HISTORY OF DEVELOPMENT ECONOMICS THOUGHT

Genesis: Modern interest began after WWII w/ concern for S.E. Europe and then newly independent former colonies

Definition: Key components of economic development are:

1. Economic **growth** (increasing per capita income)
2. Evolution of the **structure** of the economy (sectoral composition, openness, etc.)
3. Factors contributing to the **sustainability** of economic growth (human capital formation, healthcare, infrastructure, income distribution

Some Points to be made about Development Economics

- Can't ignore **dynamics** in understanding dev.

- Can't ignore poverty and income distribution issues when studying the economics of underdeveloped countries

- Development economics is a **diffuse field**. Specializations include:
  - ➤ Agricultural economics
  - ➤ Trade
  - ➤ Macroeconomics (debt, hyperinflation)
  - ➤ Environmental Economics (esp. sustainability)
  - ➤ Labor (especially migration)

Low-Level Equilibrium Traps

- Characterization of why some countries develop while others stagnate that centers on **vicious circles**.

- Led to many of the early analyses/prescriptions for development:
  - The Big Push
  - Balanced Growth (Rosenstein-Rodan, Nurkse)
  - Unbalanced Growth (Hirschmann)

- A **"quasi-stable" equilibrium**: given a disturbance, some variables return to the original level while others change. (In a low-level equilibrium, per capita income is one of the stable variables).

Example 1: Vicious circle of poverty

Assume that in an economy with <u>low per capita income</u> (a) population grows when per capita income rises above the subsistence level; and (b) population shrinks when per capita income falls below the subsistence level.

$\Rightarrow$ (a) and (b) imply that any shock/disturbance that moves the economy away from subsistence-level per capita income is followed by a movement back toward subsistence.

$\Rightarrow$ Result hinges on the initial assumption of <u>low per capita income</u>; (a) doesn't hold at higher per capita incomes because mortality doesn't fall forever and preferences for family size change at higher income levels.

$\Rightarrow$ Carries with it the notion that some <u>Big Push</u> ("critical minimum effort") can move the economy to a new, higher level equilibrium.

Example 2 : Supply Side Vicious Circle

Capital Scarcity $\Rightarrow$ Low Income;
Low Income $\Rightarrow$ Limited Capacity To Save/Invest
Limited Saving/Investment $\Rightarrow$ Capital Scarcity.

Example 3: Limited Markets (Shoe Factory Example)

- Individual producers face limited and inelastic demand
  $\Rightarrow$ not profitable to expand production, even though total income would increase, because there is not enough demand or price declines outweigh increased sales

- However, if all producers expanded output simultaneously then there <u>would</u> be sufficient demand for product

- This is a story about **limitations of the extent of the market**, which provided the analytical underpinnings of the <u>Balanced Growth Doctrine</u> which argues for spreading (planned) capital investment across all sectors in an economy.

$\Rightarrow$ **MODERNIZE ACROSS A BROAD FRONT**

All these examples hinge on the possibility of multiple equilibria

➢ Third World development seen as the process of "escaping" the trap

➢ Whirlpool effect of a low-level equilibrium may explain why some economies remain un(der)developed for some persistent amount of time

➢ Multiple equilibria ⟺ organizing principle for describing/prescribing what it would take to move to a higher-level equilibrium or **steady state**.

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Definition: *Steady State* = a dynamic equilibrium in which <u>growth rates</u> of variables of interest (e.g., income per capita) remain constant.
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In particular, the last example (the shoe factory example) is a story about **limitations of the extent of the market**. This kind of thinking is what underlay the **Big Push** doctrine, and provided the analytical underpinnings of the Balanced Growth advocates.

Aside: The shoe factory example is a story of **increasing returns** that highlights the **critical minimum effort** needed to achieve a new/desired growth path for a developing country.

TWO-SECTOR MODELS

Popularized by W.A. Lewis' seminal 1954 article entitled "Economic Development with Unlimited Supplies of Labor."

