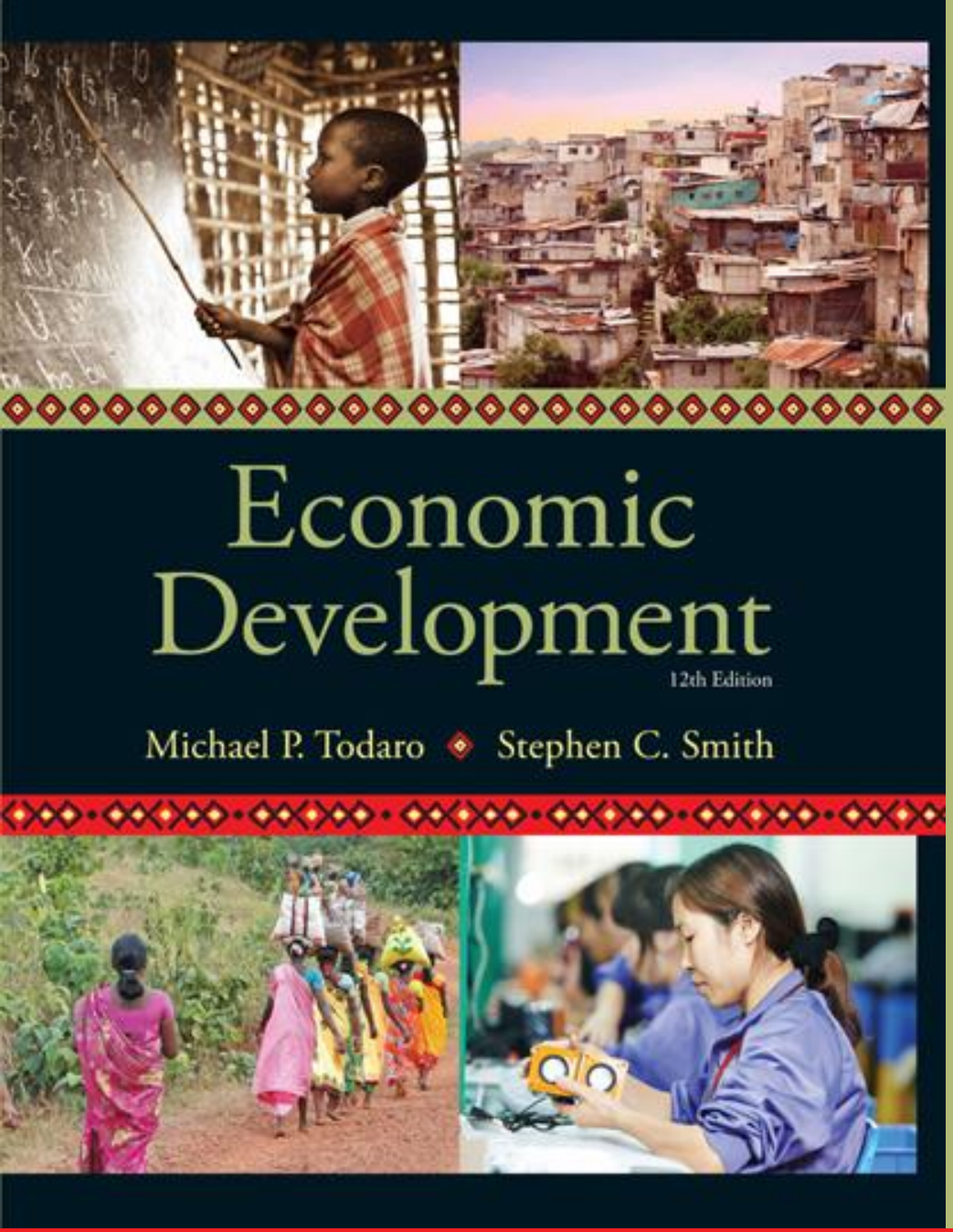


Chapter 3

Classic Theories of Economic Growth and Development

Introduction: Every nation strives after development

- Economic progress is an essential component, but it is not the only component;
- Development is not purely an economics phenomenon, it must encompass more than the material and financial side of people's lives, to expand human freedoms;
- In addition to improvements in incomes and output, it typically involves radical changes in institutional, social and administrative structure as well as popular attitudes and even customs and beliefs;
- Although development is usually defined in a national context, its more widespread realization may necessitate modification of the international economic and social system as well.

Classic Theories of Economic Development (post WWII)– Four Approaches

- Linear stages of growth model (1950s,60s);
- Theories and Patterns of structural change (1970s);
- International-dependence revolution(1970s);
- Neoclassical, free market counterrevolution (80s,90s)

Development as Growth and Linear-Stages Theories

- Rostow's Stages of Growth: the transition from underdevelopment to development can be described in terms of a series of steps or stages through which all countries must proceed;
- Harrod Domar Growth Model: also referred as AK model, more investment leads to more growth.

