LECTURE 6: Modern Economic Growth and Northern Europe

HISTORY 3524-101: World Economy: History and Theory

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LECTURE 6: Modern Economic Growth and Northern Europe

A. THEORY
1. Simon Kuznets: MEG
2. Solow Model
3. Lewis Model

B. THE NETHERLANDS
1. Urbanization
2. Agriculture
3. Shipbuilding
4. Gaining control of the Northern seas
5. Strengths and weaknesses of the Dutch economy
WHAT ARE THE MAIN CHARACTERISTICS OF MODERN ECONOMIC GROWTH (MEG)?

- Based on Simon Kuznets' work — arrived inductively at definition of “modern economic growth”, which he distinguished from earlier episodes of pre-industrial growth.

- MEG has 6 characteristics:
  1. High rates of growth of p.c. product & population
  2. High rate of growth of output per unit of all inputs (i.e. TFP growth)
  3. High rate of structural transformation (shift from agric to industry & services, & from personal enterprise to large-scale impersonal organization of firms)
  4. Changes in structure of society & its ideology (urbanization & secularization)
  5. Opening up of international communications
  6. Wide gap between “developed” & “under-developed” nations.

- Kuznets sees 1st & 2nd characteristics as relating to aggregate rates, 3rd & 4th to structural transformation, 5th & 6th to international spread.

- NOTE! (1) & (2) important in distinguishing pre-industrial growth from modern growth. Pre-industrial economies could have periods of rising living standards as result of demographic crisis.

Breakthrough to MEG when productivity could rise without fall in pop. Industrial Revolution saw rising p.c. incomes and rising population, i.e. decisive break out of Malthusian Trap.

- 2nd characteristic requires an increase not only in output per unit of labor, but also in output per unit of other inputs such as capital.

- 3rd & 4th characteristics concern structural transformation. Kuznets focuses not just on shift from agricultural to industrial production & associated urbanisation, but also on more fundamental changes in society that permit these changes. Kuznets recognised need for fundamental institutional change.

- 5th & 6th characteristics emphasise international aspects of development, need for openness.

In sum, Kuznets outlined six basic characteristics of modern economic growth, i.e. how to increase pc income without a fall in population.
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A. THEORY

A.2. Solow Model
-Solow’s neoclassical growth model examines interaction between output & inputs of capital and labor.
-Production function: \( Y = F(K, L) \)
-Widely believed that if there is more saving & invest, one would get higher growth rate, even in the long run. Thus, Solow model useful in reminding to be careful. If no change in technology, diminishing returns to \( K \) set in!
-Raising population growth rate in the Solow model raises the long run growth rate of output but lowers the level of pc income.
-IN SUMMARY: Solow model shows how output can grow because of growing inputs or more efficient use of given inputs. Shows that accumulation of \( K \) runs into diminishing returns.

EXTRA INFO:
Growth accounting is simplest application of neoclassical growth model. Relates growth of output to growth of inputs & residual improvement in efficiency (TFP). Starts (see e.g. Maddison) with production function: \( Y = f(K, L) \). Growth rate (\( \Delta Y/Y \)) can be related to growth rates of inputs (\( \Delta K/K \) & \( \Delta L/L \)) & growth rate of productivity. Growth rate of productivity (TFP growth) thus obtained as a residual!

A.3. Lewis Model
-Solow’s aggregate growth model cannot capture structural change, which Kuznets identified as a key characteristic of MEG!
-Structural change is a problem for any such model, because if a sector is growing in relative importance along an equilibrium path, it would dominate economy in the long run (and the declining sector would disappear). So multi-sectoral neoclassical growth model has equilibrium growth characterized by balanced growth, i.e. all sectors grow at same rate!
-Simplest model of growth with structural change is the Lewis model:
Put 2 sectors (agriculture and industry) together, with total labor supply \( L = LA + LI \)
Initially, economy has most labor in agriculture and only a little in industry. There is surplus labor in agriculture.
-Profits in industry initially high
-This enables accumulation of \( K \) in industry, which raises productivity. Employment in industry increases & employment in agriculture decreases.
= Beyond turning point \( X \), withdrawal of labor from agric reduces agric output. This means price of food in towns increases so supply curve of lab for industry turns upwards, i.e. industry wage has to rise above subsistence level. 2nd turning point, \( Z \), where relationship between 2 sectors fully commercialized. Now agric wage begins to rise above subsistence level.
-SUMMARY OF THE LEWIS MODEL:
Reminds us that econ growth often characterized by structural change. Rate of transfer of labor from agriculture to industry limited by profits in industry & extent of surplus labor in agriculture.
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B. THE NETHERLANDS