Assumptions:

1. One good (or two goods but with fixed relative price.)

2. Two sectors: "modern" and "traditional"

Modern Sector's Features	**Traditional Sector's Features**
Usually thought of as industrial, but could be mines, plantations	Usually thought of as ag but be handicrafts, informal sector
Reproducible capital	Little or no capital
Hired labor	No hired labor, MPL low or zero
Wage premium over trad. sector	Low (subsistence) wage = APL
Sale of output for profit	MPL low or zero
Private or state-owned enterprises	⇒ perfectly elastic supply of labor to capitalists in the modern sector

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3. **Unlimitedness of labor from traditional sector attributed to:**

- Natural increase (population growth)

- Underemployment

- Increasing female labor force participation

***Note: Underlying explanation/story for unlimited supply is similar to the population/subsistence income vicious circle story from last class

The End of the Story

- Traditional labor supply becomes "limited" $\Rightarrow$ MPL > 0

- When traditional sector's MPL = W_{MOD}, **dual nature** of the economy disappears

The Schultz "Natural Experiment" – Influenza in India, 1918-1919

- Rapid death, rapid passing of influenza pandemic ➔ short run negative population shock

- H_o: If surplus labor existed, then area sown before and after the pandemic should be about the same – A(1916/17) $\approx$ A(1919/20)

- **Findings:** (a) Rural population fell by 8.3% while area planted fell by 3.8%; (b) Provinces with highest death rate had largest declines in area planted.

- **Inference:** No support for hypothesis that MPL = 0.

- **CAVEAT:** Flu hits (kills) households ➔ all members die ➔ without land redistribution (likely the case for the short time period covered) you would expect Area to fall in the short-run regardless of MPL.

INCONSISTENCIES IN THE LEWIS MODEL

1. Investment of modern sector profits shifts out labor demand

- If we allow for **more than one good** (say food and shoes) with **flexible prices**, then the optimizing condition becomes $W_{MOD} = \mathbf{p} \times MPL$ (not just MPL)

- Relative price of food $(1/p)$ will rise as production declines as modern sector output rises relative to traditional (i.e., with outmigration from traditional sector).

$\Rightarrow$ While investing profits will shift out MPL, VMPL may move in the other direction!

2. Capitalists invest all profits each and every period

- Given the above, capitalists with any <u>foresight</u> may choose to consume some of their profits.

- Herein lies the seeds of how Lewis-like development might be aborted (<u>low level equilibrium</u>)and why urban unemployment might come to be

- This also highlights/pointed up the importance of understanding what goes on in the traditional sector.

Implication of urban unemployment NEXT CLASS

FALLOUT FROM TWO-SECTOR MODELS

A. Encouraged Neglect of Agricultural Sector

- Exacerbated by the stylized fact/empirical regularity that ag's share of GDP declines with development, due to:

    ➢ **Engel's law** ($\eta_{(FOOD)} < 1$; $\eta_{(INDUSTRIAL\ GOODS)} > 1$).

    ➢ To the extent that **labor productivity increased in ag sector**, more labor freed up for other sectors.

B. Import Substitution

Prebisch (ECLA) and **Singer** independently noted that the terms of trade favor manufactured (industrial) products over primary (ag, mine) products.

$\Rightarrow$ Develop policies to promote domestic industries (typically via **protection**)

$\Rightarrow$ Generally led to distortions that artificially **pushed up urban/industrial wages (minimum wages)**, and artificially **depressed real interest rates (subsidized credit, inflation). These in turn led to the unemployment, financial crises of the 1980s.**

C. Linkages and Unbalanced Growth

Hirschman argued that the best strategy is to favor (via policy) those industries with the most linkages to other industries:

Backward linkages: boost input demand
Forward linkages: boost output demand

Attack on the Pro-planning attitudes of the balanced growth school

Hirschman: "...the superiority of manufacturing (in creating/stimulating linkages) is <u>crushing</u>."

In contrast to Big Push/Balanced Growth, Hirschman advocated unbalanced growth that concentrated policy stimulus on those industries with the biggest payoff (via linkages)

KRUGMAN'S CRITIQUE OF HIGH DEVELOPMENT THEORY

A. <u>What was right about it?</u>

- Despite not really being acknowledged, the Two Sector models were really stories about **strategic complementarity** between industries/sectors, something currently of interest to macro/trade guys

- **External (scale) economies** were viewed as driving the development process

⇒ Both are **links to New Trade and New Growth Theories**

B. <u>What was wrong about it</u>

- **Didn't have the tools** necessary to model the processes being discussed

- The one approach that DID lend itself to the modeling "technology" available at the time (Lewis') relied on hopelessly **unrealistic abstractions** (perfect competition and surplus labor dualism)

Likewise, Hirschman's linkages notion caught on because of the apparent ease with which it could be translated into practical development policy-making (rather than the rigor of the ideas underlying it).

URBAN UNEMPLOYMENT

Two-sector models of the sort developed by Lewis **maintain full employment in the modern sector**. But in reality:

- urban unemployment is widespread in LDC's

- attempts to directly increase employment often give rise to <u>higher</u> unemployment (Nairobi example)

TODARO MODEL: SIMPLE FORM

Todaro model is a **short-run** model (as opposed to Lewis, which is long-run in spirit)

Define:

- L_U, W_U = modern sector (urban) employment, wage

- L_R, W_R = traditional sector (rural) employment, wage

- L = total labor in the economy

Assume:

1. $W_U, W_R, L_U,$ and L are fixed.