The Harrod-Domar Model

$$S = sY \qquad (3.1)$$

$$I = \Delta K \qquad (3.2)$$

$$\Delta K = k\Delta Y \qquad (3.3)$$

$$S = I \qquad (3.4)$$

The Harrod-Domar Model

$$S = sY = k\Delta Y = \Delta K = I \qquad (3.5)$$

$$sY = k\Delta Y \qquad (3.6)$$

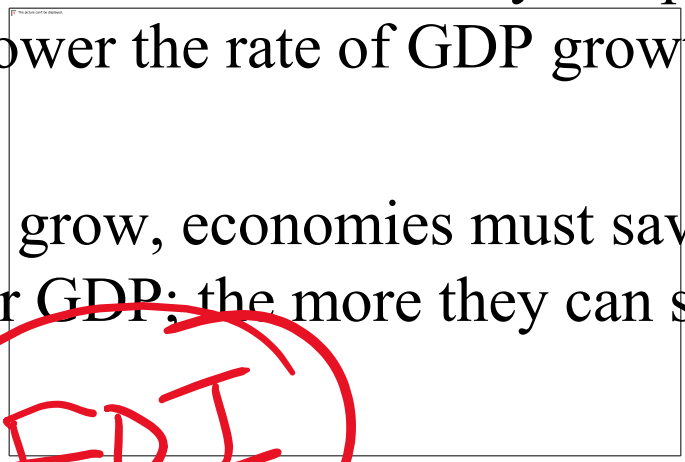
saving rate

$$\frac{\Delta Y}{Y} = \frac{s}{k} \qquad (3.7)$$

growth rate

Explanation of equation(3.7)

- It states simply that the ratio of growth of GDP($\frac{\Delta Y}{Y}$) is determinded by the net national savings, s, and the national capital-output ratio , k .
- the growth rate of national income will be directly or positively related to the savings ratio (i.e., the more an economy is able to save and invest out of a given GDP, the greater the growth of that GDP will be) and inversely or negatively related to the economy's capital-output ratio (i.e., the higher k is, the lower the rate of GDP growth will be.
- The economic logic is very simple: to grow, economies must save and invest a certain proportion of their GDP; the more they can save and invest, the faster they can grow.



Criticisms of the Stages Model

- The mechanisms of development embodied in the theory of stages of growth did not always work: more saving and investment is not a sufficient condition;
- Necessary versus sufficient conditions: Rostow and Harrod-Domar models implicitly assume the existence of these same attitudes and arrangement in developed countries; Yet in many cases, they are lacking;
- Example: Marshall plan's success lied in that the European countries receiving aid possessed the necessary structural, institutional and attitudinal conditions to convert new capital effectively into higher levels of output.

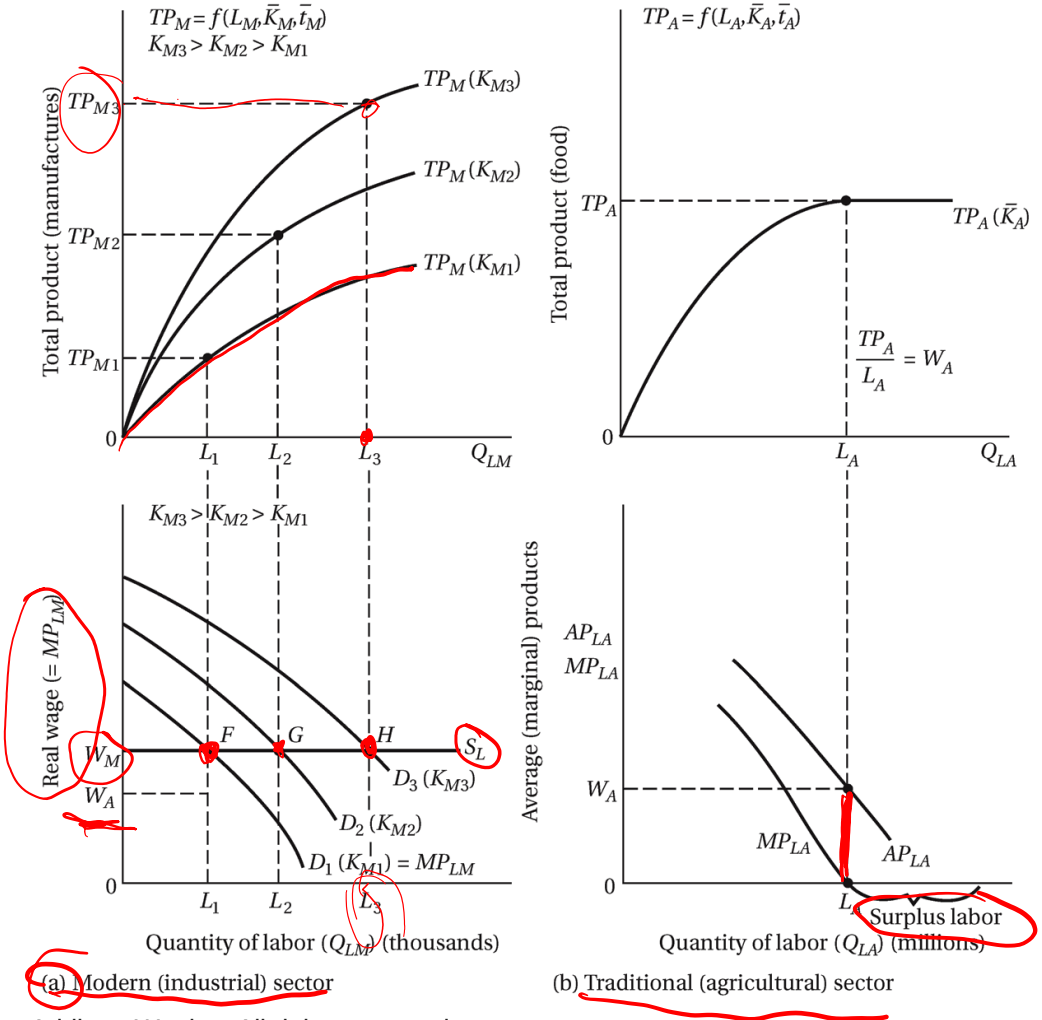
Structural-Change Models

- Structural-Change theory focuses on the mechanism by which underdeveloped economies transform their economic structures from a heavy emphasis on traditional subsistence agriculture to a more modern, more urbanized and industrially diverse manufacturing and service economy.
- Two well known examples: The Lewis two-sector model & patterns of development empirical analysis

