

Does the sharing economy hurt the traditional economy? Evidence in the hospitality industry from the United States

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Abstract

A burgeoning sharing economy has recently opened vast niches of opportunities for virtually every economic sector from service to knowledge creation and even manufacturing. Notwithstanding the notable expansion and opportunities it provides, new forms of challenges for decision-makers and other stakeholders – including Main Street, cities, states and the federal government – have emerged in its wake. As a result, it has become increasingly relevant to understand the nature of the relationship between the sharing economy and incumbent industries. This project delves into this matter by focusing on the hospitality industry in the United States, while examining how it is impacted by the sharing economy. Using a two-step methodological approach involving filtering methods and vector auto-regressions (VARs), the empirical findings reveal no evidence of the sharing economy acting as an impediment to the hospitality industry. In other words, there is no evidence that it constrains the development of the traditional sector, nor does it appear to be a substitute.

JEL Classification: O31, O35, O39, Z31.

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1. Introduction

Have you ever used a Lyft or Uber application to dial up a ride to get from point A to a destination B? Have you ever used the Airbnb platform to rent a room, an apartment, or a house for a vacation or business trip? If your answer is “Yes!” to either one of these questions, then you have contributed to the development of a new kind of economic phenomenon. The firms aforementioned just represent the tip of the iceberg. Indeed, entities such as Uber, Lyft, on the one hand, and Airbnb, on the other hand, respectively offer transportation and lodging services in what is known as the sharing economy. Simply defined, it is a network wherein parties or individuals are able to borrow or put for rent assets owned by a third party or themselves.

To better understand the sharing economy, it is noteworthy that these practices are not new, as they have existed for decades. However, it entered an unprecedented era at the turn of the new millennium. These practices – fueled by new technologies of information and communication (NTIC), namely, mobile phones, the internet, radio, TV, commercial satellites – have spread to every state in the United States and beyond, to other developed economies in Europe and East Asia as well as developing countries in Africa, South Asia, and Latin America. In other words, it has

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become a global trend. Considering this growing success of the sharing economy, questions have risen regarding its negative impacts on traditional economic industries or sectors, such as the hospitality industry in general and the transportation and lodging sectors in particular. According to the US Department of Labor², the hospitality industry refers to all activities pertaining to food and beverage, accommodations (hotels, motels, bed and breakfast and other types of lodgings), travel, transportation, and tourism. It is an industry worth hundreds of billions of dollars in the United States (US) alone.

The primary objective of this research project is to investigate whether this rising trend of the sharing economy is detrimental to the traditional economy, which includes traditional sectors such as hotel, motel, and transportation businesses. Stated otherwise, is the quick ascent of the sharing economy a growth inhibitor or accelerator for the traditional economy? More specifically, this project searches for any empirical evidence of negative impacts of the sharing economy on established business sectors including hotels and transportation in the US.

In order to properly understand the context of this work, it behooves us to refer to Cusumano (2015) as he states that “[t]raditional companies now have another set of competitors to worry about – internet startups in the ‘sharing economy.’” This statement eloquently sums up the new challenges faced by many businesses operating in more established sectors across the economy. Indeed, the array of services offered by these highly efficient, nimble and innovative internet-based companies, called “startups,” range from sharing your personal automobile (Uber, Lyft), office (We Are Pop Up), or extra rooms (Airbnb, Flipkey, Roomba, Couchsurfing) to sharing your tools and other household items (Streetbank, SnapGoods/Simplist), meals (EatWith, Meal Sharing, Traveling Spoon), solar energy (Yeloha), and even your clothes (Yerdle). This list of companies involved in the sharing economy is not exhaustive and keeps on growing. To have a pinpoint understanding of the scope of these challenges, let’s highlight the following two figures. First, Airbnb boasted 800,000 room listings in 2014 across 190 countries, while the largest hotel chain Hilton offered about 670,000 rooms worldwide in just 91 countries. Second, the sharing economy’s stream of revenue will reach \$350 billion globally by 2025, according to recent estimates provided by Marchi and Parekh (2016). These figures cannot be overlooked, as they expose the significance of the context through which the relevance of the sharing economy sector should be understood.