2. $W_U > W_R$ and W_U **is downwardly rigid** due to:

    -- Labor turnover model (job search costly for employers)

    -- Political economy reasons (need to keep urban labor happy)

    -- Efficiency wage model ($W_M < W_{SUBSISTENCE} \Rightarrow MPL_M$ falls)

3.   Workers base their migration decision on expected income.

➤ $E(Y_R) = W_R$ because there is certainty about finding rural job.

➤ $E(Y_U) = W_U \dfrac{L_U}{L - L_R}$

Solution

Rural-urban migration occurs as long as $E(Y_U) > E(Y_R)$

Equilibrium is reached when $E(Y_U) = E(Y_R)$

$$\Rightarrow \quad W_U \frac{L_U}{L - L_R} = W_R \Leftrightarrow L_R = L - \frac{W_U}{W_R} L_U$$

$\Rightarrow \quad \dfrac{\partial L_R}{\partial L_U} = -\dfrac{W_U}{W_R} :$ Increasing urban employment by one worker reduces rural employment by **more than** one worker (since $W_U > W_R$).

The simple form of the model only allows L_R to change. **The full model endogenizes L_M and W_R** and looks like this:

***** TODARO MODEL GRAPH (from Basu, Ch. 8) *****

Shortcomings of the Todaro Model

1. Simplistic 'lottery' mechanism for probability of finding job **ignores the link between job search and qualifications –** search time = f(human capital)

2. Simplistic 'lottery' mechanism for probability of finding job **assumes everyone is fired and rehired each period** ➔ overestimates prob(finding a new job) <u>for newcomers</u>.

3. **Ignores urban informal sector**, even though that's a more common alternative to unemployment.

4. Ignores other important forces that determine whether or not a person migrates; e.g., **Family networks, risk aversion** (portfolio motives);

   basu: "...belief that the complex issues behind the decision to migrate can be understood *entirely* within the realm of economic analysis betrays either a naivete or a vacuously broad definition of what constitutes 'economic analysis.'"

AGRICULTURE'S CONTRIBUTION TO DEVELOPMENT

Beginning in the 1960's there was a counter-rebellion by agricultural economists put off by the short shrift given to the ag. sector's potential role in economic development (not just a source of coolie labor).

I. Johnston and Mellor (1961): Ag's Five Contributions

1. Supplier of Food (and raw materials)

2. Source of Foreign Exchange

3. Source of Labor Supply

4. Source of Investible Capital

5. Source of Final Demand for Industrial Products

Purpose: DEBUNK FALSE DICHOTOMY BETWEEN AG & INDUSTRY

1. Food (and raw materials) Supply

Let D = food demand, N=population, P=price, Y=income

- D = N*f(P,Y) $\Rightarrow$ $\hat{D} = \hat{N} + \varepsilon\hat{P} + \eta\hat{Y}$

  ➢ $\hat{N}$ = 1.5 – 3% per year

  ➢ η in developing countries > η in developed countries
     (maybe .5-.6 vs. .2-.3)

- **Demand for food has to be met somehow.**

- There is the possibility of **trade** (imports) making up food shortfalls, but this is often undesirable where **foreign exchange constraints** are binding (industry and agriculture compete for scarce FX)

2. Foreign Exchange

- e.g., **Export crops** like tea, coffee, sugar etc.

- But remember the **terms of trade** argument of Prebisch & Singer!

3. Labor Supply

- This is the Lewis story, but remember the need to keep agriculture productive...

  - ➤ If too many people leave the ag sector prematurely, then not enough food $\Rightarrow$ food prices high $\Rightarrow dVMP/dL_{MOD} < 0$.

  - ➤ **Technological change** can finesse this situation!

4. Capital Formation

- Agricultural earnings as a source of **investible funds/domestic savings**

- As the dominant industry in the economy, agriculture is the most likely source of capital for non-agricultural sectors, especially early on in the development process.

- A problem that arose from recognizing ag's potential in this regard was **excessive taxation of agriculture** that limits ag's ability to contribute (both immediately and in the long run).

  - ➤ Example: **export taxes** in Tanz., Ghana (explicit or via price policy)

  - ➤ Counter-example: **Japan**.(where taxing agriculture worked)

5. **Demand for Modern Sector (industrial) goods**

- Contrary to Lewis, shortage of capital is only one constraint on industrialization. Another is limited effective demand for industrial products.

  ➢ This is akin to the big push/shoe store example.