The Lewis two-sector model

- The underdeveloped economy consists of two sectors: a traditional, overpopulated rural subsistence sector and a high-productivity modern urban industrial sector;
- The model focuses on the process of labor transfer and the growth of output and employment in the modern sector;
- The model assumes that level of wages in the urban industrial sector is constant.

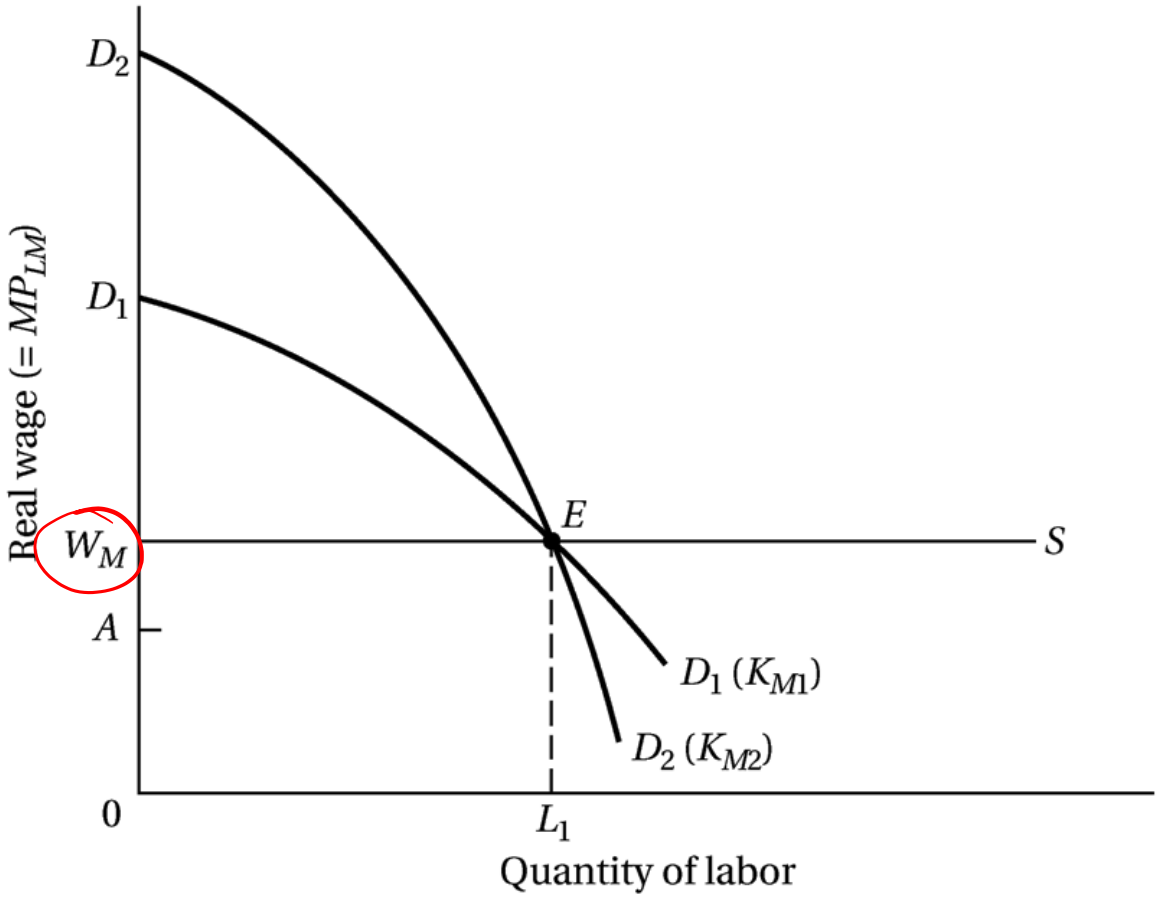
Figure 3.1 The Lewis Model of Modern-Sector Growth in a Two-Sector Surplus-Labor Economy



Criticisms- Lewis Model

- Rate of labor transfer and employment creation may not be proportional to rate of modern-sector capital accumulation
- Surplus labor in rural areas and full employment in urban?
- Constant urban wages?
- Assumption of diminishing returns in modern sector

Figure 3.2 The Lewis Model Modified by Laborsaving Capital Accumulation: Employment Implications



The International-Dependence Revolution

- Essentially, International-Dependence models view developing countries as beset by institutional, political and economic rigidities, both domestic and international, and caught up in a dependence and dominance relationship with rich countries.
- Three major streams of thought: The neoclassical dependence model, The false-paradigm model and The dualistic-development thesis.

