The Sharing Economy: Understanding the Distortionary Effects of Airbnb on Residential Rents
Travis Stephens
Middlebury College

One Belt, One Road and the Marshall Plan
Lily Qindi Ouyang
University of Virginia
Welcome to the Michigan Journal of Business at the University of Michigan's Stephen M. Ross School of Business.

We are a student-run peer-reviewed publication affiliated with the Ross School of Business. Each semester our team of undergraduate students solicits research papers from undergraduates attending universities worldwide for inclusion in our semi-annual publication. With the mission of showcasing the original research topics of our peers on a wide range of business and economics-related topics, we seek to empower the undergraduate research community. This semester we are pleased to publish two academic research papers:

The Sharing Economy: Understanding the Distortionary Effects of Airbnb on Residential Rents by Travis Stephens from Middlebury College

One Belt, One Road and the Marshall Plan: China’s Interest and the U.S. ’s Ideology by Lily Quindi Ouyang from the University of Virginia

Congratulations to the selected authors and their advisors and thank you to the authors of all exemplary research papers we received this term.
The Michigan Journal of Business Team

Editors-in-Chief

Kathryn Grier
Sita Subramanian

Managing Editors

Arjun Prakash

Associate Editors

Emily Chen
Talia Gutkin
Liza Hochberg
Jackson Irwin
Matthew Jacobs
Caitlin Ju
Aishwarya Laddha
Christine Lee
Sonia Lee
Jack Mollin
Shannon Ors
Lakelan Periman
Joseph Rickert
Katie Summers
Yuci Zhou
The Sharing Economy: Understanding the Distortionary Effects of Airbnb on Residential Rents

Travis Stephens
Advised by Professor Erick Gong
Middlebury College

Abstract
This study quantifies the effects of the intensifying rate of adoption of Airbnb on residential rent prices. Employing a difference-in-differences fixed effects model, I exploit monthly variation in rent prices and the supply of Airbnb listings across varying zip code level spatial densities. This study posits that the primary effect of Airbnb on rents is: (1) highly sensitive to the property type (2) dependent on the distinct Airbnb listing type (3) a function of tourist demand. Results reveal that, on average, a 10% increase in the instantaneous supply of ‘entire home’ Airbnb listings is associated with a statistically significant 0.06%*** monthly increase in the median rent price for one-bedroom apartments. In monetary terms, if the supply of ‘entire home’ listings increases by 100, the underlying model predicts an annualized increase of $162*** in the rental price for one-bedroom apartments. The degree of the effect of Airbnb is highly specific to the property type, listing type, and spatial density of Airbnb. Statistically significant findings are variable in magnitude for differing property types and listing types in a given zip code region.

Author Biography
Travis Stephens is a Class of 2017 graduate from Middlebury College where he majored in Economics. Originally from Victoria, British Columbia, Travis graduated Summa Cum Laude with High Honors in Economics and a NESCAC All-Academic designation for his play on the Panthers’ varsity hockey team. Travis’ intellectual interests revolve around the application of economics to the corporate sector, emerging technologies, and real estate markets.

Acknowledgements
For his guidance and unwavering support throughout the duration of this study, I would like to thank my Adviser, Professor Erick Gong. I would also like to thank my fellow ECON 0702 colleagues for their insights and comments through draft revisions, presentations, and
discussions. Additionally, I am appreciative of Professor Leticia Arroyo Abad and Professor Amanda Gregg for taking the time to provide commentary on my preliminary drafts.

I. Introduction

The recent emergence of the peer-to-peer business model has led to a phenomenon coined as the ‘sharing economy.’ The sharing economy defies conventional business models by capitalizing on readily available resources through online intermediaries. Technological platforms, including Uber, Airbnb, and Etsy facilitate peer-to-peer access by enabling private users to charge rents for the employment of their assets, such as cars in the case of Uber and accommodation in the case of Airbnb. Uber, currently the world’s largest taxi firm, is valued at an astounding $70 billion, while not owning a single car (The Economist, 2016). Likewise, Airbnb, the world’s largest short-term rental platform, has garnered valuations upwards of $30 billion dollars, surpassing many of the major hotel chains (O’Brien, 2016). Uber and Airbnb are two of the top four most valuable private companies in the world and epitomize the rapid expansion of the sharing economy. Expectedly, the increasing prevalence of the sharing economy, although highly contentious, has had distortionary effects on longstanding traditional industries.

The arguments for and against the adoption of Airbnb are simplistic in nature. Airbnb boasts that their interactive platform provides economic opportunity in the form of monetary gain to hosts as well as surrounding areas. Airbnb reported that in 2014 it produced nearly $314 million in economic activity in Los Angeles (Lee, 2016). These benefits manifest in increased tourist activity and the diversion of income from corporate conglomerates to local citizens. Even 37% of travelers claim that the affordability of Airbnb extended their visit (2016). Airbnb contrarians maintain that it disrupts otherwise docile neighborhoods, contributes to an increase in evictions, and reduces access to affordable housing. By creating incentive through sizeable profits with Airbnb rentals, landlords are more likely to evict current tenants in favor of hosting frequent short-term tenants. Substituting residences available for long-term tenancy in favor of short-term tenancy creates a supply shock in the stock of housing available for long-term tenants, thereby placing an upward pressure on rental prices. Both sides emphasize arguments that raise critical points, claims that evidently warrant a thorough and rigorous cost-benefit analyses.

The motivation behind one’s decision to list their property on Airbnb is essential to understanding the probable implications of Airbnb. Although incentive may in few situations stray from pure monetary benefit, Airbnb hosts are primarily compelled to list their residence on the online marketplace by the prospect of supplementary revenue. In some instances, Airbnb

---

1 A widely used term, not derived from any particular source or originator. Used to describe emerging technological companies that facilitate the access to available resources. In fact, many sources have noted that the first person to coin the term is unknown.
listings have evolved into full-scale profit maximizing businesses. In 2014, the top Airbnb host in New York City generated revenues upwards of $6 million dollars (NYAG, 2014). LearnAirbnb conducted an informal study surveying 836 hosts revealing that the primary driver behind their decision to enlist their space was motivated by supplementary income (Priceonomics, 2016). The secondary motive was to utilize the Airbnb platform as a wealth accumulation tool (2016). Both intentions reiterate that the foremost objective behind choosing to become an Airbnb host is to generate income. This dynamic implies that a land owner or real estate investor makes a conscious decision between the expected revenue from an Airbnb rental and the expected revenue from conventional long-term tenancy. This decision prospectively has severe implications on the function of housing and rental markets.

Rent levels are closely associated to a prospective host’s decision to list their space on Airbnb. Although residential rents vary based on demographic factors, Rosen and Smith (1983) contend that, holding demand for rental housing constant, a 1% decline in housing supply is approximately associated with a 0.2% increase in rental prices (Lee, 2016). Housing markets are increasingly unable to adapt to extreme supply shortages in the near-term because residential development often entails a longer-term time horizon with permits, zoning, and construction processes. Added incentives from profits generated by short-term rentals may also lead to auxiliary demand pressures through increases in property prices and taxes (Lee, 2016). Gutierrez et al. (2016) confirm that Airbnb listings tend to cluster in close proximity to city centers and major tourist attractions. In conjunction with housing market dynamics, this suggests that a booming tourist industry drives demand for Airbnb listings, generating incremental increases in revenues for hosts and magnifying the substitution effect of long-term for short-term tenancy.

This study is motivated to answer the question: how does the intensification of the instantaneous supply of Airbnb effect residential rent levels? Employing a differences-in-differences identification strategy, the primary empirical model exploits monthly variation in rent prices and the supply of Airbnb listings across zip code level spatial densities. The main dataset, categorized by Airbnb listing type and property type for each zip code region in New York City and Los Angeles, spans from 2010 to 2017. Auxiliary data sources integrate demographic, construction, and property value trends in the underlying model, capturing other factors believed to affect housing markets in some form.

Findings reveal that the supply of Airbnb has a discernably direct effect on rent levels, though coinciding with various caveats. The distribution of listing types and property types provides key insights into how aggregated supplies of Airbnb rentals might distort regional housing markets. Outcomes indicate that, on average, a one-unit increase in the instantaneous supply of ‘entire home’ Airbnb listings is associated with a statistically significant $0.139***

---

2 The study revealed that 59.2% of hosts chose to list for supplementary income, 16.9% to build wealth, 15.4% as a main source of income, 4.9% noted other, and 3.7% just for fun. It can be found here: https://priceonomics.com/will-real-estate-investors-take-over-airbnb/

3 This estimate is not city specific, but rather a blanket estimate for major metropolitan centers across the United States.
monthly increase in the median rent price for one-bedroom apartments. This manifests in a predicted $162 annualized increase in rent levels for a 100-unit increase in ‘entire home’ listings for a distinct zip code region. In general, resulting estimates affirm that in regions with relatively high spatial densities of Airbnb listings, the presence of Airbnb has an observably significant impact on housing affordability. From a policy standpoint, this study imposes a well-defined and objectively simple framework for how best to mitigate the adverse effects of Airbnb on localized rent levels.

Academic literature pertaining to the direct impact of Airbnb on residential housing rents is scarce. Current literature in the space employs qualitative reasoning strategies to examine the effect of Airbnb on residential rents. Several academic studies have used econometric techniques to center on the effect of Airbnb on the hotel industry. Critics have argued that the increasing presence of Airbnb blurs lines between two structurally different sectors, the rental housing market and the hospitality industry (Lee, 2016). This intermingling of rental housing markets and the accommodation industry is purported to be central to issues arising from the Airbnb platform. Zervas et al. (2013) find that, on average, a 10% increase in the supply of Airbnb listings is associated with a 0.39% decline in monthly hotel room revenue (Zervas et al. 2013). The study further concludes that over the previous five years the intensification of Airbnb listings in Austin, Texas contributed to an overall 10% decline in hotel revenues (2013). The effect of Airbnb on hotel revenues is indicative of consumer behavior with the rising presence of peer-to-peer platforms. That is to say, consumers are increasingly willing to adapt to emerging technological based platforms if sufficiently incentivized.

Research presented in this paper will contribute to existing literature by employing an econometric model estimating a causal relationship between Airbnb supply and residential rents. The first to rigorously analyze the effects of Airbnb on localized rental markets with an empirical approach, this study is purposed to identify whether or not Airbnb exacerbates housing crises and distorts housing markets in New York City and Los Angeles through decreasing housing affordability. Which, in theory, can be applied to other metropolitan centers in similar or smaller measures. The realm of uncertainty in regards to the implications of Airbnb on rent levels remains a central concern to policy makers and housing regulators. Quantifying the effect of Airbnb on residential rents thereby adds another dimension to the ongoing conflict between Airbnb and State regulators. Furthermore, this study aims to approach the subject from an unbiased perspective, one that realizes no gain from supporting either argument. This is an important element that seldom holds true in current literature regarding this matter.

II. Airbnb Contextual Backdrop

The home-sharing traveler accommodation platform, Airbnb, was founded in 2008 and has expanded on a global scale to service over 60 million guests from 34 thousand cities and 191
countries (Airbnb, 2017). Undergoing a period of substantive growth since its inception, Airbnb has been adopted by the masses to emerge as a central resource for tourists, with prices often undercutting those of their competitors in the hotel industry by a domestic nightly average of $16 (STR, 2016). The online community of housing rentals advocates that hosts can generate supplementary revenue through unused space in their residences by subletting to travelers (2017). Airbnb does not own any of the listings available for rent but rather charges a percentage fee based on the price of the rental and duration of the users stay. The fees are charged to both the tenant and the host, varying in magnitude. Airbnb allows hosts to enlist their space as a shared room, private room, or entire residence. These classifications are indistinct and often act as umbrella terms for various living spaces. For instance, Airbnb boasts that their online marketplace offers more than 1,400 castles, which would be considered an entire residence (2017). Although undergoing burgeoning levels of success, Airbnb has been under immense regulatory scrutiny, leading to political turmoil in many major cities.

