

# CompNet

The Competitiveness Research Network



**CompNet 6<sup>th</sup>**

**Prodtalk**

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$$Y = f(A, K, N)$$

Item	Story	Presumed impact (4/2020)
Labour	<ul style="list-style-type: none"> <li>- Physical labor will not change much as the older are affected mostly</li> <li>➔ It will be more a human capital accumulation story:               <ul style="list-style-type: none"> <li>- Schooling disruption for incumbents</li> <li>- schooling tends to be countercyclical</li> <li>- Job detachment may induce losing skills</li> <li>- Who stayed employed may upgrade IT skills</li> </ul> </li> </ul>	
Capital	<ul style="list-style-type: none"> <li>- Unlike in a war, no large-scale destruction of physical capital, so no catch-up growth from capital investment</li> <li>- Certain types of capital might be destroyed or become obsolete (hospitality, theatres,</li> <li>- Likely additions:               <ul style="list-style-type: none"> <li>- private and public health infrastructure</li> <li>- risk-mitigating investments.</li> </ul> </li> </ul>	




# Total Factor Productivity

## 1) Within-firm productivity growth

Item	Story	Presumed impact (4/2020)
Intangible inputs	<p>Buyer-supplier trust, lender-borrower relationships, organisational effectiveness, employee-firm relations, and so on are critical for firm's' productivity levels.</p> <p>→ there are <b>irreversibilities</b> ...costly to rebuild...and are better to be preserved</p>	
Knowledge Capital	<ul style="list-style-type: none"> <li>- Will firms innovate and otherwise become 'smarter'?</li> <li>- Will virus trigger innovation?</li> </ul> <p>→ If so that could act against the productivity slowdown (There is positive correlation between intangibles and productivity (CompNet 2020)).</p>	
The macro burden	The enormous fiscal and monetary actions may result in higher taxes and inflation, weighing on capital and labour remuneration and accumulation.	
Cross-country barriers	<ul style="list-style-type: none"> <li>- Higher international transactions costs for goods and labor</li> <li>- GVC productivity gains may be reversed, also by repatriation of activities</li> <li>- Labor skills matching may be compromised by lower labor mobility.</li> </ul>	

# Total Factor Productivity

## 2) Resource reallocation between firms/dynamic efficiency

Item	Story	Presumed impact (4/2020)
Firm's entry-exit	<ul style="list-style-type: none"> <li>- The exit of small firms (the most affected) may boost productivity since firm size and productivity are positively correlated (compositional changes).</li> <li>- Major caveats.                             <ul style="list-style-type: none"> <li>➔ will the shock select on productivity as opposed to other firm features (market power, rent-seeking ability, etc.)?</li> <li>➔ will the shock help fixing underlying structural issues (e.g. the presence in Italy of too many small firms), (will the small, relatively inefficient Italian firms that exit be replaced by new, small and relatively inefficient firms?)</li> </ul> </li> </ul>	 - Uncertain
Zombie firms	<ul style="list-style-type: none"> <li>- Massive government interventions (see GFC) allows firms survival, but may create 'zombies'</li> <li>➔ Dilemma                             <ul style="list-style-type: none"> <li>- limit business closures in the short run to sustain demand and shrink "irreversibilities"</li> <li>- avoid that (decreasing) business formation goes on</li> </ul> </li> </ul>	
Financial constraints	<ul style="list-style-type: none"> <li>- Will credit efficiently channeled to worthy projects?</li> <li>➔ micro-founded sources indicate lower financial constraints</li> <li>➔ Government/central bank programs appear to target small and established firms rather than high-productivity ones.</li> </ul>	

# Total Factor Productivity

## 3) Reallocation across sectors

Item	Story	Presumed impact (4/2020)
	<ul style="list-style-type: none"><li>- Sectors such as air traffic, hotels, certain types of retail are likely to see persistent drops in activity.</li><li>- On the other hand, we would expect sectors like healthcare, communications, and IT to see growth.</li></ul> <p>→ Aggregate productivity impact depends on how much productivity and expected productivity growth differ across.</p>	uncertain

# The factors we have identified in April

VoxEU, di Mauro and Syverson, April 2020

- The production function

$$Y = f(A, K, N)$$

# The factors we have identified in April

VoxEU, di Mauro and Syverson, April 2020

- Factor quality and quantity—labor and physical capital
- Total factor productivity “within” firms
  - Policy-related effects (e.g., fiscal burden, trade barriers)
  - Intangible inputs (e.g., knowledge capital)
- **Resource reallocation within industries**
  - Size/concentration effects
  - Entry and survival effects (e.g., zombie firms, entrepreneurship responses)
  - Interactions with financial constraints and related policies
- Resource reallocation across industries

# Production Function

Capital: There has been a huge increase in planned capital spending and far beyond health. Actually, there was new focus on energy saving infrastructure building.



