

JOURNAL PUBLICATIONS+WORKING PAPERS

MONTHLY BRIEF

authors Lei Dong, Rui Du (Oklahoma State University), Matthew Kahn (USC & Johns

"The Dynamics of Liquidity in Commercial Property Markets: Revisiting Supply and Demand Indexes in Real Estate," by Dorinth van Dijk, David Geltner and Alex van de Minne, makes methodological and conceptual contributions in the study and understanding of

• "Ghost Cities' versus Boom Towns: Do China's High Speed Rails New Towns Thrive?" by co-

- "pro-cyclical." This study was published in the The Journal of Real Estate Finance and Economics. "Impacts of Air Pollution on Urban Housing Prices in China" by Siqi Zheng and DUSP alumni co-authors Kyung-Min Nam and Yifu Ou (Hong Kong University) has been accepted for publication by Journal of Housing and the Built Environment. MIT/CRE Working Paper Series:
- In "Predicting Urban Growth with Machine Learning," Simon Büchler, Dongxiao Niu, and Anne Kinsella Thompson use machine learning (ML) models to predict the population growth for the next two, five, and ten years for American and Chinese urban areas. To this end, they construct a rich city-level data set encompassing information on transportation, output, amenities, and human capital. The ML models
- choose the main urban growth predictors through cross-validation. They find that human capital, real estate investment, amenities, and geographical lo-cation are
 - "Development of View Analysis Metrics and Their Financial Impacts on Office Rents," by Irmak Turan, Andrea Chegut, Daniel Fink, and Christoph Reinhart introduces two new metrics to quantitatively assess view access in open floorplans. Using the metrics, they measure the economic impact of views on office rents in Manhattan, New York City. The authors evaluate spatial view access in 5,154 office spaces; then, combining the view analysis results with rent transaction data, they model the financial performance of rents paid by tenants with varying views whilst controlling for other vital factors impacting office rents. The authors find that spaces with high access to views have a 6% net effective rent premium over spaces with low access to views.
 - of accessibility measures in causal empirical studies on transportation impacts can produce more robust and comprehensive results and capture the nuanced spatial heterogeneity effects.

analysis in studying the impact of subway expansions on the real estate market. They argue that the integration of urban economics and transportation analysis can bring innovation to the empirical approach commonly adopted in the literature, and the use

Design Sketching for Real Estate Development Proposals,"(PI: Kairos Shen) and "Case studies for the future: autonomous vehicles, cities and real estate," (PI: Fábio Du; co-PIs: Siqi Zheng and Jinhua Zhao). MISTI Global Seed Grant funding was awarded to "Ridesharing and Urban Vibrancy: The

Value of Flexible Ride Service in Consumer Cities," by CRE researchers Fábio Du (Senseable City Lab and CRE) and Binzhe Wang (SUL researcher, DUSP/CRE PhD

for their proposed project: "Climate Risk Perception and Its Impacts on Location Attractiveness and Real Estate Asset Value in Portugal: A Computational Approach Using Social Media, Survey, and GIS Data." Yichun Fan, PhD researcher for CRE and DUSP, has been awarded an MIT Tang Fellowship award for the upcoming 2021-2022 academic year.

The MIT Portugal Program, MPP2030, awarded Siqi Zheng's team a 2021-2022 seed grant

 On April 6, Daniel Greenwald (MIT Sloan) presented his research, "Do Credit Conditions Move House Prices?" about the extent to which an expansion and contraction of credit drove the 2000s housing boom and bust.

o On April 20, Christian Hilber (London School of Economics) presented "Why Have House Prices Risen So Much More Than Rents in Superstar Cities?," giving an explanation for why house prices have risen much more strongly than rents over the

o On May 4, the seminar series will welcome Antoinette Schoar of MIT Sloan.

deadlines, enabling you to learn around your schedule. Experience 24/7 support from a success advisor, and choose a course payment option that suits you.