Legal conflict between Airbnb and New York State has endured since 2010. Airbnb listings have evaded State housing regulations in many instances, spurring political warfare in major tourist-driven cities like San Francisco, Los Angeles, and New York City where Airbnb rentals are densely populated. For example, in New York City, the Multiple Dwelling Law (MDL) states that: “As amended in 2010, prohibits rentals in ‘Class A’ buildings – a category encompassing most residential apartment buildings in New York City – for stays of less than 30 days (New York Attorney General).” This law, in similar form, parallels housing regulations in other cities, including Vancouver and San Francisco. To clarify, this does not apply to shared accommodations but rather residential spaces unoccupied by the rightful owner in its entirety. Therefore, any listing reported on Airbnb as an entire residence that is rented for less than 30 days is illicit. Concerns have mounted with the increasing presence of Airbnb and its effect on the local economy, in particular its impact on housing access and affordability.

In circumstances of a housing affordability crisis, as in New York City, governing entities are particularly motivated to combat external shocks afflicting housing markets. In an effort to better understand the distortionary repercussions of Airbnb on local housing markets in New York City, the State issued a subpoena in May of 2014 requesting that Airbnb release data on their listings and user base (NYAG, 2014). Later coming to an agreement, Airbnb released an anonymized database to the State. More controversy followed the discharge of this data after Airbnb was accused by independent researchers of manipulating the dataset. Political disagreements led to the formation of special task forces by New York State to identify Airbnb operations speculated to be in violation of State housing regulations. In October of 2016, New York Governor Andrew Cuomo passed a bill imposing fines on hosts providing short-term rentals. Hence, the necessity for stringent regulation and data transparency.

---

4 This is an aggregated average daily rate from 13 metropolitan centers across the US. The study was conducted by STR in conjunction with Airbnb.
5 As indicated in NYAG study and BJH Advisors commissioned report.
6 Housing regulations in San Francisco and Vancouver outlaw rentals that are less than 30 days in primary residences.
accommodation for travelers in which the lease is deemed illegal (Brustein, 2016). The private corporation, Airbnb, retaliated by initiating a law suit against the State of New York, maintaining the bill was unconstitutional. Political unrest between Airbnb and government entities indicates, in many fashions, that concerns about the effect of Airbnb on local housing markets are valid and should receive due attention.

In Los Angeles, a city also burdened by an ongoing housing affordability crisis, policy makers have responded in less extreme measures. After continued negotiations with Airbnb, Los Angeles reached a settlement in July of 2016 resulting in a three-year agreement allowing Airbnb to operate under the stipulation they collect taxes in the form of a Transient Occupancy Tax (Reim, 2016). In the majority of Los Angeles residential zones, short-term rentals leased for less than 30 days are illegal, similar to New York. Although the city is yet to deliver an official announcement on the legality of short-term Airbnb rentals, they are said to be in the process of drafting regulations. However, unlike New York City, Los Angeles city regulators are purported to be adopting a set of regulations legalizing short-term rentals, conditional on various circumstances (Chandler, 2016).

Current political rhetoric concerning the increasing adoption of Airbnb is burdened by a lack of research on the subject. This study aims to increase transparency in the ongoing dispute directly related to the effect of Airbnb on housing markets.

III. Conceptual Framework

This paper posits that the increasing presence and adoption of the Airbnb peer-to-peer accommodation network contributes to an increase in residential rental prices. More formally, as the supply of Airbnb listings increases, the rental cost of neighboring residences synchronously increases. This relationship is presumed to be more intensely pronounced in major tourist hubs where demand for short-term rentals is strong. Premised on this assumption, this study focuses on the geographic concentrations of Airbnb in New York City and Los Angeles.

A. Theoretical Foundation

The channel through which the supply of Airbnb listings distorts rent levels is contingent on the expected annualized revenues of Airbnb exceeding the expected annualized revenues of monthly rental payments. If the proposed relationship does not subsist, there remains no clear monetary incentive for a landlord to list their residence on Airbnb. In general, Airbnb data shows that this inequality holds for the vast majority of zip code regions. The BJH analysis reaffirms

---

8 At the end of calendar year 2016. There are 128 zip codes in New York City and Los Angeles where the annualized revenue from Airbnb listings is greater, on average, than the annualized rent level. This is show using Airdna and Zillow data, later described in this paper.
this proposition, claiming that the premium, on average, accrues to $10,000 per year in excess revenue for Airbnb rentals (BJH, 2016). This number is expected to be particularly skewed in dense Airbnb regions, near major tourist attractions. Data confirms that in the top 5 zip code regions, Airbnb revenues are roughly 4 times larger in comparison to annualized rent levels.\(^9\) Due to steady demand for short-term rentals, the cost-benefit analysis conducted by a host choosing to list on Airbnb or the long-term rental market is also expected to be a function of their level of risk aversion. Thus, in flourishing tourist industries the perceived demand for short-term rentals alleviates concerns of rental spaces remaining vacant. The inequality modelling this decision framework is shown below.

\[ e(v)_{\text{airbnb revenue}} > e(v)_{\text{rent revenue}}^{10} \]

The primary mechanism through which the supply of Airbnb listings drives increases in rental prices, stipulated on the decision framework holding true, is through a decrease in the supply of residences available for long-term tenancy. A supply shock to the stock of residences available for long-term tenancy, results in a rise in the rental price of those living spaces with the same aggregate amount of money chasing a depressed supply. The secondary channel through which Airbnb affects rents is through the “hotelization” of buildings (Lee, 2016). The “hotelization” of buildings refers to the tailoring of residential developments to short-term rather than long-term tenants. An example of this would be converting an apartment building to a hostel to better accommodate tourists. In knowing the premiums often associated with assuming the added risk of short-term rentals, one might also demand greater compensation for the sale or rental of their building. For instance, if a landlord owns a property close in proximity to Times Square, they might expect long-term tenants to pay a higher rate knowing that the opportunity cost of opting for long-term tenancy is high. The underlying rationale supporting this conjecture is the maximization of expected revenues. Imperative to the foundation of this paper, Figure 2 concisely summarizes the imposed conceptual framework.

B. Predictive Suppositions

The mechanism in Figure 2 suggests a supply-shock effect suppressing rental stocks. However, if Airbnb listings are not evenly distributed among property types, then the effect of Airbnb will be primarily concentrated on the property types that are more likely to be listed on Airbnb. Airbnb data shows that 68% of all Airbnb listings are one-bedroom apartments, 14% of all listings are two-bedroom apartments, and 18% of listings are three-bedroom or other.\(^{11}\) Due to the property type composition of Airbnb listings, the magnitude of the effect of Airbnb on rent

---

\(^9\) Refer to Figure 1 in Appendix.

\(^{10}\) This is at an annualized level, where the rent revenue is the monthly rate multiplied by 12. Likewise, Airbnb revenue is a function of the occupancy rate and average daily rate.

\(^{11}\) Statistics derived from Airdna are used in this analysis, which is later described in the Data section. These statistics are also graphed in Figure 3 of the appendix.
levels is expected to be the greatest for one-bedroom apartments. It is not rational, in the context of this study, to analyze the effect of Airbnb on single family rentals, per se, because the shock to their rental stock is presumably negligible based on the observed data. While the degree of the effect might be concentrated on certain residences, this is not to imply that Airbnb has no effect on other property types, but rather the effect is more directly linked to one-bedroom and two-bedroom apartments through the proposed framework.

Paralleling the concept that changes in rents are sensitive to the property type, categorized listings of Airbnb are expected to have variable effects on prevailing rent levels. If enlisting a residence on Airbnb does not inflict a supply shock to the stock of rentals for a given area, then the association between Airbnb listings and residential rents is observably less direct. Therefore, justifying that ‘shared room’ and ‘private room’ Airbnb listings contribute to rising rents seems contentious for the purpose of this study. Although these listings types may distort bargaining power or willingness to pay in rental negotiations through the prospect of supplementary income, ‘shared room’ and ‘private room’ listings are not directly relevant to the proposed conceptual framework of this study. For this reason, in remaining consistent with the suggested framework, the study focuses on the magnitude of ‘entire home’ listings rather than the aggregate supply of all Airbnb listing types.

Decomposing the aggregate supply of Airbnb reveals that ‘entire home’ listings comprise nearly half of all Airbnb listings at 49.7% for New York City and over half at 59% for Los Angeles. The second most prominent listing type is ‘private room’ totaling approximately 47.7% for New York City and 39% for Los Angeles. ‘Shared room’ listings comprise less than 3% of the total supply of Airbnb listings for New York City and Los Angeles. This demonstrates that ‘entire home’ listings represent the majority of all Airbnb listings, remaining as those most likely to implicate localized rent levels. Regardless of listing classification, the listings expected to not have an impact on local rents would be those otherwise remaining as vacant spaces prior to the inception of Airbnb. Although this paper speculates that this number is negligible, it is not a feasible calculation for the scope of this study.

The main predictions arising from the above conceptual framework speculate that the effect of the intensifying adoption of Airbnb contributes to a rise in residential rent levels, stipulated on two caveats. Firstly, given that Airbnb listings are heavily skewed towards one-bedroom residences, inflationary effects on rents are unique to this property type. Secondly, the supply shock resulting from the conscious decision to enlist a residence on Airbnb is dependent on the listing type in that the shock only occurs if it is an ‘entire home’ listing type. Secondary or tertiary effects, like distortions in bargaining power, may magnify the supply-shock effect. Upon consideration of these factors, the study will predominantly center on one-bedroom rent levels and the instantaneous supply of ‘entire home’ listings.

---

12 Statistics derived from Airdna used in this, which is later described in the Data section. The listing type composition data was totaled as of January of 2017.
IV. Data

A. Residential Rents

Data used for median residential rent prices is gathered from publicly available Zillow datasets.\(^\text{13}\) Zillow is a comprehensive real estate marketplace that lists residences available for sale and rental. Their listings are aggregated and scraped from independent brokerage sites. The dataset records median rental prices listed on the Zillow platform on a monthly basis at the zip code level. It denotes property types by studio, one-bedroom, two-bedroom, three-bedroom and so forth. The time horizon of the data series for each property type is dependent on the zip code. Regions that do not have observations for one-bedroom or two-bedroom property types are anticipated to be rural areas, primarily composed of residences with three or more bedrooms. On average, the data spans from 2010 to January of 2017.

A concern with this data is the inclusion of fake or fraudulent listings. Zillow mitigates the inflow of these listings by requiring disclosure of address, verifying commercial users, and vesting prospective listings through documentation requirements (Zillow, 2017).\(^\text{14}\) It is anticipated that fraudulent listings are reported prior to the data extraction date. The median is used to represent the rental price for a given zip code because an average would likely be distorted by outliers. Thus, the median acts as a cushion for deviations in the accuracy of rental prices. Another concern with this data is that it represents the ‘list price’ and not the realized price, meaning that it does not account for bargaining power in rental agreements, rather representing the desired price of the supply side. Nonetheless, the data is believed to be reliable and accurately represent residential real estate spaces available for rent or sale. The median monthly rental price level data will represent the dependent variable in the econometric model, varying for each property type.

Summary statistics for residential rent data vary in robustness across cities. As seen in Figure 4, the magnitude of observations varies by property type. One-bedroom apartments have the highest number of observations at 7,200, feasibly due to the fact that Zillow initially began to collect data in the more densely populated areas of New York, namely Manhattan, later expanding their operation to surrounding areas. This also explains why, as underscored by Figure 4, the number of observations has a large variance by property type. This is a common trend with the median residential rent data partly because certain zip codes have a relatively uniform composition of property types but also due in part to the fact that the data collection processes originated in densely populated metropolitan centers, in particular New York City, and were later extrapolated to other major cities. Therefore, the timeline of data compilation is

\(^{13}\) Data is available here for download: http://www.zillow.com/research/data/

\(^{14}\) This information was gathered from the Zillow quality policy, which can be found here: http://www.zillow.com/corp/Quality.htm.
slightly longer in duration in New York City than Los Angeles. This is not idealistic, however, for the purpose of this study these data constraints are not terminal.

Relative to other cities across the United States, rent prices are notably high in New York City and Los Angeles. *Figure 5* graphs the logarithm of median rent prices for one-bedroom apartments across both cities, underscoring overall steady increases in rent prices with the exception of 2010. The decline in 2010 marks the end of the housing downturn that was a byproduct of the 2008 financial crisis. Trends in Case-Shiller home price indices support this supposition.