Mobilizing Agriculture

Question: **How to harness agriculture's potential?**
Answer: **Make it more productive.**

Initial Ag. Development Efforts – The Diffusion Model

- Based on a "dumb peasants" assumption

- American-style extension effort

- Attempted transfer of Western technology

- Community Development Programs

The Schultz Paradigm

Diffusion model was basically unsuccessful because:

- **Structural/Institutional barriers** in the form of land tenure arrangements and political power/asset ownership patterns

- Growing evidence (in the 1960s) that **farmers are in fact rational** (albeit poor)

  <u>Transforming Traditional Agriculture</u> was a watershed:

- Peasants as rational actors measuring marginal costs and benefits of alternative techniques/technologies

⇒ Efficient allocation of factors of production subject to existing technology and institutions

⇒ What poor farmers needed was new **appropriate technologies** and the skills needed to exploit them

Definition: <u>Appropriate</u> = scale neutral, divisible, able to be incorporated into existing farming systems.

C. Green Revolution

- Contemporaneous with the growing awareness of rationality of peasants was development of seed-fertilizer technologies that greatly expanded crop yields

- The new technologies appeared to directly resolve or address most of the contributions identified by Mellor and Johnston:

  Expanded food supply

  Reduced import demand for food $\Rightarrow$ saved Foreign Exchange

?? Increased rural profits $\Rightarrow$ increased rural investment (**but in what?**)

  Source of Final Demand for Industrial Products

  Freed up labor (although some evidence that technologies were labor intensive)

- Serious questions about the **distributional implications of technological change** arose early in the Green Revolution; <u>these debates continue to this day</u>

  ➢ Effects on smallholders and landless vs. large landowners

  ➢ Geographic variation in the distribution of benefits and costs

  ➢ Impacts of mechanization (esp. w.r.t. labor displacement)

  ➢ Food price effects

BROADENING OF DEVELOPMENT GOALS

I.   Equity Concerns

- Beginning around the early 1970s, there was a **shift** away from a narrow conceptualization of economic development as equivalent to economic growth, in large part to accommodate equity issues. Three reasons:

  1. Criticism by radical and (non-radical) liberal observers who took a more **political economy view** that weighted welfare changes of poorest populations more heavily than richer populations

  2. Related to (1), observation of some countries in which rapid economic growth was accompanied by extreme social upheaval and/or authoritarian regimes.

  3. Trickle down was often a slow process $\Rightarrow$ widening income gaps

- All this leads to Meier's broader definition of economic development:

  $$\text{Economic Development} = \begin{array}{l} \text{Growth in income per capita} \\ + \ \text{Falling poverty} \\ + \ \text{Non-worsening income distribution} \end{array}$$

Tangible Effects on Research Agenda and Debates

1. Question of the Impact of Economic Growth on Income Distribution

   ➢ Size distribution (variance across entire population)

   ➢ Functional distribution (Laborers, women, farmers, landowners)

- For agriculture, resolving these issues required a much deeper understanding of how rural households behaved and responded to external factors (e.g. policy). Tangible results:

  ➢ Ag. Household Models

  ➢ Big micro-data sets

  ➢ Labor market/migration studies

2. Employment Generation Potential of Alternative Policies

- Relative employment effects of promoting **industry vs. agriculture**

- Relative employment effects of small farm-friendly **labor-intensive technologies vs. more capital intensive technologies.**

II. <u>Output Employment Debate</u>

By the end of the 1960s it had become apparent that rapid aggregate growth had, in many instances, been accompanied by high unemployment. Reasons included:

1. **Distortions in factor prices** – e.g., **import substitution** policies that artificially cheapen capital relative to labor. <u>Remedy</u>: Increase P_K (= r).

2. **Lack of labor intensive technologies**. <u>Remedy</u>: Develop "appropriate technologies."

3. **Demographics:** Rural-urban migration effectively shifts rural underemployment to urban areas $\Rightarrow$ parallel (informal) economy. <u>Remedy</u>: population control; reduction in rural-urban earnings gap.

4. **Education:** Surplus of educated workers. <u>Remedy</u>: focus on primary education.

The Structural Adjustment Era of the 1980s

- Brought on by big debt problems, largely among large, oil-importing LDCs.

- Import substitution chickens came home to roost.

- **SHORT-TERM CORRECTION TO IMBALANCES IN B.O.P. TOOK PRECEDENCE OVER LONG-RUN DEVELOPMENT STRATEGIES.**

  BUT, IGNORED POLITICAL RAMIFICATIONS OF SHORT-TERM PAIN BROUGHT ON BY LONG-TERM MEDICINE!