B.1. Urbanization

-1400-1700, Dutch p.c. income growth fastest in Europe, and in 1600-1820 the Netherlands enjoyed the highest level of p.c. income in Europe.
- High level of p.c. income based on highly productive agriculture & vibrant commercial services sector.
- Amsterdam took over role of entrepôt in NW Europe, previously performed by Bruges (in Flanders) & then Antwerp (in Brabant). Flanders & Brabant most prosperous part of N. Europe from the 12th century, rivaling the prosperity of Italian city states (e.g. Venice, Florence & Genoa) in S. Europe. Initially, Bruges main trading centre. Goods came to Bruges & sold on for re-export. - However, from mid-14th century, water routes to Bruges silted up & Antwerp became main entrepôt. Emigration of many merchants to Amsterdam ended Antwerp’s period as NW European entrepôt.
- The struggle against the Spanish regime involved repression & resistance in South as well as North, using Inquisition, resulted in large-scale migration from Flanders & Brabant to the Dutch Republic. Influx of 150,000 (10 % of Belgian pop), added 10 % to the population of the new Dutch Republic.

In sum, Amsterdam assumed the role previously occupied by Bruges and Antwerp, due to access to the sea and its growing immigrant merchant population.

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B. THE NETHERLANDS

B.2. Agriculture

-Water control played major part in Dutch agric development. Marshes, bogs, & low-lying land subject to frequent flooding did not make good agric land in natural state.
-In the Middle Ages, agric settlers occupied mounds & turned them into polders (tracts of reclaimed land) by building dykes to keep off flood waters. In time, skills of hydraulic management improved & large areas of new land reclaimed.
- By the beginning of the 16th century, water management & engineering entrusted to professionals responsible for development & maintenance. Farming communities raised taxes & provided funds for waterboards.
- Windmills used as source of power for pumps, which controlled water flow in canals. This conquest of nature had important social implications: only small part of Dutch population constrained by feudal restrictions! Peasants freer than anywhere else in Europe. Some were landowners & many more paid money rents or worked for wages. Early market orientation meant Dutch agric developed high degree of specialization. Much grain imported, & domestic production concentrated on meat, milk, butter & cheese. By 1700, agric accounted for only 40% of total employment in the Netherlands, much lower than anywhere else except in Great Britain.

-In sum, improvement in water management and engineering, as well as the use of windmills as a power source, enabled the Dutch to avoid most of the adverse
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B. THE NETHERLANDS

B.3. Shipbuilding
- In the 14th century, the merchant navy of Northern Provinces established a major position in the North Sea and the Baltic, where shipping & trade previously been monopolised by German Hansa merchants.
- By mid-16th century, the Dutch trading fleet was the biggest in Europe. By the 1560s, province of Holland alone had 1,800 sea-going ships. Carrying capacity of Dutch fleet in 1570 same as combined fleets of France, Germany & Britain.

**WHY?**
- Biggest Dutch industries at time of independence:
  1. shipbuilding, sailcloth, fishing nets, ropes, barrels (all associated with shipping)
  2. woollen & linen textiles
  3. salt refining & brewing (food & drink)
  4. brickworks & timber (for building)
- Dutch shipbuilding very dynamic during 16th and 17th centuries, supplying the expanding Dutch merchant marine but also building ships for foreign customers. Key innovations were herring *buss* (factory ship), & *fluyt* (fast bulk cargo carrier). However, concentrating on volume production of these standard types, Dutch industry became less innovative, & gradually lost their technological edge.

- *In sum*, key innovations, beyond the merchant practices of the trading companies, included the *buss* (factory ship) and the *fluyt* (fast bulk cargo carrier).