The neoclassical dependence model

- Indirect outgrowth of Marxist thinking: it attributes the existence and continuance of underdevelopment primarily to the historical evolution of a highly unequal international capitalist system of rich country-poor country relationships
  - Unequal power, core-periphery
- Underdevelopment is seen as an **externally** induced phenomenon, in contrast to linear-stages and structural theories stress on **internal** constraints.

The false-paradigm model

- It attributes underdevelopment to faulty and inappropriate advice provided by well-meaning but often uninformed, biased and ethnocentric international expert advisers from developed-country assistance agencies and multinational donor organizations

The dualistic-development thesis

- Different sets of conditions, of which some are superior and others are inferior, can coexist in a given space;
- This coexistence is chronic and not merely transitional;
- Not only do the degree of superiority or inferiority show any sign of diminishing, but they even have a inherent tendency to increase;
- The existence of the superior elements does little or nothing to pull up the inferior element, let alone “trickle down” to it

The Neoclassical Counterrevolution

- Challenging the statist model
  - Free market approach
  - Public choice approach
  - Market-friendly approach
- Traditional neoclassical growth theory
  - Solow model: labor, capital and technology
- Conclusions and implications
  - institutional and political realities in developing world

Theories of Development: Reconciling the Differences

- Development economics has no universally accepted paradigm
- Insights and understandings are continually evolving
- Each theory has some strengths and some weaknesses

Case Study: South Korea and Argentina

Concepts for Review

- Autarky
- Average product
- Capital-labor ratio
- **Capital-output ratio**
- Center
- Closed economy
- *Comprador* groups
- **Dependence**
- **Dominance**
- **Dualism**
- False-paradigm model
- Free market
- **Free-market analysis**
- **Harrod-Domar growth model**

Concepts for Review (cont'd)

- **Lewis two-sector model**
- Marginal product
- **Market-friendly approach**
- Necessary condition
- **Neoclassical counterrevolution**
- **Neocolonial dependence model**
- New institutionalism
- New political economy approach
- Open economy
- **Patterns-of Development analysis**

Concepts for Review (cont'd)

- Periphery
- Production function
- **Public choice theory**
- **Savings ratio**
- Self-sustaining growth
- **Solow neoclassical growth model**
- **Stages-of-growth model of development**
- **Structural-change theory**
- **Structural transformation**
- **Sufficient condition**
- **Surplus labor**

Concepts for Review (cont'd)

- **Traditional neoclassical growth theory**
- Underdevelopment
- Note: the terms which are bold faced should be pay more attentions.

Appendix 3.1: Components of Economic Growth

- Capital Accumulation, investments in physical and human capital
  - Increase capital stock
- Growth in population and labor force
- Technological progress
  - Neutral, labor/capital-saving, labor/capital augmenting

Figure A3.1.1 Effect of Increases in Physical and Human Resources on the Production Possibility Frontier

