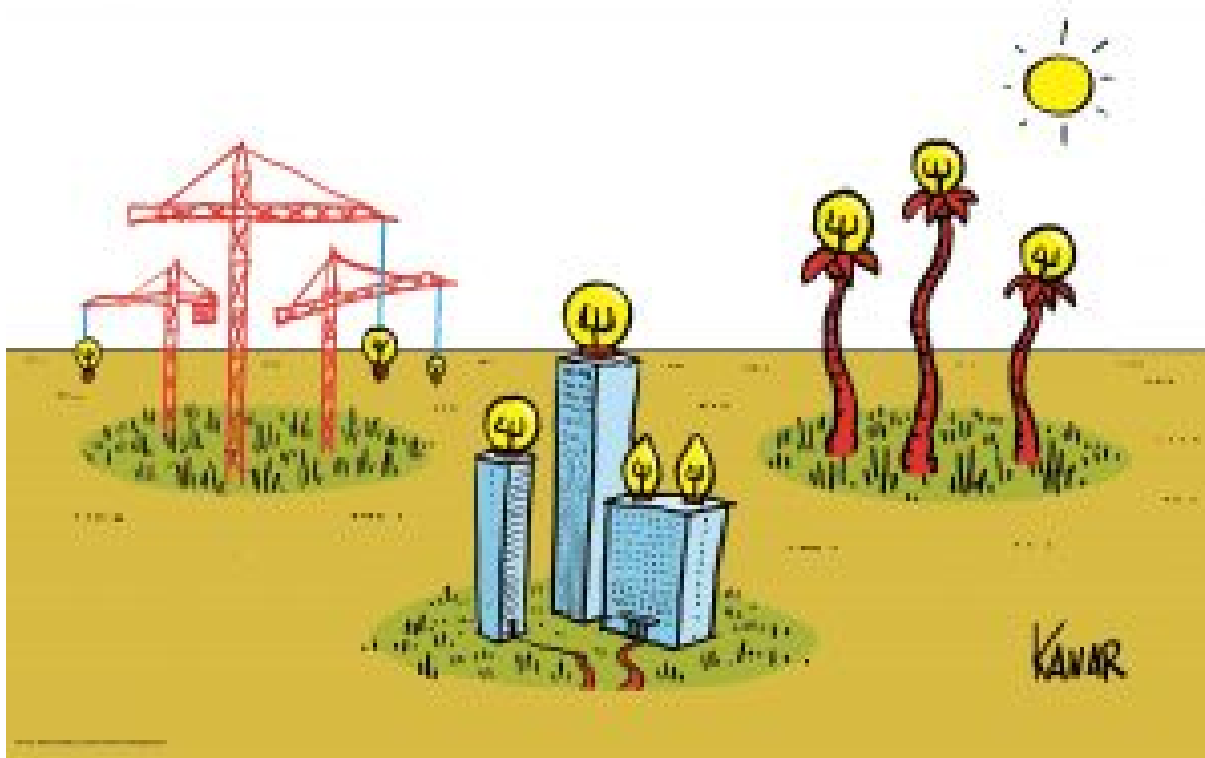
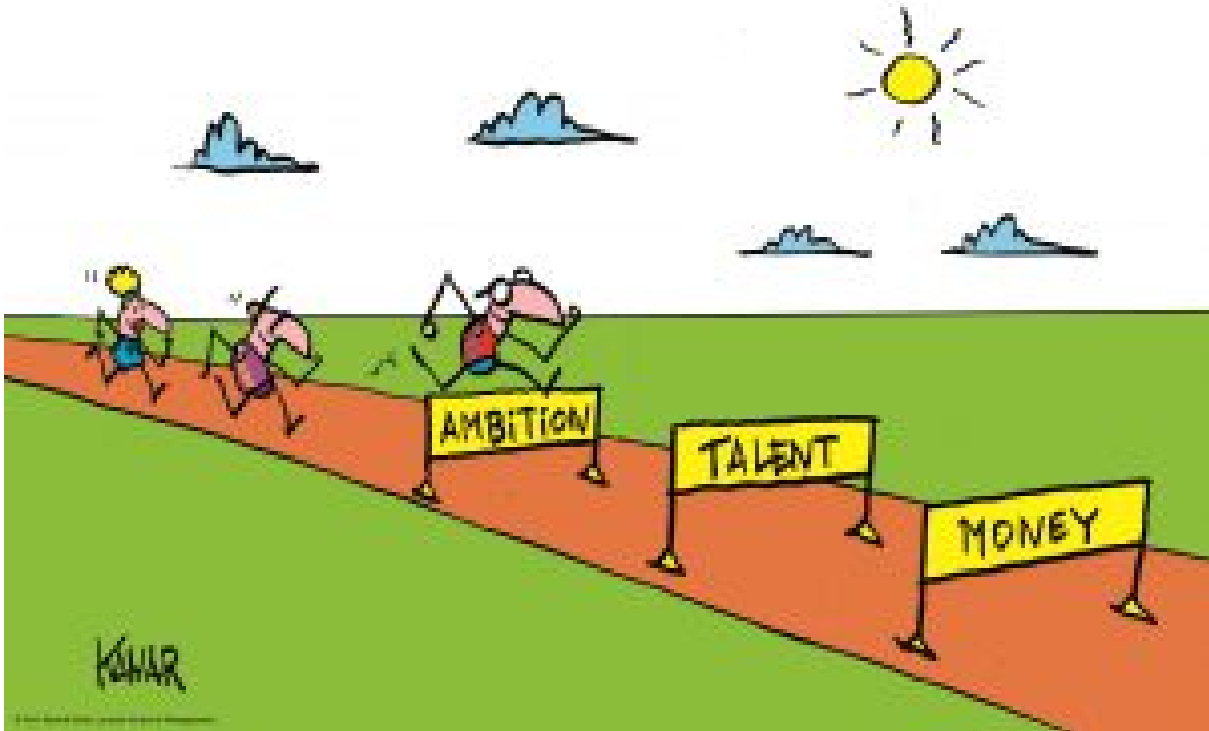


