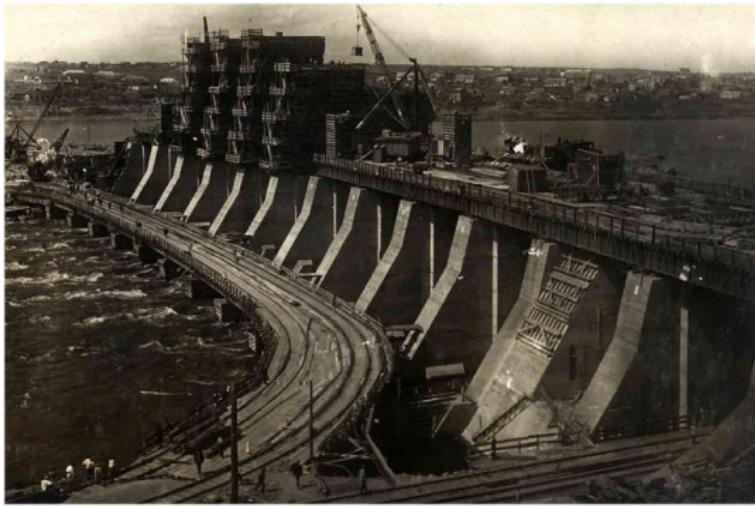
Econ 472

Fall 2020

# Soviet Industrialization

## Dnieper Hydroelectric Dam

Dnieper Hydroelectric Dam under construction, 1930



# Soviet Industrialization

## Magnitogorsk



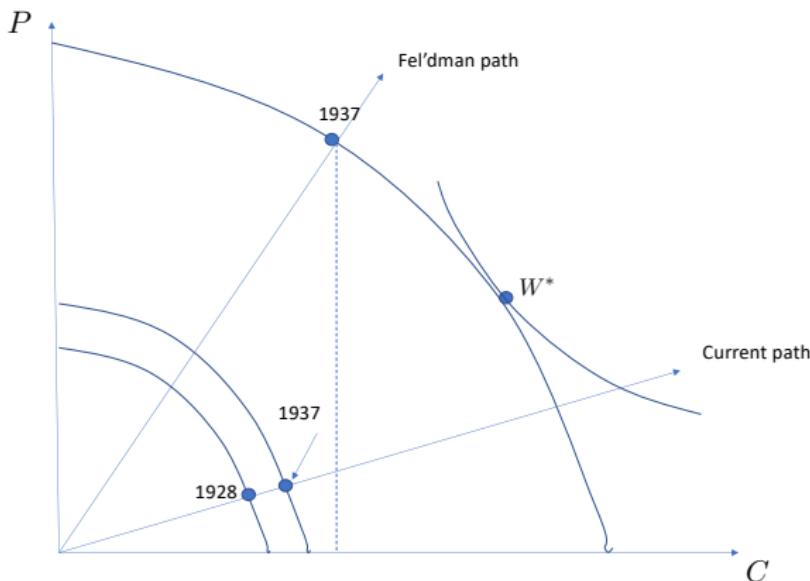
# Soviet Industrialization

## White Sea Canal



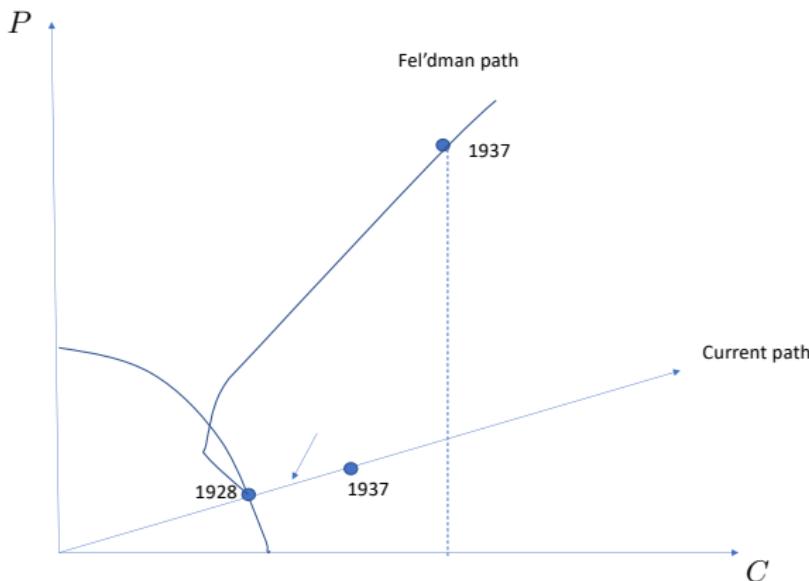
# Fel'dman Model

## Production Choices and Development



# Fel'dman Model

## Production Choices and Development



# Resolution of XV Party Conference

## Resolution on FFYP

*Taking into account the possible military attack on the proletarian state .. it is necessary in the Five Year Plan to pay maximum attention to the fastest possible development of those sectors of the economy and of industry which play the main role in supplying defense and in the economic stability of the country in wartime. Not only planning and economic organs, but, most importantly, the whole party must pay unflagging attention to the issues of defense in connection with compiling the Five Year Plan.*

# Stalin's Thoughts on Planning

Stalin or Fel'dman

Party Conference Resolution:

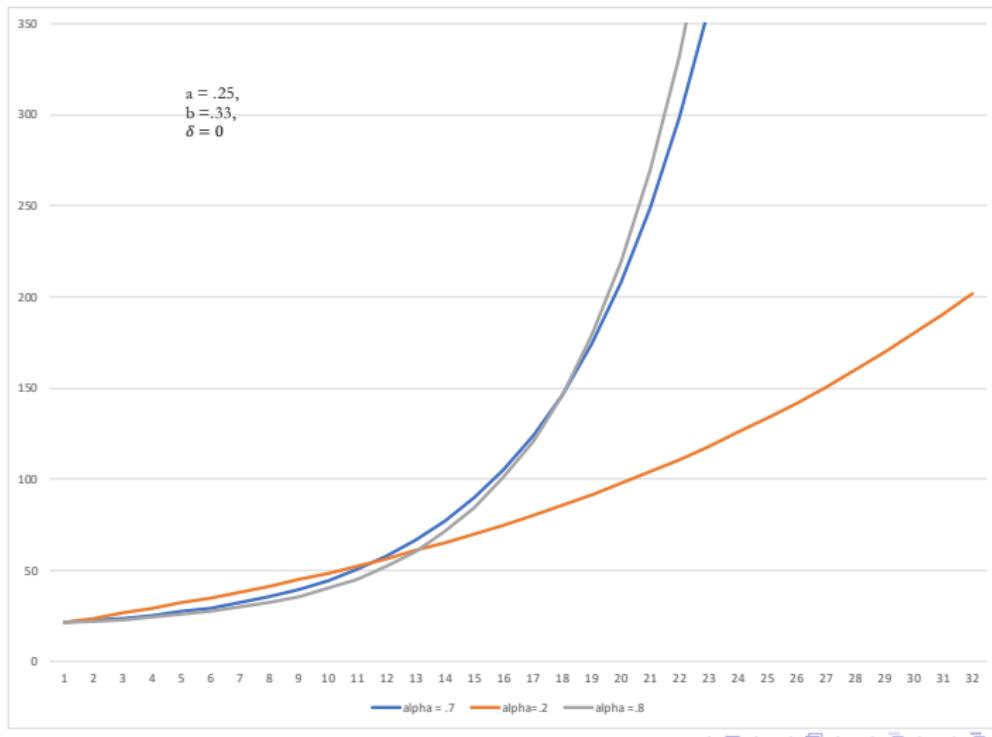
*"The sectors of heavy industry that should grow the fastest are those that, in the shortest time, increase the economic and military might of the USSR, guarantee development in case of an economic blockade, weaken our dependence on the capitalist world..."*

Stalin:

*"It is impossible to stay independent without the sufficient industrial base for defense. It is impossible to create such an industrial base without the most advanced industrial technology."*

# Fel'dman Model

## Illustrative Simulation



# Collectivization in Theory

## Collective Farm Workers, *Kolkhozniki*



# Stalin's Thoughts on Agriculture

## Stalin at the XV Party Conference

*What is the way out? The way out is to...go over to collective cultivation of the land on the basis of a new higher technology...to unite the small and dwarf peasant farms gradually but surely, not by pressure but by example and persuasion, into large farms based on common, cooperative, collective cultivation of the land...There is no other way out.*

### Stalin on marketed grain

*It is a fact that the amount of marketed grain in our country is now half of what it was before the war, notwithstanding the fact that gross output of grain has reached the pre-war level.*