**B. Airbnb Data**

The Airbnb data used in this study was purchased from the private data analytics company Airdna. This dataset contains monthly Airbnb listing statistics spanning from the current month to October of 2014. This data is directly scraped from the Airbnb site and includes host revenues, occupancy rates, and various performance statistics on a monthly basis by geographic coordinate. Using the ‘date created’ metric on each listing, aggregated data is used to bucket historical listings to the date of origination. For instance, a listing created in March of 2010 is added to that monthly collection of listings, thereby estimating the historical supply of Airbnb listings. Once bucketed back to their date of creation, the raw dataset commences from the inception of Airbnb in 2008. Data for each observation is collected on the condition that it has been occupied for at least one night, eradicating the prospect of fraudulent listings. A shortfall in this approach is the possibility that listings are deleted and then re-created, thus underestimating the historical supply of Airbnb listings in years prior to 2014. Nonetheless, Airdna is a widely used data source that has emerged as a leader in the Airbnb data analytics space.

Aggregated Airbnb listings are separated into different listing types, denoted as ‘entire home,’ ‘private room,’ or ‘shared room.’ The aggregate supply is equal to the sum of all listing types. Other variables included in the Airbnb data are annual revenue, average daily rate, occupancy rate, number of bedrooms, and the change in Airbnb supply. The annual revenue is the total revenue generated by the Airbnb host over the past twelve months, which is the days booked multiplied by the daily rate added to the cleaning fee. The average daily rate is the average booked price of the past twelve months, with cleaning fees distributed across the length of each reservation. The variable for bedrooms is the number of bedrooms for each listing, if the listing is a two-bedroom apartment this metric reports two.\footnote{\textsuperscript{15} Data descriptions retrieved from legend supplied by Airdna.co, the supplier of the Airbnb data.} The delta Airbnb measure represents the change in supply of Airbnb from the past month for each zip code. This data was then further grouped, represented by a binary variable, into high-density or low-density Airbnb zones. A zip code is characterized as high-density if the aggregate supply of Airbnb breaches the
average threshold of Airbnb on the first month of 2017, which is 48.13 for a combined average across New York City and Los Angeles.

The rate of adoption of Airbnb, seen in Figure 6, appears to first gain strong traction in 2010, exponentially increasing thereafter. In 2008 and 2009 the volume of listings is negligible in comparison to current counts. In New York City the supply of Airbnb peaked in 2015 at 51,761 total listings, later declining to the most recent measure of 40,270, feasibly due to more stringent enforcement of housing regulations and the administration of fines for violations. Similarly, the total supply of listings tops in 2016 for Los Angeles at 38,420 and then gradually declines to the current number of 37,555. The Los Angeles Transient Occupancy Tax was introduced in 2016, recent declines in host listings plausibly reflect this added cost. Trends in the supply of Airbnb listings are largely similar across cities and mirror the public espousal and increase in use of the Airbnb platform.

C. Auxiliary Data

Ancillary data sources used in the study include: condominium home price indices, building permits, earnings, population counts, and unemployment rates. Home price indices, sourced from Bloomberg, are city-specific for Los Angeles and New York City. These Case-Shiller indices are explicitly condominium residences, aimed to capture overall trends in city-specific markets. The condominium index was chosen over the single family residence index because the observations under study more closely resemble condominium markets. It is essential to note that these vary on a city level, not by zip code.

Building permit data is gathered from the City of New York open data portal, provided by the Department of Buildings. Likewise, building permit data for Los Angeles is collected from the Los Angeles open data portal, provided by the Department of Building and Safety. Building permit data, varying by month, contains permits issued for a variety of purposes, ranging from the addition of a pool to the destruction of a building. The permit data for both cities was adjusted to contain only permits believed to have a substantial effect on the underlying value of the property or alter the stock of housing for a given zip code. Permits deleted from this data include those issued for plumbing, electrical, grading, elevator and so on. Issued permits preserved to develop an aggregate measure for construction activity in a given zip code are classified as residential and generally involve a structural alteration to an existing building. Few involve an inflow or outflow to local rental stocks because the regions included in this study are traditionally composed of large multi-residence apartment or condominium developments. Permits are then principally representative of gentrification effects on rent levels, while also embodying small deviations in housing starts and demolitions. This was a fairly subjective vesting process, one that might slightly compromise the integrity of the building permit data. Given that the areas of interest within the scope of this study are largely composed of large

---

16 Current estimates of Airbnb supply are measured on January of 2017.
condominiums, not single family homes, irrefutably precise data for housing starts is not instrumental to the study.

Monthly earnings and unemployment data are sourced from bls.gov. Both datasets are at the MSA level, varying on a monthly basis. Metrics for earnings include average hourly wage, average weekly earnings, and average hours worked per week. The earnings data comes from the Occupational Employment Statistics Survey. Average weekly earnings data is multiplied by four to create earnings measures for each month. Population data, acquired from the census.gov data portal reports annually at the MSA level. For the purpose of this study, the population measure at the end of calendar year 2016 is also used for the first month of 2017, assuming no large overnight divergences. Demographic measures are purposed to characterize overall oscillations in the distinct composition of zip codes, while also acting as a proxy for purchasing power in rental markets.

V. Research Design

A. Empirical Strategy

The empirical method employed in this study uses a difference-in-differences identification strategy to exploit monthly variation in the adoption and intensification of the supply of Airbnb, measuring the implications of this phenomenon on localized rent levels. Due to time series constraints with rental data, it would be misleading to claim that the model captures the full effect of Airbnb. Rather, this data allows us to quantify the intensification of Airbnb because the time horizon of rent data commences after the inception of Airbnb in 2008. In considering the time frame of this study, the rate of adoption of the Airbnb platform strengthens significantly from its inception, to 2017. Median rents are separated by property type and the regression is executed for each property classification.

B. Primary Model

The underlying model quantifying the association between Airbnb listings and median residential rents for one-bedroom property types is as follows:

\[ Y_{jtk} = \alpha + \beta_1 (A)_{jtk} + V_{kt} \delta + X_{jtk} \delta + M_{tk} \delta + \beta_2 (city\times year)_t + \lambda_j + \lambda_t + \epsilon_{jtk} \]

The dependent variable, \( Y_{jtk} \), represents the outcome for median rent, for zipcode \( j \), in month by year \( t \), and city \( k \). The variable of interest, \( (A)_{jtk} \), denotes the instantaneous supply of Airbnb, which is representative of the specified Airbnb category, either ‘entire home,’ ‘shared room,’ ‘private room,’ or an aggregate measure. The study focuses solely on the measure of ‘entire home’ listings but runs analyses for validation purposes on other measures of Airbnb. The
estimator, $\beta_1$, measures the average increase in rents associated with a rise in the supply of Airbnb, ceterus paribus. The parameter, $V_{kt}\delta$, acts as a vector term representing covariate controls with monthly variation on a city-level, including condominium value indices. The variable, $X_{jt}\delta$, signifies controls varying on a monthly basis at the zip code level, which includes building permits for both Los Angeles and New York City. Parameter, $M_{tk}\delta$, embodies MSA level controls varying on a monthly basis, such as earnings and unemployment rates. Zip code and month by year fixed effects are represented by $\lambda_{j}$ and $\lambda_{t}$ respectively. The model includes an interaction term, $(city\times year)_{t}$, capturing city-specific time trends.

Three key identifying assumptions are necessary to support causal inference: (1) that there is no reverse causality between the supply of Airbnb and the median rental price. That is to say, decreases in rent levels do not increase the aggregate supply of Airbnb. (2) that there are no omitted variables that might bias the estimator. This incurs bias if time-variant location specific variables are absent from the proposed model that are correlated with both the supply of Airbnb and affect rent prices. (3) the common trends assumption. Though not verifiable, the common trends assumption asserts that observed trends in rental rates subsist without the presence, or treatment per se, of Airbnb. There are no known factors, other than those fundamental to housing markets, that induce divergent trends in rents across zip code regions throughout the time period of this study. In large part, drivers of housing markets and city-specific time trends are included in the model as covariates, to at least some extent. Further, the likelihood of newly introduced regulatory housing reforms over the seven-year time horizon of this study to be zip code specific seems minimal. For this reason, the common trends assumption is relaxed.

If residential rents influence the supply of Airbnb, this conceivably induces downward, or negative bias on the model. Based on the assumption that, in the reversed scenario where rents effect the supply of Airbnb, a negative correlation is observed between the supply of Airbnb and rents. The logic behind this manifests in relevant incentives associated with a property owner’s decision to list on Airbnb. An exogenous increase in rents decreases the expected revenue decision framework with an Airbnb listing, thereby depressing the instantaneous supply of Airbnb for ‘entire home’ listings. Therefore, resulting estimates of $\beta_1$ represent a lower bound.

The concern of omitted variable bias is mitigated by the prevalence of controls and fixed effects, however, if an unobserved factor concurrently influences the instantaneous supply of Airbnb and rents it biases the results. Unobserved factors that fixed effects control for are time-invariant differences across zip codes. For example, desirability of location or proximity to public transportation are elements captured by fixed effects. Time fixed effects absorb variation in the seasonality of demand for housing while city-specific time trends are netted out with a city by time interaction term. Year fixed effects capture fluctuations in mortgage rates and other similar variants affecting housing markets on larger scale. Observed factors, or the incorporated controls, absorb time-variant location specific fluctuations in macroeconomic, demographic, and overall housing market trends. Unobserved variables that might confound estimates manifest in
occurrences such as changes in property taxes for select zip code regions, but not others. Again, housing jurisdictions generally refrain from imposing divergent regulations across specific zip code regions, in short form, this mitigates concerns of omitted variable bias.

VI. Results

A. Primary Results

Results from the above estimating equation first report estimations with regional zip code fixed effects and successively with time fixed effects, by year and century code. The final estimation integrates year by month fixed effects inclusive of the controlling variables indicated in the auxiliary data sources. As shown in Table 1, column (4), a one-unit increase in the supply of ‘entire home’ listings is associated with a statistically significant $0.139 rise in the monthly median rental price for one-bedroom apartments. The estimate decreases in magnitude as fixed effects and controls are incorporated in the model, likely due to the presence of omitted variables. Controls and fixed effects sequentially account for omitted variables implicating both rents and Airbnb listings. Dismissing time fixed effects and controls from the model is hypothesized to induce positive bias on the estimator as systematic and cyclical shifts in location specific housing markets are unaccounted for. Hence, the decreasing magnitude of the estimate is observably sensible as time and space fixed effects are integrated in the model. City-specific time trends appear to have a negligible impact on overall resulting estimates.

This initial result may in part be confounded by other ‘entire home’ listings included in the analysis that do not have secondary or tertiary effects on one-bedroom rent levels. The aggregate measure is used in the initial model to account for the possibility of effects other than that of a direct supply-shock to the rental stock. Also, there is an ambiguous distinction between studio apartments and one-bedroom apartments, meaning that some Airbnb hosts may mistakenly list a studio as a one-bedroom when it should rather be classified as a zero-bedroom residence. To more precisely estimate the direct supply-shock effect, the model is re-evaluated with a measure of ‘entire home’ listings succinctly identified as having only one bedroom, effectively excluding studio listings from the model. Table 1, column (8), shows that this result increases the significance and the size of the estimate to $0.187. This model is believed to more directly capture the supply-shock effect of the intensification of Airbnb without including supplementary ‘entire home’ listings.

Supplementary analyses generally affirm theoretical assumptions defined in the conceptual framework. Results, outlined in the appendix, are decreasing in significance for
virtually all property types other than one-bedroom residences for ‘entire home’ listings in the context of a direct supply-shock relationship.\(^\text{17}\)

**B. Robustness Checks**

Results from the primary model implicitly define a linear relationship between the rate of adoption of Airbnb and rising rent levels for one-bedroom residences. Considering widely varying spatial densities of Airbnb listings, there is reason to believe that this dynamic may be non-linear in nature. It is possible that as ‘entire home’ listings sporadically increase over time; the marginal effect of an additional listing does not remain constant. The same logic applies to the model using natural logarithms, though this implies that the elasticity between rents and Airbnb is not constant.\(^\text{18}\) In order to evaluate this supposition, instantaneous counts of ‘entire home’ listings are bucketed into three density specific categories: the first is considered low density and includes zip code regions with 1-20 listings, the second is moderate density with 20-50 listings, while the third is high density with 50 listings and above. The corresponding regression can be seen as such:

\[
Y_{jt_k} = \alpha + \beta_1(L)_{jt_k} + \beta_2(M)_{jt_k} + \beta_3(H)_{jt_k} + V_{jt_k}\delta + \epsilon_{jt_k}
\]

This model is identical to the main estimating model with the exception of ‘entire home’ listings categorized by spatial densities. The groupings are marked L for low-density, M for moderate-density, and H for high-density while V stands as a vector for all other parameters. With a statistically significant estimate only occurring for the high-density estimate of 0.165***, the results, as reported in Table 5, reveal strong evidence in support of the argument for a non-linear relationship. In fact, this highlights that estimates arising from the primary model are derived from almost exclusively regions with relatively high Airbnb densities.