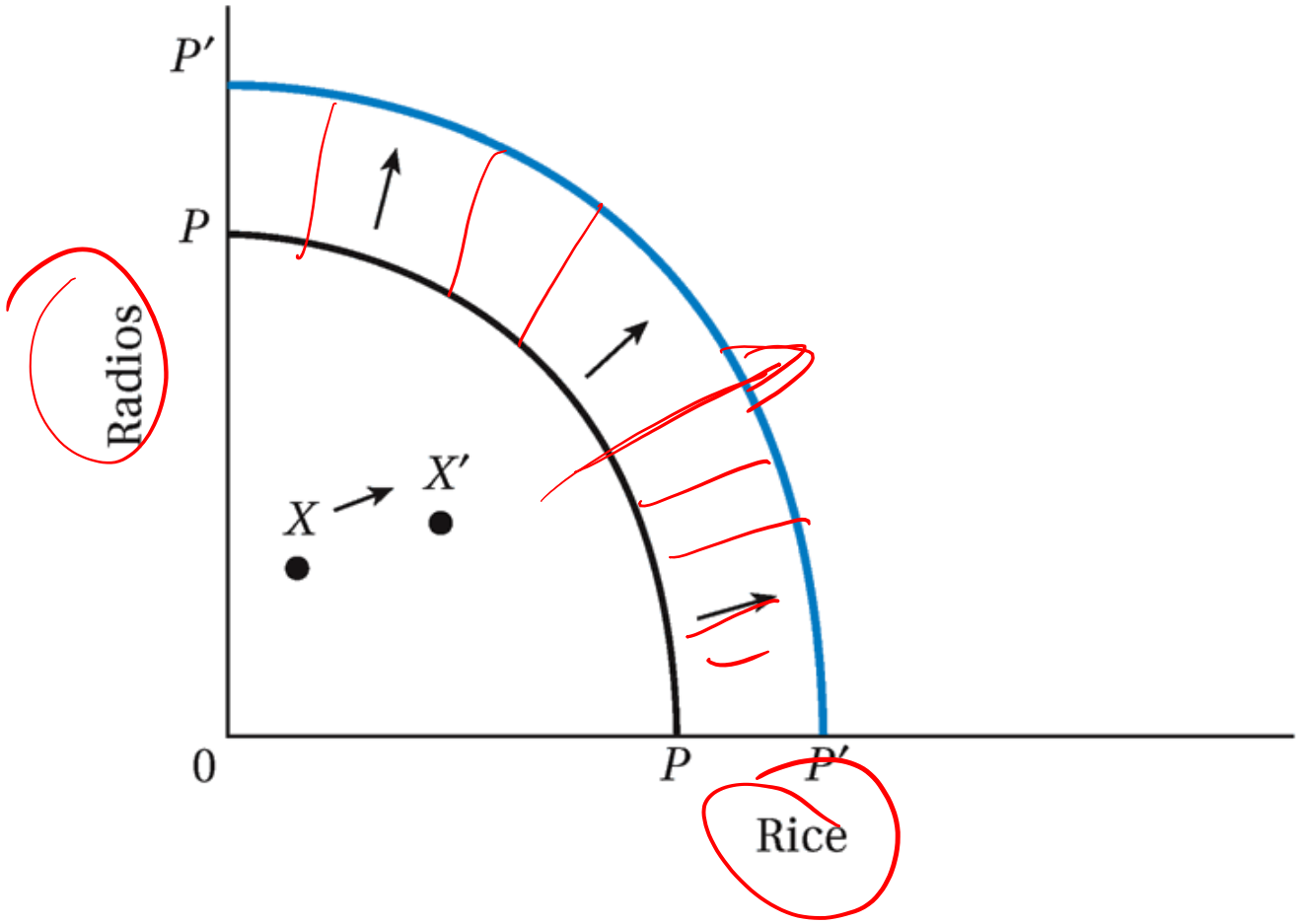


Figure A3.1.2 Effect of Growth of Capital Stock and Land on the Production Possibility Frontier

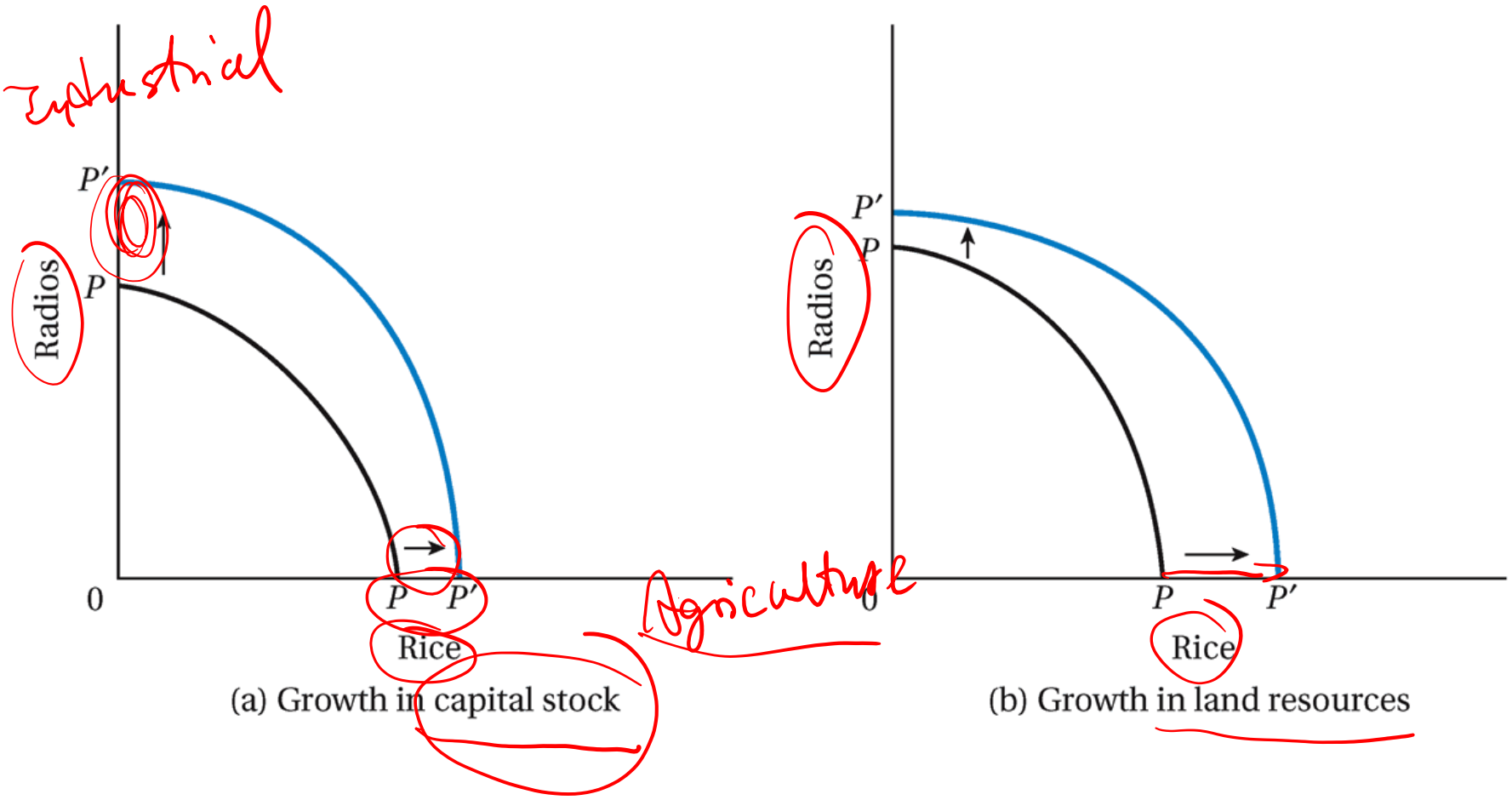


Figure A3.1.3 Effect of Technological Change in the Agricultural Sector on the Production Possibility Frontier