By Benoît Gailly, 17 January 2018

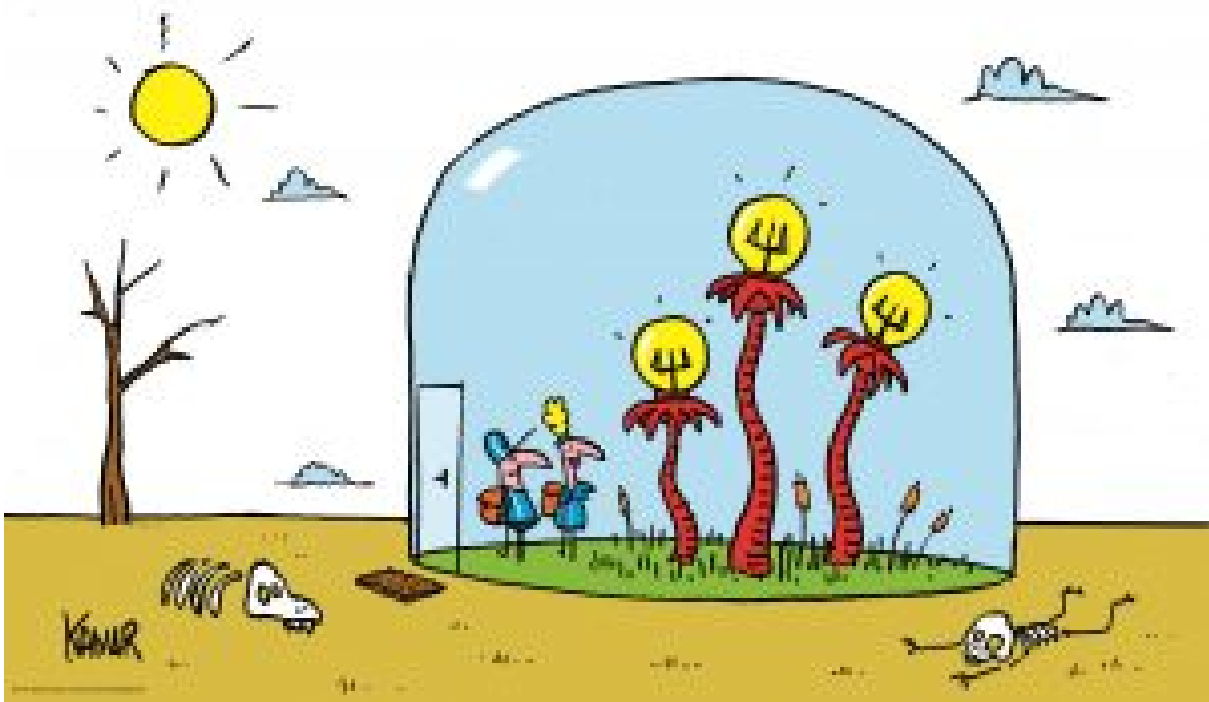
## Create innovation ecosystems: lands of opportunities



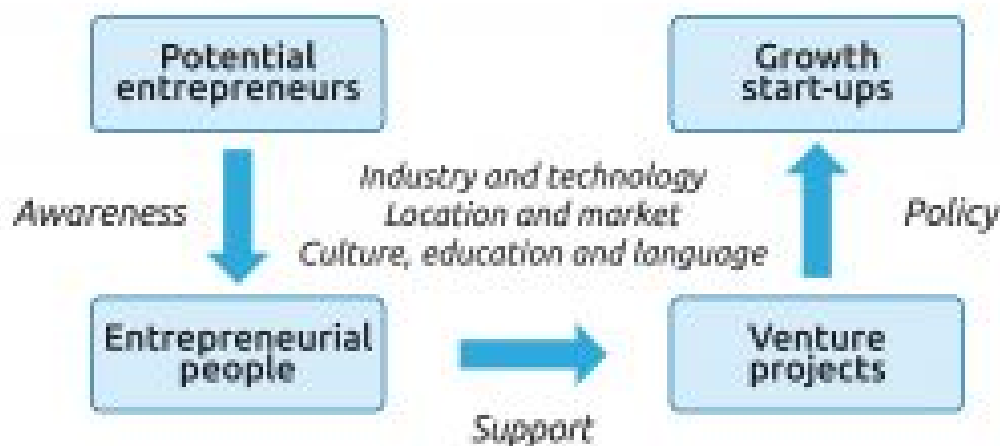
The strength of a **regional innovation ecosystem** is driven by the combination of effective infrastructures and institutions with the availability of relevant financial, human and knowledge resources.



Beyond the start-up myths, weaknesses such as lack of **talent** and **ambition** imply that most new firms emerging in a regional ecosystem will be low-growth and low-tech.



Untamed free markets often fail to support sustainable innovations. **Targeted and effective public interventions** are also needed for strong innovation ecosystems to emerge and thrive.



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A wide range of private and public **innovation support mechanisms** should be carefully deployed and leveraged in order to strengthen regional innovation ecosystems and foster the scale-up of entrepreneurial ventures.

## Bibliography

### Innovation valleys: regional innovation ecosystems

**Keywords:** *ecosystems, knowledge spillovers, national innovation systems, Silicon Valley, triple/quadruple helix*

- (Book) Athiyaman, A., Dabson, B., Hamm, G. F., Henderson, J., Holley, J., Hustedde, R., ... & Low, S. A. (2007). [Entrepreneurship and local economic development](#). Lexington Books.
- (Book) Audretsch et al. (eds.) [Handbook of Research on Innovation and Entrepreneurship](#), Edward Elgar, Cheltenham
- (Book) Fitzgerald, E. and Wankerl, A. (2017) [Inside Real Innovation](#)
- (Book) Hart, D. M. (Ed.). (2003). [The emergence of entrepreneurship policy: governance, start-ups, and growth in the US knowledge economy](#). Cambridge University Press.
- (Book) Lundvall, B. Å. (1992) [National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning](#), London: Pinter
- (Book) Lundvall, B. Å. (Ed.). (2010). [National systems of innovation: Toward a theory of innovation and interactive learning](#) (Vol. 2). Anthem press.
- (Book) Mokyr, J. (2016) [A Culture of Growth: The Origins of the Modern Economy](#),

- Princeton University Press
- (Book) Nelson, R.R. (Ed.), 1993. [National Innovation Systems: A Comparative Study](#). Oxford University Press, Oxford.
  - (Book) Saxenian, A., (1996). [Regional advantage: culture and competition in Silicon Valley and Route 128](#). Harvard University Press, Cambridge, Mass.
  - (Video) [MIT2016: Celebrating a Century In Cambridge](#)
  - (Article) Acs, Z. J., Anselin, L., & Varga, A. (2002). Patents and innovation counts as measures of regional production of new knowledge. *Research Policy*, 31(7), 1069-1085.
  - (Article) Adner, R. (2017). Ecosystem as structure: an actionable construct for strategy. *Journal of Management*, 43(1), 39-58.
  - (Article) Almeida, P., & Kogut, B. (1999). Localization of knowledge and the mobility of engineers in regional networks. *Management Science*, 45(7), 905-917
  - (Article) Amezcua, A., Ratinho, T., Plummer, L. A., & Jayamohan, P. (2019). Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes. *Journal of Business Venturing*, 105967.
  - (Article) Araki, M. E., Bennett, D. L., & Wagner, G. A. (2024). Regional innovation networks & high-growth entrepreneurship. *Research Policy*, 53(1), 104900.
  - (Article) Arıkan, A. T., & Schilling, M. A. (2011). Structure and governance in industrial districts: implications for competitive advantage. *Journal of Management Studies*, 48(4), 772-803.
  - (Article) Asheim, B. T., & Isaksen, A. (2002). Regional innovation systems: the integration of local 'sticky' and global 'ubiquitous' knowledge. *The Journal of Technology Transfer*, 27(1), 77-86.
  - (Article) Asheim, B. T., & Coenen, L. (2005). Knowledge bases and regional innovation systems: Comparing Nordic clusters. *Research Policy*, 34(8), 1173-1190.
  - (Article) Asheim, B. T., Smith, H. L., & Oughton, C. (2011). Regional innovation systems: theory, empirics and policy. *Regional Studies*, 45(7), 875-891.
  - (Article) Audretsch, D. B., & Feldman, M. P. (1996). R&D spillovers and the geography of innovation and production. *The American Economic Review*, 86(3), 630-640.
  - (Article) Audretsch, D. B., & Lehmann, E. E. (2005). Does the knowledge spillover theory of entrepreneurship hold for regions?. *Research Policy*, 34(8), 1191-1202.
  - (Article) Audretsch, D. B., Hülsbeck, M., & Lehmann, E. E. (2012). Regional competitiveness, university spillovers, and entrepreneurial activity. *Small Business Economics*, 39(3), 587-601.
  - (Article) Audretsch, D. B., Cunningham, J. A., Kuratko, D. F., Lehmann, E. E., & Menter, M. (2019). Entrepreneurial ecosystems: economic, technological, and societal impacts. *The Journal of Technology Transfer*, 44(2), 313-325.
  - (Article) Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, 43(7), 1097-1108.
  - (Article) Autio, E., Nambisan, S., Thomas, L. D., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 72-95.
  - (Article) Balland, P. A., Boschma, R., & Frenken, K. (2015). Proximity and innovation: From statics to dynamics. *Regional Studies*, 49(6), 907-920.
  - (Article) Bird, M., & Wennberg, K. (2014). Regional influences on the prevalence of family versus non-family start-ups. *Journal of Business Venturing*, 29(3), 421-436.

