

Discussion of 'Unbalanced Growth Slowdown'

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Summary

Slowdown of growth well documented.

This paper asks:

- ① Is structural transformation driving it? To what extent?
- ② Will it go on?

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Yes.

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- ▶ most of this is driven by the reallocation within services

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- 2 Will it go on?

No or to a limited extent.

- ▶ model to generate out-of-sample predictions
- ▶ key feature 1 & 2: split of services & nested version of the CES utility function from Comin et al (2015)
- ▶ key feature 3: wedge between labor income & expenditure shares across sectors

Unbalanced growth slowdown in the data

① document that from 1950-1970 to 1990-2010

- ▶ labor prod growth fell from 2.77% to 1.77%
- ▶ fixing sectoral employment at the 1947 values: 2.94% and 2.19%
- ▶ \Rightarrow a quarter is driven by reallocation

② which sectors are driving this quarter?

- ▶ 1947-2010 average labor prod growth 2.07%
- ▶ fix emp shares across 30 sectors at the 1947 values: 2.44%
- ▶ at the 2010 values: 1.72%
- ▶ same counterfactuals for 13/2 service industries yield similar numbers
- ▶ \Rightarrow the driving force is the reallocation within services
- ▶ well captured by two broader service sectors

Model of structural transformation

Three key differences relative to standard models of structural change:

- ① goods and 2 service sectors
services split based on the growth rate of productivity: slow- vs fast-growing
- ② nested CES utility function
 - ▶ goods and aggregate services complements
slow- and fast-growing services substitutes
 - ▶ goods necessities, aggregate services luxury
slow-growing services luxury, fast-growing services necessities
- ③ wedge between labor payments and value added in sector
firm maximizes: $P_{it}A_{it}H_{it} - (1 + \tau_{it})w_tH_{it}$

Quantitative exercise – Calibration

- path of distortions from relative sectoral nominal labor productivity
- path of sectoral TFP growth rates to match changes in real labor productivity, conditional on sectoral prices
- take path of goods sector prices from the data
- calibrate remaining 10 parameters to match following targets 1947-2010
 - ▶ relative value added shares
 - ▶ due to utility function overall and service aggregate quantity and price not directly measurable from data, use observables and model to express data counterpart of these and use as targets

essentially such that all measures of interests are targeted
model is able to fit the observed patterns well

Quantitative exercise – Predictions

method:

- take average growth rate of sectoral TFP and of goods sector price from the past
- and *average level* of distortions from the past
- get model prediction of aggregate growth rate

findings:

- lab prod growth falls in the future but less than in the data from 1950-1970 to 1990-2010
- the magnitude of the fall is not very sensitive to how 'past' is defined

Comments – data analysis

- unbalanced growth slowdown not very surprising:
reallocation to slower-growing sectors decreases the average productivity growth
- more surprising and very interesting:
this is largely driven by reallocation within services
- is it driven by the reallocation within the 13(2) service industries, or within the service industries and a single 'goods' industry?
- if the latter: it would be good to show a goods and services counterfactual

Comments – data analysis

- more straightforward way of documenting this:
show the 1950-1970 to 1990-2010 comparison not only for the 30 industry categories, but for 13(2) service industries
- not explored here: how much did the growth rate slow down for individual industries? how much variation across industries is there? and between which industries?
- if significant differences in the rate of prod growth slowdown

⇒ this affects the pace of structural transformation & unbalanced growth slowdown
could this be incorporated in the model?

Comments – model & calibration

- split of services: connection between production side and preference side not obvious
not clear why slow-growing services are closer substitutes with each other than they are with fast-growing services
- what are the 'taxes'? to what extent can they be treated as exogenous?
- is this split important for unbalanced growth slowdown? are the taxes important?
 - ▶ if yes, it would be good to demonstrate this in the paper
 - ▶ if not, maybe use simpler model to be clear what is driving the results

Comments – predictions

do we need a new model to tell us that the growth slowdown will be limited?

- standard model: economy's growth rate eventually equals that of the slowest growing sector
- over time the economy converges to this growth rate, the fall in the growth rate is smaller and smaller
- so the novelty here is the quantitative aspect
 - ▶ how much it will fall
 - ▶ how fast the fall diminishes
- for these we need to trust that the model is good for evaluating this question

Comments – predictions

- it would be good to see an in-sample prediction about the growth slowdown:
 - ▶ recalibrate model on 1947-1970
 - ▶ make predictions for 1970-1990, 1980-2000, 1990-2010
- even without recalibrating: what does the model imply about the observed growth slowdown?
 - ▶ it does not get the level of productivity growth 1990-2010 right
 - ▶ what change from 1950-1970 to 1990-2010?
- if this latter is not the same as the data:
it might be a better point of comparison for what the model implies going forward