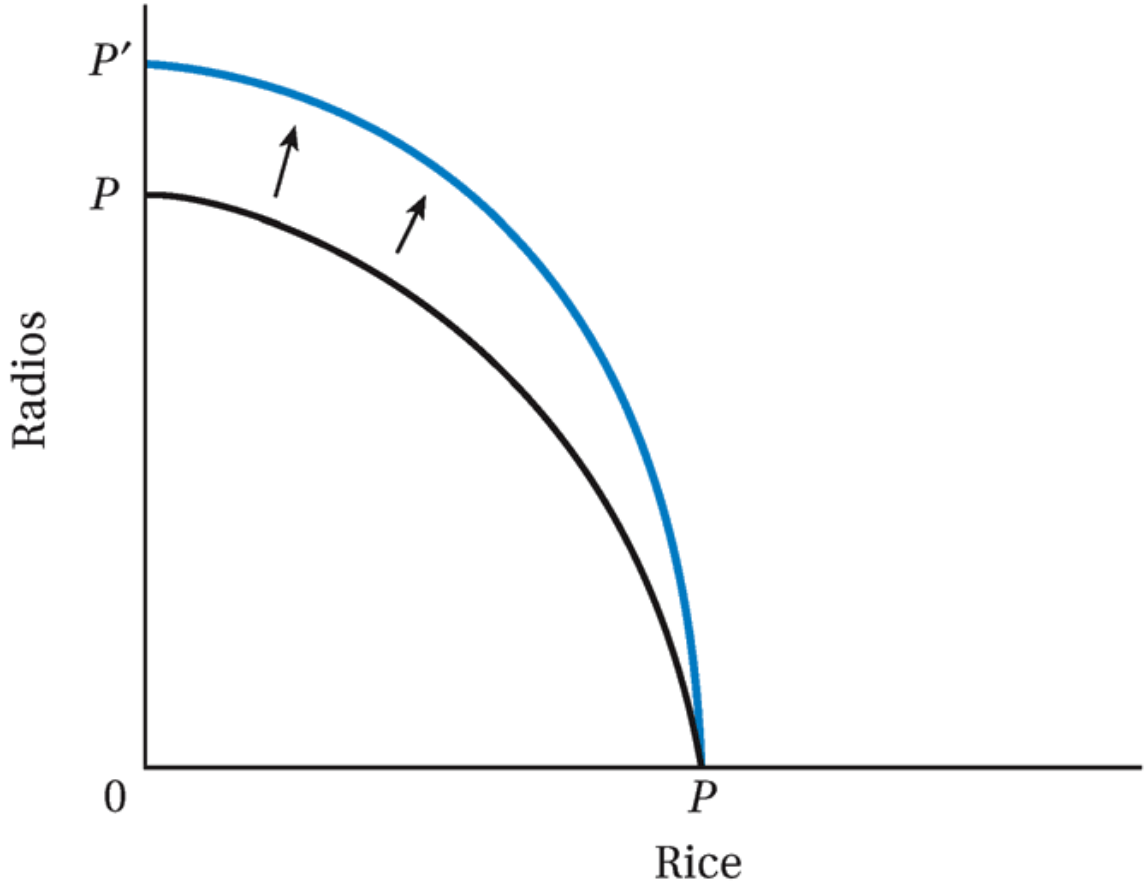
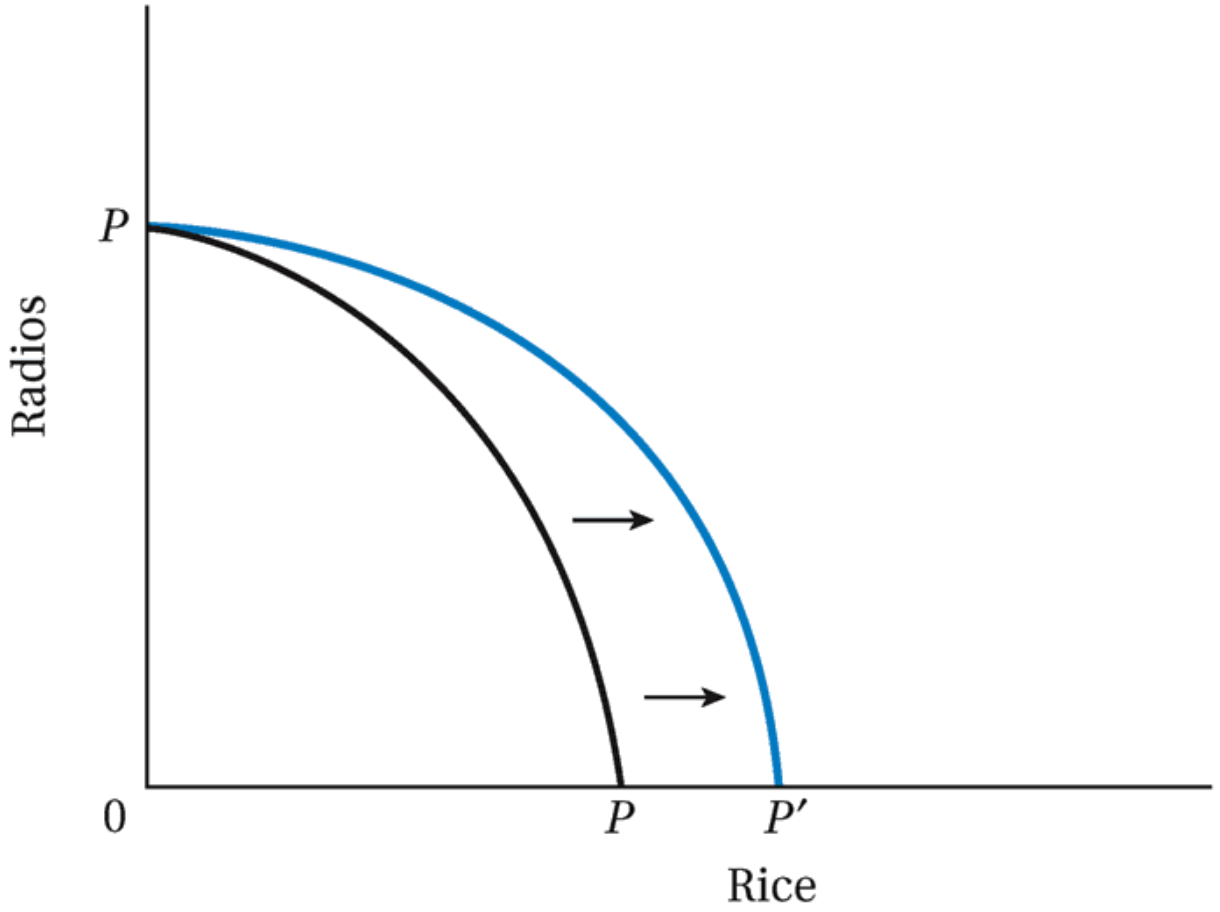