- (Article) Bloom, N., Schankerman, M., & Van Reenen, J. (2013). Identifying technology spillovers and product market rivalry. *Econometrica*, 81(4), 1347-1393.
- (Article) Boschma, R. (2005). Proximity and innovation: a critical assessment. *Regional Studies*, 39(1), 61-74.
- (Article) Braunerhjelm, P., Acs, Z. J., Audretsch, D. B., & Carlsson, B. (2010). The missing link: knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics*, 34(2), 105-125.
- (Article) Breschi, S., & Lissoni, F. (2001). Knowledge spillovers and local innovation systems: a critical survey. *Industrial and Corporate Change*, 10(4), 975-1005.
- (Article) Bresnahan, T., Gambardella, A., & Saxenian, A. (2001). 'Old economy' inputs for 'new economy' outcomes: Cluster formation in the new Silicon Valleys. *Industrial and Corporate Change*, 10(4), 835-860.
- (Article) Bronzini, R., & Piselli, P. (2009). Determinants of long-run regional productivity with geographical spillovers: the role of R&D, human capital and public infrastructure. *Regional Science and Urban Economics*, 39(2), 187-199.
- (Article) Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, 49(1), 11-30.
- (Article) Buesa, M., Heijs, J., & Baumert, T. (2010). The determinants of regional innovation in Europe: A combined factorial and regression knowledge production function approach. *Research Policy*, 39(6), 722-735.
- (Article) Carayannis, E.G., & Campbell, D.F. (2009). 'Mode 3' and 'Quadruple Helix': toward a 21st century fractal innovation ecosystem. *International Journal of Technology Management*, 46(3-4), 201-234.
- (Article) Carlsson, B., & Stankiewicz, R. (1991). On the nature, function and composition of technological systems. *Journal of Evolutionary Economics*, 1(2), 93-118.
- (Article) Carlsson, B. (2006). Internationalization of innovation systems: A survey of the literature. *Research Policy*, 35(1), 56-67.
- (Article) Catalini, C. (2018). Microgeography and the direction of inventive activity. *Management Science*, 64(9), 4348-4364.
- (Article) Cervelló-Royo, R., Moya-Clemente, I., Perelló-Marin, M. R., & Ribes-Giner, G. (2022). A configurational approach to a country's entrepreneurship level: Innovation, financial and development factors. *Journal of Business Research*, 140, 394-402.
- (Article) Cho, D. S., Ryan, P., & Buciuani, G. (2021). Evolutionary entrepreneurial ecosystems: a research pathway. *Small Business Economics*, 1-19.
- (Article) Clarysse, B., Wright, M., Bruneel, J., & Mahajan, A. (2014). Creating value in ecosystems: Crossing the chasm between knowledge and business ecosystems. *Research Policy*, 43(7), 1164-1176.
- (Article) Colatat, P. (2015). 'An organizational perspective to funding science: Collaborator novelty at DARPA'. *Research Policy*, 44, 874-887.
- (Article) Cooke, P., Uranga, M. G., & Etzebarria, G. (1997). Regional innovation systems: Institutional and organisational dimensions. *Research Policy*, 26(4-5), 475-491.
- (Article) Cooke, P. (2001). Regional innovation systems, clusters, and the knowledge economy. *Industrial and corporate change*, 10(4), 945-974.
- (Article) Cooke, P. (2010). Regional innovation systems: development opportunities from the 'green turn'. *Technology Analysis & Strategic Management*, 22(7), 831-844.
- (Article) Crevoisier, O. (2004). The innovative milieus approach: toward a territorialized

- understanding of the economy?. *Economic Geography*, 80(4), 367-379.
- (Article) Christopherson, S., & Clark, J. (2007). Power in firm networks: What it means for regional innovation systems. *Regional Studies*, 41(9), 1223-1236.
  - (Article) Cumming, D., Schmidt, D., & Walz, U. (2010). Legality and venture capital governance around the world. *Journal of Business Venturing*, 25(1), 54-72.
  - (Article) Dakhli, M., & De Clercq, D. (2004). Human capital, social capital, and innovation: a multi-country study. *Entrepreneurship & Regional Development*, 16(2), 107-128.
  - (Article) Denyer, D., & Neely, A. (2004). 'Introduction to special issue: innovation and productivity performance in the UK'. *International Journal of Management Reviews*, 4/5, 131-135.
  - (Article) Döring, T., & Schnellbach, J. (2006). What do we know about geographical knowledge spillovers and regional growth?: A survey of the literature. *Regional Studies*, 40(03), 375-395.
  - (Article) Eklinder-Frick, J., Eriksson, L. T., & Hallén, L. (2011). Bridging and bonding forms of social capital in a regional strategic network. *Industrial Marketing Management*, 40(6), 994-1003.
  - (Article) Engel, J. S. (2015). Global clusters of innovation: Lessons from Silicon Valley. *California Management Review*, 57(2), 36-65.
  - (Article) Engelen, A. (2010). Entrepreneurial orientation as a function of national cultural variations in two countries. *Journal of International Management*, 16(4), 354-368.
  - (Article) Etzkowitz, H., & Klofsten, M. (2005). The innovating region: toward a theory of knowledge-based regional development. *R&D Management*, 35(3), 243-255.
  - (Article) Feldman, M. P., & Audretsch, D. B. (1999). Innovation in cities: Science-based diversity, specialization and localized competition. *European Economic Review*, 43(2), 409-429.
  - (Article) Fleming, L., & Marx, M. (2006). Managing creativity in small worlds. *California Management Review*, 48(4), 6-27.
  - (Article) Fleming, L., King III, C., & Juda, A. I. (2007). Small worlds and regional innovation. *Organization Science*, 18(6), 938-954.
  - (Article) Freeman, C. (1995). The 'National System of Innovation' in historical perspective. *Cambridge Journal of Economics*, 19(1), 5-24.
  - (Article) Freeman, C., & Soete, L. (2009). Developing science, technology and innovation indicators: What we can learn from the past. *Research Policy*, 38(4), 583-589.
  - (Article) Fritsch, M., & Franke, G. (2004). Innovation, regional knowledge spillovers and R&D cooperation. *Research Policy*, 33(2), 245-255.
  - (Article) Funk, R. J. (2014). Making the most of where you are: Geography, networks, and innovation in organizations. *Academy of Management Journal*, 57(1), 193-222.
  - (Article) Furman, J. L., Porter, M. E., & Stern, S. (2002). The determinants of national innovative capacity. *Research Policy*, 31(6), 899-933.
  - (Article) Galliano, D., Magrini, M. B., & Triboulet, P. (2015). Marshall's versus Jacobs' externalities in firm innovation performance: The case of French industry. *Regional Studies*, 49(11), 1840-1858.
  - (Article) Gilbert, B. A., Audretsch, D. B., & McDougall, P. P. (2004). The emergence of entrepreneurship policy. *Small Business Economics*, 22(3-4), 313-323.
  - (Article) Griliches, Z. (1991). *The search for R&D spillovers* (No. w3768). NBER.
  - (Article) Guan, J., Zhang, J., & Yan, Y. (2015). "The impact of multilevel networks on

