

Discussion: Resilience and Ingenuity Global Innovation Responses to COVID-19

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This book

- A useful summary of where we are now – in midstream
 - Rise of omicron variants, latest is BA 2.75
 - Severe lockdowns in China and their effects on the global economy
 - Inflation and recession in many countries, some but not all due to Covid
- Very fact-based, with relatively little detailed analysis
 - Highly useful to have the facts collected in one place
 - reflecting the admirable speed with which it was produced.
- Takeaway: innovation system fairly resilient
 - ability of many innovative sectors to work remotely
 - new demands in the form of vaccines, treatments, PPE, and services

Main findings (my summary)

- Relatively little impact on innovation and the use of IP, by comparison to other areas (such as education)
 - Short term decline in international patent filings, except from China
 - Increase in international TM filings after some delay
 - High growth rates in biomedical/pharma and digital communications already existed, but increased
- Exceptions to moderate impacts:
 - Women/those with children suffered declines in research time more than others
 - Similarly for bio/chem lab researchers
 - Performing artists suffered far more loss of income than writers or fine artists

Some suggestions for further analysis (1)

- Is the growth in Chinese patent filings sustained during 2022, when there were major lockdowns?
- The results on academic research call out for multivariate analysis
 - for example, women are more likely to be in bio/chem lab research than in math or engineering, so controlling for gender and field simultaneously tells you which is the biggest factor.
- The narrative history of vaccine development is of considerable interest.
 - Given the multiple funding sources, can we say anything about whether the returns to private R&D in this area are appropriate?
 - Small firms from the EU appear to have made contributions here, in spite of the funding difficulties described.

Some suggestions for further analysis (2)

- One chapter convincingly shows that attention in the form of blogs, social media, news, etc has shifted towards covid-related articles in PubMed during the pandemic. In spite of its title, the chapter does **not** show the impact of this attention shift on the direction of research. Is this question worth pursuing?
- The clinical trials chapter points out the variation in government funding across countries – is there an opportunity to say anything about effectiveness, best practice, using these data?
- Somewhat skeptical of the claim that IP assets are a store of value in the sense that they provide an ability to wait before investing. More evidence on this proposition is needed
 - Park shows that markets in this area are roughly proportional to patents in the area, as one would expect.

Impact of COVID-19 on investments in digital technologies by SMEs in the EU and the US

- Not much new here (this is not a critique, just a statement of fact)
 - Reminiscent of many past studies of R&D and innovation investments
- US SMEs more likely to adopt digital and advanced tech than EU SMEs
- EU SMEs in particular face financing shortfalls due to bank-based finance and lack of growth capital
 - In spite of decades of economists arguing this point, and the introduction of many programs at the member state and EU level to mitigate the problem
 - Maybe financing is not the problem?

Thank you for this interesting
book!

Part I: Impact across the world: Much similarity, some divergence

- How the COVID-19 crisis affected international intellectual property filings
- Immunity to the COVID-19 shock? The case of US innovation
- Impact of the COVID-19 pandemic on trademark activity in Canada
- Impact of the COVID-19 pandemic on patent activity: Some evidence from patent filings at the European Patent Office
- The impact of COVID-19 and Singapore's response
- The COVID-19 impact on innovation in China
- COVID-19: Crisis or opportunity? The case of South Korean innovation
- Impacts of COVID-19 on R&D and patenting activities in Japan: Demand shocks, application delay, and patent option value
- The COVID-19 impact in Australia

Part II: Responses in the innovation ecosystem

- Impact of COVID-19 on investments in digital technologies by SMEs in the EU and the US
- The COVID-19 pandemic and academic research enterprise
- The power of attention: Early indications of how the COVID-19 pandemic has affected the direction of scientific research in the life sciences
- COVID-19 and clinical trials
- The new mRNA breakthrough technology for vaccines: A lucky shot?
- COVID and the US creative economy: Supply, demand, and the hastening of the future
- Online consumption behaviour and how infringement levels changed during lockdown
- The COVID-19 impact on artistic income: Evidence from Germany