Figure A3.1.4 Effect of Technological Change in the Industrial Sector on the Production Possibility Frontier



Appendix 3.2: The Solow Neoclassical Growth Model

$$Y(t) = Y(t)^{\alpha}\left(A(t)L(t)\right)^{1-\alpha}$$

$$\gamma Y = F\left(\gamma K, \gamma L\right)$$

$$Y/L = f\left(K/L, 1\right) \text{ or } y = f(k)$$

$$y = Ak^{\alpha}$$

$$\Delta k = sf(k) - (\delta + n)k$$

$$sf(k^{*}) = (\delta + n)k^{*}$$

Appendix- Solow Growth Model

$$\Delta k = sf(k) - (\delta + n)k \qquad \text{(A3.2.4)}$$

Appendix- Solow Growth Model

$$sf(k^*) = (\delta + n)k^* \qquad \text{(A3.2.5)}$$

Figure A3.2.1 Equilibrium in the Solow Growth Model

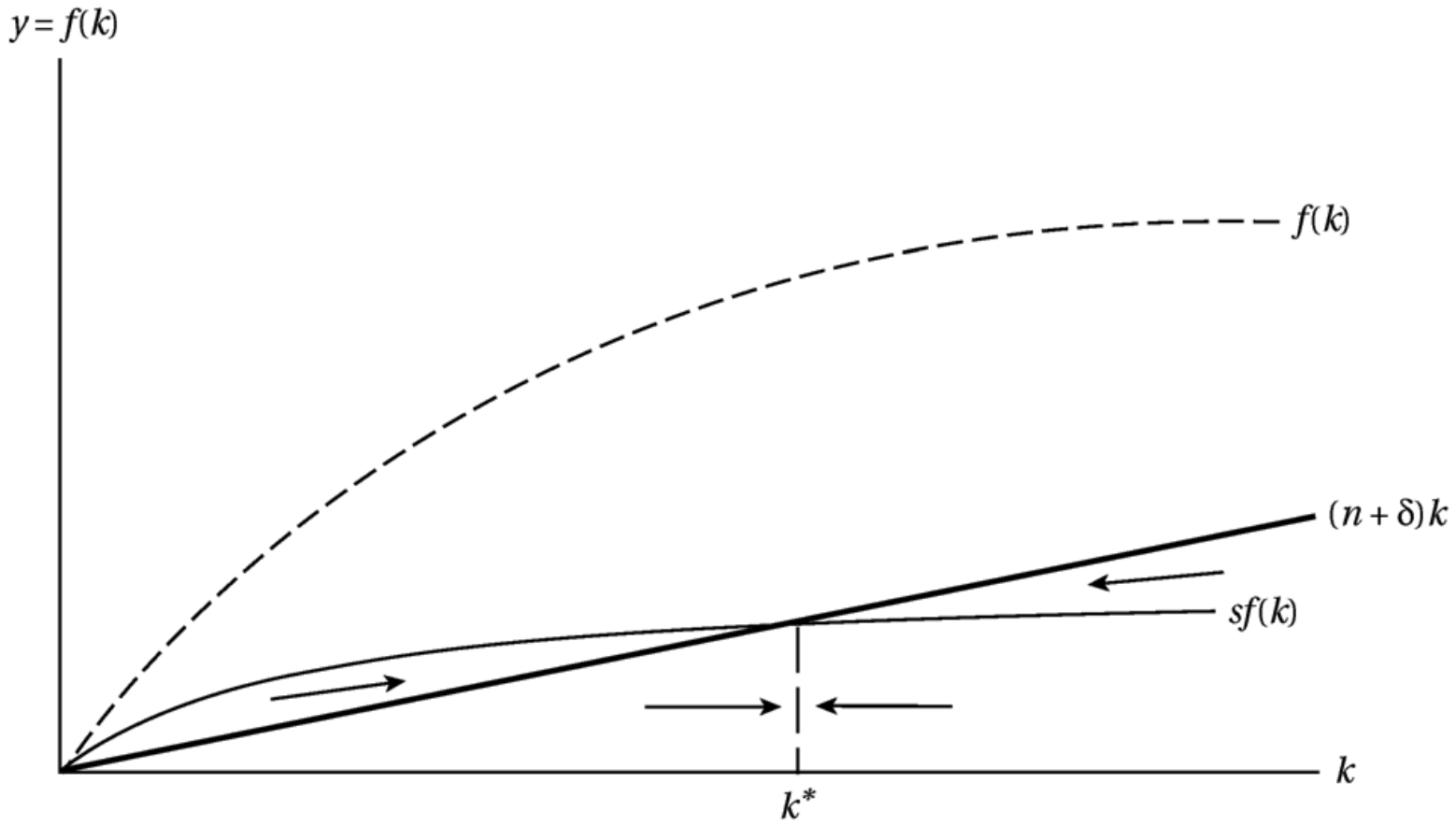
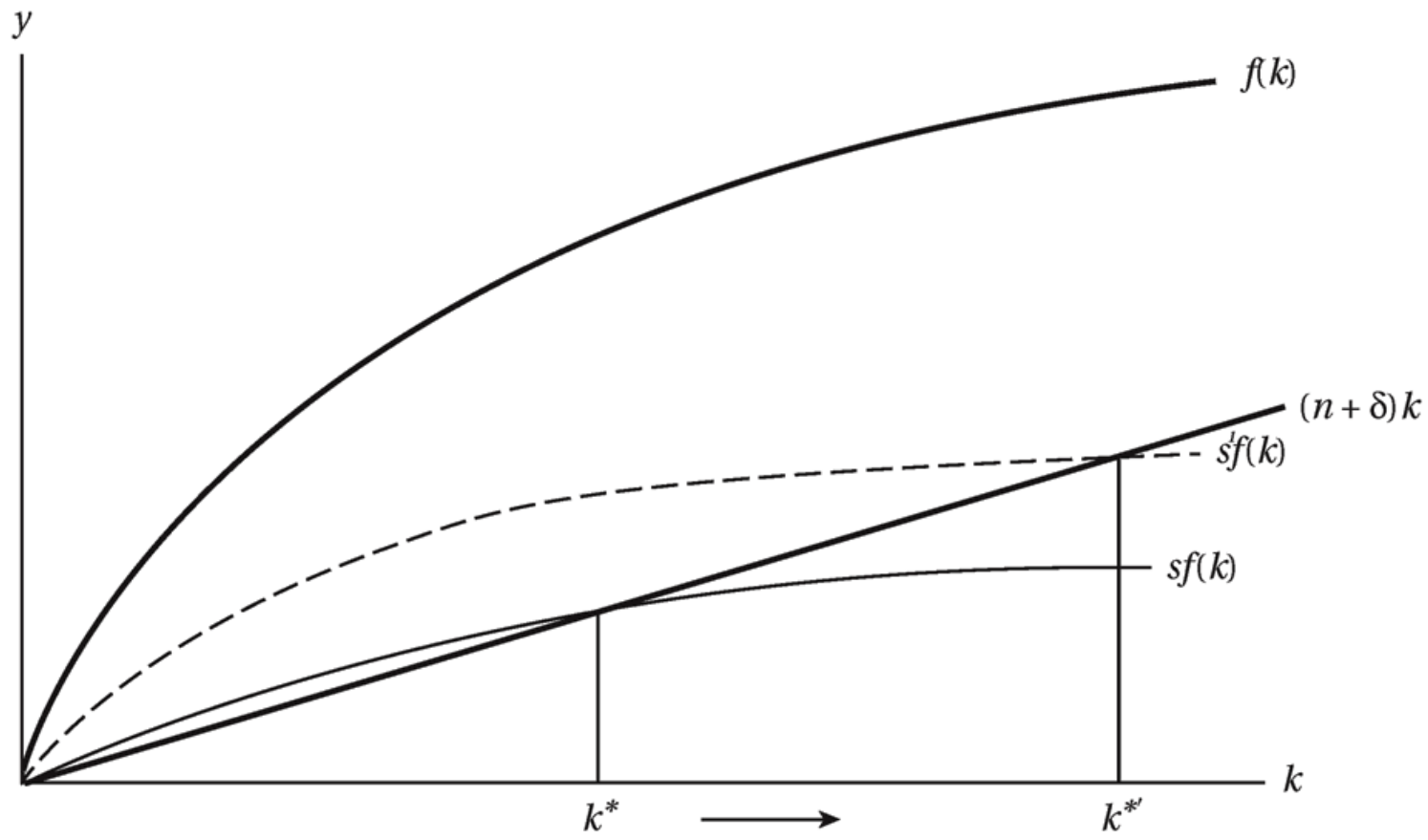


Figure A3.2.2 The Long-Run Effect of Changing the Saving Rate in the Solow Model



Appendix 3.3: Endogenous Growth Theory

- Motivation for the new growth theory
- The Romer model

$$Y_i = AK_i^{\alpha} L_i^{1-\alpha} \overline{K}^{\beta}$$

$$Y = AK^{\alpha+\beta} L^{1-\alpha}$$

$$g - n = \frac{\beta N}{[1 - \alpha - \beta]}$$