- innovation'. *Research Policy*, 44, 545-559.
- (Article) Guzman, J., & Stern, S. (2015). Where is silicon valley?. *Science*, 347(6222), 606-609.
  - (Article) Hakala, H., O'Shea, G., Farny, S., & Luoto, S. Re-storying the Business, Innovation and Entrepreneurial Ecosystem Concepts: The Model-Narrative Review Method. *International Journal of Management Reviews*.
  - (Article) Hansen, T. (2015). Substitution or overlap? The relations between geographical and non-spatial proximity dimensions in collaborative innovation projects. *Regional Studies*, 49(10), 1672-1684.
  - (Article) Jacobides, M. G., Cennamo, C., & Gawer, A. (2018). Towards a theory of ecosystems. *Strategic Management Journal*. 39, 2255-2276
  - (Article) Jaffe, A. B., Trajtenberg, M., & Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations. *The Quarterly journal of Economics*, 108(3), 577-598.
  - (Article) Kafouros, M., Wang, C., Piperopoulos, P., & Zhang, M. (2015). 'Academic collaborations and firm innovation performance in China: The role of region-specific institutions'. *Research Policy*, 44, 803-817.
  - (Article) Karlsson, C., & Olsson, O. (1998). Product innovation in small and large enterprises. *Small Business Economics*, 10(1), 31-46.
  - (Article) Kaufmann, A., & Todtling, F. (2000). Systems of innovation in traditional industrial regions: the case of Styria in a comparative perspective. *Regional Studies*, 34(1), 29-40.
  - (Article) Kenney, M., & Von Burg, U. (1999). Technology, entrepreneurship and path dependence: industrial clustering in Silicon Valley and Route 128. *Industrial and corporate change*, 8(1), 67-103.
  - (Article) Kreiser, P.M., Marino, L.D., Dickson, P., & Weaver, K.M. (2010). Cultural Influences on Entrepreneurial Orientation: The Impact of National Culture on Risk Taking and Proactiveness in SMEs. *Entrepreneurship Theory and Practice*, 34(5), 959-983.
  - (Article) MacKinnon, D., Cumbers, A., & Chapman, K. (2002). Learning, innovation and regional development: a critical appraisal of recent debates. *Progress in Human Geography*, 26(3), 293-311.
  - (Article) Miguélez, E., & Moreno, R. (2015). 'Knowledge flows and the absorptive capacity of regions'. *Research Policy*, 44, 833-848.
  - (Article) Molina-Morales, F. X., & Martínez-Fernández, M. T. (2009). Too much love in the neighborhood can hurt: How an excess of intensity and trust in relationships may produce negative effects on firms. *Strategic Management Journal*, 30(9), 1013-1023.
  - (Article) Morgan, K. (2004). The exaggerated death of geography: learning, proximity and territorial innovation systems. *Journal of Economic Geography*, 4(1), 3-21.
  - (Article) Nelson, R. R. (2008). What enables rapid economic progress: What are the needed institutions?. *Research Policy*, 37(1), 1-11.
  - (Article) Nelson, R. R., & Nelson, K. (2002). Technology, institutions, and innovation systems. *Research Policy*, 31(2), 265-272.
  - (Article) Ning, L., Wang, F., & Li, J. (2016). 'Urban innovation, regional externalities of foreign direct investment and industrial agglomeration: Evidence from Chinese cities'. *Research Policy*, 45, 830-843.
  - (Article) Oakey, R. (2007). Clustering and the R&D management of high-technology small firms: in theory and practice. *R&D Management*, 37(3), 237-248.

- (Article) Oh, D. S., Phillips, F., Park, S., & Lee, E. (2016). Innovation ecosystems: A critical examination. *Technovation*, 54, 1-6.
- (Article) Owen-Smith, J., & Powell, W. (2004). 'Knowledge networks as channels and conduits: the effects of spillovers in the Boston biotechnology community'. *Organization Science*, 15, 5-21.
- (Article) Perkmann, M., Tartari, V., McKelvey, M., Autio, E., Broström, A., D'Este, P. & Krabel, S. (2013). Academic engagement and commercialisation: A review of the literature on university-industry relations. *Research Policy*, 42(2), 423-442.
- (Article) Plummer, L. A., & Acs, Z. J. (2014). Localized competition in the knowledge spillover theory of entrepreneurship. *Journal of Business Venturing*, 29(1), 121-136.
- (Article) Porter, M. E. (1990) The Competitive Advantage of Nations, *Harvard Business Review* 68: 73-93
- (Article) Porter, M.E. (2000). "Location, Competition and Economic development: Local Clusters in a Global economy", *Economic Development Quarterly*, 14(1), 15-34.
- (Article) Ritala, P., & Almpantopoulou, A. (2017). In defense of 'eco' in innovation ecosystem. *Technovation*, 60, 39-42.
- (Article) Rocha, H., & Audretsch, D. B. (2022). Entrepreneurial ecosystems, regional clusters, and industrial districts: Historical transformations or rhetorical devices?. *The Journal of Technology Transfer*, 1-24.
- (Article) Rodríguez-Pose, A., & Crescenzi, R. (2008). Research and development, spillovers, innovation systems, and the genesis of regional growth in Europe. *Regional Studies*, 42(1), 51-67.
- (Article) Roundy, P. T., Bradshaw, M., & Brockman, B. K. (2018). The emergence of entrepreneurial ecosystems: A complex adaptive systems approach. *Journal of Business Research*, 86, 1-10.
- (Article) Scaringella, L., & Radziwon, A. (2018). Innovation, entrepreneurial, knowledge, and business ecosystems: Old wine in new bottles?. *Technological Forecasting and Social Change*, 136, 59-87.
- (Article) Simón-Moya, V., Revuelto-Taboada, L., & Guerrero, R. F. (2014). Institutional and economic drivers of entrepreneurship: An international perspective. *Journal of Business Research*, 67(5), 715-721.
- (Article) Singh, J. (2005). Collaborative networks as determinants of knowledge diffusion patterns. *Management Science*, 51(5), 756-770.
- (Article) Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice*, 41(1), 49-72.
- (Article) Spigel, B. (2022). Examining the cohesiveness and nestedness entrepreneurial ecosystems: evidence from British FinTechs. *Small Business Economics*, 1-19.
- (Article) Storper, M., & Scott, A. J. (2009). Rethinking human capital, creativity and urban growth. *Journal of Economic Geography*, 9(2), 147-167.
- (Article) Tallman, S., Jenkins, M., Henry, N., & Pinch, S. (2004). Knowledge, clusters, and competitive advantage. *Academy of Management Review*, 29(2), 258-271.
- (Article) Theodoraki, C., Dana, L. P., & Caputo, A. (2021). Building sustainable entrepreneurial ecosystems: A holistic approach. *Journal of Business Research*.
- (Article) Torres, P., & Godinho, P. (2021). Levels of necessity of entrepreneurial ecosystems elements. *Small Business Economics*, 1-17.
- (Article) Tsujimoto, M., Kajikawa, Y., Tomita, J., & Matsumoto, Y. (2017). A review of the