Furthermore, two other factors underscore the relevance of this study. On the one hand, the rapid expansion of the sharing economy poses challenges not only to traditional firms, but also to regulators and governments from California and New York to continental Europe. As pointed out by Greenhut (2016), this is an emerging domain of activities, and laws or regulations lack, or are not fully adapted at best. On the other hand, with the sizeable turnovers generated by these companies, it is only a matter of time before most of them go public by issuing stocks. It then becomes imperative to prepare and provide a framework to protect the public from these nascent forms of economic actors.

Towards our goals this paper is organized as follows. The next section discusses the literature review. The methodology and data are presented in the third section, while results and implications are covered in the fourth. At last, concluding remarks are provided in section five.

² Retrieved July, 2018, <https://www.doleta.gov/BRG/pdf/Hospitality%20Report%20-%20FINAL.pdf>

2. Literature Review

In the span of a decade following its resurgence on the economic radar of countries in both developing and developed countries, the sharing economy has been experiencing an exponential growth. Allen (2015) points out that this growth is fueled by two powerful factors overall. First, there is the unique ability of the sharing economy to identify unused or underutilized resources and facilitate, if not accelerate, their inclusion in economic agents' consumption and production processes. Second, the rigidities and heavy-handed regulatory frameworks put in place by governments under various forms are not to be discounted.

In his explanations, the author glances at some of the few currently available statistics, which can elicit attention. For instance, some 25 million people have guested on about 800,000 properties listed through Airbnb since 2008. Furthermore, more than 1,100 new ridesharing partners are joining Uber monthly in Australia. Another less known aspect of the sharing economy is its footprint in the financial world. A peer-to-peer lending platform in the UK called Zopa has revealed that more than 600 million pounds have so far been extended as loans. The bottom line of these figures is that the sharing economy has taken hold around the globe in a variety of industries, and it seems to be here to stay.

Rowe (2016) reports that another important factor – among others, besides E-commerce, mobile devices, and social media – at the root of the rise of the sharing economy was the 2008 financial crisis. It is indeed believed that this crisis created a change in the business landscape from a “me” model to a “we” model. The latter model is dominated by a new culture wherein anyone can be a provider of goods or services.

The multifaceted world of the sharing economy can oftentimes bring confusions regarding a clear delineation of the contour or scope of this concept. To add to this difficulty, the concept is relatively novel. In order to sort out some of these confusions, Schor (2016) conducts a survey across the globe to look at the definition of the sharing economy, the reasons why people share, its impacts on society, and also its ecological implications. As far as the latter is concerned, she posits that the sharing economy contributes to reducing the carbon footprint of our society in general by thrusting the development of secondary markets. However, she expresses some caution by calling upon Martin and Shaheen (2010) who have found evidence that carsharing, for instance, raised societies' carbon footprint as it expands access to cars.

The extent of the impacts of peer-to-peer businesses, which are the core of the sharing economy, on incumbent industries is still not clear in the literature. One of the major reasons for these limitations has to do with the narrow body of data available both in time and space. Zervas et al. (2017) have tried this exercise and found some interesting results using a restricted dataset including Airbnb in the lone star state, Texas. They discover that some negative impacts on long-established businesses, namely, hotels in this case, are in order. This result should nonetheless be guardedly interpreted as only low-end, low-priced hotels and hotels not catering to business travelers bear the brunt of such negative impacts. That is to say, whatever impacts there are, they are not uniform across the industry. Despite the mostly glossy and optimistic reports pertaining to the sharing economy, Malhotra and Van Alstyne (2014) warn about its dark side. They point out the abusive and skirting practices of peer-to-peer businesses that transform the “sharing” economy into the “skimming” economy where businesses in incumbent industries are heavily regulated, while the former are not. Speaking of regulations, Miller (2016) develops a framework discussing the first principles for regulating the sharing economy. He proposes 10 main principles to be considered towards that end, and at the same time he discusses the existing approaches available

to governments and communities in their attempt to regulate and address the challenges brought forth by the sharing economy.

