Discussion of the paper “Allocative Efficiency and Finance”

by A. Linarello, A. Petrella, and E. Sette

Disclaimer: the opinions expressed in this presentation are those of the authors and do not necessarily reflect the views of the ECB of the European System of Central Banks.
• Nice addition to finance and growth literature of Banca d’Italia.

• Important complement to Manaresi & Pierri (2018)
  – They study the effects of credit frictions on within-firm growth.

• This paper: broader perspective
  – Consider the effects of credit frictions on total productivity.
  – Break down aggregate productivity growth into four components: within-firm for incumbents, reallocation to incumbents, entry and exit.
  – Can help shed light on the cleansing/sullying debate:
    • is there a trade-off between helping incumbents during a downturn and allowing reallocation and entry?

• Cleansing hypothesis: in bad times, productivity-enhancing reallocation rises; old technologies disappear, low-productivity firms exit; silver lining?
  – Interesting debate for the US (Davis-Haltiwanger, Caballero-Hammour, Shimer).
• **Cleansing through credit frictions? Countervailing forces**
  - ↓ through harming hiring/innovation/investment/productivity of incumbent firms.
  - ↑ increased exit of unproductive firms, ↓ increased exit of productive but constrained firms.
  - ↓ attenuating possible positive selection effects for entering firms.
  - ↑ reallocation if productive firms grow at the expense of others (if Corr(P,borrowing)>0).

• **Evidence of cleansing? Mixed…**
  - Van den Bosch & Vanormelingen (2017): yes, but only manufacturing (and from exit in services).
  - Dias and Robalo Marques (2018): same, plus main effect from net entry, less from reallocation.

• **Approach: Estimate sectoral credit supply shocks.**
  - Impressive dataset with (almost) universe of loans.
  - Allows for clean identification of credit supply shocks at the bank level (from firm demand), then aggregates to sectoral/local level.
  - Study the effect of credit shocks on components of productivity using Melitz-Polanec.
• This paper: cleansing clearly present in Italy; reallocation component much higher after 2008.

• A lot of recent interest on the “missing cleansing” of the GFC.

• Is Italy different? Perhaps more scope for reallocation…

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Source: Bergeaud et al (2016), Long Run Productivity Database
Italy has very small firms that employ a lot of people

Many unproductive small firms....

... but very productive large firms.

Source: Criscuolo et al (2014)
1. Negative credit shocks affect average productivity and reallocation, but only in crisis period.

2. Effect on entry pre-crisis: less productive firms enter.
   - Would be interesting to see evolution of productivity for entrants

3. Interesting & meaningful sectoral heterogeneity; negative shocks have higher reallocation effect in industries with more scope for it.
   - Negative shocks increase reallocation in concentrated sectors.
   - Reallocation effect higher in unprofitable industries.
   - Both effects stronger for intangibles (Duval et al).
   - Effect on average productivity isolated in more exporting sectors.
   - Results carry over the local analysis.
1. Manufacturing only
   - Other BdI papers have included services as well.
   - Slowdown more serious in manufacturing, perhaps the within-firm growth/reallocation trade-off different than in other (expanding) sectors.
   - Overestimating aggregate reallocation? Manufacturing has higher volatility of job destruction (Shimer 2012).
   - Underestimating aggregate reallocation? Services more misallocated.

2. Measure of productivity – LP, not TFP
   - Sales/L – is it a reasonable metric to assess productivity of start-ups?
     • In a Hopenhayn setting, start-ups likely to have lower average productivity than incumbents due to selection effects.
     • But even very productive start-ups unlikely to have high sales in their first year.
   - Melitz-Polanec on entry: Negative contribution for 5 years for LP, positive for TFP.
     • Perhaps this is more important in downturns? Only high TFP firms may enter.
   - Melitz-Polanec on exit: High positive contribution for 5 years for LP, zero for TFP.
     • Exiting firms have similar TFP but lower capital intensity/capacity utilization than stayers?
     • Then high exit contribution may mean that exiters are liquidity constrained on average (so cannot grow), not necessarily less productive.
2. Measure of productivity (continued)

- Could this be more important for Italy? Well-known that firms in Italy had very high non-ICT investments relative to productivity (Pellegrino & Zingales, 2017)

- Difference between TFP and LP higher than elsewhere? TFP is a better indicator of allocative efficiency – but LP a more noisy measure thereof.

Some issues to explore

Contributions to annual % growth in Labour Productivity
1996-2007

Contributions to annual % growth in Labour Productivity
2008-2014

Source: EU KLEMS

- At the very least, is it possible to use VA instead of sales? This way will only be affected by capital intensity, not intermediate use.
Some issues to explore

3. Labour vs capital
   - A number of papers (Gopinath et al 2017, Gamberoni et al 2016) have shown that labour misallocation did not rise dramatically in Italy pre-crisis; it did for capital.
     - 2002-2007, $\sigma(MRPK) \uparrow 30\%$, $\sigma(MRPL) \uparrow 8\%$ (Gamberoni et al 2016)
     - 2008-2012, $\sigma(MRPK) \uparrow 3.5\%$, $\sigma(MRPL) \uparrow -4\%$ (Gamberoni et al 2016)
   - The cleansing hypothesis implies a reversal of misallocation.
   - But: measure is employment weighted; are we missing an important dimension?

4. Sectoral heterogeneity
   - Results should be stronger in sectors dependent on external finance.
   - Test on intangibles+collateralized debt indicative, but why not test directly?

5. International context
   - Italy somewhat unique: no pre-crisis boom, low productivity growth for a very long time, too many micro and small firms, very productive large firms (Criscuolo et al 14).
   - Would be very interesting to see a comparison with other countries (even a lit review).
Some issues

6. Approach is linear; but what about non-linearities?
   - Trade-off between within-firm growth and reallocation not exploited.
   - Idea: rescale CSS to positive values only and test a quadratic model (a la ABCLM).
   - Could have meaningful differences across sectors by financial dependence.

Source: Aghion et al (2018)
Lesser issues

• Authors should spend a little more space in the algebra of the MP decomposition.
  – Original MP was at firm level, so should be clearer about the between-sector analysis.
  – Same for the other regressions.

• Authors build story about why within-sector effect matters.
  – Should be clearer about the aggregation at each step.
  – Is the between/within sector breakdown (Table 3) based on a shift-share?

• Concentration measure in heterogeneity analysis.
  – Is C20 measure reasonable at the 4-digit level?

• Some non-trivial discrepancies in the MP decomposition by sector.
  – Correlation between headline and add-up by components not very high (65 and 75%).
  – Concern that it is driven by instability of OP-cross term.

• Effects of CSS on average productivity much larger with weights.
  – Less scope for reallocation in larger, more mature sectors?
Cleansing for this crisis?

- Papers based on reallocation regressions say no.
  - Foster et al, Bartelsman et al.
- Papers based on productivity decompositions say yes.
  - Van den Bosch & Vanormelingen, Dias & Robalo Marques, Linarello et al.
- Paper based on state-level data and regulatory forbearance says yes.
  - Gropp et al.
- Verdict? Unclear....