ecosystem concept—Towards coherent ecosystem design. *Technological Forecasting and Social Change*.

- (Article) Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned?. *Small Business Economics*, 53, 21-49.
- (Article) Uzzi, B., Amaral, L. A., & Reed-Tsochas, F. (2007). Small-world networks and management science research: A review. *European Management Review*, 4(2), 77-91.
- (Article) Van de Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business Venturing*, 8(3), 211-230.
- (Article) Wachsen, E., & Blind, K. (2016). 'More labour market flexibility for more innovation? Evidence from employer-employee linked micro data'. *Research Policy*, 45, 941-950.
- (Article) Whittington, K., Owen-Smith, J., & Powell, W. (2009). 'Networks, Proximity, and Innovation in Knowledge-intensive Industries'. *Administrative Science Quarterly*, 54, 90-122.

### **Muppets and unicorns: : start-up myths**

**Keywords:** *micro-firms, NTBF, start-ups*

- (Book) Evans, H. (2004) "[They made America: an illustrated history of two centuries of innovators](#)", Little Brown
- (Book) McKeown M. (2008) [The truth about innovation](#), Pearson Prentice Hall
- (Book) Shane, S.A. (2008) [The Illusions of Entrepreneurship: The Costly Myths That Entrepreneurs, Investors, and Policy Makers Live By](#), Yale University press
- (Video) BusinessTown [10 Myths About Entrepreneurs](#)
- (Article) Aldrich, H. E. (1990). Using an ecological perspective to study organizational founding rates. *Entrepreneurship Theory and Practice*, 14(3), 7-24.
- (Article) Birley, S., & Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. *Journal of Business Venturing*, 9(1), 7-31.
- (Article) Bjerke, L., & Johansson, S. (2015). Patterns of innovation and collaboration in small and large firms. *The Annals of Regional Science*, 55(1), 221-247.
- (Article) Bougrain, F., & Haudeville, B. (2002). Innovation, collaboration and SMEs internal research capacities. *Research Policy*, 31(5), 735-747.
- (Article) Bower, D. J. (2003). Business model fashion and the academic spinout firm. *R&D Management*, 33(2), 97-106.
- (Article) Brown, R., Mawson, S., & Mason, C. (2017). Myth-busting and entrepreneurship policy: the case of high growth firms. *Entrepreneurship & Regional Development*, 29(5-6), 414-443.
- (Article) Capelleras, J. L., & Greene, F. J. (2008). The determinants and growth implications of venture creation speed. *Entrepreneurship and Regional Development*, 20(4), 317-343.
- (Article) Coad, A., Segarra, A., & Teruel, M. (2016). Innovation and firm growth: does firm age play a role?. *Research Policy*, 45(2), 387-400.
- (Article) Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research Policy*, 34(6), 795-816.
- (Article) Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high-growth

- firm. *Journal of Business Venturing*, 18(2), 189-216.
- (Article) Di Gregorio, D., & Shane, S. (2003). Why do some universities generate more start-ups than others?. *Research Policy*, 32(2), 209-227.
  - (Article) Geroski, P. A., Mata, J., & Portugal, P. (2010). Founding conditions and the survival of new firms. *Strategic Management Journal*, 31(5), 510-529.
  - (Article) Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. (1997). Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. *Administrative Science Quarterly*, 750-783.
  - (Article) Gjerløv-Juel, P., & Guenther, C. (2018). Early employment expansion and long-run survival examining employee turnover as a context factor. *Journal of Business Venturing*, 34(1), 80-102
  - (Article) Hoffman, K., Parejo, M., Bessant, J., & Perren, L. (1998). Small firms, R&D, technology and innovation in the UK: a literature review. *Technovation*, 18(1), 39-55.
  - (Article) Huergo, E., & Jaumandreu, J. (2004). How does probability of innovation change with firm age?. *Small Business Economics*, 22(3-4), 193-207.
  - (Article) Kalantaridis, C. (1999). Processes of innovation among manufacturing SMEs: the experience of Bedfordshire. *Entrepreneurship & Regional Development*, 11(1), 57-78.
  - (Article) Korunka, C., Frank, H., Lueger, M., & Mugler, J. (2003). The entrepreneurial personality in the context of resources, environment, and the startup process—A configurational approach. *Entrepreneurship Theory and Practice*, 28(1), 23-42.
  - (Article) Lehmann, E. E., Schenkenhofer, J., & Wirsching, K. (2019). Hidden champions and unicorns: A question of the context of human capital investment. *Small Business Economics*, 52, 359-374.
  - (Article) Levie, J., & Lichtenstein, B. B. (2010). A terminal assessment of stages theory: Introducing a dynamic states approach to entrepreneurship. *Entrepreneurship Theory and Practice*, 34(2), 317-350.
  - (Article) Love, J. H., & Roper, S. (2015). SME innovation, exporting and growth: A review of existing evidence. *International Small Business Journal*, 33(1), 28-48.
  - (Article) Nightingale, P., & Coad, A. (2013). Muppets and gazelles: political and methodological biases in entrepreneurship research. *Industrial and Corporate Change*, 23(1), 113-143.
  - (Article) O'Regan, N., Ghobadian, A., & Gallea, G. (2005). 'In search of the drivers of high growth in manufacturing SMEs'. *Technovation*, 26, 30-41.
  - (Article) O'Shea, R. P., Allen, T. J., Chevalier, A., & Roche, F. (2005). Entrepreneurial orientation, technology transfer and spinoff performance of US universities. *Research Policy*, 34(7), 994-1009.
  - (Article) Petrakis, P. E. (1997). Entrepreneurship and growth: creative and equilibrating events. *Small Business Economics*, 9(5), 383-402.
  - (Article) Rothwell, R. (1989). Small firms, innovation and industrial change. *Small Business Economics*, 51-64.
  - (Article) Shane, S. (2001). Technological opportunities and new firm creation. *Management Science*, 47(2), 205-220.
  - (Article) Shane, S.A. (2009) Why encouraging more people to become entrepreneurs is bad public policy? *Small Business Economics*, 33, 141-149
  - (Article) Siegel, R., Siegel, E., & Macmillan, I. C. (1993). Characteristics distinguishing high-growth ventures. *Journal of Business Venturing*, 8(2), 169-180.