The diagram features a central rectangular box with a blue border containing the production function equation  $Y = f(A, K, N)$ . Three blue curved arrows originate from the box: one points upwards and to the left towards the 'Capital' text block, one points downwards and to the left towards the 'TFP' text block, and one points downwards and to the right towards the 'Labor' text block.

$$Y = f(A, K, N)$$

TFP: looking just at the aggregate figure of TFP might be misleading. A further decomposition of productivity is needed to analyze all the components of productivity growth.

Labor: Larger disruption on schooling than anticipated, including psychological factors. Negative Impact on productivity. Widespread virtual learning - positive impact. Possibly better than expected capacity of remote working.



## Total Factor Productivity

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graph TD; TFP[Total Factor Productivity] --> WF[Within firms]; TFP --> BF[Between firms]; TFP --> NE[Net Entry effect]; TFP --> AE[Allocative Efficiency];
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### Within firms

Bankruptcies still limited by Government interventions. Limited disruption of **intangible capital**, likely to be more concentrated. Impact on **GVC** smaller than feared and political stability can re-establish focus on internationalization. In EU, financial constraints seem not to be a problem right now. BUT **unprecedented debt** accumulation of firms → zombieification? possibly the ACTUAL negative impact is exaggerated looking again at existing evidence following other crises (Schivardi, Sette and Tabellini 2020)

### Between firms

**Intra-sector reallocation:** yet an unclear effect. Business failures are still limited by policy intervention; hence we can't observe the importance of within sector reallocation. Bloom et al., 2020 estimate that it will contribute positively to productivity growth

**Inter-sector reallocation:** whole sectors have been wiped out by the shock. Productivity effect depend on sectoral differences in expected productivity growth. Limited reallocation-room for unskilled workers?

### Net Entry effect

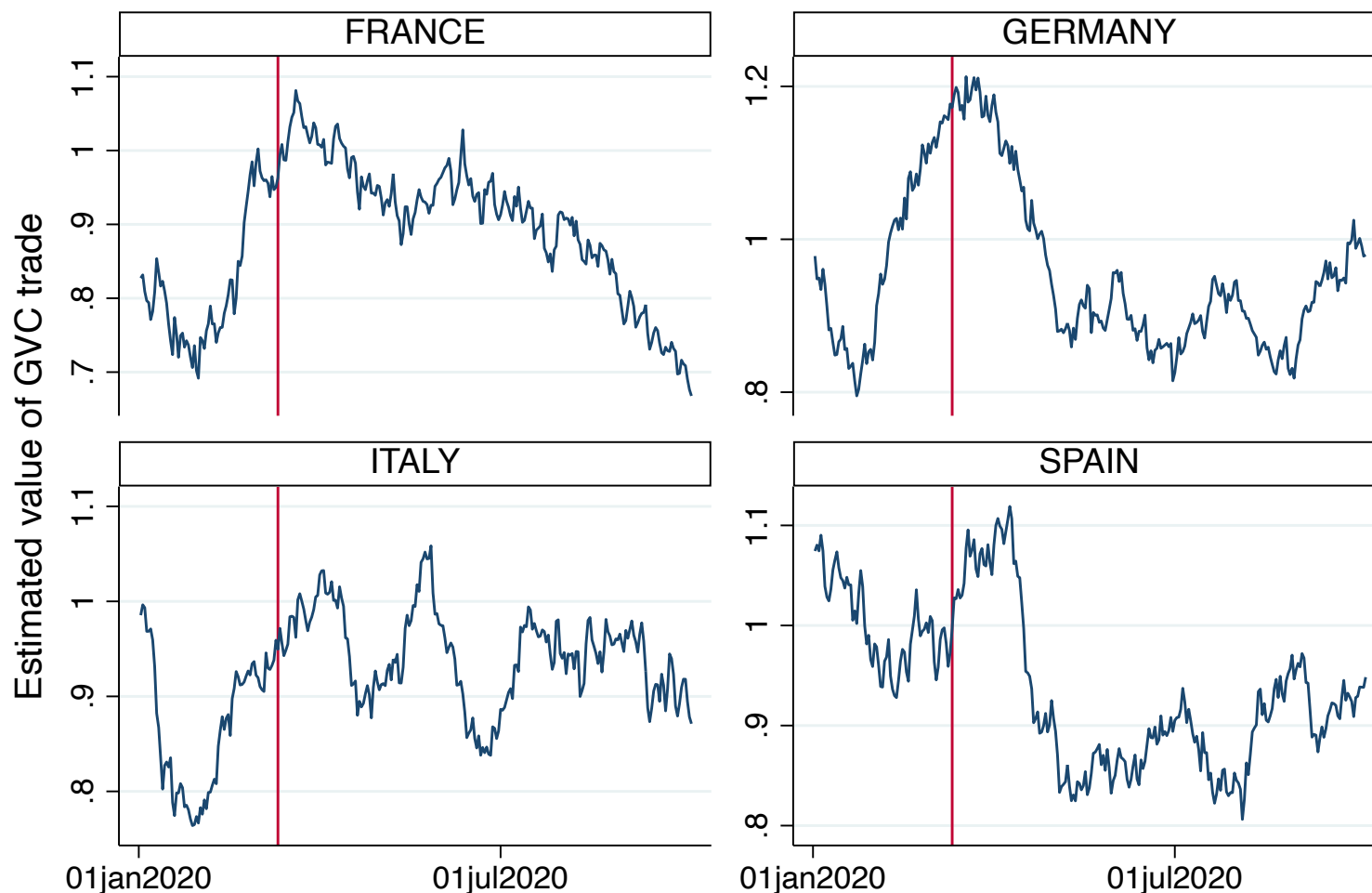
Encouraging results for churns in the US presented by Chad. In some EU countries, Crisuscolo et al., 2020 confirm the decline in business creation. In UK, 1 out of 7 at risk of failure (Lambert and Van Reenen, 2021).