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B.4. Gaining control of the Northern seas
- After the foundation of the Republic, Dutch expanded shipping activity on worldwide basis. Cut off from Iberian peninsula following rebellion against Spanish, Dutch began direct trade with Asia around Cape of Good Hope, and became involved in trade with New World.
- In 1602, Dutch formed chartered company with legal monopoly of trade between Indies & NL, following example of GB East India Co. Dutch venture created single company from rival merchant organisations, hence known as VOC (*Verenigde Oostindische Compagnie*), or United East India Co.
  - Within 30 years, Dutch had displaced Portuguese as dominant European traders with Asia. They also attacked Spanish & Portuguese interests in Africa & Americas.

- *In sum*, the Dutch expanded their shipping practices on worldwide basis, and later utilized the expertise and capital gained in these ventures to become dominant players in Europe as well.
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Table 2.6 Number of ships sailing to Asia from seven European countries, 1560-1800

<table>
<thead>
<tr>
<th>Country</th>
<th>1560-80</th>
<th>1660-1780</th>
<th>1780-1800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>700</td>
<td>127</td>
<td>196</td>
</tr>
<tr>
<td>Netherlands</td>
<td>497</td>
<td>1,770</td>
<td>2,069</td>
</tr>
<tr>
<td>England</td>
<td>831</td>
<td>1,852</td>
<td>2,005</td>
</tr>
<tr>
<td>France</td>
<td>193</td>
<td>1,300</td>
<td>1,300</td>
</tr>
<tr>
<td>Other</td>
<td>54</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td>2,774</td>
<td>5,415</td>
<td>6,058</td>
</tr>
</tbody>
</table>


European trading posts in Asia circa 1700

MAP 25.2 Manila galleon route and the lands of Oceania, 1500-1800.
B. THE NETHERLANDS

B.5. Strengths and weaknesses of the Dutch economy

- Firstly, it must be emphasized that the cost of maintaining Dutch independence high, involving creation of chain of fortresses in the south (against attack from Spanish NL) & also in the east (against attack from catholic states in Germany).
- Heavy involvement of the Dutch in wars concerned with balance of power in Europe & commercial conflict with England. Dutch built up the large army of 110,000 by 1670s, compared with 120,000 in France & 15,000 in the UK. Pop in 1700 was 1.9 m in NL, 21.5 m in France & 8.6 m in UK—army spending presented a burden on the Dutch. Naval expenditures & need to build up armaments industry added to burden.
- As Marjolein 't Hart has noted, the domestic investors were instrumental in supporting their new-born state as the state was able to borrow the money it needed from the credit markets, thus providing a stability in public finances even during crises. This financial regime lasted up until the end of the 18th century. One of the key features in the Dutch success in the 17th century was their ability to pay their soldiers relatively promptly. The Dutch case also underlines the primacy of military spending in state budgets and the burden involved for the Early Modern states. As we can see in Figure 2, the defense share (military expenditures of central government spending) of the Dutch region of Groningen remained consistently around 80—90 per cent until the mid-17th century, and then it declined, at least during periods of peace.

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Figure 2. Groningen Defense Share (=Military Expenditures of Central Government Expenditures), 1596-1795: (%)
B. THE NETHERLANDS

B.5. Strengths and weaknesses of the Dutch economy (cont.)

-The role played by wars in forcing a fiscal regime to adopt new ways of extracting revenue, and even leading to an entirely new fiscal regime, was instrumental, especially in creating persistent budget deficits and economic hardship.

-Dual problem of cost of defense and the loss of market shares: As result of conflict with GB & France, Dutch shipping had restricted access to GB ports & barred from trade with GB & French colonies from 1651.

These measures pushed the Dutch to the sidelines in world trade and the dynamism of the Dutch commercial sector faltered. Some time before GB overtook NL in terms of p.c. income, but by 1700 GB growing more rapidly, while Dutch stagnated & went into decline.

-Dutch Republic came to an end in 1806.

(a) French forces overran NL in 1795, but initially recognized a republican regime (Batavian Republic).

(b) Napoleon proclaimed himself Emperor of French in 1804, thus republican regimes no longer tolerated in satellite states.

(c) 1806: monarchy of Louis Bonaparte imposed.

-In sum, the Dutch had to bear the cost of maintaining an empire-like sphere of economic interest as well as defend their continental interests, eventually losing their dominance in international trade and with the coming of Napoleon also their independence.

ANY QUESTIONS ON TODAY’S LECTURE?
ANYTHING ELSE?