- (Article) Szerb, L., Lafuente, E., Horváth, K., & Páger, B. (2019). The relevance of quantity and quality entrepreneurship for regional performance: The moderating role of the entrepreneurial ecosystem. *Regional Studies*, 53(9), 1308-1320.
- (Article) Van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics*, 24(3), 311-321.
- (Article) Wasserman, N. (2008). The founder's dilemma. *Harvard Business Review*, 86(2), 102-109.

### When markets fail: targeted and effective public interventions

**Keywords:** externalities, invisible hand, general-purpose technologies, market failures, regulation, welfare

- (Book) Adam Smith (1776) [The Wealth of Nations](#)
- (Book) Arrow, K. J. (1972). [Economic welfare and the allocation of resources for invention](#). In *Readings in industrial economics* (pp. 219-236). Palgrave, London.
- (Book) Block F. et Keller M., [«Where do Innovations come from?»](#), State of Innovation: The US Government's Role in Technology Development, Boulder, Paradigm Publishers, 2010
- (Book) Craig A. Tovey, [The Usefulness of Useless Knowledge: With a companion essay by Robbert Dijkgraaf](#) Abraham Flexner Princeton University Press, 2017. 99 pp.
- (Book) De Grauwe, P. (2016). [The Limits of the Market: The Pendulum Between Government and Market](#). Oxford University Press.
- (Book) Mazzucato, M. (2015) [The entrepreneurial state: Debunking public vs. private sector myths](#). Anthem Press.
- (Video) [An inconvenient truth](#) (Davis Guggenheim)
- (Article) Akerlof, G.A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 488-500.
- (Article) Arrow, K. J. (1972). Economic welfare and the allocation of resources for invention. In *Readings in industrial economics* (pp. 219-236). Palgrave, London.
- (Article) Autant-Bernard, C. (2001). Science and knowledge flows: evidence from the French case. *Research Policy*, 30(7), 1069-1078.
- (Article) Beck, M., Lopes-Bento, C., & Schenker-Wicki, A. (2016). 'Radical or incremental: Where does R&D policy hit?'. *Research Policy*, 45, 869-883.
- (Article) Capello, R., & Faggian, A. (2005). Collective learning and relational capital in local innovation processes. *Regional Studies*, 39(1), 75-87.
- (Article) Cohen, W.M., Nelson, R.R., & Walsh, J.P. (2002). Links and impacts: the influence of public research on industrial R&D. *Management Science*, 48(1), 1-23.
- (Article) Crescenzi, R., Gagliardi, L., & Iammarino, S. (2015). 'Foreign multinationals and domestic innovation: Intra-industry effects and firm heterogeneity'. *Research Policy*, 44, 596-609.
- (Article) Furman, J. L., & Stern, S. (2011). Climbing atop the shoulders of giants: The impact of institutions on cumulative research. *American Economic Review*, 101(5), 1933-63.
- (Article) Gans, J. S., & Stern, S. (2010). Is there a market for ideas?. *Industrial and Corporate Change*, 19(3), 805-837.
- (Article) Guo, D., Jiang, K., & Guo, Y. (2016). 'Government-subsidized R&D and firm innovation: Evidence from China'. *Research Policy*, 45, 1129-1144.

- (Article) Jandhyala, S., & Phene, A. (2015). 'The Role of Intergovernmental Organizations in Cross-border Knowledge Transfer and Innovation'. *Administrative Science Quarterly*, 60, 712-743.
- (Article) Katz, M. L., & Shapiro, C. (1986). Technology adoption in the presence of network externalities. *Journal of Political Economy*, 94(4), 822-841.
- (Article) Kuhlmann, S. (2001). Future governance of innovation policy in Europe—three scenarios. *Research Policy*, 30(6), 953-976.
- (Article) Martin, S., & Scott, J.T. (2000). The nature of innovation market failure and the design of public support for private innovation. *Research Policy*, 29(4), 437-447.
- (Article) Partha, D., & David, P. A. (1994). Toward a new economics of science. *Research Policy*, 23(5), 487-521.
- (Article) Schott, T., & Jensen, K. (2016). 'Firms' innovation benefiting from networking and institutional support: A global analysis of national and firm effects'. *Research Policy*, 45, 1233-1246.
- (Article) Takalo, T., Tanayama, T., & Toivanen, O. (2013). Market failures and the additionality effects of public support to private R&D: Theory and empirical implications. *International Journal of Industrial Organization*, 31(5), 634-642
- (Article) Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior & Organization*, 1(1), 39-60.
- (Article) Thaler, Richard. (1988) "The Winners Curse." *Journal of Economic Perspectives* 2(1), 191-202

### The visible hands: innovation support mechanisms

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- (Book) Nooteboom, B. & Stam, E. (2010) [Micro-foundations for Innovation Policy](#). Amsterdam university Press.
- (Book) Fischer, M. M., & Fröhlich, J. (Eds.). (2013). [Knowledge, complexity and innovation systems](#). Springer Science & Business Media.
- (Book) Nooteboom, B. & Stam, E. (2010) [Micro-foundations for Innovation Policy](#). Amsterdam University Press.
- (Book) Storey, D.J. , University of Warwick; OECD (2011) [Business Innovation Policies: Selected Country Comparisons](#), OECD Publishing
- (Video) [The European Business Network](#)
- (Video) [Creating an Entrepreneurial Network and Support System](#) by Kuczmariski Innovation (on Vimeo)
- (Video) [Our approach to innovation is dead wrong](#) | Diana Kander | TEDxKC
- (Article) Aerts, K., Matthyssens, P., & Vandenbempt, K. (2007). Critical role and screening practices of European business incubators. *Technovation*, 27(5), 254-267.
- (Article) Aschhoff, B., & Sofka, W. (2009). Innovation on demand—Can public procurement drive market success of innovations?. *Research Policy*, 38(8), 1235-1247.
- (Article) Amezcua, A. S., Grimes, M. G., Bradley, S. W., & Wiklund, J. (2013). Organizational sponsorship and founding environments: a contingency view on the survival of business-incubated firms, 1994-2007. *Academy of Management Journal*, 56(6), 1628-1654.
- (Article) Autio, E., & Klofsten, M. (1998). A comparative study of two European business