**C. Limiting Factors**

In processing the findings of this study there are various limiting factors that one must consider. Foremost, data constraints limit the time horizon of this study from 2010 to 2017. This is not ideal, preventing the analysis from capturing the full effect, or treatment per se, of Airbnb on localized rent prices. Observations are constrained to the metropolitan centers of Los Angeles and New York, limiting the scope of the study to two cities that are both notorious for unaffordable housing and high propensities to rent. The regional adoption and intensification of Airbnb is highly inconstant across cities and countries; a more thorough analysis would congregate and examine Airbnb data on a global scale.

Variables employed as controls in the estimating model tend to report at the granularity of the city or MSA level. Since the parameters of interest are observed on a zip code scale, there is

\(^\text{17}\) Refer to Appendix for further discourse on supplementary analyses.

\(^\text{18}\) Represented in Table 2.
likely spatial variation unaccounted for by the included controls. A more robust dataset will contain data consistent at the zip code level. Building permit data, representing regional gentrification and housing stock fluctuations, is relatively noisy in the sphere of this study, prone to a large standard error. A more precise measure of building permits should rigorously vest issued permits to systematically identify those that have imminent implications on property values and rents.

More disconnected from the model, one must also assume that the data accurately represents the parameters in question. That is to say, one must accept that the Zillow monthly median rental data appropriately represents rental prices in the given cities and, likewise, the Airbnb data precisely captures the supply of Airbnb in a given zip code. Although there exists no clear reason to question the integrity of the rental data, the preciseness of the observations may be questioned in certain circumstances. For instance, if large corporate property owners manage multiple residences in one building, incentive exists to avoid disclosure of comparable rents in favor of asymmetric information. If said owner aims to maximize revenues from vacant residences, they will strive to retain bargaining power in negotiations, compromising comparable rent levels undermines this. The Airbnb data is sourced from a private company, with no visible biases or fundamental flaws.

D. Economic Significance

Although intuitively simple, the results provide valuable insight for policy makers and regulators attempting to mitigate external effects of Airbnb. Points of emphasis pertinent to those grappling with how best to manage the influx of the Airbnb platform parallel the theoretical foundations of this study. Impacts associated with Airbnb are highly dependent on the property type distribution of the aggregate count of Airbnb listings. A neighborhood in rural areas with larger residences distant from tourist destinations are, in the context of this study, largely unaffected by the intensification of Airbnb listings. However, in densely populated urban regions with primarily apartment and condominium complexes, the increasing presence of Airbnb should be concerning.

Presenting two polarized examples of differential impacts of Airbnb, the zip code boundary, 11211, in Williamsburg, Brooklyn has 857 one-bedroom Airbnb listings while the zip code, 10033, has 52 one-bedroom Airbnb listings in a more rural area. The estimating model predicts that in region 10019 the median rental price for a one-bedroom apartment is $120.83 higher with the presence of Airbnb than without. In contrast with an average rent of $2802.5, this is a 4.31% increase in the overall rent price and a $1,449.96 annualized increase in income paid for rent. In 10033, conversely, the model predicts a $7.33 higher rent with the presence of Airbnb compared to an average rental price of $1,662.29, marking a 0.44% increase and an annualized increase in income paid for rent of $87.96. Though this naïve analytical example does not control for exogenous factors between zip code regions, the effect of Airbnb is severely
variable in magnitude on a regional basis. From a regulatory standpoint, this implies that considering spatial densities of Airbnb listings is of immense importance.

VII. Conclusion

The rise of the sharing economy has sparked much controversy in not only political arena but the public sphere as well. Increased adoption of the Airbnb platform has been criticized for a variety of reasons, though primarily for displacing long-term tenants. Findings in this study show that the substitution effect of residences catering to short-term tenancy is not only prevalent, but subsists with strong incentive to do so. However, this comes with various caveats. The impact on rents is highly sensitive to the spatial density of ‘entire home’ listings, while no clear relationship is observed with ‘private room’ or ‘shared room’ rentals within the context of a direct supply-shock framework. Likewise, this effect is primarily concentrated on one-bedroom apartments. These considerations should be weighed accordingly when considering undertaking restrictive policy regulations.

Much emphasis has been placed on the adverse effects of Airbnb on rent affordability throughout this study, however, there are also clear economic benefits associated with the intensifying adoption of Airbnb. Most obviously, opportunities to profit from otherwise vacant rooms provides supplemental income for individuals or families opting to do so. One could argue that this additional income indirectly improves housing affordability. Further, Airbnb propels economic activity in regions with densely clustered listings, while concurrently elevating overall demand for tourism. It would be contentious to assert that these benefits are not similar in magnitude to the relevant costs without empirical foundations. An area for further study in this literature may conduct a thorough cost-benefit analysis on the localized economic impacts of the increased adoption of Airbnb.

Provisional policy measures might explore several alternative solutions to mitigate the effects of Airbnb on rents. The most intuitively direct approach would be to constrain the supply of ‘entire home’ listings, perhaps through licensing requirements or by increasing the enforcement of housing bylaws in regions where short-term rentals are illicit. In many cities Airbnb hosts evade taxes on short-term rentals. Regulators should take prohibitive action to prevent this, similar to the Transient Occupancy Tax introduced by the city of Los Angeles. There is no clear reason why owners of ‘entire home’ listings should not be taxed at an equivalent level to those of major hotel chains. In theory, any regulations dampening incentives for property owners to enlist entire residences on the Airbnb platform would be effective in governing the supply of Airbnb listings and their imminent effects on housing markets.

Though this study has highlighted that the instantaneous supply of Airbnb is most directly linked to encumbering housing affordability, economic impacts stretch beyond the scope of housing markets. Cole (2016) notes that the average cost of an Airbnb rental in Cuba exceeds the average monthly wage of a local resident. The mass influx of tourism pouring into
neighborhoods otherwise composed of local residents has sparked the rise of public protest, often rallying around the theme that “my building is not a hotel (2016).” This has severe implications on inequality with drastic differences in purchasing power between residents and tourists (2016). The discrepancy in purchasing power between the average citizen and a tourist tends to price local buyers out of a housing market already hindered by a shortage of housing stock. Moreover, lower income families are further oppressed by remaining concentrated in impoverished regions as the affordability of generally middle-income neighborhoods diminishes. This example serves to represent how the distortionary effects of Airbnb are not limited to consequences on rent levels, impacting the socioeconomic health and cultural identity of many regions as well. Again, this reiterates that an exhaustive study on the economic benefits and costs of the Airbnb phenomenon is an area for further study.
VIII. Appendix
Conceptual Framework

*Figure 1: Top 5 Zip Code Regions by Annualized Revenues*

<table>
<thead>
<tr>
<th>Zip</th>
<th>Rent</th>
<th>Airbnb Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>90401</td>
<td>$39,293</td>
<td>$283,250</td>
</tr>
<tr>
<td>90015</td>
<td>$32,795</td>
<td>$272,962</td>
</tr>
<tr>
<td>92651</td>
<td>$32,077</td>
<td>$249,747</td>
</tr>
<tr>
<td>10036</td>
<td>$39,434</td>
<td>$234,864</td>
</tr>
<tr>
<td>10065</td>
<td>$40,442</td>
<td>$233,115</td>
</tr>
</tbody>
</table>

*annualized values for one bedroom property types (Jan, 2016)*

Calculated at the end of calendar year 2016, this table shows that strong incentive subsists for a property owner to opt for a short-term rental through the Airbnb platform rather than a long-term rental to a local resident. Calculated with given occupancy rates and average daily rates for Airbnb listings, this table shows that in some zip codes regions, underlying monetary incentives favoring the Airbnb platform are overwhelming. Notably, these statistics are off-peak and experienced a decline after more stringent regulation in 2015 by regulators in both Los Angeles and New York City.
Figure 2: Primary Conceptual Framework

- Consumer behaviour trends towards more economical sources of short-term accommodation
- Airbnb supply increases
- Shock to long-term rental supply
  - Substitution effect of long-term for short-term tenancy intensifies
- 'Hotelization' of buildings
  - Increased spatial density of Airbnb listings
- Increase in residential rents

Figure 3: Property Type Distribution of Airbnb Listings

Apparent above, one-bedroom apartments comprise the majority of Airbnb listings. This suggests that the implied effects of Airbnb are unlikely to uniformly distort rent levels across property types. This has important implications for the outline of this study.
Data

*Figure 4: Summary Statistics*

<table>
<thead>
<tr>
<th></th>
<th>Obs</th>
<th>Means</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New York City</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Bedroom</td>
<td>7,137</td>
<td>2,131.64</td>
<td>827.51</td>
<td>950.00</td>
<td>4,600.00</td>
</tr>
<tr>
<td>Two Bedroom</td>
<td>5,895</td>
<td>2,659.47</td>
<td>1,151.16</td>
<td>1,275.00</td>
<td>7,245.00</td>
</tr>
<tr>
<td>Total Airbnb Supply</td>
<td>35,752</td>
<td>50.69</td>
<td>198.17</td>
<td>0.00</td>
<td>3,724.00</td>
</tr>
<tr>
<td>Entire Home</td>
<td>35,752</td>
<td>28.29</td>
<td>113.96</td>
<td>0.00</td>
<td>1,879.00</td>
</tr>
<tr>
<td>Private Room</td>
<td>35,752</td>
<td>21.08</td>
<td>88.98</td>
<td>0.00</td>
<td>1,823.00</td>
</tr>
<tr>
<td>Shared Room</td>
<td>35,752</td>
<td>1.32</td>
<td>5.11</td>
<td>0.00</td>
<td>171.00</td>
</tr>
<tr>
<td><strong>Los Angeles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Bedroom</td>
<td>1,276</td>
<td>1,907.11</td>
<td>486.93</td>
<td>850.00</td>
<td>3,591.50</td>
</tr>
<tr>
<td>Two Bedroom</td>
<td>3,281</td>
<td>2,183.23</td>
<td>614.38</td>
<td>650.00</td>
<td>4,498.00</td>
</tr>
<tr>
<td>Total Airbnb Supply</td>
<td>41,030</td>
<td>27.37</td>
<td>104.94</td>
<td>0.00</td>
<td>2,141.00</td>
</tr>
<tr>
<td>Entire Home</td>
<td>41,030</td>
<td>16.71</td>
<td>74.61</td>
<td>0.00</td>
<td>1,663.00</td>
</tr>
<tr>
<td>Private Room</td>
<td>41,030</td>
<td>9.66</td>
<td>29.51</td>
<td>0.00</td>
<td>478.00</td>
</tr>
<tr>
<td>Shared Room</td>
<td>41,030</td>
<td>1.00</td>
<td>4.55</td>
<td>0.00</td>
<td>104.00</td>
</tr>
</tbody>
</table>
The financial crisis adversely affected rent levels and rates of home price appreciation. This trend hit an inflection point in 2012, normalizing thereafter.
The intensifying rate of adoption of the Airbnb platform reached a peak in 2015 for NYC and 2016 for LA. This is due to more stringent regulatory measures.

*Figure 7: Divergent Rent Trends Across Categorized Airbnb Spatial Densities*
This naive visual analysis is not exceptionally meaningful but it does exemplify that there are divergent rent trends across varying spatial densities of Airbnb listings.

Figure 8: Polarized Example of Airbnb Spatial Density
These figures were generated with the ArcGIS software to outline observed instances where spatial densities of Airbnb zip code regions are highly variable in magnitude. The magnitude of the effect of a rise in the of the instantaneous supply of Airbnb is perceived to be a positive function of tourist demand. The above figures display this phenomenon with two polarized examples of differing spatial densities in aggregated Airbnb listings. Zip code region 10036 is close in proximity to Times Square, while zip code 10033 is on the outer perimeter of Manhattan. Tourist demand for short-term accommodation is conceivably much stronger near Times Square. This displays how spatial densities of Airbnb listings may impact provisional policy decisions pertinent to this matter.