# Collectivization

## Famine



# Collectivization

## Structure of Soviet Agriculture

The structure of Soviet agriculture: selected years, 1928-85

(percent of total)

	1928	1940	1950	1970	1985
<b>Kolkhozy and interfarm enterprises:</b>					
Sown area	1	78	83	48	44
Marketed output	..	61	..	48	41
<b>Sovkhozy and other public sector farms:</b>					
Sown area	2	9	11	49	54
Marketed output	..	12	..	40	49
<b>Private farms and personal allotments:</b>					
Sown area	97	13	6	3	3
Marketed output	..	27	..	12	10

# Collectivization

## Agricultural Output

Soviet arable products, before World War I (interwar frontiers) and 1928-1940  
Arable products (million tons)

	Grains	Pota-toes	Veget-ables	Sun-flower seeds	Sugar beets	Cotto n fibres	Flax fibres
1909-13							
average	68	..	..	..	9.7	.68	.26
1913	79	29.9	8.6	.74	10.9	.74	.33
1928	63	45.2	10.5	2.13	10.1	.79	.32
1929	62	45.1	10.6	1.76	6.2	.86	.36
1930	65±3%	44.6	13.9	1.63	14.0	1.11	.44
1931	56±9%	40.6	16.8	2.51	12.1	1.29	.55
1932	56±10%	37.2	17.6	1.13	6.6	1.27	.50
1933	65±4%	41.3	17.4	1.14	9.0	1.32	.36
1934	68	43.8	17.6	1.15	9.9	1.20	.37
1935	75	60.5	12.4	1.22	16.0	1.77	.40
1936	56	44.4	8.2	1.12	16.4	2.47	.33
1937	97	58.7	15.4	1.75	21.6	2.58	.36
1938	74	38.3	6.8	1.61	16.2	2.63	.31
1939	73	40.7	9.7	2.07	14.3	2.70	.38
1940	87	64.7	..	2.41	16.9	2.19	.27

# Collectivization

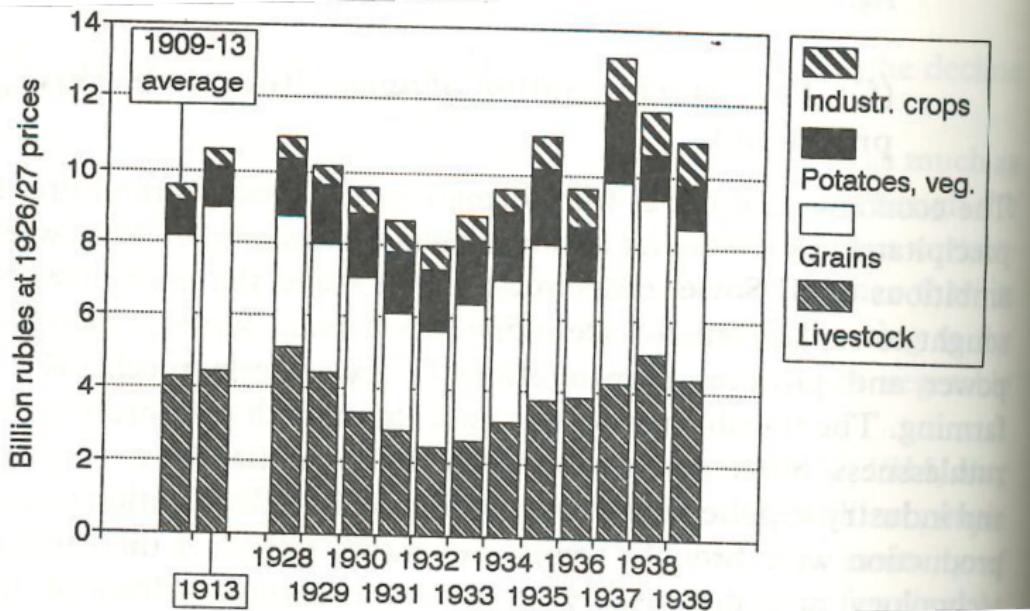
## Livestock

Soviet livestock, before World War I(interwar frontiers) and 1928-1940  
(millions, 1 January)