- incubators. *Journal of Small Business Management*, 36(1), 30.
- (Article) Azoulay, P. (2012). Turn the scientific method on ourselves. *Nature*, 484(7392), 31-32.
  - (Article) Barbero, J. L., Casillas, J. C., Wright, M., & Garcia, A. R. (2014). Do different types of incubators produce different types of innovations?. *The Journal of Technology Transfer*, 39(2), 151-168.
  - (Article) Bergek, A., & Norrman, C. (2008). Incubator best practice: A framework. *Technovation*, 28(1-2), 20-28.
  - (Article) Bloom, N., Van Reenen, J., & Williams, H. (2019). A toolkit of policies to promote innovation. *Journal of Economic Perspectives*, 33(3), 163-84.
  - (Article) Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator—leveraging entrepreneurial agency?. *Journal of Business Venturing*, 20(2), 265-290.
  - (Article) Borrás, S., & Edquist, C. (2013). The choice of innovation policy instruments. *Technological Forecasting and Social Change*, 80(8), 1513-1522.
  - (Article) Bronzini, R., & Piselli, P. (2016). 'The impact of R&D subsidies on firm innovation'. *Research Policy*, 45, 442-457.
  - (Article) Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The Evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, 32(2), 110-121
  - (Article) Candeias, J., & Sarkar, S. (2022). Entrepreneurial Ecosystems and distinguishing features of effective policies-an evidence-based approach. *Entrepreneurship & Regional Development*, 1-33.
  - (Article) Collewaert, V., Manigart, S., & Aernoudt, R. (2010). Assessment of government funding of business angel networks in Flanders. *Regional Studies*, 44(1), 119-130.
  - (Article) Colombo, M. G., & Delmastro, M. (2002). How effective are technology incubators?: Evidence from Italy. *Research Policy*, 31(7), 1103-1122.
  - (Article) Cooper, S. Y., & Park, J. S. (2008). The impact of incubator organizations on opportunity recognition and technology innovation in new, entrepreneurial high-technology ventures. *International Small Business Journal*, 26(1), 27-56.
  - (Article) Costantini, V., Crespi, F., Martini, C., & Pennacchio, L. (2015). 'Demand-pull and technology-push public support for eco-innovation: The case of the biofuels sector'. *Research Policy*, 44, 577-595.
  - (Article) Davidsson, P., & Klofsten, M. (2003). The business platform: Developing an instrument to gauge and to assist the development of young firms. *Journal of Small Business Management*, 41(1), 1-26.
  - (Article) Dutt, N., Hawn, O., Vidal, E., Chatterji, A., McGahan, A., & Mitchell, W. (2016). How open system intermediaries address institutional failures: The case of business incubators in emerging-market countries. *Academy of Management Journal*, 59(3), 818-840
  - (Article) Edler, J., & Yeow, J. (2016). Connecting demand and supply: The role of intermediation in public procurement of innovation. *Research Policy*, 45(2), 414-426.
  - (Article) Edquist, C., & Zabala-Iturriagoitia, J. M. (2012). Public Procurement for Innovation as mission-oriented innovation policy. *Research Policy*, 41(10), 1757-1769.
  - (Article) Flanagan, K., Uyarra, E., & Laranja, M. (2011). Reconceptualising the 'policy mix' for innovation. *Research Policy*, 40(5), 702-713.
  - (Article) Fleming, L., Greene, H., Li, G., Marx, M., & Yao, D. (2019). Government-funded research increasingly fuels innovation. *Science*, 364(6446), 1139-1141.

- (Article) Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, 25(2), 111-121.
- (Article) Guan, J., & Yam, R. C. (2015). Effects of government financial incentives on firms' innovation performance in China: Evidences from Beijing in the 1990s. *Research Policy*, 44(1), 273-282.
- (Article) Hagedoorn, J., Cloodt, D., & Van Kranenburg, H. (2005). Intellectual property rights and the governance of international R&D partnerships. *Journal of International Business Studies*, 36(2), 175-186
- (Article) Hansen, M. T., Chesbrough, H. W., Nohria, N., & Sull, D. N. (2000). Networked incubators. *Harvard Business Review*, 78(5), 74-84.
- (Article) Hekkert, M. P., Suurs, R. A., Negro, S. O., Kuhlmann, S., & Smits, R. E. (2007). Functions of innovation systems: A new approach for analysing technological change. *Technological Forecasting and Social Change*, 74(4), 413-432.
- (Article) Henry, C., Hill, F. M., & Leitch, C. M. (2004). The effectiveness of training for new business creation: a longitudinal study. *International Small Business Journal*, 22(3), 249-271.
- (Article) Hoppe, E. I., & Schmitz, P. W. (2013). Public-private partnerships versus traditional procurement: Innovation incentives and information gathering. *The RAND Journal of Economics*, 44(1), 56-74.
- (Article) Howell, S. T. (2017). Financing innovation: Evidence from R&D grants. *American Economic Review*, 107(4), 1136-1164.
- (Article) Hubner, S., Most, F., Wirtz, J., & Auer, C. (2021). Narratives in entrepreneurial ecosystems: drivers of effectuation versus causation. *Small Business Economics*, 1-32.
- (Article) Hudson, M., Smart, A., & Bourne, M. (2001). Theory and practice in SME performance measurement systems. *International Journal of Operations & Production Management*, 21(8), 1096-1115.
- (Article) Kang, K. N., & Park, H. (2012). Influence of government R&D support and inter-firm collaborations on innovation in Korean biotechnology SMEs. *Technovation*, 32(1), 68-78.
- (Article) Keizer, J. A., Dijkstra, L., & Halman, J. I. (2002). Explaining innovative efforts of SMEs.: An exploratory survey among SMEs in the mechanical and electrical engineering sector in The Netherlands. *Technovation*, 22(1), 1-13.
- (Article) Klofsten, M., Lundmark, E., Wennberg, K., & Bank, N. (2020). Incubator specialization and size: divergent paths towards operational scale. *Technological Forecasting and Social Change*, 151, 119821.
- (Article) Koch, L. T., Kautonen, T., & Grünhagen, M. (2006). Development of cooperation in new venture support networks: the role of key actors. *Journal of Small Business and Enterprise Development*, 13(1), 62-72.
- (Article) Kochenkova, A., Grimaldi, R., & Munari, F. (2016). Public policy measures in support of knowledge transfer activities: a review of academic literature. *The Journal of Technology Transfer*, 41(3), 407-429.
- (Article) Lafuente, E., Ács, Z. J., & Szerb, L. (2021). A composite indicator analysis for optimizing entrepreneurial ecosystems. *Research Policy*, 104379.
- (Article) Lee Y.S. (2018). Government guaranteed small business loans and regional growth. *Journal of Business Venturing*, 33(1), 70-83.
- (Article) Lockett, A., Siegel, D., Wright, M., & Ensley, M. D. (2005). The creation of spin-off

