Title: Safe Matching and Labor Reallocation

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Abstract

The recovery from the Covid-19 pandemic will involve a major reallocation of labour across jobs. A large number of jobs involving personal contacts with customers or colleagues are likely to be shut down for a long period of time unless they can be delegated to immunised people. Other jobs will have to go through profound transformations in the way they are carried out, generally involving greater automation and the skill upgrading of the remaining labour. These skills are currently over-represented among workers that hold “safe” jobs, i.e. jobs that can be performed from home (Boeri, Caiumi and Paccagnella, 2020; Barbieri, Basso and Schicchitano, 2020; Dingel and Neiman, 2020). New job opportunities for unskilled people will instead arise in public health (e.g. cleansing and disinfecting crews) and other services (e.g. security guards enforcing social distancing, delivery workers).

In other words, we are bound to face a major misallocation problem. Any strategy to resume economic activity to “normal levels” will need to involve some combination of the following: (i) matching safe workers to unsafe jobs; (ii) matching safe jobs to unsafe workers; (iii) facing the possible skill mismatch associated to the necessary acceleration of automation in strategic industries, like the health sector and its suppliers.

In this research project, we plan to assess the characteristics and magnitude of this reallocation.

The first part of this project will try to quantify the number of currently safe jobs and their allocation across sectors. We are already at work drawing on information from O-Net and from the Italian Sample Survey on Professions (ICP). We plan to estimate how many jobs can potentially be carried out remotely (i.e. even under the current lockdown measures), and how many jobs can be “safely” carried out as soon as the most restrictive measures to mobility are lifted (because they require limited mobility and little face-to-face interactions). This mapping of occupations will then be converted into a mapping of the goods and services that can be safely produced looking in particular at those involved in the health value chain.

Preliminary evidence suggests that:

1. The share of jobs that can be carried out from home ranges from 24% in Italy, to 28% in France and Germany, up to 32% in the UK. These are mainly service sector jobs like teachers, engineers, lawyers, architects. Only 14% of all jobs in manufacturing, and 7% of jobs in construction, belong to this category.

2. As soon as the most restrictive confinement measures are lifted, a wider range of jobs will be possible, especially those involving limited mobility from home and little or no personal interactions (e.g., veterinarians, jewellers, chemists, plumbers). Under these assumptions, the share of jobs that can be “safely” reactivated increases up to 46-48% in all major European countries.

3. Unfortunately, the fraction of “safe” jobs is low in most of the anti-Covid strategic industries working as suppliers of the health sector. Scaling up “safe” production in these industries...
requires reconversion of assembly lines that currently produce other goods and further investment in automation.

The second part of the project will assess:

i) how many jobs can be rapidly transformed in order to comply with social distancing measures;

ii) the impact of this reorganization on the skill composition of labour demand, and

iii) the consequent scope or need for workers retraining or reallocation.

We are currently surveying managers, eliciting information on how firms are reacting to Covid-19 and which measures they are adopting to make jobs safer in this new environment.

We will then resort to data such as Time Use Surveys (TUS) that, contrary to O-Net, capture task heterogeneity within occupations. This information on how people actually carry out their job under “normal” times is crucial to get a sense of the changes required to the organisation of work. We shall then exploit data from the Programme for the International Assessment of Adult Competencies (PIAAC) on the skills (ICT/cognitive) of workers most affected by these changes. This will give us the possibility to estimate whether these workers are able to switch to new forms of work, and to what extent investments in training or external labour reallocations are needed.

The last part of the project will try to characterize the distribution across sectors and occupations of the immunised population or that at very low risk of Covid-related serious illness. Assessing the allocation of safe workers clearly requires a better knowledge of the grounds for immunity and this explains why we have not yet started working on it. So far, we have been analysing the generational profile of workers in strategic industries and whether young workers, those at lower risk of Covid-19 induced mortality, live with parents or older relatives.

Data description: O-Net, Italian Survey of Profession (ICP), PIAAC, Time Use Survey, purposefully collected data from a survey of Italian managers

JEL Codes: D24, J23, J24, J28, J81, I18, O33

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Preliminary results published here: