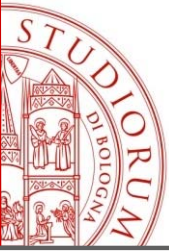


Economics of Innovation Conference

Round Table on «Innovation and Industrial Dynamics»

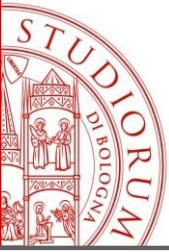
Milano, 13 September 2023

Enrico Santarelli – University of Bologna



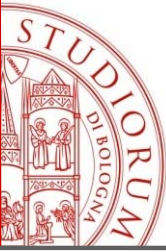
Round Table on «Innovation and Industrial Dynamics»

**What do we know now that we didn't
know 20 years ago?**



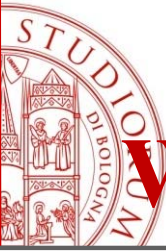
What do we know now...

- By overlooking industrial dynamics and assuming that (process) innovation stems from patent races among competing firms, the new IO paradigm created room for the simultaneous emergence of the *Economics of Innovation* and the *Economics of Entrepreneurship* as academic fields;
- However, these two fields were initially conceptually distant, though not mutually hostile;
- Their convergence over the past twenty years has enhanced the toolbox for studying innovation and industrial dynamics;



What do we know now...conceptually

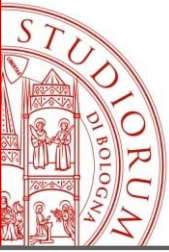
- The *Entrepreneurial Ecosystems* approach was one of the main unifying novelties:
 - within a territorial unit, a combination of **human**, **organizational** and **institutional** aspects occur, that may facilitate and support the creation and growth of new business activities (Acs, Estrin et al., 2018);
- Borrowing from the *National Systems of Innovation* (Lundvall, 1992) approach, it fused the Economics of Innovation and the Economics of Entrepreneurship in a neo-Schumpeterian framework, enriched by **institutional factors**.



What do we know now...methodologically

- In the context of quantitative research on innovation, we have initiated the utilization of *text mining techniques* to extract essential information from patent files. This allows us to pinpoint instances where patents with different CPC (Cooperative Patent Classification) codes are converging or intersecting in the technological space:
 - Facilitating our understanding of the real contribution of innovative entrepreneurship to major technological breakthroughs.

- In summary, the last two decades of research on innovation and industry dynamics can be encapsulated in one keyword: **convergence**.



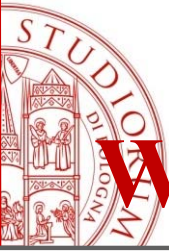
Round Table on «Innovation and Industrial Dynamics»

What is the relationship between our research community and mainstream economics?



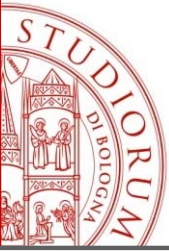
What is the relationship...conceptually

- It cannot be denied that over time there has also been another, partly unexpected, **convergence**: that between our research community and the mainstream;
 - The **Knowledge Spillover Theory of Entrepreneurship (KSTE)** (Acs et al., 2009) accentuates the significance of entrepreneurs in the conversion of knowledge with potential economic value into knowledge possessing actual economic value. It therefore offers a 'neo-Schumpeterian' contribution to Endogenous Growth Theory, filling the gaps in its ability to account for the existence of knowledge spillovers;
 - The **Skill-Biased Technological Change (SBTC)** theory (Autor et al., 1998) integrates the 'factor-biased' approach of mainstream labor economics with the concept from evolutionary economics, suggesting that skill-bias is a long-term historical trend that has gained new momentum from the diffusion of ICT-based technologies;



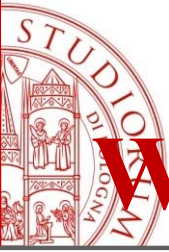
What is the relationship...methodologically

- Since the 1980s, a prevailing view of government's role in the economy has shifted to prioritize “what works” over “what is right”:
 - thereby resulting in the elimination of the political components of public intervention, as well as the ethical principles and value judgments upon which it is based;
- This shared vision has also driven methodological convergence, with both communities increasingly using the Difference-in-Differences approach to assess the (short-term) impacts of new 'treatments' and determine their effectiveness.



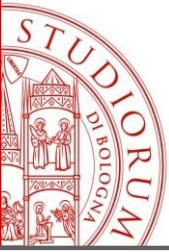
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**Which are the most promising avenues
for future research?**



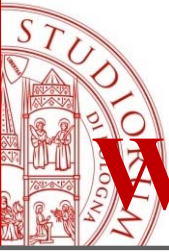
Which are the most promising avenues...

- Policymakers are reluctant to accept the initial randomness and subsequent path dependency of innovation, as well as the differences between countries and regions in terms of their entrepreneurship capital endowments.
 - For example, they:
 - Express concern regarding issues related to the use of AI chatbots;
 - Speculate about incentivizing the adoption of labor-friendly technologies;
 - Adopt a 'Hundred Flower Campaign' approach to subsidize **all types** of new entrepreneurial ventures;



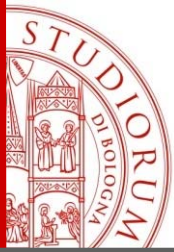
Which are the most promising avenues...

- Policymakers and the general public need to be made aware that technological change can occasionally pose a short-term threat but, frequently, offers opportunities for long-term societal progress:
 - Historical evidence and comparisons with the past can confirm the importance of innovation for societal prosperity;
- We must avoid solely fixating on individual elements of the presumed new techno-economic paradigm, like AI chatbots and robots, and instead investigate the feasibility and institutional implications of the broader phenomenon Ginni Rometty, former IBM CEO, called “almost extreme automation”;



Which are the most promising avenues...

- Neo-Schumpeterian scholars have a responsibility to dispel fears about technological change and guide policy action in the ‘right’ direction;
 - On the research side:
 - Focusing on the potential for recent automation advancements to achieve **carbon-free modernization** of production systems and to aid in experimenting with **innovative societal organizational models**.
 - On the policy actions side:
 - Recommending the implementation of a universal basic income, **funded by tapping into capital income** instead of labor income, as a measure to mitigate the unfavorable **short-term** impacts of automation on the labor force.



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