Theoretically, a negative net entry term may point to an increase in sectoral concentration. Does it matter for productivity? In EU we find that rising concentration should not be viewed as conclusive evidence of a weak competitive environment and need not necessarily be a cause for concern (CompNet, 2020)

### Allocative Efficiency

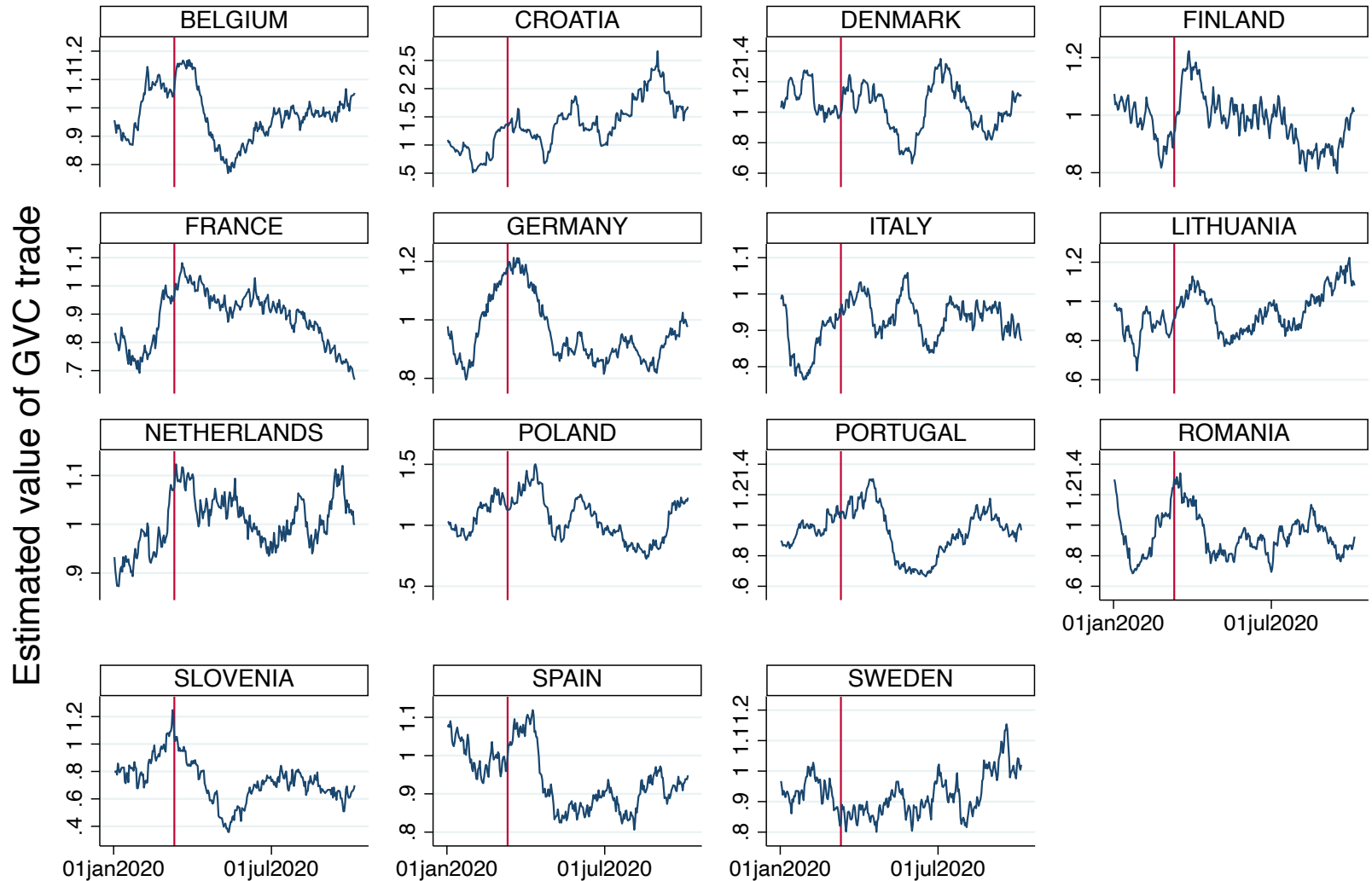
Will more productive firms gain larger market shares after the pandemic? This process should be encouraged by shocks as a form of *creative disruption*. Policy intervention may endanger this reallocation process, by giving low productive firms the chance to survive the market. Usual dilemma: are we funding unproductive firms?