The MIT School of Architecture and Planning and the MIT/CRE's collaboration with GetSmarter provides an online learning experience that is specifically designed to help

for, understand, and mitigate the effects of these events. Learn more & register In the current global context, the ability to assess the feasibility of development projects has become increasingly valuable. In the Commercial Real Estate Analysis and Investment online short course that starts on April 7, 2021, you'll develop the skills to effectively evaluate real estate development projects from an economic

• The online virtual program <u>Developing Health-Centered Communities: The Next Revolution in</u> Real Estate, offered by the MIT/CRE, Harvard Medical School, and MIT Professional Education, is now underway. The program focuses on trailblazing new methodologies, strategies and technologies that can support a collaborative and impactful relationship between health care and the built environment. Participants are hearing and learning from a wide range of leading researchers, architects, urban planners, real estate professionals,

- physicians, epidemiologists, and health tech entrepreneurs. The program concludes on May The MIT China Seminar, co-organized by Professor Yasheng Huang of the Sloan School and Professor Siqi Zheng of the School of Architecture and Planning, is a periodical gathering of scholars from a variety of disciplines interested in mainly
- sentiment. It also explored the heterogeneity across countries and different population groups, and the underlying mechanisms. A recording can be found at the link above. On May 13 at 11 a.m. ET, the REI Lab and EY will host a webinar as part of their Innovation in Real Estate series titled "The Future of Work: Dynamics of Tasks, Productivity and Physical Space." Presenters will include Steve Weikal, EY Americas Partner Mark Grinis, Tishman Speyer CFO Joe Doran, and EY Principal of People Advisory Services Rosalyn

• Steve Weikal on April 13 moderated the third webinar of the Path to Tomorrow series, At the Intersection of Social and Value. Hosted by the MIT/CRE and center partner Goodwin, the quarterly series explores innovation, technology, and the fundamental changes happening in the built environment. The speakers explored the intersection of social concerns and real estate value, and how business decisions that take environmental and social perspectives into consideration can have a positive impact on portfolios. A recording of this webinar is available at the link above, and previous sessions on technology and climate change can be

 Lead researcher of the REI Lab James Scott on April 20 hosted "Getting it Right: How to Evaluate the Best Providers" at CREtech's virtual summit, joined by Naqash Tahir

- of PGIM Real Estate, Karen Hollinger of AvalonBay Communities, Sunder Pappu of the Inland Real Estate Group, and Bryn Sadler of Essensys. The discussion centered on how companies assess the many different proptech products available in the market today. • Nico Jeanrenaud, SUL researcher and TPP masters student, gave a virtual presentation on March 29 about how geotagged Twitter data can inform the impact of climate change worldwide. The presentation, titled "Global Sentiment & Climate Change: A Social Media-based Investigation into the Emotional Toll of Rising Temperatures Worldwide," was given at the Harvard Center for Geographic Analysis. Researcher Alina Nazmeeva of the REI Lab was recently featured on the podcast Architecture Off-Centre in the episode "On Video Games and Virtual Worlds." The episode, hosted by architect Vaissnavi Shukl, addressed the relationship between
- neighborhoods, offering contextually driven and entrepreneurial real estate solutions. LAB+PI UPDATES • The recent 10th European Meeting of the Urban Economics Association accepted the

• "Intrinsic Real Option Value: Empirical Evidence from Commercial Real Estate Investors" by Simon Büchler, Alex van de Minne, and Olivier Schöni "Quantifying Land Use Regulation and its Determinants—Ease of Residential

• "Can Public Transit Subsidies be Warranted for Improving Air Quality and Health Outcomes? Evidence from the Sao Paulo Metropolitan Area for a Second-Best Policy" by Daniela Stucchi, Adriano Borges Costa, Jinhua Zhao, Siqi Zheng and

Development across Swiss Municipalities" by Simon Büchler and Maximilian von

• Congratulations to MSRED '94 Jim Heid, whose book Building Small was recently published by ULI and received #1 Hot Release status on Amazon Architecture in its first week. The book focuses on small scale, incremental development as a tool for rebuilding blocks and

- accessibility improvements impacts on consumer amenities formation. For more details visit their website, Access to Vibrancy. "Development of View Analysis Metrics and Their Financial Impacts on Office Rents," coauthored by Dr. Irmak Turan, Dr. Andrea Chegut, Professor Christoph Reinhart, and Daniel Fink, introduces two new metrics to quantitatively assess view access in open
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Hopkins University), Carlo Ratti (MIT SCL) and Siqi Zheng has been accepted for publication in the journal Regional Science and Urban Economics. liquidity. The authors show how to apply the methodology to a repeat sales indexing framework and that the normal liquidity dynamic in commercial property asset markets is

strong future urban growth predictors for both countries.

student).

information.

