

Growth and Structural Transformation

Kuznet's Facts

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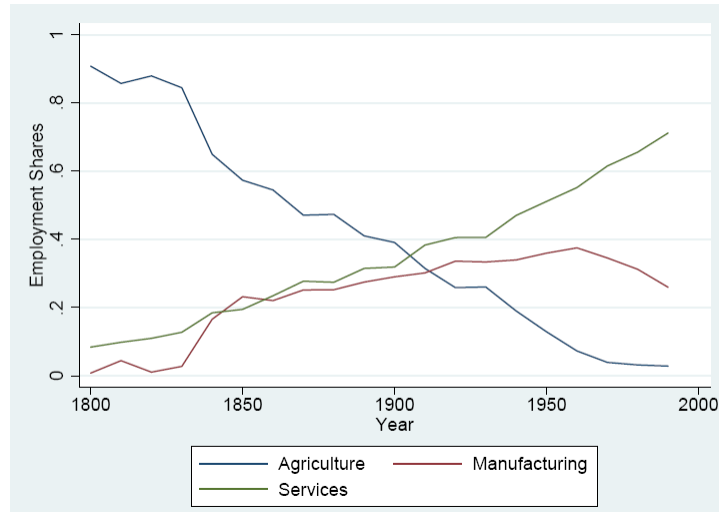
Beyond Balanced Growth

- ✦ So far we have focused on facts about long-run growth and models that aim to explain them.
- ✦ These BGP facts typically imply that some variable (interest rate, capital share, etc.) has been constant in the last century or so
- ✦ However, Simon Kuznets has documented another set of variables change systematically as countries grow.
- ✦ Most famously, he observed that the share of different sectors initially grow, then stabilize and then fall over time (this cycle can take a century or even longer!)

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Structural Transformation



Agriculture, Manufacturing and Services

- ✦ In the early 1800's:
 - ✦ 90% of US population worked in agriculture. Now the share is about 2%
 - ✦ Less than 10% worked in services. Now the share is almost 70%
 - ✦ Manufacturing was non-existent. The share rose to about 40% in 1950's. Now it is down to 20-25%.
- ✦ Note: The loss of manufacturing jobs that you hear on the news all the time is in fact part of a broader trend that is an integral part of the development process



What Explains the Structural Transformation?

- ✦ We do not have a complete answer, but we have a good idea about two key pieces that should be part of the overall explanation:
 1. **Demand Side:** Non-homothetic preferences (Engel's law):
 - a) Households like to spend a smaller fraction of their budget on food as they become richer.
 - b) More generally, the share of necessities fall and the share of luxuries rise as individuals get richer.
 - c) As a result, the share of agriculture falls, replaced by manufacturing (the luxury items at the time).
 - d) Then the share of manufacturing falls while services (that contain more luxuries) rises.

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What Explains the Structural Transformation?

- For example, education, health expenditures, travel, etc are all luxuries that are part of services. These expenditures have grown tremendously.
- 2. **Production Side:** Differential TFP Growth Across Sectors
 - a) A second reason is that productivity growth has been very fast in agriculture, which has made it unnecessary to employ as many workers as before.
 - b) Similarly, manufacturing today is so productive that you need to hire far fewer people to produce the same amount.

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Conclusion

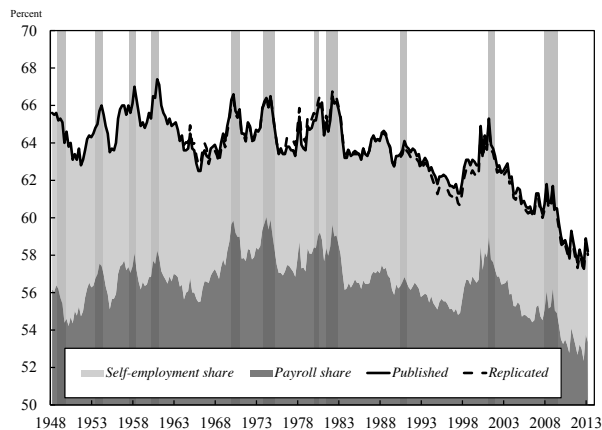
- ✦ There are other changes—transitions—that take place very slowly but are also very important.
- ✦ For example, the opening up of China and India, and the fall of Soviet Union has generated an important transition with hard to predict consequences: High oil prices, food shortages, and so on are largely attributable to the quick rise of these economies.
- ❖ Food shortage:
 - ❖ Rise of middle class in China and India demand more red meat. Producing meat requires lots of grain for feed.
 - ❖ Global warming, creating drought.
 - ❖ Biofuels subsidies causing farmers to switch from other uses of land to corn or sugar cane., etc.

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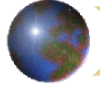
Declining Labor Share

Figure 1. Labor share, payroll share, and replicated labor share in U.S. nonfarm business sector.



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations

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Food for Thought



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