- firms at public research institutions: Managerial and policy implications. *Research Policy*, 34(7), 981-993.
- (Article) Löfsten, H., & Lindelöf, P. (2002). Science Parks and the growth of new technology-based firms—academic-industry links, innovation and markets. *Research Policy*, 31(6), 859-876.
  - (Article) Mason, C. M. (2009). Public policy support for the informal venture capital market in Europe: a critical review. *International Small Business Journal*, 27(5), 536-556.
  - (Article) Mason, C., & Brown, R. (2013). Creating good public policy to support high-growth firms. *Small Business Economics*, 40(2), 211-225.
  - (Article) Meoli, M., & Vismara, S. (2016). University support and the creation of technology and non-technology academic spin-offs. *Small Business Economics*, 47(2), 345-362.
  - (Article) Meyer, M. (2003). Academic entrepreneurs or entrepreneurial academics? Research-based ventures and public support mechanisms. *R&D Management*, 33(2), 107-115.
  - (Article) Mian, S. A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. *Research Policy*, 25(3), 325-335.
  - (Article) Mian, S., Lamine, W., & Fayolle, A. (2016). Technology Business Incubation: An overview of the state of knowledge. *Technovation*, 50, 1-12.
  - (Article) Mohnen, P., & Röller, L. H. (2005). Complementarities in innovation policy. *European Economic Review*, 49(6), 1431-1450.
  - (Article) Mustar, P., & Larédo, P. (2002). Innovation and research policy in France (1980-2000) or the disappearance of the Colbertist state. *Research Policy*, 31(1), 55-72.
  - (Article) Mustar, P., Renault, M., Colombo, M. G., Piva, E., Fontes, M., Lockett, A., ... & Moray, N. (2006). Conceptualising the heterogeneity of research-based spin-offs: A multi-dimensional taxonomy. *Research Policy*, 35(2), 289-308.
  - (Article) Nishimura, J., & Okamuro, H. (2011). Subsidy and networking: The effects of direct and indirect support programs of the cluster policy. *Research Policy*, 40(5), 714-727.
  - (Article) Pahnke, E., Katila, R., & Eisenhardt, K. (2015). 'Who Takes you to the Dance? How Partners' Institutional Logics Influence Innovation in Young Firms'. *Administrative Science Quarterly*, 60, 596-633.
  - (Article) Partha, D., & David, P. A. (1994). Toward a new economics of science. *Research Policy*, 23(5), 487-521.
  - (Article) Peters, L., Rice, M., & Sundararajan, M. (2004). The role of incubators in the entrepreneurial process. *The Journal of Technology Transfer*, 29(1), 83-91.
  - (Article) Phan, P. H., Siegel, D. S., & Wright, M. (2005). Science parks and incubators: observations, synthesis and future research. *Journal of Business Venturing*, 20(2), 165-182.
  - (Article) Quintas, P., Wield, D., & Massey, D. (1992). Academic-industry links and innovation: questioning the science park model. *Technovation*, 12(3), 161-175.
  - (Article) Rice, M. P. (2002). Co-production of business assistance in business incubators: an exploratory study. *Journal of Business Venturing*, 17(2), 163-187.
  - (Article) Roman, C., Congregado, E., & Millán, J.M. (2013). Start-up incentives: entrepreneurship policy or active labour market programme?. *Journal of Business Venturing*, 28(1), 151-175.
  - (Article) Rotefoss, B., & Kolvereid, L. (2005). Aspiring, nascent and fledgling entrepreneurs: an investigation of the business start-up process. *Entrepreneurship & Regional Development*, 17(2), 109-127.

- (Article) Rotger, G.P., Gørtz, M., & Storey, D.J. (2012). Assessing the effectiveness of guided preparation for new venture creation and performance: Theory and practice. *Journal of Business Venturing*, 27(4), 506-521.
- (Article) Ruan, Y., Hang, C. C., & Wang, Y. M. (2014). Government's role in disruptive innovation and industry emergence: The case of the electric bike in China. *Technovation*, 34(12), 785-796.
- (Article) Sapsed, J., Grantham, A., & DeFillippi, R. (2007). A bridge over troubled waters: Bridging organisations and entrepreneurial opportunities in emerging sectors. *Research Policy*, 36(9), 1314-1334.
- (Article) Siegel, D. S., Waldman, D., & Link, A. (2003). Assessing the impact of organizational practices on the relative productivity of university technology transfer offices: an exploratory study. *Research Policy*, 32(1), 27-48.
- (Article) Siegel, D. S., Westhead, P., & Wright, M. (2003). Science parks and the performance of new technology-based firms: a review of recent UK evidence and an agenda for future research. *Small Business Economics*, 20(2), 177-184.
- (Article) Soetanto, D., & Jack, S. (2016). The impact of university-based incubation support on the innovation strategy of academic spin-offs. *Technovation*, 50, 25-40.
- (Article) Stam, E. (2015). Entrepreneurial ecosystems and regional policy: a sympathetic critique. *European Planning Studies*, 23(9), 1759-1769.
- (Article) Stenholm, P., Acs, Z.J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176-193.
- (Article) Still, K., Huhtamäki, J., Russell, M. G., & Rubens, N. (2014). Insights for orchestrating innovation ecosystems: the case of EIT ICT Labs and data-driven network visualisations. *International Journal of Technology Management* 23, 66(2-3), 243-265.
- (Article) Storey, D. J., & Tether, B. S. (1998). Public policy measures to support new technology-based firms in the European Union. *Research Policy*, 26(9), 1037-1057.
- (Article) Tödtling, F., & Trippel, M. (2005). One size fits all?: Towards a differentiated regional innovation policy approach. *Research Policy*, 34(8), 1203-1219.
- (Article) Vanderstraeten, J., & Matthyssens, P. (2012). Service-based differentiation strategies for business incubators: Exploring external and internal alignment. *Technovation*, 32(12), 656-670.
- (Article) Van Looy, B. V., Debackere, K., & Andries, P. (2003). Policies to stimulate regional innovation capabilities via university-industry collaboration: an analysis and an assessment. *R&D Management*, 33(2), 209-229.
- (Article) Van Rijnsoever, F. J., Van Den Berg, J., Koch, J., & Hekkert, M. P. (2015). Smart innovation policy: How network position and project composition affect the diversity of an emerging technology. *Research Policy*, 44(5), 1094-1107.
- (Article) van Rijnsoever, F. J. (2022). Intermediaries for the greater good: How entrepreneurial support organizations can embed constrained sustainable development startups in entrepreneurial ecosystems. *Research Policy*, 51(2), 104438.
- (Article) Vargo, S. L., Wieland, H., & Akaka, M. A. (2015). Innovation through institutionalization: A service ecosystems perspective. *Industrial Marketing Management*, 44, 63-72.
- (Article) Vasquez-Urriago, A., Barge-Gil, A., & Rico, A. (2016). 'Science and Technology Parks and cooperation for innovation: Empirical evidence from Spain'. *Research Policy*, 45,



137-147.

- (Article) Vogelaar, J. J., & Stam, E. (2021). Beyond market failure: rationales for regional governmental venture capital. *Venture Capital*, 1-34.
- (Article) Wang, Y., Li, J., & Furman, J. L. (2017). Firm performance and state innovation funding: Evidence from China's Innofund program. *Research Policy*, 46(6), 1142-1161.
- (Article) Watkins, A., Papaioannou, T., Mugwagwa, J., & Kale, D. (2015). 'National innovation systems and the intermediary role of industry associations in building institutional capacities for innovation in developing countries: A critical review of the literature'. *Research Policy*, 44, 1407-1418.
- (Article) Weinberg, B. A., Owen-Smith, J., Rosen, R. F., Schwarz, L., Allen, B. M., Weiss, R. E., & Lane, J. (2014). Science funding and short-term economic activity. *Science*, 344(6179), 41-43.
- (Article) Woolthuis, R. K., Lankhuizen, M., & Gilsing, V. (2005). A system failure framework for innovation policy design. *Technovation*, 25(6), 609-619.

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