- "Subway Expansion, Jobs Accessibility and Home Value Appreciation in Four Global <u>Cities: Considering Both Local and Network Effects</u>," by **Adriano Borges Costa**, Camila Ramos, and Siqi Zheng explores the potential of incorporating accessibility
- "It Pays to Be Green," by Gabrielle Finear was accepted into the Spring 2021 edition of Equilibria: The Duke Undergraduate Economics Review. The study was one of only six selected from submissions across the globe. More details can be found here. • The MIT/CRE was recently awarded two <u>J-WEL Grants in Education Innovation</u>, which provide seed funding to explore research areas and program development activities or to scale up existing programs to achieve global impact. J-WEL is particularly interested in innovations rooted in MIT's research and practice with the potential for generating high

impact on higher education globally. The two proposals which received approval are: "Digital

ACADEMIC+INDUSTRY PROGRAMS

• The MIT/CRE Research Seminar Series features distinguished scholars in the real estate finance field and provides a rigorous discussion platform for basic research. Seminars are held on Tuesdays from 12-1 p.m. ET via Zoom; please contact Lindsey Goodwin for more

professionals improve their skills without compromising work and family responsibilities. The highly interactive online courses are broken up into weekly modules with incremental

last two decades in superstar cities.

MIT/CRE Online Short Course Portfolio:

perspective.

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can be found at the link above.

found on the Path to Tomorrow website.

• Industry Talks:

- In the Data Science in Real Estate online short course that starts on May 5, 2021, you'll explore how the real estate industry is impacted by economic uncertainties and major global shocks. Guided by experts, learn how to leverage data science to plan
 - contemporary China research. On April 15, it featured Margaret Roberts, associate professor of political science at the University of California San Diego, who presented "Censorship's

Effect on Incidental Exposure to Information: Evidence from Wikipedia."

• Prof. Dennis Frenchman and Head of Industry Relations Steve Weikal were pleased to

MIT DesignX. The program, which took place April 26-27, explored the acceleration of technology, systems, and urban policy in the post-pandemic city. Recordings of the event

Sigi Zheng on March 30 gave a talk on the emotional toll of climate change and COVID-19

presentation covered how humans use natural language processing techniques to construct sentiment index from social media, and link the sentiment index with extreme weather

at the University of Texas at Austin's Good Systems Smart Cities Consortium. The

moderate sessions at an exciting new symposium called <u>DESIGN>>Fast-Forward</u>, hosted by

- conditions and COVID-19 shocks to quantify their negative impacts on people's expressed Feinsod. For more information please visit the link above.
- cities and digital games, interfaces and public, and discourses on digital economies. MSRED+ALUMNI UPDATES

 The academic team at the MIT/CRE would like to extend a heartfelt thank you to the CRE and DUSP alumni/ae for the thoughtful panel discussions they gave at the Real Estate Career Days event. Centering on their postgraduate job hunt experience during the recession, the talks proved invaluable to current students for the wisdom, experience, and opportunities they imparted. Special thank yous go out to: Polina Bakhteiarov SB '10, SB '10, MCP '11, Ajay Prasad MSRED '12, Michael Pearce, MCP '19, Jacquelyn Dadakis MCP '10, and Jeff

Stacey Spurr, MSRED '16 and co-creator of MIT/CRE alumni mentoring program, will be relocating to San Francisco to open Pembroke's West Coast office as regional director. This

represents an exciting milestone for both Stacey and Pembroke. Stacey will lead Pembroke's West Coast business activities, including asset management of existing properties and growing the portfolio over time. She will also continue to provide asset

management support for Boston and DC as needed.

following papers:

Ehrlich

Ciro Biderman.

Beam MSRED '09.

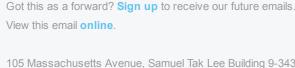
above. • On April 1, SUL researchers Adriano Borges Costa and Tabea Sonneschein presented to fellow colleagues their ongoing work on exploring equity aspects of transportation

• A new blog post from **Bill Wheaton**, "Is Work-From-Home an Existential Crisis for Office Space?" investigates, using models of urban land use, whether the demand for office space — and in particular central office space—could be in structural decline. Read more at the link

floorplans to measure the economic performance of views on office rents in Manhattan, New York City. The findings indicate that spaces with high access to views have a 6% net effective rent premium over spaces with low access to views.



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