Results

Table 1: Primary Results

<table>
<thead>
<tr>
<th>Outcome Airbnb Supply, One-Bedroom Model</th>
<th>Median Rent Level, One-Bedroom Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive Entire Home Supply</td>
<td>Direct Supply-Shock Model</td>
</tr>
<tr>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>0.704***</td>
<td>0.188***</td>
</tr>
<tr>
<td>(0.077)</td>
<td>(0.050)</td>
</tr>
<tr>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>0.225***</td>
<td>0.135***</td>
</tr>
<tr>
<td>(0.053)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>0.955***</td>
<td>0.251***</td>
</tr>
<tr>
<td>(0.099)</td>
<td>(0.059)</td>
</tr>
<tr>
<td>(7)</td>
<td>(8)</td>
</tr>
<tr>
<td>0.291***</td>
<td>0.182***</td>
</tr>
<tr>
<td>(0.063)</td>
<td>(0.056)</td>
</tr>
<tr>
<td>N</td>
<td>8,009</td>
</tr>
<tr>
<td>8,009</td>
<td>8,009</td>
</tr>
<tr>
<td>Num Clusters</td>
<td>127</td>
</tr>
<tr>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>zip code, fe</td>
<td>Y</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>year, fe</td>
<td>N</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>year by month, fe</td>
<td>N</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>controls</td>
<td>N</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>outcome_mean</td>
<td>2,097.585</td>
</tr>
</tbody>
</table>

This primary model of interest first displays results for an inclusive measure of ‘entire home’ listings, including all Airbnb listings irrespective of property type. I then remove other property types to examine a model regressing only one-bedroom Airbnb listings on one-bedroom rents. This is referred to as the direct supply-shock model, showing a clear improvement in robustness.
Table 2: Logarithmic Form

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Logarithmic, One-Bedroom Properties</th>
<th>Direct Supply-Shock Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbnb</td>
<td>(1) 0.035*** (0.002)</td>
<td>(2) 0.008*** (0.002)</td>
</tr>
<tr>
<td>N</td>
<td>8,009</td>
<td>8,009</td>
</tr>
<tr>
<td>Num Clusters</td>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>zip code, fe</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>year, fe</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>year by month, fe</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>controls</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>outcome_mean</td>
<td>7.581</td>
<td></td>
</tr>
</tbody>
</table>

Adjusting metrics to logarithmic form, the resulting estimate yields a value of 0.006***. The estimate of 0.006*** infers that a 10% increase in the supply of one-bedroom ‘entire home’ listings is associated with a 0.06% monthly increase in one-bedroom rents, all else constant. In remaining consistent with the above findings from the primary model, I employ a direct supply-shock framework.
Table 3: Categorized Listing Type Analyses

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Airbnb</th>
<th>One-Bedroom Rents</th>
<th>Median Rent Level</th>
<th>All Property Type Rents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>airbnb_entirehome</td>
<td>0.414***</td>
<td>0.119**</td>
<td>0.090*</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>(0.075)</td>
<td>(0.049)</td>
<td>(0.048)</td>
<td>(0.050)</td>
</tr>
<tr>
<td>airbnb_private</td>
<td>0.144</td>
<td>0.063</td>
<td>0.123</td>
<td>0.111</td>
</tr>
<tr>
<td></td>
<td>(0.194)</td>
<td>(0.124)</td>
<td>(0.121)</td>
<td>(0.123)</td>
</tr>
<tr>
<td>airbnb_shared</td>
<td>5.447**</td>
<td>1.336</td>
<td>2.283**</td>
<td>0.793</td>
</tr>
<tr>
<td></td>
<td>(2.416)</td>
<td>(0.982)</td>
<td>(1.103)</td>
<td>(0.948)</td>
</tr>
<tr>
<td>N</td>
<td>8,009</td>
<td>8,009</td>
<td>8,009</td>
<td>8,009</td>
</tr>
<tr>
<td>Num Clusters</td>
<td>127</td>
<td>127</td>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>zip code, fe</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>year, fe</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>year by month, fe</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>controls</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Though this model is not particularly informative due to the expected multicollinearity between the rate of adoption of the three Airbnb listing types, the strongest results in regards to statistical significance generally arise from the measure of ‘entire home’ listings.

Time series’ measuring three-bedroom property types are an anomaly in the categorized regression results. Initially reporting as significant in the categorized models, significance levels decrease substantially in the direct supply-shock framework. Implicit in this observation is that there are results that appear unexplainable, however, the sample size for three-bedroom apartments is nearly half of other property types, undermining the analysis.
These findings support the conceptual framework which posits that the effect of Airbnb is highly specific to the listing type distribution. After accounting for fixed effects and controls, there is no statistically significant estimate quantifying a direct effect of Airbnb on rents for two or three bedroom apartments. Though effects are likely still possible, in the context of this study it is not entirely sensible to make such a claim when considering resulting estimates.

Two-bedroom properties, expected to experience the second largest effect of Airbnb on rents, are initially statistically significant with zip code fixed effects and later decrease in significance as additional fixed effects and controls are implemented in the model. More importantly, regressing only two-bedroom ‘entire home’ Airbnb listings on two-bedroom rents yields no significant results. Two-bedroom apartments are less prevalent on the Airbnb platform and expectedly have variance to a smaller degree than that of one-bedroom apartments. These disparities accentuate the lack of significance in the two-bedroom model while similar trends are prevalent with metrics for all property types and three-bedroom property types.
This model finds that the effect of Airbnb on residential rents is conceivably non-linear. It also affirms that results shown in the primary model are majorly derived from zip code regions with high spatial densities of Airbnb listings.
Coeficient estimates for control variables demonstrate inconsistent signs and levels of statistical significance. The parameters for condominium value indices, unemployment rate, and building permits all possess the expected sign. Condominium value indices and building permits have a positive sign, implying that as property values and permit issuances increase, rent levels increase. Conversely, unemployment rates are negatively associated with rents, as the unemployment rate increases, rents decrease, displaying an ability-to-pay framework and capturing overall macroeconomic trends divergent on a city level. Unemployment rates, condominium values, and building permits are statistically significant at varying levels. It is possible that time and space fixed effects already capture variable effects on rents, producing different degrees of significance among the control variables.

Control variables representing time-varying fluctuations in earnings power and hours worked have a negative sign. This is not representative of the normative dynamic between rents and earnings. As purchasing power increases, in general, rent levels are expected to correspondingly increase. The channel through which this occurs is perceptibly not casual and this data is on the MSA level, which may confound estimates of earnings measures in the underlying model. The hours worked metric has a less direct affiliation to rents and is a relatively noisy measure when considering fluctuations in this parameter can affect rents in either direction.
without accounting for corresponding wage levels. Both average monthly earnings and hours worked are statistically insignificant.
IX. References

BJH Advisors, prepared for Housing Conservation Coordinators Inc. MFY Legal Services Inc. "Short Changing New York City: The impact of Airbnb on New York City's housing market." June 1, 2016, 2-47.


Gutierrez, Javier, Juan Carlos Garcia-Palomares, Gustavo Romanillos, and Maria Henar Salas-Olmedo. 2016. Airbnb in tourist cities: Comparing spatial patterns of hotels and peer-to-peer accommodation.


One Belt, One Road and the Marshall Plan: China’s Interest and the U.S.’s Ideology

Lily Qindi Ouyang
Professor Maillet & Professor Wilhelm
University of Virginia

Abstract

During his visit to Kazakhstan in 2013, Chinese President Xi Jinping unveiled the China’s “One Belt, One Road” (OBOR) initiative that aims to construct a well-connected infrastructure system and integrated economy across Eurasia. Since OBOR’s inception, speculations on its motivations have been rife, one of which is that OBOR is China’s Marshall Plan. Although such claim has been brought up repeatedly, little research has examined its validity. This research explores whether the two strategies are comparable in nature by investigating in their economic and political motives. The conclusion is that OBOR and the Marshall Plan are comparable from an economic perspective as they both helped alleviate excess capacity in China and the U.S. However, the political rationales behind the two strategies are completely different: while the Marshall Plan attempted to impose a political-economic structure, i.e., liberal capitalism, on Europe, OBOR resorted to non-interventionism and ideology-neutrality to minimize conflict and maximize China’s interest. For such reason, this research concludes that OBOR and Marshall Plan are two strategies with distinct natures.

Keywords: One Belt One Road, OBOR, Marshall Plan, China’s investment in Eurasia, infrastructure investment, Eurasia economic integration.

Author Biography

Lily Qindi Ouyang is a Class of 2017 graduate from the McIntire School of Commerce at the University of Virginia with concentrations in finance and IT. Born and raised in China while having received her most critical four years of intellectual training in the U.S., she is intrigued by the political, economic, and cultural differences between the two countries. Such interest was materialized by her research which compared China’s on-going One Belt One Road initiative with the U.S.’s Marshall Plan after WWII. She was awarded the distinction of Global Commerce Scholar by the McIntire School of Commerce upon her graduation from the University. She is currently working as an IT consultant in San Francisco Bay.
Acknowledgements

I would first like to express my sincere gratitude to my research advisors Professor William Wilhelm, William G. Shenkier Eminent Scholar, and Professor Peter Maillet, Associate Dean for Global Affairs, of the McIntire School of Commerce at the University of Virginia. Professor Wilhelm devotes himself wholeheartedly to research and the intellectual construction of his students. He has let me see the virtues of patience, self-discipline and academic rigor. Professor Maillet, with his everlasting intellectual curiosity, delights in guiding his students to explore issues in finance from interdisciplinary perspectives. His has shown me the power and joy that broadmindedness brings. Both professors were extremely committed to mentoring me throughout my research, who were strict in giving me intellectual challenges and generous in offering me appraisal for my efforts and progress. Without their criticism and encouragement, it would be impossible for me to complete this project.

I would also like to thank Chris L.W. Elliott, Assistant Dean for Global Affairs, for coordinating the Global Commerce Scholar (GCS) program at the McIntire School of Commerce. It is his dedication to McIntire’s students and academic research that makes the program possible.

I would like to thank Philip Zelikow, White Burkett Miller Professor of History, of the College of Arts and Sciences at the University of Virginia, who offered me important insights in the Marshall Plan and its legacy in American history.

During the hardest time of my research, my parents and their friend, Uncle Yang, offered me encouragement constantly. I want to thank them for always supporting my passion and believing in my competence. I am excited that they can finally see the end product of my year-long effort.

Finally, many thanks to my wonderful GCS colleagues who offered me encouragement and a sense of community while I was working as an independent researcher.

This research paper is a tremendous accomplishment at the end of my four years in college. I could not have made it without all of the people mentioned above. Thank you!

Lily Ouyang
I. Introduction

A. One Belt, One Road (OBOR)

One Belt, One Road (OBOR) is a development strategy and framework proposed by Chinese President Xi Jinping in 2013 that aims to upgrade infrastructure in 65 countries across Eurasia\(^1\), enhance their physical interconnectivity, and subsequently strengthen the region’s economic integration and political cooperation. The scope of OBOR is astonishingly broad, with a combined population of over 4 billion and a total GDP of $21 trillion, which is about 30% of the world’s GDP (Swaine, 2015). Investment need in the first ten years is estimated to total $8 trillion and the annual infrastructure investment across Asia alone will amount to $730 billion (Chen & Qian, 2016).

The initiative, named in honor of the ancient Silk Road\(^2\), has two components: the Silk Road Economic Belt ("One Belt", represented by the solid lines in Exhibit 1) and the 21st Century Maritime Silk Road ("One Road", represented by the dotted lines in Exhibit 1). The Silk Road Economic Belt is a land-based economic route that starts from Xi’an, China, meanders through Central Asia, the Middle East, Russia and Europe, and ends at Venice, Italy, linking China with the Persian Gulf and the Mediterranean Sea through Central Asia and West Asia. The 21st Century Maritime Silk Road, also referred to as the New Maritime Silk Road, is the other economic route on the sea. It starts from China's east coast, goes through the South China Sea, the Indian Ocean, the Red Sea and the Mediterranean Sea, and meets with the Silk Road Economic Belt in Venice. These two routes are subdivided into the following six economic corridors:

1. New Eurasian Land Bridge
2. China–Mongolia–Russia Economic Corridor
3. China–Central Asia–Western Asia Economic Corridor
4. Indo-China Peninsula Economic Corridor
5. China–Pakistan Economic Corridor, and
6. Bangladesh–China–India–Myanmar Economic Corridor

---

\(^1\) While OBOR primarily focuses on Eurasia, it also includes some countries in Africa (e.g. Kenya) and the initiative’s scope is still growing.

\(^2\) The ancient Silk Road was a network of trade routes more than 4,600-mile in length that stretched from Xi’an, China all the way to the Mediterranean Sea. It was central to commercial activities and cultural interaction through regions of the Asian continent for centuries during imperial China.
Since its debut in 2013, OBOR has become China’s “major foreign and economic policy hallmark” (Swaine, 2015) under President Xi Jinping. The State Council, the nation’s chief administrative body, has tasked China’s National Development and Reform Commission (NDRC), Ministry of Foreign Affairs, and Ministry of Commerce to deliver the initiative’s objectives (The Economist Intelligence Unit, 2016). The major sources of financing for OBOR projects include China Investment Corporation, the Export-Import Bank of China, the China Development Bank, the Asian Infrastructure Investment Bank, and the Silk Road Fund. A large sum of foreign exchange reserves will also be directed to the projects as well as investments from local Chinese governments. Although right now the investment capital mainly comes from the Chinese government and international financial institutions backed by the Chinese government, OBOR does encourage capital inputs from the private sector.

Since OBOR was launched, China has spent much effort highlighting the collaborative, peaceful, inclusive, and positive-sum nature of OBOR. First, China stresses that participation in the initiative is open to any country, even those not in the OBOR region. Second, it emphasizes that OBOR adheres to the Five Principles of Peaceful Coexistence and aligns with the purposes

---

3 The NDRC is a macroeconomic administrative and planning agency under the Chinese State Council. As the ministry has broad control over every aspect of China’s economy, it is dubbed China’s “mini State Council” and “number one ministry” (Martin, 2014).

4 The Five Principles of Peaceful Coexistence were conceived by India’s first prime minister, Jawaharlal Nehru, and China’s first premier, Zhou Enlai, in 1954. Serving as the bedrock of the relationship between China and India, the principles became widely known at the Bandung Conference in 1955. The articles of the Principles are:

- Mutual respect for each other's territorial integrity and sovereignty,
- Mutual non-aggression,
- Mutual non-interference in each other's internal affairs,
and principles of the UN Charter (NDRC, 2015). Especially, it highlights that OBOR will adhere to the principles of ideological neutrality and non-interventionism. This indicates that China will not turn any potential participant away due to ideological difference. Neither will it meddle with any participant’s domestic affairs using OBOR as an excuse. In addition, China insists that OBOR is not set to be a replacement of existing international cooperation schemes but an alternative that complements them. Despite China’s positive portrait of OBOR, speculations have been rife regarding the economic and political motives behind the grand project. While some simply regard OBOR as China’s attempt to dump excess productive capacity into Eurasian countries which happen to need massive infrastructure upgrade, others suspect that, with its attention currently fixed on Central Asia (for example, the fast progress in the construction of the 3000-km China-Pakistan Economic Corridor, or CPEC), China is trying to seize strategically important resources such as oil and gas. Among all critiques, an interesting one is that OBOR is China’s Marshall Plan.

B. The Marshall Plan

Officially called the European Recovery Program, the Marshall Plan (1948-1951) was an American foreign aid program that extended $12 billion financial aid (about $120 billion in today’s value) to 16 Western European countries following the WWII to prevent the spread of communism. Before the launch of this program, poverty and disillusion of both capitalism and fascism had swung Europe leftward. The clear ideological line between capitalism and communism was blurred (Reynolds, 1997). In Eastern Europe lands were redistributed and industries were brought under government control. The climates in the west were not so different: voices from socialist democrats and communists resounded in Britain, France, Italy, and Belgium. Washington feared that as Europe slid further into economic distress, it would inevitably turn itself into communism and fall under the Soviet Union’s sphere of influence. If this happened, two disastrous consequences would ensue. First, the world’s most powerful economy would lose an entire continent of trading partners. More importantly, the Americans feared that communism would spread like a contagious disease to other parts of the world. The resulting hostile ideological climate would force the steward of liberal capitalism to be militarized and revert to wartime central planning. Liberal capitalism, the core value of the U.S., would thus be undermined (Hogan, 1987).

Such logic convinced the U.S. to extend aid to European countries on the premise that they stop anti-liberal-capitalist practices such as central planning and high tariffs on cross-border trade. More importantly, the U.S. insisted that Europe propose a recovery plan collectively. This

- Equality and cooperation for mutual benefit, and
- Peaceful co-existence.

5 The 16 countries were Austria, Belgium and Luxembourg, Denmark, France, West Germany, Greece, Iceland, Ireland, Italy and Trieste, Netherlands, Norway, Portugal, Sweden, Switzerland, Switzerland, and United Kingdom.
demand carried several objectives. First, it promoted trans-national coordination of resource allocation to ensure most efficient distribution of aid resources. Second, trans-national collaboration would facilitate Europe’s economic integration. This was essential because an integrated European market meant that if one country wanted to revert back to central planning, the “invisible hand” in the bigger market would render its effort in vain. The core of this mechanism was to effectively aid Europe’s economic recovery while simultaneously altering its current politico-economic system which was detrimental to America’s universal value in the long-run (Hogan, 1987).

While a free market capitalist system in Europe ensured a congenial international economic environment for the U.S. in the long-run, the Marshall Plan also bore short-term economic benefits. During the ten months prior to the launch of the plan, American export dropped by almost one third (Carew, 1987). The U.S.’s productive capacity in excess would require rapid restructuring of the American economy, which, if not impossible, would be detrimental to the country’s wellbeing. However, if the U.S. extended aid to Europe, the money would largely flow back to the U.S. for purchases of essential commodities that Europe was incapable to produce, absorbing the U.S.’s excess capacity.

C. The OBOR-Marshall Plan Comparison

Chinese and non-Chinese receptions to the OBOR-Marshall Plan comparison are drastically different. China attacks the Marshall Plan whenever such comparison is made by labeling it a product of "western imperialism" and "Cold War Mentality" while portraying OBOR as a cooperative, open, and positive-sum initiative. On the other hand, non-Chinese sources, especially the American ones, reason that OBOR resembles the Marshall Plan because economically, they helped alleviate domestic excess productive capacity. On the political side, both strategies were designed to counter powerful political rivals and establish new international orders. Although the OBOR-Marshall Plan comparison is frequently made and a lot of finger-pointing has been done between those supporting it and denouncing it, little research has dug deep enough to determine whether the two events are qualitatively and quantitatively comparable. This paper seeks to fill in the gap.

The analyses of this research show that OBOR and the Marshall Plan are quite similar from an economic point of view as they both aimed to export domestic excess capacity. The U.S. extended aid to Europe after seeing an annual excess capacity worth $14 billion in domestic market as a result of sharp decline in export to Europe (Carew, 1987). OBOR serves a similar economic purpose by shifting out tons of products in traditional industries (steels, glass, cement, etc.) to where OBOR projects take place overseas. Therefore, this research argues that OBOR and the Marshall Plan have comparable economic motivations.

When it comes to political motives, OBOR and the Marshall Plan may seem similar – when taking at face value. At the end of the day, the Marshall Plan helped the U.S. remake the
international political order and strengthen its status as the world’s superpower while OBOR helps China export its own blueprint of international economic and political cooperation and reinforce its claim as a dominant regional power in Eurasia. However, this research argues that the ideological rationales behind OBOR and the Marshall Plan are fundamentally different. At its core, the Marshall Plan was an ideological move with an American political undertone that liberal capitalism is universally true and should be adopted by every country. OBOR, on the other hand, advocates ideological-neutrality and non-interventionism. By design, OBOR is not to promote the Chinese ideology, but to maximize China’s interest in the current international economic and political systems.

This research will illustrate later that such interest is dynamic and has evolved over time with the country's changing domestic situations, and at the moment, its lies in China’s access to critical economic resources and a stronger political voice on international issues, two critical factors that legitimize Chinese Communist Party (CCP)'s ruling of the country. To maximize its interest, China has been crafting its national strategy and foreign policy with consistent pragmatism, and the devising of OBOR is an extension of such political logic. Nevertheless, OBOR does show China’s departure from the international self-positioning of “keeping a low profile” (“韬光养晦”) that Deng Xiaoping embraced upon China’s opening up. The high profile OBOR is carrying shows that China is “striving for achievement” (“发愤图强”) as advocated by Xi Jinping.

II. Relevance

There is as much literature claiming that OBOR is China's Marshall Plan as that arguing that it is not. But why do people want to know the validity of the comparison in the first place? Why is China so sensitive to the Marshall Plan, constantly labeling it as "western imperialism" with a "Cold War Mentality" while, on the other hand, the rest of the world remains either skeptical towards China's zealously advertised non-interventionism or appreciative of the legacy of the Marshall Plan?

The significance of this research is embedded in the OBOR-Marshall Plan comparison itself. Today, while some western historians have become aware that it may not be meaningful to judge China from a purely western lens, others still do so, and the comparison is their attempt to fit China's political rationale into frameworks that they can understand. On the other hand, China's condemnation of the OBOR-Marshall Plan comparison can be understood as its continued effort to boycott the U.S.'s interpretations of Chinese values based on American ideologies. Therefore, the significance of the research is that it provides insights into the validity of the OBOR-Marshall Plan comparison by analyzing the two events based the two countries’ own economic, political and ideological logic.
III. Works in the Field

Research literature directly addressing the comparison between OBOR and the Marshall Plan has been scarce and there is no insightful and widely cited research literature in English. On the Chinese side, on cnki.net\(^6\), only five articles are directly addressing the comparison as of September 24, 2017. The one that had received the highest amount of attention is *One Belt, One Road: China’s Marshall Plan?* (一带一路：中国的马歇尔计划?) by Ling Jin (金玲), published on *China International Studies* (国际问题研究), one of the most influential theoretical research and policy analysis journal on China’s global politics and international relations. As Jin’s arguments well represent the viewpoints of the other four Chinese scholarly publications directly addressing the OBOR-Marshall Plan comparison, this paper will only discuss Jin’s paper in detail while omitting the other publications aforementioned.

Jin (2015) opines that OBOR and the Marshall Plan share many economic similarities. Both plans’ economic logics are to better domestic economies by converting foreign exchange reserves to international debts, relieving domestic excess capacity, and promoting the internationalization of domestic currencies. Their mechanisms both involve promoting regional economic integration. Nevertheless, the political starting points of the two events are entirely different. According to Jin, OBOR’s “primary attribute” (“根本属性”) is “joint development” (“共同发展”), featuring “openness and inclusiveness” (“开放性和包容性”). This is evident in that China invites any country to join the development of OBOR, even those not in the OBOR region. In contrast, the Marshall Plan was devised in fear that the “political vacuum” (“政治真空”) post WWII and a declining European economy would give the Soviet Union favorable conditions to gain status as the world’s hegemon. Such consideration made the Marshall Plan essentially a “political and security strategy based on ideology” (“建立在意识形态上的政治和安全战略”), “an effective tool of the Containment Strategy” (“遏制政略的有效工具”). The aid carried with it a lot of “additional conditions” (“附加条件”)\(^7\) and thus the Marshall Plan had exclusivity (“排他性”) in its nature.

Second, Jin points out that OBOR “follows the principles of equity and mutual benefit” (“遵循平等、互利原则”). The cooperation that OBOR envisions does not carry any “additional conditions” (“附加条件”) and the initiative respects its participants’ “sovereignty and territorial integrity” (“领土和主权完整”) without “interfering with other countries’ domestic affairs (“不干涉他国内政”). In contrast, the Marshall Plan imposed many unequal conditions (“不平等条件”). For example, the Marshall Plan established the condition of “joint aid” (“联合援助”), which required that the aid recipients propose a recovery agenda to the U.S. collectively and

---

\(^6\) CNKI stands for “China National Knowledge Infrastructure”. It is a national knowledge platform backed by the Chinese government that integrates intellectual resources, including scholarly publications.

\(^7\) Examples are given in the next paragraph under “unequal conditions” (“不平等条件”).
coordinate the financial aid in a trans-national manner to maximize the efficiency of resource allocation and make aid participants keep each other in check. Also, the aid could not be used at the recipients’ will; instead, it had to be approved by the U.S. to be used for purchasing foreign commodities, the majority of which came from the U.S. By depriving the 16 West European countries of their rights to make their own economic policies, the U.S. succeeded in shaping their political-economic structure into the one it favored – liberal capitalism.

Thirdly, Jin states that OBOR does not have a fixed cooperation framework due to its broad scope and diverse participants. Subsequently, it embraces existing international cooperation mechanisms and promotes their subsequent innovations, and advocates flexibility in designing and executing any cooperation scheme. In contrast, the Marshall Plan had very rigorous rules that potential aid recipients had to accept in order to participate. In short, Jin’s paper argues that while there is validity to compare OBOR with the Marshall Plan from an economic perspective, the former’s open, non-interventionist, and ideology-neutral natures distinguishes it from the latter.

This research’s finding is consistent with that of Jin in that the economic considerations behind OBOR and the Marshall Plan are similar in nature. This research also agrees with Jin in that the two plans’ mechanisms – the frameworks and institutions set up in order to realize the objectives of OBOR and the Marshall Plan – are distinct, as OBOR is indeed flexibly devised and based on the principle of openness and non-interventionism while the Marshall Plan had exclusive conditions. However, Jin did not dive deep into the fundamental reasons why the two plans were designed as such. In other words, she did not touch on the strategic rationales that guided China and the U.S. to deliberate two events with distinct mechanisms and political objectives. This research builds on the perspectives of Jin and analyze the fundamental motivations behind the two strategies that have made them different in nature. The main argument is that while the Marshall Plan was a product of the U.S.’s universal value, which includes liberalism, capitalism, and privatism, OBOR is China’s move to expand its interest, a rather abstract concept on which this research will later elaborate.

IV. Economic Comparison

In late 1940s there was strong belief that a recession was going to hit the U.S. as WWII ended. Long before American politicians started to worry about the spread of communism in Europe, the country’s economists noticed that the U.S.’s exports and economic prospect were threatened by a deteriorating European economy. It was forecasted that American exports to Europe would decline by more than one third within one year if the U.S. did not take any remedial action on the continent’s economy. The prediction later became reality during the ten months prior to the launch of the Marshall Plan. The economic disaster eventually justified and expedited the passing of the grand Plan (Carew, 1987).
Excess capacity is an unfavorable economic state in which productive capacity is used inefficiently. It is the difference between total productive capacity (how much could be produced when all equipment and labor are fully utilized) and actual productive needs (how much is actually produced in response to market demand). According to international standards, normal capacity utilization rate is 80%-89%. Higher than 90% implies insufficient capacity. 75%-79% implies excess capacity while below 75% signals severe excess capacity (Zou, 2016). Had Europe’s economy melted down, the U.S. would suffer from decreased demand of U.S. goods and services from Europe and subsequently a huge amount of existing productive capacity in idle, which would eventually lead to excessive capacity in the American economy.

In recent years, China has been faced with similar problems of excessive capacity from traditional industries including steel, electrolytic aluminum, shipbuilding, etc. The problem was mainly caused by the government’s policies incentivizing over-expansion of productive capacity in strategically important industries in the past decade due to overly optimistic expectations of the country’s economic growth. The following section will examine the severity of China’s excess capacity. Although this problem is found in a series of industries, this research will not describe them one by one but instead closely examine the one that has received the most attention: steelmaking.

*Exhibit 2* shows China’s excess capacity in steelmaking from 2008 to 2015 using 80% as the benchmark normal capacity utilization rate. In the exhibit, excess capacity becomes visually conspicuous after 2012 and continues to increase from then on. In 2015, the number reached all-time high at 156 million metric tons. *Exhibit 3* shows annual loss from wasted capacity, which equals the product of excess capacity and each year’s steel price. The result is an astonishing loss of $70 billion. That alone makes up 3% of China’s total export of goods in 2015. China should be desperate to search for markets to alleviate this burden.

*Exhibit 2: Steel excess capacity increased rapidly after 2012*

---

8 The excess capacity is computed by the researcher using data from China’s State Information Center (2016) and the World Steel Association (2016).
9 Steel prices acquired from Focus Economics (2017)
10 The researcher’s computation is based on the yearly excess capacity and China’s total export of goods in 2015, obtained through Statista (2016).
Exhibit 3: Loss from excess capacity in steel amounted to $70 billion in recent years

On October 6, 2013, China’s State Council issued “Guiding Opinion on Eliminating Severe Excess Capacities” (hereinafter referred to as “Guiding Opinion”), highlighting the pressing need to cope with excess capacity. Among the eight “major tasks” listed in the document, one of them is “actively expand foreign development space” (General Office of the State Council, 2013). The timing of “Guiding Opinion”, the inclusion of oversea economic expansion as a “major task”, and the launch of OBOR make it convincing that China is
purposefully using OBOR as a means to cope with excess capacity. In reality, Exhibit 4 confirms that this hypothesis is true. China’s export of semi-finished and finished steel products took a leap after OBOR was launched, and such trend is seen in other steel products, too. Therefore, at least for steel alone, OBOR is conduit for China’s excess capacity export.

Exhibit 4: China’s export of semi-finished and finished steel products skyrocketed after 2013

The current predicament of China’s steel industry is fairly representative of the overall excess capacity problem. According to the General Office of the State Council (2013), the utilization rates of the top five industries with the most severe excess capacity were all below the 75% line (iron & steel: 72%, cement: 73.7%, electrolytic aluminum: 71.9%, flat glass: 73.1%, and shipbuilding: 75%) as of 2012, showing severe excess capacity. An official from China’s Ministry of Industry and Information Technology stated that “for us there is overcapacity, but for the countries along the ‘One Road One Belt’ route, or for other BRIC nations, they don’t have enough and if we shift it out it will be a win-win situation” (Brun, 2016). The statement is a confirmation that OBOR is indeed used to cope with excess capacity in China.

Although excess capacity is a tough problem facing the Chinese economy, it is a shaky narrative that the Chinese government devoted $4 trillion to a pan-Eurasian project just to eliminate China’s excess capacity, especially when the government already realized the unsustainability of the old growth model of traditional industries. Besides, the current demand for steel in Asia is not sufficient to absorb all of China’s excess capacity. “China would need $60 billion per year of extra demand to absorb excess capacity…The economies of Central Asia are not that large” (Brun, 2016). Therefore, while shifting out excess capacity is an important

---

11 Data from the World Steel Association (2016).
objective of OBOR, it is not the initiative’s only purpose. OBOR has more profound political indications, which will be discussed in the next section.

To conclude, from an economic point of view, the Marshall Plan and OBOR have a high degree of resemblance. One of the key considerations behind the Marshall Plan was that without extending aid to help recover Europe’s economy, the U.S.’s export would drop by one third and an annual excess capacity worth $14 billion would drag the superpower into a recession. Almost seven decades later, China is now burdened by excess capacity in traditional industries. The capacity utilization rates in steel & iron, electrolytic aluminum, cement, flat glass, and shipbuilding are all below 75%, indicating that the excess capacity is severe. The annual loss as a result is tremendous, with that in steelmaking alone amounting to $70 billion, making up 3% of China’s total exports of goods. In addition to economic loss. To tackle this problem, China is resorting to expanding markets overseas, similar to what the Marshall Plan did in order to cope with domestic economic plights.

V. Political Comparison

The Marshall Plan was set to provide immediate economic relief to prevent Europe from being drawn to communism by extreme poverty. The strict anti-communist practices that the U.S. imposed allowed free market capitalism to take root. This would secure the U.S. a congenial politico-economic environment in Europe for trade and investment in the long-run. The final result was the U.S.’s victory in countering the Soviet Union and strengthening its status as the world’s super power. These political objectives can be summarized as follows:

1. Counter a political rival – the Soviet Union, and the ideology it embraced – communism
2. Secure a congenial political-economic environment for future trade and investment
3. Strengthen the U.S.’s global leadership and liberal capitalism

When it comes to OBOR, things get a little nebulous. While its official political objective is to “deepen political trust” between China and its peers and construct a “Community of Interest” (NDRC, 2016), it is unclear what China wants from the cemented political ties. The rest of this section seeks to answer this question. Corresponding to the Marshall Plan’s four political objectives listed above, OBOR’s motives can be categorized as follows:

1. Counterbalance the U.S.’s “Asia Pivot”
2. Seize strategically important natural resources and trade routes
3. Defend and expand China’s “interest”

---

12 The quick rise of Asian economies convinced the Obama administration that the U.S. needed to stay involved in the Far East economically, militarily, and diplomatically. He stated that “America has to write the rules of the 21st century economy in a way that benefits American workers. If we don't, countries like China will write those rules in a way that benefits their workers”(Collinson, 2016).
The rest of this section will discuss them in detail.

A. Counterbalancing the U.S.’s “Asia Pivot” by retreating to the west

As China rises as a global power, it finds the U.S.’s influence in Asia troublesome. The U.S. has military presences in Afghanistan, Uzbekistan and Tajikistan and has recently strengthened ties with South Korea, Japan, India, and Vietnam. These circumstances have given China more a reason to believe in the "China containment policy", an officially denied but frequently claimed goal of the U.S.'s foreign policy. Such logic was reinforced when the Obama administration introduced its “Asia Pivot” strategy in 2012 and Vietnam and Philippines became more aggressive in their territorial claims in the South China Sea.

Given the U.S.’s current economic and political strength, it is unwise for China to challenge the world’s super power directly (D. Chen, 2014). To mitigate the negative effects from potential encirclement on its east, China has to find alternative paths to reach other parts of the world. The design of OBOR, the "Belt" that connects the Eastern China to Venice, and the "Road" that brings China to the same destination through a seaborne route, reveals that OBOR is China's strategic retreat to the west.

B. Securing Strategically Important Natural Resources and Trade Routes

China’s hyper growth over the last decade necessitated its search for energy resources at home and overseas. The following analyses will use data compiled by the American Enterprise Institute (Scissors, 2017) to compare China’s investments and construction activities overseas pre- and post-OBOR and see whether the strategy has noticeably shifted these resource-acquiring activities to OBOR countries.

Exhibit 5 shows investments and construction activities in OBOR and non-OBOR countries from 2005-2016. While China largely invested in non-OBOR countries for energy resources pre-OBOR, the trend reversed after the strategy launched.

Exhibit 5: Chinese corporations invest more in OBOR countries' energy after 2013

---

13 The data include corporate investments and construction contracts with values above $100m and does not include any type of loans. All the data were obtained from corporate reporting.
Since the launch of OBOR, Pakistan has been the grand project’s most enthusiastic supporter while locking up a series of deals with China. Therefore, what China is investing in and constructing in Pakistan is instrumental in understanding whether China is using OBOR to acquire natural resources overseas. The dark-grey line in Exhibit 6 below shows energy-related investments and construction activities in OBOR countries including Pakistan while the light-grey one represents that excluding Pakistan. Their difference after 2013 is striking. Exhibit 5 and Exhibit 6 indicate that OBOR serves China’s interest to acquire strategically important energy resources.

Exhibit 6: Investments and construction activities in Pakistan weight substantially in total OBOR investments and construction activities
Besides securing important resources, OBOR also expands China’s access to strategically important trade routes. China's trade with the Middle East and Africa has been heavily depending on the sea. As a result, secure access to the Indian Ocean is imperative. However, China has been concerned with its access to the Malacca Strait, a narrow stretch of water between the Malay Peninsula and the Indonesian island of Sumatra. Controlled by Singapore, the water is where 82% of China’s maritime oil imports and 30% of its maritime natural gas imports transit (Bender & Rosen, 2015). It is also part of the sea lane where Chinese cargo ships must pass to reach Africa’s east coast (the dark grey arrows in Exhibit 7).

Exhibit 7: China’s seaborne transport route through the Malacca Strait and alternatives through new ports
Chinese leaders have been viewing the Malacca Strait as "a strategic vulnerability" and a Chinese press declared that “It is no exaggeration to say that whoever controls the Strait of Malacca will also have a stranglehold on the energy route of China” (Storey, 2006). Beijing has always been uneasy about the greater roles some external powers have been playing in the region such as the U.S. In regard to how much the U.S. politically influence the three littoral countries surrounding the strait, Singapore, Malaysia and Indonesia themselves already pose the possibility of a potential sea route blockage if their relationships with China worsen. China has also been observing India’s enhanced presence in the area. In addition to the risk embedded in China's relationships with its neighbors, the Malacca Strait is subject to privacy and terrorist attacks as well. There are simply too many built-in vulnerabilities in the sea route and it would cause endless disturbance to the big oil importer (Storey, 2006).