## Daily estimates (30-days MA) of GVC related trade for 2020 as a share of 2017-19 average

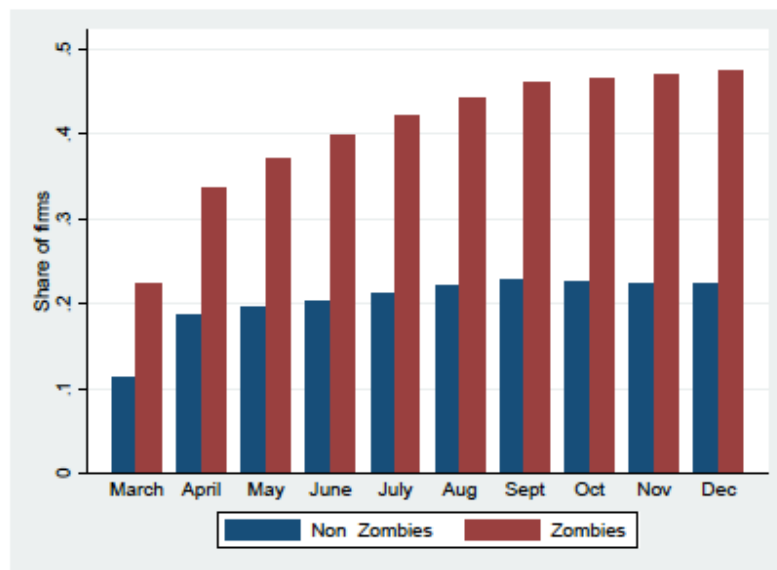


Note: the red line indicates the date in which WHO declared the COVID-19 pandemic

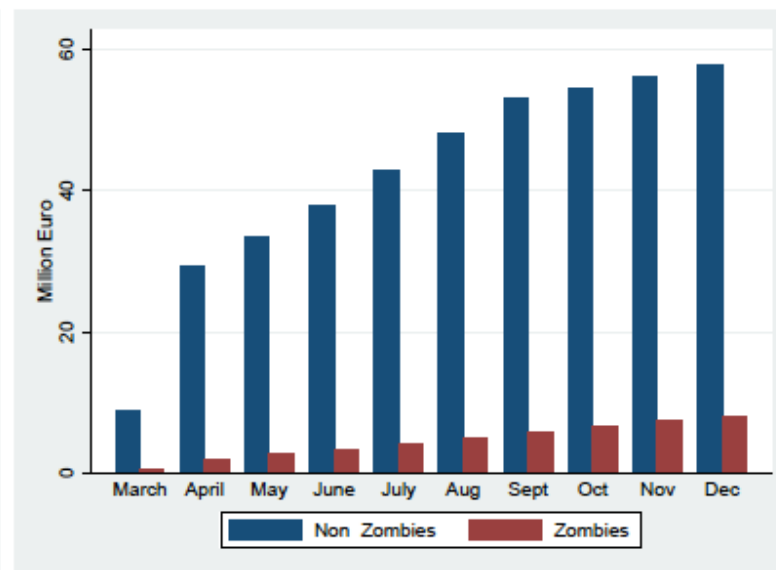
## Daily estimates (30-days MA) of GVC related trade for 2020 as a share of 2017-19 average



# Zombie and illiquid firms in Italy



(a) Share of illiquid firms



(b) Liquidity needs of illiquid firms

Source: A simple method to estimate firms' liquidity needs during the Covid -19 crisis with an application to Italy. Schivardi presentation at the OECD GFP Web Seminar (2020)