

# Western Philosophy of Social Science

Lecture 12. Population, technology and economic  
change in China's history

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# I. Large economic factors

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- Three large families of factors are certainly relevant to economic performance and growth, in agriculture and manufacture.
- Technology and labor skills
- Population dynamics and family system
  - Absolute size
  - Rate of growth
  - Fertility and mortality
- Local and state institutions
  - Taxation
  - Land tenure

# Overall performance measures

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- Output
  - Total grain and animal production
  - Total textile and consumer goods
- Productivity – land, labor, capital
  - Output per hectare, output per day
  - Draft animals
- Wages and prices
- Standard of living—rural and town
- Rates of change in each of these variables

## II. The involution debate

- Comparative Eurasian economic history has been dominated in the past several years by a sustained debate over the developmental status of late imperial China relative to England: was the early modern Chinese agricultural economy “involutionary,” “stagnant”, or “revolutionary”?
- Was labor productivity falling in farming?
- Were living standards falling in farming?
- Huang, Pomerantz, Lee, Li, Wong

# Huang's position

- China's agricultural economy in the late Qing and early Republican economy experienced extremely low levels of per capita productivity and was able to increase output only at the expense of ever-increasing inputs of labor per unit of output (Huang 1990).
- Farmers increased output only by adding substantially more labor to the process—driving down the average and marginal productivity of farm labor (involutionary growth).

# Pomerantz's position

- Pomeranz holds that China's rural economy was roughly as productive as England's in 1700, and that the rural standard of living in the lower Yangzi region was approximately the same as that of rural England in the same period (Pomeranz 2000).
- Huang gives too little attention to the importance of the differences between land-intensive and labor-intensive agriculture. Pomeranz disputes that agriculture was involutionary.

# Robert Allen's position

- Robert Allen provides a detailed, rigorous system for aggregating costs on historical farming systems (England and Yangzi), and arriving at estimates of labor and land productivity, farm wage incomes, and farm family incomes (Allen 2000, 2002b, 2004). His overall finding supports the judgment that the rural Chinese standard of living was comparable to that of rural England,
- He finds and little evidence of productivity increase in Chinese agriculture in the early modern period.



# The standard of living across Eurasia

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- Allen, Bozhong Li
- Pomerantz and Wong: the rural standard of living was approximately equal in England and China.
- Allen's research supports this.



# III. Institutional differences across Eurasia

- R. Bin Wong, *China Transformed*
- Institutions constitute the social environment in which economic activity takes place.
- They set the incentives, costs, and opportunities within the context of which individuals pursue their goals.
- The institutional arrangements surrounding both agriculture and manufacturing have substantial influence on the nature of economic activity and outcomes.

# Institutional differences

- Institutions of landownership, taxation, and the control of labor are particularly important.
- Institutions of governance are important.
- There are important similarities and contrasts among institutions across Eurasia.
- The economic historian can explore the aggregate consequences of these differences.

# Size and control of agricultural surplus

- Brenner: the salience of the social-property system in stimulating different patterns of economic growth.
- Brenner: social property system permits English landlords to control the surplus, control production, and invest in scientific innovations in agriculture.
- Brenner: the social and political position of the landlord and peasant in England were substantially different from counterparts in France; English landlords were able to prevail.

# Chinese rural surplus

- Riskin and Lippit show that the rural Chinese economy created a substantial potential surplus (~25-35%).
- The surplus went as income to landlords, lenders, and labor-hiring managerial farmers.
- Lippit: Chinese land ownership favored the landlord; landlord used the surplus for luxury consumption, not investment; so agricultural development failed to achieve significant increases in productivity.

# Chinese rural surplus

- Chinese institutions assigned rural surpluses to income holders who tended to refrain from investments in agricultural innovation.
- This suggests that the Elvin position is incorrect: China was not locked in a high-level equilibrium trap.

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# IV. Population as a factor

