... productivity isn't everything, but in the long run it is almost everything.

Paul Krugman, 1994

Christian Kastrop, Dan Andrews
Policy Studies Branch, Economics Department OECD
New book: out now!

Available at:
http://www.oecd.org/economy/the-future-of-productivity.htm

Book + 5 page policy note + technical paper + videos

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Roadmap

• Productivity: now more than ever

• Productivity: what’s wrong?
  – Broken diffusion machine
  – Misallocated resources

• Productivity: role of policy

• Productivity: what’s next?
I. Productivity: now more than ever
Differences in GDP per capita mostly reflect labour productivity gaps

Productivity isn’t everything but in the long run it’s almost everything – Paul Krugman (1994)
Weak labour productivity underpins the collapse in OECD potential growth

Contribution to potential per capita output growth (% pts unless otherwise noted)

Business dynamism declined raising concerns of a structural slowing.
Productivity and innovation more than jobs will be the key driver of growth

Ageing populations reduce scope to grow through an increasing labour force

Innovation and technology spillovers will increasingly drive growth

Increasing education and skills of workers will be key

Allocating resources to high productivity firms and matching skills to jobs will also be crucial
II. Productivity: what’s wrong?
What drives productivity growth?

• Widespread heterogeneity in firm performance means we need to look beyond averages → firm level perspective is crucial.

• In a well-functioning economy, ideally:
  1. Global frontier firms innovate and these technologies diffuse to other firms, raising within-firm productivity
  2. Efficient reallocation to underpin the growth of productive firms, via the downsizing and exit of less productive firms

• But this doesn’t always happen, partly due to policy weakness.
The breakdown of the diffusion machine

Average of MFPR across each 2-digit sector (log, 2001=0)

Manufacturing

Services

What drives diffusion?

- Four structural factors can enable diffusion:
  1. Global connections: trade, FDI, participating in GVCs, international mobility of skilled workers
  2. Investments in knowledge based capital – R&D, managerial capital
  3. Efficient allocation of resources, especially skills
  4. Appetite for risk and experimentation

- Each factor is connected to competitive pressure in some way.
- Countries differ significantly in terms of these structural factors
OECD projections show a slowing in human capital accumulation over coming decades → maximising human talent and its efficient use in the workplace will be key.

BUT the allocation of human talent in OECD countries is far from perfect:
- Skill mismatch affects ¼ workers in the OECD countries, with significant costs to productivity.
Skill mismatch, particularly over-skilling, is harmful for productivity because it constrains the ability of innovative firms to attract skilled workers and grow.

III. Productivity: role of policy
How to revive productivity growth?

Three areas for policy:

1. Pushing out the global frontier
2. Reviving the diffusion machine
3. More efficient resource allocation, especially skills.

Note: #2 partly depends on getting #3 right
Pushing the frontier: keep the innovation engine running

- **Key insight**: firms at the global frontier are more likely to part of an MNE group and patent than other firms.

- Higher and more efficient public investment in **basic research**.
  - Role for international co-operation wrt innovation an tax policy?

- Enabling **experimentation** of firms with new technologies and business models.
  - Reduce barriers to firm entry and exit to enable high productivity firms to grow and low productivity firms to exit.
Policies shape the diffusion of new innovations from the global frontier

Estimated frontier spillover (% pa) associated with a 2% point increase in MFP growth at the global productivity frontier

Observed increase in gap
Increase in gap due to slow deregulation

Estimated contribution to the annual change in the MFP gap of the
slower pace of reform relative to the fastest reforming industry (telecoms)

Skill misallocation is policy-induced

IV. Productivity: what’s next?
Some conjectures and future work

- Zombie” firms and capital misallocation
  - What is the role for policy-induced exit costs?
The rise of “zombie” firms

The share of financially weak incumbent firms over time
Firms which cannot cover their interest payments over three consecutive years

Zombies congest markets and reduce investment of healthy firms

Investment and employment loss of a typical non-zombie firm due to a rise in the zombie share after 2007

Some conjectures and future work

• Zombie” firms and capital misallocation
  – What is the role for policy-induced exit costs?
• The OECD Global Forum on Productivity.
Spares


Use micro-data from OECD Survey of Adult Skills (PIAAC) to:

1. Create a quantitative scale of the skills required to perform the job for each occupation using the literacy scores of well-matched workers – those who neither feel they have the skills to perform a more demanding job nor require further training to perform their current job satisfactorily.

2. Use this scale to identify min and max threshold values (e.g., based on the 10th and 90th percentile), which bounds what it is to be a well-matched worker.

3. Workers with scores lower (higher) than this min (max) threshold in their occupation are under (over) skilled.
A2. Over-skilling more prevalent than under-skilling

On average, over-skilling is ~2½ times more likely than under-skilling

A3. Qualification mismatch

Percentage of workers with qualification mismatch

A4. Skill mismatch is symptomatic of more general misallocation

How much higher would overall manufacturing sector labour productivity be if NF firms were as productive and large as GF firms?

- Cross term (productivity & size gap)
- Size Gap
- Productivity Gap

NF firms in Italy have productivity levels close to the GF but they are relatively small… partly because scarce resources are trapped in many small and old firms.

A5. MFP divergence may reflect technological divergence

Average of mark-up adjusted MFPR across each 2-digit sector (log, 2001=0)

Divergence remains after correcting for mark-ups behaviour