Discussion of Aghion et al

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Summary

- This paper develops an integrated model of IO, innovation and growth able to replicate recent trends in productivity, labor share and reallocation

- Very elegant model where markups are driven by the distribution of productivity and quality gaps between the two best producers in any given market

- Multiproduct, multiworker firms

- The authors derive predictions on the effect of IT, understood as economies of scope in product lines

Outline of comments

- Identification of labor share with markups

- What do we learn from the analysis of gross flows and the extensive margin?

- How adequate is the modelling of IT?

- How tight is the predicted negative relationship between labor share and innovation?

Increased markups versus K-biased technical change

- At face value increase in capital share can be ascribed to more capital intensive technologies

- Indeed, in "leapfrogging" emerging countries (China), capital share is close to 50 %

- The authors promote an alternative explanation: an increase in markups

- Otherwise, the *K/Y* ratio should have increased

- But: is it true?

Effect on capital share and capital/output ratio of technical change

- $s_K = rK/Y$
- Long run: r fixed (say), s_K and K/Y have to move in line

- Short run: *K* fixed, so *K/Y* necessarily falls

- Unclear how this should show up in the data

- In any case, markup effects and technology bias effects can well coexist

How relevant is within versus between?

• Much research on such decomposition in recent decades

• What do we learn from this?

• In a neo-classical world, breakdown of macroevolutions by micro units is undefined

• Hence neo-classical stories are consistent with any within vs. between evidence

The authors' story is very much between based

- Firms differ by their organizational capital

- A firm cannot mimick another's organizational capital

- Firms with more OC grow more than others when IT becomes cheaper

- This generates the wanted effect on productivity, markups and capital
- share

- And it all goes through the extensive margin

But extensive margin also generally prevails in adaptive/evolutionary models

- Behavior is frozen by rigid rules

- Change is driven by selection rather than adaptation

- Resources are moved towards firms with the best rules given new
- environment

- However no substantial difference between this and incumbents changing their types (cf ants brainteaser)

- Bottomline: that a macroevolution happens mostly through extensive margin is not a very discriminating observation

Modelling of IT

- IT reduces convex overhead cost of operating lines in amultiplicative way

- This is plausible but how specific to IT is this modelling?

- Could equally apply to managerial innovations
  - Pooling of HR, Accounting, etc functions
  - Any organizational change that allows for more transversality

