Summary Information

Application for NBER Entrepreneurship Bootcamp

Name	Dilan Yang
Contact Information	+44 7510324168, dilan.yang@economics.ox.ac.uk
School	University of Oxford
Area of Interest	Innovation, Political Economy, Development
Year of Entry into PhD Programme	2021 (MPhil), 2023 (DPhil)
Expected Year of Completion	2027/2028
Faculty Member Supplying Recommendation	Nathaniel Lane

DILAN YANG (Kristen)

Nuffield College, University of Oxford | (44) 7510 324168 | dilan.yang@economics.ox.ac.uk

EDUCATION

OXFORD UNIVERSITY **Oxford, UK**

DPhil in Economics *2023-2027*

- Co-Supervisors: Noam Yuchtman, Niclas Moneke
- Research areas: development economics, political economy, innovation, industrial transformation
- Recipient of joint Clarendon-Nuffield Scholarship

OXFORD UNIVERSITY **Oxford, UK**

MPhil in Economics *2021-2023*

- Supervisor: Nathaniel Lane
- Distinction, top 5% in the first year

TSINGHUA UNIVERSITY, SCHWARZMAN SCHOLARSHIP **Beijing, China**

Master of Global Affairs *2020-2021*

- Selected as one of the 145 Schwarzman Scholars for a fully-funded scholarship Masters in China. Courses chosen include Public Policy on Technology, Global Inequality, Leading Issues in Global Economy, to name a few.

CAMBRIDGE UNIVERSITY **Cambridge, UK**

Bachelor of Arts, Economics *2016-2019*

- Grade: First Class (all three years), Emmanuel College Smith Senior Scholar, Keith Davis Prize

SCHOLARSHIP

Clarendon Scholarship, Oxford University *2023-2027*

Schwarzman Scholarship, Tsinghua University *2020-2021*

GRANTS

Centre for Research on Structural Transformation and Growth (CROSTAG) *Nov 2023*

PROJECTS WORKING IN PROGRESS

Venture Capital Meets Industrial Policy: The Effect of Government Guidance Funds on Corporate Innovation (with Jinlin Li and Yiran Xu)

We study the effectiveness of government guided funds as a policy lever combining market-oriented instrument and industrial policy directory. We study how government guided funds crowd in or crowd out private capital on generating corporate innovation. In addition, we assess whether the risk preferences of government funds enable an "entrepreneurial state" that tolerates the risks associated with R&D-driven entrepreneurship. We also study how the bureaucratic system affects bureaucrats' behaviour in devising industrial policy. We employ the difference-in-difference estimation method and source our data on all VC/PE investments in China from 2000 to 2018 from Zero2IPO, one of China's most comprehensive VC/PE databases, as well as comprehensive firms' registration data on China.

Automation Technology and Services Offshoring (with Katherine Stapleton and Max Marczinek)

We study how automation technology such as artificial intelligence affect labour offshoring decisions of multinational firms through service trades. On the one hand, AI may reduce the "proximity burden" (Francois and Hoekman 2010) as it lowers the human interventions required for services. On the other hand, AI may also shift the labour demand for certain tasks, thus affects the sectoral composition of service reshoring. Both factors can affect the scope and composition of service offshoring, thus impact labour demand in developing countries. We aspire to utilise job description data combined with firm data from India and the US to understand labour demand shift of multinational firms.

Industrial Policy and the East Asian Growth Miracle (with Reka Juhasz, Nathan Lane, and Max Marczinek)

Was it the active involvement of government in the industrialisation process that empowered the miraculous economic growth of the East Asian countries in the postwar period? We aspire to contribute empirically to this area of research by an extensive data digitisation effort followed by a careful evaluation of the impact of industrial policy across East Asian countries. We will compile granular records of industrial policies across country and time. The industrial policies captured range from trade liberalisation reforms to industry-specific subsidisation policies. Meanwhile, we are also currently progressing a digitisation effort on bilateral trade data at a granular industry level.

Politically Incentivised Infrastructure Building

I study how bureaucratic promotion incentives affect the propensity for high-speed railway stations to be built in local prefectures, which potentially creates inefficient allocation of transport infrastructure due to suboptimal transport network being built. I intent to build a structural spatial model to identify the welfare loss associated with politically incentivised misallocation.