3. Methodology and Data

3.1. Methodology

The challenges encountered in the conduct of this project were ingrained in the fact that reliable and consistent data pertaining to sharing economy businesses, such as Airbnb, Flipkey, Roomba, Couchsurfing, Lyft and Uber, among others, are lacking. Before such challenges, the approach herein considered, which revolves around the traditional economy, is appealing and therefore justified.

A 2-step empirical investigation is conducted. First, two filtering methods, namely, the Hodrick-Prescott (HP) (1981, 1997) and band-pass Baxter-King (1999), and the Chow (1960) test are used to analyze the structure of value-added data from the traditional economy. The filtering methods isolate the long-term trends, and cycles, to figure out if notable shifts occurred as sharing economy businesses started their expansion. Specifically, the band-pass approach requires a definition and knowledge of the characteristics of the cyclical components associated with the macroeconomic process generating the data. This in turn helps delineate a two-sided weighted moving average, with a lower and upper bound, to identify cycles. The test aims at detecting any specter of structural break(s) in the data since the burgeoning of these businesses³. This step is essentially exploratory and paves the way to the next.

Second, a vector auto-regression (VAR) model is used to investigate the potential impact of economic activities on the behavior of revenue in the industry (IR). This step involves two stages. At first, a 3-variable model is built using IR, a measure of changes in economic activities – as proxied by the growth in the real gross domestic product (RGDP) – and a measure of changes in the price level – as captured by the consumer price index (CPI)⁴. Then, an impulse-response analysis is carried out to assess the behavior of IR when a shock is applied. The premise of that analysis is straightforward. Any shock, whether driven by the expansion of the sharing economy or not, that significantly affects IR will be permanent within a confidence band excluding zero. Otherwise, the evidence will indicate that no phenomenon has substantially impacted IR in a substantial manner.

3.2. Data

Data are derived from the Department of Commerce's Bureau of Economic Analysis (BEA) and the Department of Labor's Bureau of Labor Statistics (BLS) spanning from 1998 to 2017 on an annual basis.

4. Results and Implications

Using the HP filtering method, Figure 1 provides a simple yet intuitive means for a preliminary assessment of the existence of any structural change in the trend of production activities in the traditional economy – namely, in the hospitality industry. It appears that these activities register no

³ Such an existence will not constitute per se a sufficient basis to single out the sharing economy as the source. However, it will at the very least signal that an important phenomenon has taken place.

⁴ $X_t = A + BX_{t-1} + \xi_t$, where X_t , A , B , X_{t-1} , and ξ_t are vectors of order (3×1) , (3×1) , (3×3) , (3×1) , and (3×1) , respectively. X represents IR, RGDP, and CPI. A and B include coefficients, and ξ captures innovations. First differences are considered in the VAR, as all variables are $I(1)$.

major change in the long-run over the analysis period. This visual examination is corroborated when a band-pass is used in accordance with the Baxter-King filtering method as shown in Figure 2⁵.

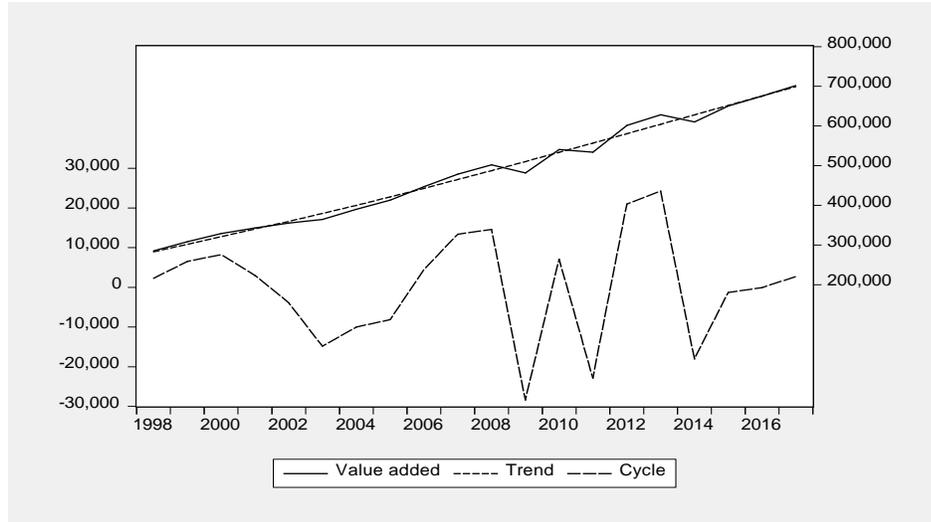


Figure 1: Hodrick-Prescott Filter (lambda=100)