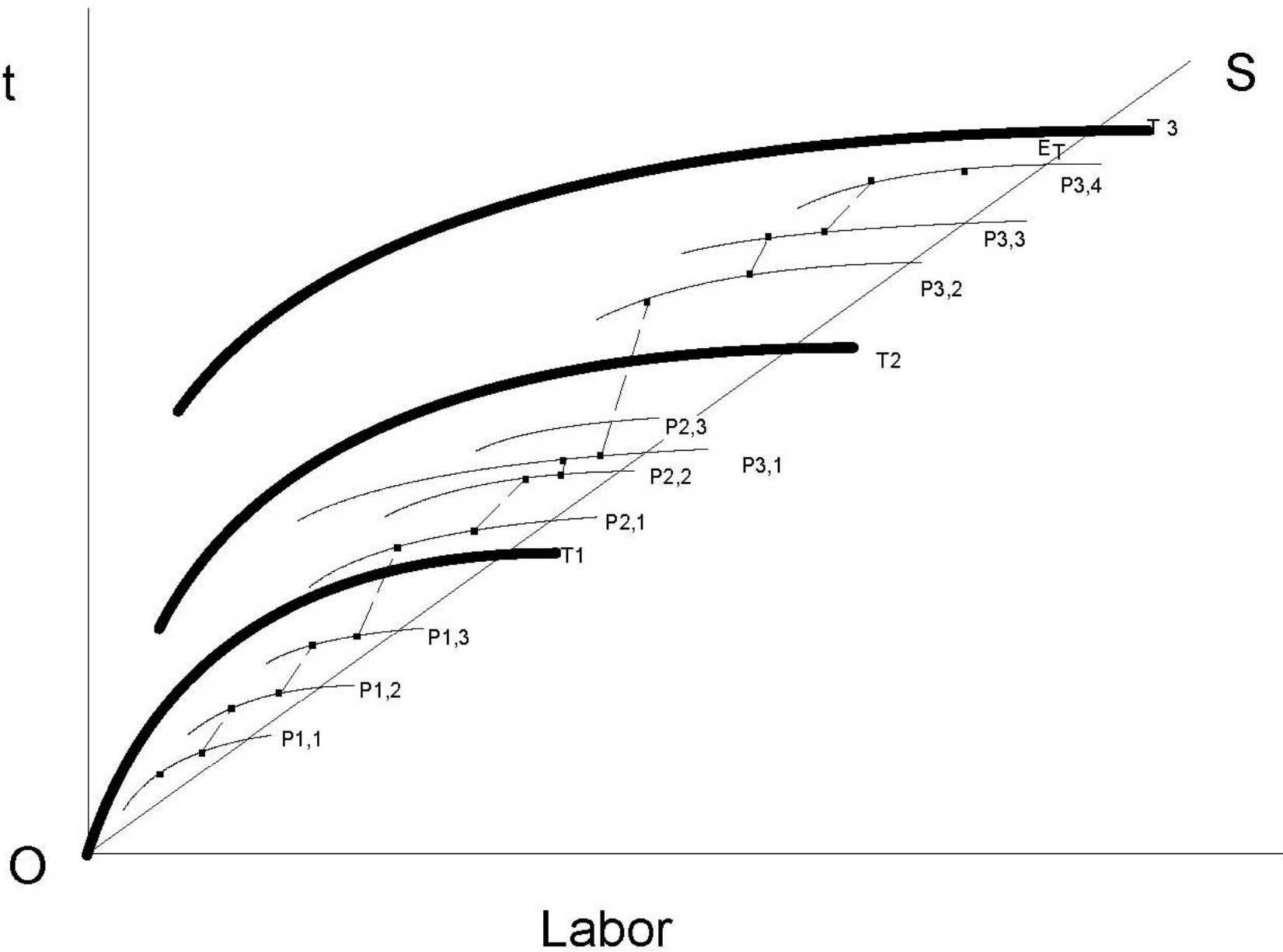
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# The high-level equilibrium trap

- Elvin offers an influential theory postulating population growth, refinement of technique in agriculture, improvement of productivity, more population growth, occasional minor technological innovation, and –
- A high-level equilibrium trap where population growth has exhausted the feasibility of further productivity improvements without scientific breakthroughs.



Output



S

T 3

ET

P3,4

P3,3

P3,2

T2

P2,3

P2,2

P3,1

P2,1

T1

P1,3

P1,2

P1,1

Labor

O

# The Malthusian debate

- Pomeranz, Lee, and Li maintain that the Yangzi river basin was characterized by no malthusian crisis;
- instead, China's demographic regime was stable and resulted in controlled fertility.
- The Chinese farm economy experienced steady labor productivity and rising land productivity, resulting in a level standard of living for rural workers and farmers.

# Demographic analysis of China

- Lee: no malthusian crisis in China in late Imperial times.
- Demographic regimes functioned to regulate fertility and birth spacing.
- Lee maintains that more detailed study of China's demographic systems at the level of the family result in similar outcomes to those experienced in early modern Europe.

# Eurasian demography project

- A powerful example of comparative historical research across Eurasia (Bengtsson and EurAsian Project on Population and Family History. 2004).
- International team collaborates over multiple years using a set of standards on the basis of which to represent and analyze the demographic data they have collected
- population registers in 15 sites across Eurasia

# Eurasian demography project

- The research groups have thus attempted to arrive at a micro-picture of the individual-level demographic events with individual, relationship, and household characteristics; to put together a timeline of “stress”; and to see how outcomes for people sorted by the characteristics behave.
- This allows them to probe the ways in which varying social and economic institutions—family structure, economic niche structure, state food subsidy practices—influence people in different spaces.

# Eurasian demography project

- Provides the quantitative foundation for evaluating Malthusian hypothesis and many other important questions.
- a substantially more detailed understanding of the historical trajectory of demography in different parts of the Eurasian land mass—population size, nuptiality, fertility, mortality, etc., as well as a more empirically constrained set of hypotheses about the causes of changes in these factors over time.

# Eurasian demography project

- “Big science” in historical social science
- attempts to combine aggregate and individual levels
- It attempts to identify similarities and differences at both extremes of Eurasia and within Europe and Asia
- It understands the “large-scale processes and implications of the fertility and mortality transitions”



# Eurasian demography project

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- It attempts to evaluate the large hypotheses (especially Malthusianism) concerning differences in demographic regimes between Europe and Asia

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