Effect of IT

- An increase in IT productivity delivers a broader number of lines
  - Number of lines raises more for more productive firms (less diseconomies of scope)
  - Extensive margin: Markups go up because more productive firms are more likely to be the leader
  - Intensive margin: Markups fall because more productive firms are more likely to be the follower
- The authors claim this is consistent with the evidence
- However that entirely hinges on the assumption that labor share = inverse markup
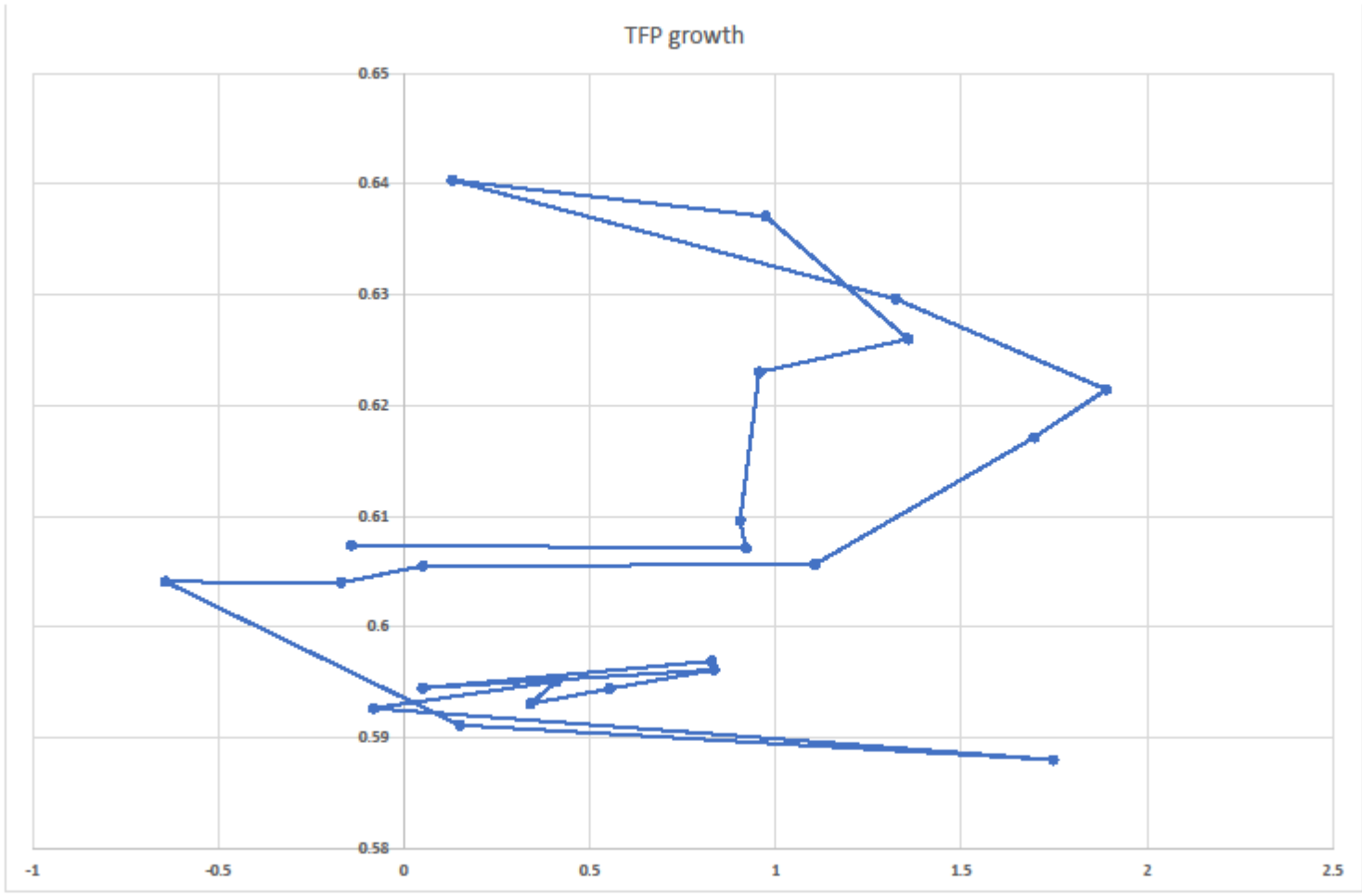
An alternative story

- China trade

- US specializes in more capital-intensive goods => aggregate labor share goes down

- Each firm uses more L relative to K (since w/r falls)
- Individual labor share goes up if K and L substitute enough

A paradox

- The model can replicate a productivity slowdown (because markups, hence innovation, fall

 in the long run)

- And it can replicate a lower labor share (because markups go up)

- How can we get the two at the same time, as seems to happen in the

data?
- The model gives two answers

Answer 1: short term versus long term

- Answer: lower labor share and boost happens first, slowdown next

- But LR slowdown *coincides* with a recovery of the labor share
- Thus we have a 1-to-1 negative relationship between labor share and growth

TFP growth

Labor share vs TFP growth, USA

Answer 2: Average vs. marginal

- The average markup in the economy differs from the markup expected by an innovator when introducing a new product

- In calibrated model, more high type firms mechanically raises average markup

- But it makes it more likely that an innovation meets a high type competitor, thus reducing marginal markups

- I am not sure I understand why this effect is there: what if new product lines are assumed randomly?