The results from the Chow test indicate the absence of any structural change over the period of investigation. Hitherto, no evidence of tangible impacts of the sharing economy on the traditional economy has been established. These preliminary findings, although not sufficient to make a definite case for the relationship between the sharing and traditional economies, fetch a first-hand glimpse into that relationship and pave the way for further inquiries. In that vein, a dynamic analysis is conducted using a VAR. Figure 3 shows the response of IR to a one Cholesky standard deviation⁶.

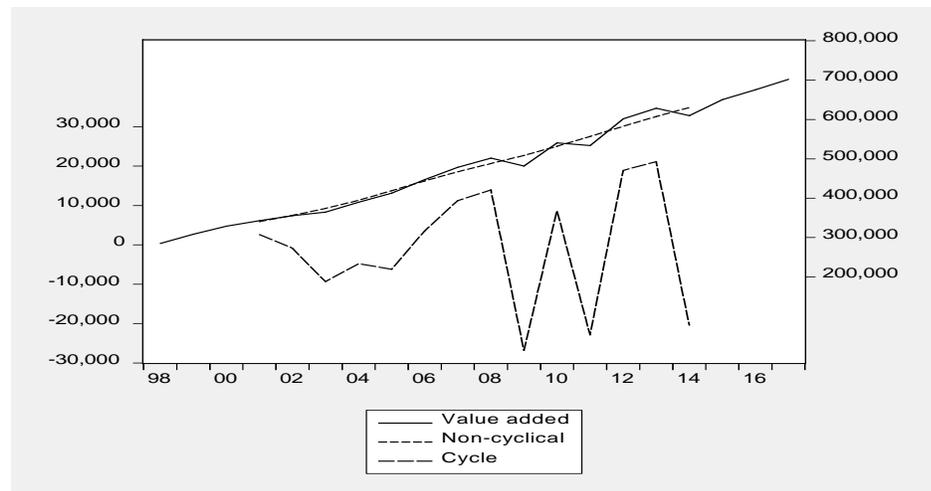


Figure 2 - Fixed Length Symmetric (Baxter-King) Filter

⁵ The lower and higher bounds are respectively 2 and 8 years as suggested for the US economy.

⁶ A comparable outcome is obtained using value-added (VA) (See Figure 4).

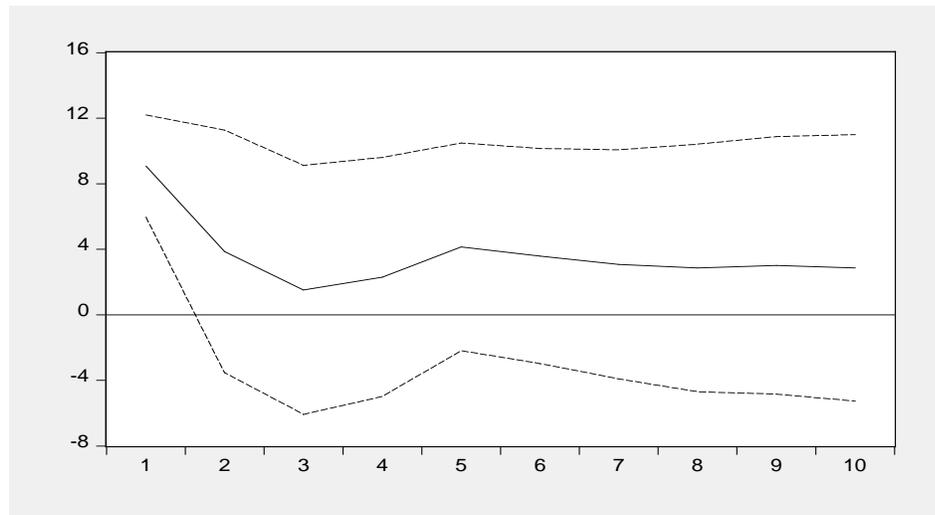


Figure 3: Response of Industry Revenue to Industry Revenue Innovation using Cholesky (d.f. adjusted) Factors

