

Economics in the Time of Covid-19: The economic impact on Asia

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Teleworking Productivity: How to mitigate the impact of Coronavirus?

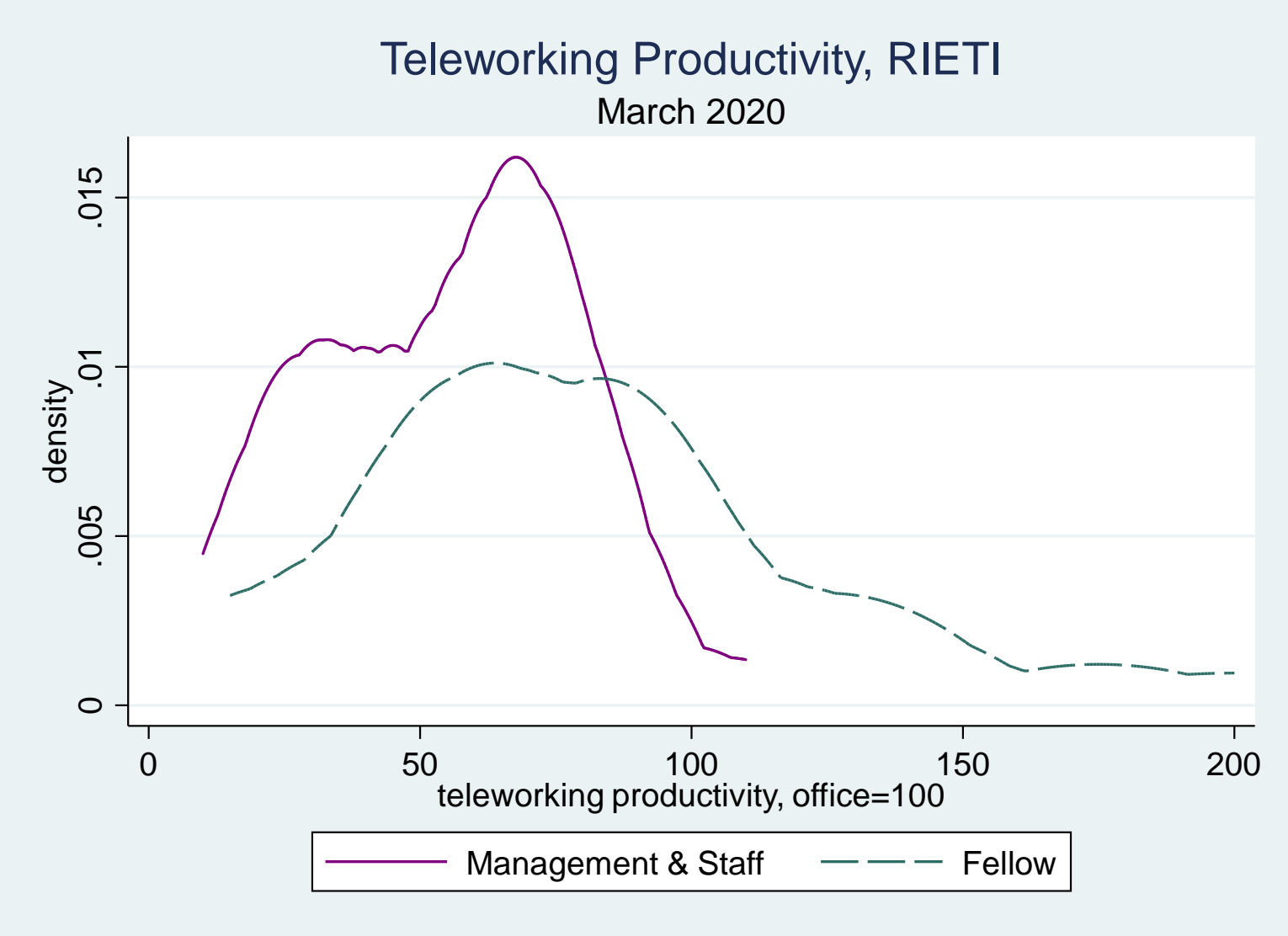
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- In Japan, the percentage of firms adopting teleworking (work at home) has been low (less than 10%), but it is increasing suddenly by the COVID-19 shock.
 - ⇒ **Improving productivity at home is important to mitigate negative impacts of the COVID-19.**
- There are some studies on the productivity of teleworking for specific occupations.
 - Bloom *et al.* (2015: QJE) → Positive
 - Battiston *et al.* (2017: CEPR DP) → Negative
 - ⇒ **However, causal evidence for ordinary white-collar workers has been scant.**

COVID-19 and Increase in Teleworking

- I have conducted an interview survey for managers, staffs, and researchers working in RIETI (in the middle of March).
 - RIETI strongly recommended them working at home.
 - The result obtained from the unexpected natural experiment can be interpreted as a causal evidence.
 - Question: **Suppose your productivity in the office to be 100, how do you evaluate your productivity at home?** (figure of more than 100 is allowed.)
 - About 95% of the full-time employees responded to the interview.
- Quantitative results
 1. **Teleworking productivity relative to the office work is low (63 at the mean).**
 2. **Researchers' relative teleworking productivity is better than that of managers and staffs (81 vs. 55, $p < 0.01$).**
 3. **However, huge variation even within the same occupation.**

Result: Distribution of Teleworking Productivity



(Note) X-axis indicates subjective assessment of teleworking productivity (productivity in the office=100). N=64.

What determines teleworking productivity?

- **Qualitative results: Factors affecting productivity at home**
 1. **Lack of user friendliness (switching costs) of PC and software to access office IT system ⇒ But, learning effect may work.**
 2. **Some tasks must be conducted in the office (often for security reasons). ⇒ Rules and regulations could be modified.**
 3. **Loss of efficient face-to-face communication**
 4. **Poor working environment at home (e.g., lack of private room)**
⇒ Teleworking productivity will gradually converge to office productivity, although the difference cannot be removed completely (factors 3 & 4).

- **Policy implication: Subsidizing firms' ICT investments related to teleworking can be a “wise spending.”**
 - Demand side effect: Immediate demand creation
 - Supply side effect: Improvement in productivity at home