	Horses	Cattle	Sheep	Pigs
1914	37.0	55.6	90.3	19.8
1928	32.1	60.1	107.0	22.0
1929	32.6	58.2	107.1	19.4
1930	31.0	50.6	93.3	14.2
1931	27.0	42.5	68.1	11.7
1932	21.7	38.3	47.6	10.9
1933	17.3	33.5	37.3	9.9
1934	15.4	33.5	36.5	11.5
1935	14.9	38.9	40.8	17.1
1936	15.5	46.0	49.9	25.9
1937	15.9	47.5	53.8	20.0
1938	16.2	50.9	66.6	25.7
1939	17.2	53.5	80.9	25.2
1940	17.7	47.8	76.7	22.8

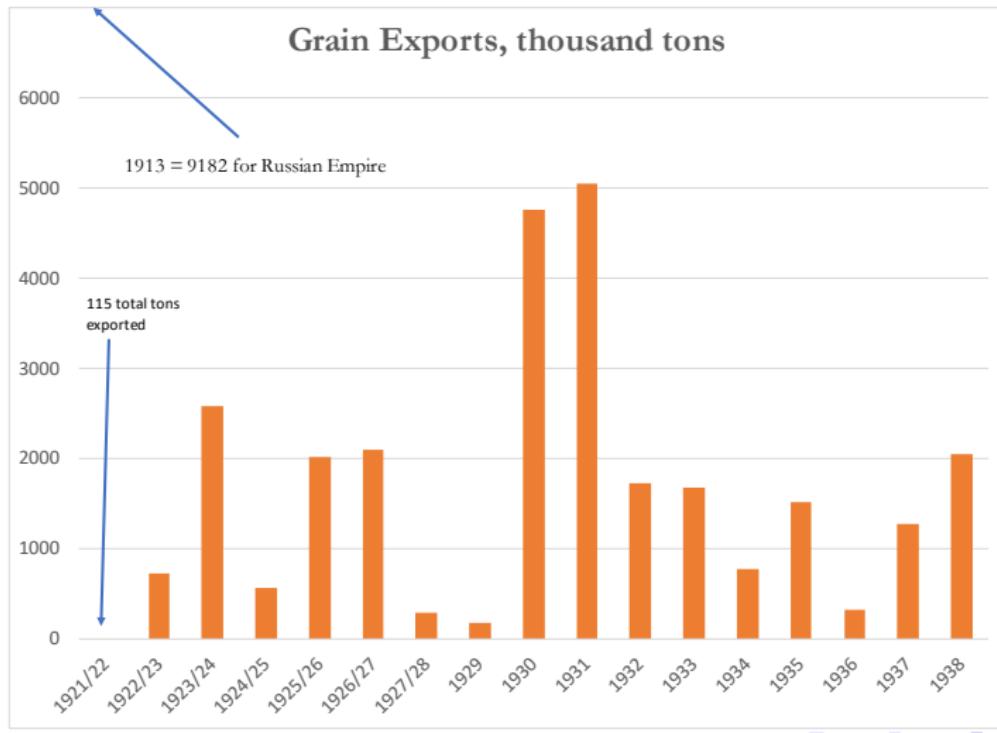
# Collectivization

## Agricultural Output



# Collectivization

## Russian Grain Exports



# Soviet Famine and Ukraine Holodomor



# Famine

## Mortality at the Province Level

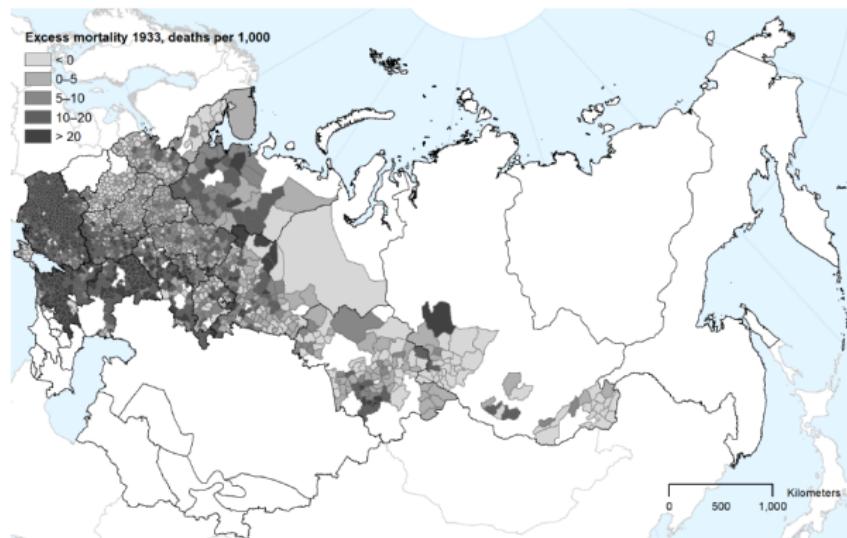
### Excess Mortality at the Province Level