The confidence band suggests that the traditional hospitality industry's revenue did experience little to no material disturbances from 1998 to 2017⁷. That is, there is no evidence that the much-advertised advent of the sharing economy has hurt traditional businesses in the hospitality industry. The main implications of this finding are two-fold. First, the sharing economy and the traditional economy do not interact in an economic bubble as in a zero-sum game. From another vintage point, it implies that these two piers of the hospitality industry are not substitute of one another. A note of caution is however necessary regarding any suggestion that they are complement⁸. Second, rent-seeking activities through lobbying to enact legislation shielding the traditional economy from the growing sharing economy are not warranted, as there is no evidence suggesting that the latter mars the former's prospects or expansion. Speaking of, it is a fact that the US hotel industry, for instance, has not experienced any slowdown in the past decade. According to Statista, it grew annually over previous years and peaked at about US\$190 billion. In another example across the Atlantic, the revenue of the British chain InterContinental Group reached US\$24.5 billion in 2016. It should be noted as well that, from 2014 to 2016, the global hotel industry total retail value grew to about half a trillion USD, i.e. US\$495.1 billion⁹. Sickel (2015) articulates that the US hotel supply boasted 5 million rooms in June of that year, up from 4.5 million rooms in February of 2008.

⁷ Similar results are found using the hospitality industry's value-added (See Figure 4).

⁸ Indeed, further evidence over a longer time horizon will be necessary before conjecturing in this direction.

⁹ Available at <https://www.statista.com/topics/1102/hotels/>

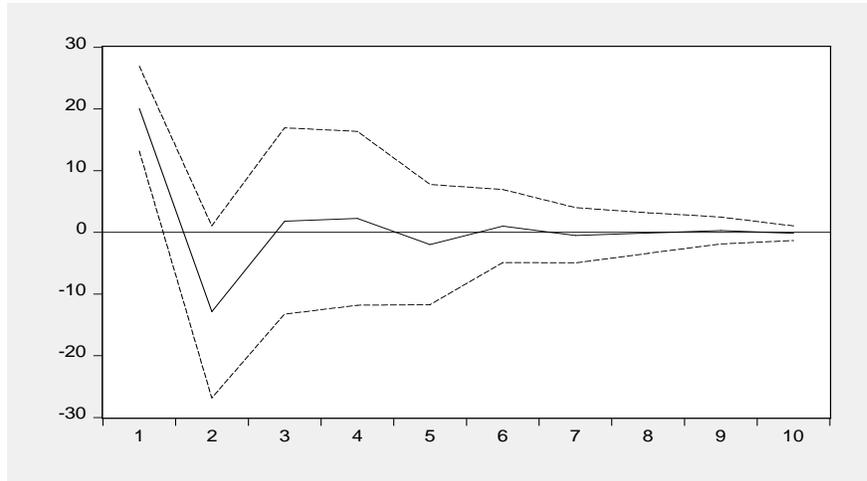


Figure 4 - Response of Value Added to Value Added Innovation using Cholesky (d.f. adjusted) Factors

5. Conclusion

The sharing economy has garnered so much momentum in the last decade that a close look at its impacts on incumbent sectors has proven a worthwhile endeavor. This exercise has specifically explored the nature of these impacts focusing on the hospitality industry. It has revealed that there is no evidence of the sharing economy acting as an impediment to the hospitality industry. In other words, there is no evidence that it constrains the development of the traditional sector, nor does it appear to be a substitute. Grounds for further investigations exist owing to the short existence of the sharing economy as a mainstream phenomenon along with the limitations of data therewith associated. Among others, a multisectoral approach would provide a rich source of insights for understanding such impacts.

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