ECONOMICS WORKING EXPERIENCE

Summer student at Institute for Fiscal Studies — London, UK
Economist at the TaxDev team — *Jul 2023 – Sep 2023*

Research Assistant at Oxford University — Oxford, UK
East Asian Industrial Policy and Trade. RA for Dr. Nathanial Lane (Oxford) and Dr Reka Juhasz (UBC) — *June 2022 – Oct 2022*

Research Assistant at Oxford University — Oxford, UK
Incentive Complexity and Bounded Rationality for Prof. Johannes Abeler — *Sep 2022 – Oct 2022*

Research Assistant at Tsinghua University — Beijing, China
Innovation ecosystem analysis for Shandong Province. RA for Prof. Wu Jin-xi (Tsinghua). — *June 2021 – Sep 2021*

TEACHING

Introductory Economics (Undergrad) — *Oct 2024 – Dec 2024*
University college, Oxford

Core Microeconomics (Undergrad) — *Oct 2024 – Dec 2024*
University college, Oxford

Quantitative Method (Undergrad) — *Apr 2024 – Jun 2024*
St Edmund's college, Oxford

OTHER WORK EXPERIENCE

Oliver Wyman — London, UK
Management Consultant (Full Time) — *Oct 2019 – July 2020*

HSBC — London, UK
Data Science and Engineering Intern — *Jul 2019 – Sep 2019*

Bridges for Enterprise NGO. *(Young Professional and Student led NGO)* — Cambridge, UK
Global Head of Incubation (Part-time volunteer role) — *Oct 2016 – Ongoing*

CITIC International — Beijing, CHINA
Equity Research Summer Analyst (TMT sector) — *Jul 2017 – Sep 2017*

ADDITIONAL INFORMATION

- **Nationality**: Chinese
- **Language**: Mandarin Chinese, English
- **Computing**: Stata, R, Python, Matlab, C++/C, Excel VBA, SQL, Java
- **Art & Sports**: Rock band keyboard player at Cambridge, piano, badminton, Ruan (traditional Chinese instrument)

Research statement and motivation to apply

Main Research Topic: Can the State Be Entrepreneurial? Government Venture Capital, Bureaucratic Institution and Innovation

One strand of my research focuses on understanding the role of the state in fostering innovation and entrepreneurship. The conventional view holds that innovation is primarily driven by the private sector. Yet a growing body of research suggests that the state plays a crucial and often underappreciated role in funding, developing, and commercializing breakthrough technologies. This perspective, encapsulated in Mariana Mazzucato's concept of "the entrepreneurial state" [Mazzucato, 2013], argues that governments are not merely regulators or market fixers but active market shapers. Due to their greater capacity to absorb foundational risks, governments can invest in high-risk, long-term R&D projects that private firms often avoid due to uncertainty and extended payback periods. Thus, the state should take on a more proactive, mission-oriented role in guiding technological progress and shaping market dynamics.

However, two key arguments may challenge the entrepreneurial state hypothesis. First, bureaucratic institutional frictions may limit the state's ability to undertake risks, potentially stifling innovation and entrepreneurship. In a bureaucratic institution where career-driven bureaucrats engage in championship competition to get promoted, bureaucrats' risk taking behaviour can be affected by both evaluation criteria and the intensity of career incentive. Second, public investment may crowd-out private investment, a long-standing debate in economics (for example, [Moretti et al., 2019]).

My research examines these two arguments through examining an emerging, innovation-oriented instrument of industrial policy - government venture capital (GVC). These investment vehicles leverage public funds to stimulate the growth of high-tech sectors, while delegating investment decisions to professional fund managers. Despite this market-oriented approach, evidence suggests significant government involvement in the investment decision-making process ([Luong et al., 2021]). In China, the decentralized administrative structure [Xu, 2011] has led to the proliferation of government-guided funds at the national, provincial, and even prefectural levels. The variation in these funds across different government tiers and jurisdictions reflects differences in industrial policy priorities. While GVCs have become an important tool for directing policy objectives in industrial development and innovation, the literature has yet to fully explore their impact [Howell, 2017].

Within this context, the research aims to answer two questions. First, what kind of economic and institutional factors affect risk-taking preferences of government? The establishment of GVCs by municipal and even county governments, providing rich variation in local government characteristics. By analysing bureaucratic behaviour across different levels of government, this study examines how promotion incentives shape risk-taking preferences in project investments, as reflected in GVC investment records, and the long-term implications of these investments for recipient firms. Bureaucrats nearing the end of their careers may be more inclined to take risks, while career concerns may also induce risk aversion due to fear of negative outcomes. Additionally, broader economic conditions and local fiscal health may further shape the state's risk preferences.