# Famine

## Mortality at the District Level

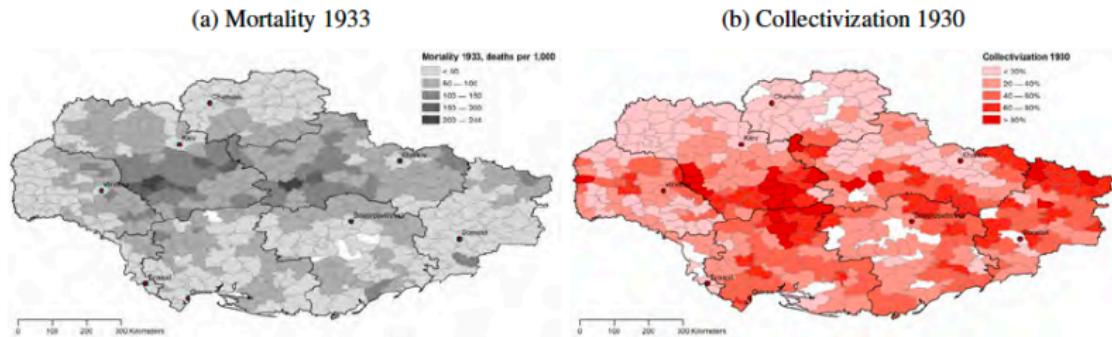
### Excess Mortality at the District Level



# Famine

## Mortality and Collectivization

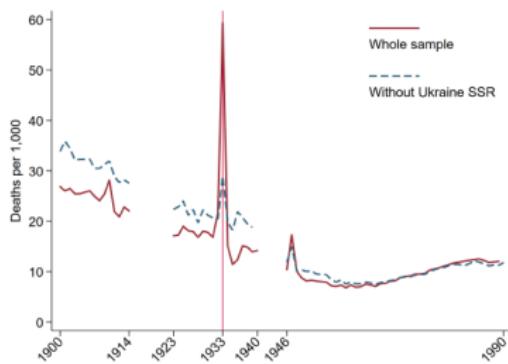
Maps of Early Collectivization and Famine Mortality in Ukraine



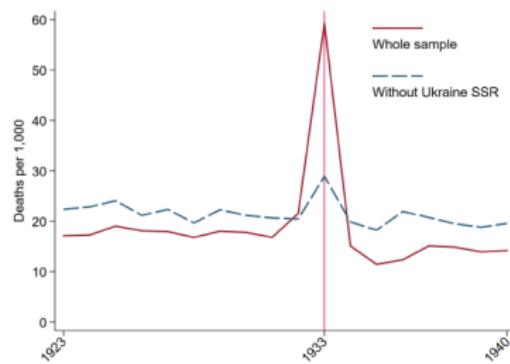
# Famine Mortality

## Mortality

(a) 1900–1990



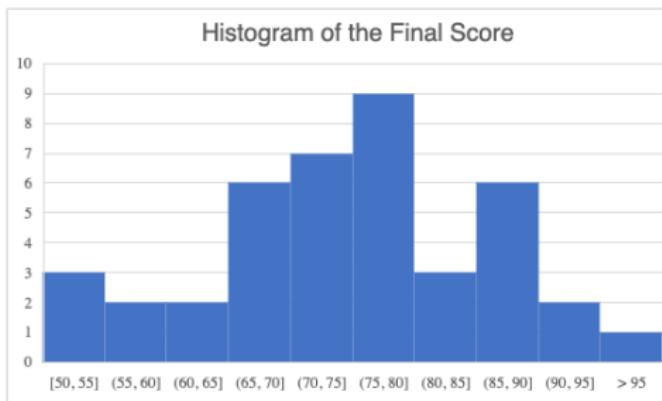
(b) 1923–1940



# Midterm One Results

## Midterm One: Descriptive Statistics

# Midterm One Results



Highest Final Score	96
Average Final Score	75.0
Median Final Score	76
Lowest Final Score	50

# Midterm One Results

## Attendance

### Midterm One: Attendance