To secure access to the Indian Ocean, China has to either carefully nurture its relationships with the countries surrounding the strait or try digging new paths for its cargo ships to reach the Indian Ocean. The design of OBOR takes care of both. The economic promise ensures that Malaysia, Indonesia and Singapore will at least consider the consequences of disturbing China's cargo ships from passing. However, the more important design of OBOR lies
in its seaborne corridor. In the name of the 21st Century Maritime Silk Road, China has been building deep sea ports in Myanmar and Bangladesh in addition the high-profile Gwadar port in Pakistan. It even invested $1.4bn to build an entire port city (Colombo Port City) in Sri Lanka (Shapard, 2016). In addition, it has been trying to convince Thailand to construct the Kra Canal that would connect China to the Indian Ocean through the Andaman Sea and the Gulf of Thailand. As Exhibit 7 shows, China has been building a series of sea ports and a canal that allows it access to the Indian Ocean directly or at least indirectly. This shows that OBOR is China’s effort to seek alternative trade routes that would secure China's control of where its energy resources transit.

In short, the statistical analysis on China’s energy investments in OBOR countries shows that the launch of OBOR has noticeably shifted China’s allocation of energy investments to OBOR countries. Such acquisition of energy resources is typified by China’s investments in Pakistan’s energy sector. In addition to seizing strategically important resources, the geographic design of OBOR, the overland “Belt” and the seaborne “Road”, expands and strengthens China’s access to strategically important trade routes where China’s trade and energy imports transit.

C. **Defend and Expand China’s Interests**

As it was devised to counter communism in order to preserve and strengthen liberal capitalism in Europe, the Marshall Plan was an ideological move, an element frequently denounced by China whenever the OBOR-Marshall Plan comparison is made. China proclaims that OBOR is non-ideological and promises that the execution of it will not lead to interference into other countries’ domestic affairs. While this sounds like a mere political rhetoric that is used to entice more participants into OBOR, this research argues that China’s national strategy and foreign policy since its opening up in 1979 has been consistently featuring ideological-neutrality and non-interventionism. These two characteristics come from China’s political realism and pragmatism, which ultimately serves the country’s interest. The next paragraphs will elaborate on the evolution of such interest.

In contrast to the country’s current hailing of the practice of ideological neutrality, China under its first president Mao Zedong who led the nation with Chinese Communist Party (CCP) from 1949 to 1976 was overwhelmingly ideological. Since the new regime had not been fully legitimized, either domestically or internationally, the new China’s national strategies were crafted in order to consolidate CCP’s legitimacy in accordance with ideological principles such as class struggle and national security (Wang, 2011). However, under Deng Xiaoping, the opening of the Chinese economy made economic and social development a new and most important priority for CCP. China’s leadership subsequently departed appreciably from the largely ideological-driven political reasoning and decision making and adopted a pragmatic attitude towards political issues. Such pragmatism, besides being a personality of the then president Deng Xiaoping his own, was also a result of the painful lessons learned through the failures of the radical ideological movements pre-1978 under Mao, such as the Great Leap
Forward and the notorious Cultural Revolution. The CCP realized that ideology and class struggle were insufficient to lift the giant country up; without tangible betterment of people’s living standards, the party itself would be proven illegitimate. Due to this concern, CCP since Deng has significantly departed from the communist ideology itself and began to search for the practical “performance-based legitimacy”.

Since Deng, China’s interests have always been reflections of pressing domestic needs, in contrast to those of the U.S. which also include battling for what it recognizes as universal values such as liberty, human rights, free markets, etc. Because of China’s vast landmass, large population, and diverse demographics, problems facing domestic leadership are complex enough to keep them from worrying too much about activities of the U.S. or any other country beyond Taiwan, Tibet, and China's peripheries. External movements only become relevant when they start to threaten China's domestic stability and the legitimacy of the ruling party, as Lampton (2014) in his Following the Leader: Ruling China, from Deng Xiaoping to Xi Jinping: “The reflex in the Chinese system is to ask what global developments imply for China rather than to contemplate how China can change the world…China doesn’t want to establish a new world order; it wants to get stronger in the existent world order”. He further cited the director general of Beijing ministry’s comment on China’s priority in 2005 as evidence: “We think about China, not the U.S. We tell the U.S. to do its thing and China will do its peaceful development…Do your own thing and leave us alone”.

One of China’s important interests is its access to critical resources that fuel the growth of the giant country’s economy, including commodities such as oil and gas as well as international trade routes. This is because the economic growth is not only cementing the Chinese society made up of 1.4 billion population but also legitimizing CCP as the “only capable ruling party”. On the political side, more engagement and a stronger voice in international issues serve two important objectives. First, they are conducive to a favorable international political climate that would grant China more secured access to the aforementioned economic resources. The second motive is more abstract: with the memory of the Hundred Year of Humiliation when China was shamed by invaders from both the West and the East, the longing for international recognition of the Middle Kingdom’s vitality, uniqueness, and indispensability is embedded in Chinese people’s mind. Such mentality easily spurs nationalist sentiment amid times when China’s international interest is compromised. Properly addressing them is critical to CCP’s claim for legitimacy. This particular behavior of Chinese people and its weight on China’s leadership is confirmed by a paper titled China’s Search for A Grand Strategy which states that “a unique feature of Chinese leaders' understanding of their country's history is their persistent sensitivity to domestic disorder caused by foreign threats” (Wang, 2011). Therefore, China’s international political interest is tied to not only the Chinese’ self-image as a people but also CCP’s domestic political interest as a legitimate ruling party.

In order to respond to domestic priorities quickly, China’s foreign policy since Deng has been consistently demonstrating political realism and pragmatism. Ideological-neutrality and
non-interventionism are products of such pragmatism. On one hand, non-interventionism is a preemptive moral defense that supports China’s own state sovereignty against foreign intervention. On the other hand, it is legitimate and convenient in excusing China from engaging in thorny international issues involving countries’ domestic affairs. On the meantime, ideological neutrality enables China to be flexible with choosing partners for international cooperation and “trade with saints and tyrants alike” (Asma, 2014). China can thus have more leeway in reacting to external circumstances as its responses are not based on absolute moral principles but on what would serve China’s interest given specific national and international conditions.

The paragraphs below by Lampton further confirm that such these claims have strong foundations in China’s foreign policy.

In 2013 there are high-ranking people and opinion leaders in and out of government in the PRC who argue that China's future global status and role rest on aligning the country more closely with global norms and who do not simply dismiss the call for universal values as capitulation to "westernization." China still is debating whether and how to adopt universal values – something America did long ago, asserting that its own values were universal values.

Americans generally describe the making of their foreign policy as a ceaseless quest to balance America's interests with its values [what the Chinese often refer to as "ideology"] – security, material, and power needs against more intractable ideas of "right" and "wrong." Americans often (hopefully) assert that to serve their values is to pursue their interests.

There is, therefore, an intrinsically interventionist quality to U.S. foreign policy, with the strength of this impulse varying as the burden of prior efforts become more or less distant in the collective consciousness. Interventionist and isolationist impulses coexist in American foreign policy psyche.

China's foreign policy view is pragmatic and seeks to maximize benefits in an every changing yet interconnected global environment. It is not a view grounded in absolute values – it is situational ethics on global scale.

Taking into account China’s international political rationale in the past three and a half decades, it is evident that the political thinking embedded in OBOR has existed long ago. The initiative is carefully devised and is not a contingency plan which policymakers in Beijing scrambled to put forward in response to domestic economic predicaments or the U.S.’s “Asia Pivot.” It is a product of China’s political pragmatism and inherits the ideological-neutrality and non-interventionism featuring China’s national strategy and foreign policy since Deng. When China reaches out to OBOR countries for supply of energy and other natural resources, non-interventionism clearly alleviates political worries of these countries and helps China to
articulate that its activities would be purely commercial. For example, by being purely commercially motivated and clearly communicating such intention, Chinese people in Afghanistan are better received than American ones. While China was able to secure multi-billion projects from the Afghani government, gaining privilege in accessing the country’s rich mineral raw materials, the U.S.’s involvement in the country’s domestic affairs, especially the infamous war, makes commercial considerations in Afghanistan unwise, as critics would accuse the U.S. of waging war to capture the country’s mineral wealth (Wines, 2009).

In summary, OBOR is a product of China’s political pragmatism and is an extension of the country’s long-existing political rationale. Ideological-neutrality and non-interventionism are not just empty political rhetoric that Beijing came up in hope to lure more participants. Instead, they have been pillars of China’s foreign policy for decades. The ultimate objective of OBOR is to maximize China’s interest. In contrast, the Marshall Plan was a move that aimed to defend and strengthen liberal capitalism, what the U.S. regarded as “universal value” that every country should embrace. Therefore, OBOR and the Marshall Plan are not comparable for their distinct political rationales.

D. **OBOR shows the evolution of China’s international self-positioning**

OBOR does not digress China from its fundamental political thinking and yet it does reveal the Middle Kingdom’s changing international self-positioning. From “keeping a low profile” (“韬光养晦”) under Deng Xiaoping to “China’s peaceful rise (“中国的和平崛起”) under Hu Jintao, and finally to “striving for achievement” (“发奋图强”) under Xi Jinping, China is now eager to take on greater leadership in the Eurasian region, advocating for a “Community of Interest” under OBOR. The most significant aspect of OBOR lies in China’s action of branding its regional activates under OBOR: China is now articulating its will and commitment to be a regional power leading shaping Eurasia’s regional economic integration and political coordination.

VI. **Summary**

In summary, the ambitious One Belt, One Road initiative is set to change Eurasia’s infrastructure, economic, and political landscapes. The unprecedentedly broad scope of OBOR has attracted attention from around the world. Because OBOR represents China’s effort to achieve political objectives by economic means, it is frequently regarded as China’s Marshall Plan. This research investigated the validity of such claim by comparing the two strategies’ economic and political motivations. From an economic point of view, OBOR is a means to export China’s excess capacity in traditional industries such as steel. Such motive is similar to the one of the Marshall Plan post WWII, when the U.S. was desperate in expanding external markets to absorb excess capacity at home.
From the perspective of their political impacts, OBOR and the Marshall Plan seem similar when taken at face value. After all, they both serve to counterbalance political influences from another great power on a certain region. While the Marshall Plan altered Europe’s political economy to be congenial to that of the U.S., OBOR aims to secure a favorable growth environment for China by acquiring natural resources that the world’s second biggest economy will need in the future. While the Marshall Plan strengthened the U.S.’s status as the world’s super power, OBOR promoted China’s leadership in Eurasia and will amplified the country’s political voice in the region.

Nevertheless, it is imperative to note that the political rationales behind the Marshall Plan and OBOR are fundamentally different. The former serves to preserve the U.S.’s value, what China often calls “ideology.” Such value includes liberalism, capitalism, and democracy. This made the Marshall Plan ideological, isolationist, and interventionist in nature. OBOR, in contrast, reveals China’s practical consideration of its regional interest, which includes its access to natural resources, control of trade routes, and a stable regional investment environment. As a derivative of such political pragmatism, OBOR is ideologically neutral and consistent with the non-interventionism in China’s foreign policy. To put it another way, in the Marshall Plan, the U.S. derived its interest from its ideology. In contrast, in OBOR, China hides away its value in order to more conveniently cooperate with OBOR countries to serve its interest. As a result, although OBOR and the Marshall Plan have similar political results, the rationales behind them are fundamentally different.

Finally, the research states that although OBOR is consistent with China’s way of political strategizing over the past three and a half decades, it does indicate the Asian Giant’s evolution in its international self-positioning. Although Deng’s pragmatism is still a pillar of China’s political logic, the country’s dynamic economic power and rising political influence have made “keeping a low profile” obsolete. With the branding of OBOR, it is clear that China is no longer content to be a mere participant of existing international cooperation schemes. It wants to be involved in shaping it or at least, serving an alternative scheme where its voice is better heard. OBOR shows a dynamic change in China’s self-identification: the Middle Kingdom is abandoning its low profile and striving for achievement.
VII. References


---

14 CITIC Press Group (referred to as CITIC Publishing Group in *The Belt and Road: A Financial Perspective*) is a leading publishing and knowledge service group in China, with yearly publishing business scale over ¥1 billion ($147 million) according to its official website. <http://press.citic/html/singlepage1.html>


