



**ECONOMICS OF INNOVATION:
Where are we, how did we get here, and where are we heading?**

Department of Economic Policy, Catholic University of the Sacred Heart, Milano

Session I Round Table : Innovation and Industrial Dynamics

Rui Baptista

What do we know now about Innovation and Industrial Dynamics that we didn't know 20 years ago?

- The emergence and diffusion of digital technologies has led to changes in the nature of network effects: while in some markets (e.g., social networks) it has reinforced monopoly power, in other areas the switch from hardware to digital platforms created instability as users and service providers often resort to multiple platforms simultaneously (e.g., Uber/Lyft; Facebook/LinkedIn) – high number of users no longer ensures market power (platforms are more specialised so network effects are more localised)
- The extraction and use of big data from digital platforms has created a new kind of competitive advantage that warrants further research – access to big data stimulates innovation but also raises issues of concentration of power by supranational firms that exploit differences in tax and privacy legislation regimes (Nuccio & Guerzoni, 2018)

What Is the relationship between Innovation & Industrial Dynamics, Mainstream Economics, and Evolutionary Economics?

- Technological change continues to be a main determinant of entry and exit, industry structure, and firm strategy and public policy (Klepper, 1996; Agarwal & Gort, 2002)
- The emergence of AI is already affecting multiple industries – e.g., healthcare, consultancy (Cowgill, 2019; Galasso & Luo, 2018)
- Research has linked the emergence of ICT platforms to declining business dynamism and productivity, and increased concentration (Bijnens & Konings, 2018; Haltiwanger, Hathaway & Miranda, 2014)
- Other work suggests that increased exposure to digital platforms facilitates new entry and exit by old incumbents (Bennet & Hall, 2020)
- Babina, Fedyk, He & Hodson (2021) find that increased adoption of AI is associated with increases in industry concentration
- Acemoglu & Retrepo (2019) find that investments in AI have been primarily labour-saving rather than labour-enhancing

Which are the most promising avenues for future research? Challenges raised by new digital technologies

- Technology spillovers are geographically localised (Audretsch & Feldman, 1996); Baptista & Swann, 1998; Boschma, 2005)
- **Entrepreneurial Ecosystems (EE)** (Stam & Spiegel, 2016) provide a potentially useful framework to study the relationship between technology and industrial dynamics
- Entrepreneurial ecosystems are networks of actors, institutions, resources and culture that support and enable entrepreneurship and industry dynamics in an industry or region
- A region's exposure to AI generates tacit knowledge about how to work with and benefit from the technology that in turn constitutes a capability upon which future innovation will build; one might expect that the effect is greater in areas where there are more interactions and entry/exit dynamics (Felten, Raj & Seamans, 2021)

Entrepreneurial Ecosystems (EE) and Industry Dynamics

- Entrepreneurial ecosystems can foster industrial dynamics by creating new firms, products, markets and technologies that challenge the existing ones and stimulate innovation and competition
- Entrepreneurial ecosystems can also adapt to industrial dynamics by shifting their focus from new firm creation to internal commercialization of knowledge, or vice versa, depending on the stage and needs of the industry
- Entrepreneurial ecosystems can influence and be influenced by the industrial policies, regulations, standards and infrastructure that affect the opportunities and barriers for entrepreneurship in different industries

EE Evolution and Digital EE

- Studying the evolution dynamics of EE through their birth, growth, maturity, decline, and revival can provide novel insights into industry and regional evolution
- Cantner, Cunningham, Lehman & Menter (2021) take an industry life cycle perspective, proposing that EE transition from entrepreneurial ecosystems, focused on creating new companies, to business ecosystems, where the central focus is on intrapreneurial activities
- Other literature focuses specifically on Digital EE, which exploit digital resources for the detection and pursuit of entrepreneurial opportunities through business model innovation (Autio, Nambisan, Thomas & Wright, 2018)
- Digital EE are characterized by voluntary horizontal spillovers of knowledge into a “collective intelligence” (Elia, Margherita & Passiante, 2020)

Thank you!