Secondly, what is the general equilibrium effect of government investments on industrial innovation and growth? Specifically, how does government venture capital interact with private capital in inducing innovation? Specifically, we will evaluate the potential channel of crowding-in through the endorsement effect - the investment of government venture capital serves as a certification on the invested firm's potential. We will explore how different government bodies and their private-sector partners send distinct signals to the market for invested firms. We will also evaluate crowding-out effects through examining private capital reactions to government venture capital investment events.

The data we employ is the universe of firm registration data coupled with government venture capital firm list. I combine this dataset with the Chinese political dataset - Chinese Political Elite Database, which captures demographic data of government officials.

Aside from this project, I also work on how artificial intelligence changes offshoring labour demand of multinational firms through within-firm service trade; as well as East Asian growth miracle and industrial policy.

Motivation to apply

I aspire for the opportunity to attend the NBER Entrepreneurship Research Bootcamp to learn from active researchers at the frontier of entrepreneurial research. I also hope for the invaluable opportunity to learn from peer PhD students working in similar fields.

Furthermore, my research on government venture capital has primarily been grounded in political economy and industrial transformation literature. The Bootcamp's requirement to read a large set of entrepreneurship literature, combined with the discussions with peers, will deepen my understanding of the field and enable me to complement my existing perspectives through the lens of entrepreneurship and strategy research.

References

[Howell, 2017] Howell, S. T. (2017). Financing innovation: Evidence from r&d grants. *American Economic Review*, 107(4):1136–1164.

[Luong et al., 2021] Luong, N., Arnold, Z., and Murphy, B. (2021). Understanding chinese government guidance funds. *Center for Security and Emerging Technology*.

[Mazzucato, 2013] Mazzucato, M. (2013). *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. Anthem Press, London, UK, 1st edition.

[Moretti et al., 2019] Moretti, E., Steinwender, C., and Van Reenen, J. (2019). The intellectual spoils of war? defense r&d, productivity and international spillovers. NBER Working Paper 26483, National Bureau of Economic Research.

[Xu, 2011] Xu, C. (2011). The fundamental institutions of china's reforms and development. *Journal of Economic Literature*, 49(4):1076–1151.

DR. NATHANIEL LANE / ASSOCIATE PROFESSOR
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Nathaniel Lane
Associate Professor
Department of Economics
University of Oxford

21 Jan. 2025

Subject:

Letter of support Kristen Dilan Yang for the NBER Entrepreneurship Bootcamp

Dear Committee Members,

I am writing in support of Kristen (Dilan) Yang, my DPhil student for the NBER Entrepreneurship Bootcamp. Her focus is on innovation policy, entrepreneurship, and testing theories of the entrepreneurial state. I fully endorse her attendance and consideration for this program—she's fantastic and brings extensive first-hand experience in the domain. As a third-year doctoral candidate focused on economic development, Kristen would greatly benefit from this experience.

Kristen is currently a 3rd year student in economic development and has a vibrant research agenda that fits neatly into the NBER bootcamp. She received her MPhil in Economics from Oxford (honours) and her BA in Economics from Cambridge (honours).

Her job market paper, "Can the State Be Entrepreneurial? Government Venture Capital, Bureaucratic Institution and Innovation," challenges conventional wisdom about private-sector-led innovation. Drawing on Mariana Mazzucato's concept of the "entrepreneurial state," she examines how governments can shape markets through high-risk, long-term R&D investments. Using detailed Chinese investment records and demographic profiles from the Chinese Political Elite Database, she investigates how career incentives and local fiscal conditions influence bureaucratic investment behavior and risk-taking. Her two-way fixed effects analysis provides novel insights into how government venture capital serves as an industrial policy tool, particularly examining how different levels of Chinese government use investment funds to guide high-tech sector development.

Kristen has been both a coauthor and long-time research assistant with me and Dr. Reka Juhasz, studying the impact of East Asian industrial policy on technological change. She is deeply steeped in applied empirical methods and substantive issues around innovation policy and the state's role in promoting technological change.

She’s a true intellectual and a joy to have in class—she would be a great participant. I am confident that Kristen will make the most of this opportunity to deepen her exposure to this literature and engage with the community. She is not always exposed to this type of work as

someone from Oxford. It will be a huge value added for her, especially as she develops her dissertation.

I endorse Kristen's application without reservation and am more than happy to provide further information. Please feel free to email me with any questions about her.

Sincerely,

Nathaniel Lane

