Measuring the openness of Chinese international air transport policy

Yi Zhang, Xingwu Zheng*, Wei Lu
College of Economics and Management, Civil Aviation University of China, Dongli District, Tianjin 300300, PR China

ABSTRACT

Based on the Standard Air Liberalization Index, developed by WTO in 2006, an improved indexing system is constructed with a new indicator of grant of O&D points, along with improvement of the variants for the indicators of grant of freedom rights, capacity, and withholding, as well as the adjustment of scores for some variants. All of China’s original bilateral air service agreements (ASAs), and their amendments, by June 2016, are collected and first analyzed descriptively. The quantitative measurement results show that liberalization of China’s ASAs is gradual, which is in agreement with the conclusions from the descriptive analysis. China’s international air transportation has been liberalized progressively and significantly after 1992, and its degree of openness in June 2016 was three times that in 2000. Hitherto, there has been no long time series and comprehensive quantitative measurement on the liberalization of a country’s international air transport policy, especially covering all ASAs and their amendments, which could help understand the development of China’s policy. Furthermore, the results could form an essential dataset for further research on the impacts of liberalization of international air transportation.

1. Introduction

It is still difficult to measure the liberalization degree of a country’s international air transportation policy as reflected by bilateral air service agreements (ASAs). This is especially true if we attempt to perform a time series analysis on openness of ASAs or quantify the relationship between the liberalization of international air transport policy and economic factors, such as international trade and foreign direct investment (FDI). The two key reasons that make the quantitative measurement difficult are as follows.

First, it is almost impossible to obtain all the ASAs of a country as they conclude over a long period. Until June 2016, China had concluded 136 ASAs with 118 countries. However, only 115 ASAs with 115 countries could be obtained from the official website of the Civil Aviation Administration of China (CAAC), of which some are not the latest versions. Taking the China–Russia ASA as an example, the latest agreement between the two is from 2010, but only the one from 1991 (between China and the former Soviet Union) could be retrieved from CAAC.

Second, it is much more difficult to obtain all ASA versions, the relevant memoranda of understanding (MOUs), and minutes of the meetings, which result in the amendment of ASAs. If one intends to analyze the long-term openness of a country’s ASAs, it is necessary to collect all ASAs, and their subsequent amendments. In fact, it is not easy to obtain China’s first ASA, which was concluded with the former Soviet Union in 1954. China and South Korea signed the first ASA in 1994, and 11 amendments were concluded by June 2016. Those amendments are beyond the reach of the public, as they are considered confidential in most cases. Nevertheless, the amendments might accurately reflect the evolution and development of the liberalization of bilateral ASAs, as China, like most other countries, revised routes, freedom rights, withholding, designation, capacity, tariffs, and so on by various amendments.

Currently most research on openness of ASAs use one or several dummies to indicate open and non-open ASAs. In fact, the history of the development of international air transport policy demonstrates that the liberalization of ASAs is an evolutionary process. China and some other countries have not yet adopted the Open Skies policy, but have relaxed constraints on ASAs gradually. In such cases, the dummy or dummies would not determine openness of various ASAs. The impacts during the process could hardly be identified as well. Even with the Open Skies policy, there are various differences; for example, the US, the EU, and Oceanian policies are each different of openness (see Table 1). The dummy or dummies cannot identify the difference among these Open Skies agreements (OSAs). In the econometric analysis of the impact of trade policy, a dummy variable tends to lead to an estimated bias (Baier and Bergstrand, 2007). According to Baier and Bergstrand (2007), it is best to build a continuous variable to measure, with more accuracy, the degree of trade policy liberalization in order to eliminate bias because of the dummy variable of trade policy.

* Corresponding author.
E-mail addresses: zhengxwu@263.net (X. Zheng).

https://doi.org/10.1016/j.tranpol.2018.03.014
Received 11 July 2017; Received in revised form 13 March 2018; Accepted 29 March 2018
0967-070X/ © 2018 Elsevier Ltd. All rights reserved.

Please cite this article as: Zhang, Y., Transport Policy (2018), https://doi.org/10.1016/j.tranpol.2018.03.014
Therefore, in academic research, a more comprehensive and accurate time series of openness of ASAs is required to identify the evolution of ASAs’ liberalization in a country, compare openness among various countries over a certain period, or assess the impact of ASA liberalization on air traffic or macroeconomic elements.

Up to now, no measurement of a country’s international air transport policy that covers all ASAs, and includes follow-up amendments, exists. In this paper, we assess openness of China’s policy since its first signed ASA in 1954. In the process, we had to improve the indexing system of the World Trade Organization (WTO), and collected all ASAs and their amendments. Based on these, we constructed the liberalization degree of China’s ASAs from 1954 to 2016 to show that international air transport policy was very restrictive before 1992, and liberalized rapidly after that. The results also demonstrate that China’s policy does not sufficiently support the Belt and Road Initiative. Moreover, the open focus of China’s ASAs covers the areas of designation, grant of origin and destination (O&D) points, and cooperative arrangements, while grant of freedom rights, tariffs, and capacity are still restrictive.

The remaining paper is divided into five sections. In section 2, we review relevant studies on the analysis of ASA openness. Then, we analyze all of China’s ASAs and the follow-up amendments qualitatively in section 3. Based on the WTO Air Liberalization Index (ALI) and other literature, we develop a revised indexing system for the measurement of ASA openness in section 4. In section 5, we score, sum, and analyze Chinese ASAs and their amendments from 1954 to 2016. Finally, in section 6 we conclude the study.

### 2. Literature review

Hitherto, there are two types of measurement approaches on ASA liberalization in academic quantitative analysis. One is the dummy approach, while the other could be called the indexing and score system. Moreover, there are also qualitative or descriptive analyses on ASA openness.

Under the first quantitative approach, Dresner and Tretheway (1992) adopted a dummy variable to indicate a liberal or non-liberal regime of international air transport policy, analyzing the impact of international air transport policy on price. Micco and Serebrisky (2006) used a dummy to indicate ASAs, which takes the value 1 for OSAs, and 0 for non-OSAs, in order to measure the impact of liberalization of the air cargo market in the US on transport costs. This approach could only identify the transport costs affected by OSAs, while the impact of non-OSAs with various degrees of openness could not be measured. Humphreys and Morrell (2009) also employed a dummy for an Open Aviation Area (OAA) between the US and the EU to assess the potential influence of such an OAA on Heathrow Airport.

When Mallefbau and Hansen (1995) estimated the demand and consumer welfare impacts of liberalizing the economic regulation of North Atlantic routes, they also used a dummy variable to identify liberal or restrictive ASAs using two ASA characteristics: fares and capacity.

Furthermore, InterVISTAS (2006) used five dummies for designation, capacity, tariff, fifth freedom, and authorized points to research the impacts of air service liberalization on air traffic, economic growth, and employment. In its special report on Brazil, InterVISTAS (2009) followed the same approach. However, in a later study, InterVISTAS (2015) revised the capacity dummy into two dummies: one for the identification of capacity pre-determination, while another for identification of Bermuda-type capacity.

With respect to dummies, only two situations could be distinguished, but practical situations are more varied. For example, in OSAs, unlimited fifth freedom is authorized, while in other ASAs, only cargo fifth freedom on specific routes, with capacity restriction, or their combinations, may be used.

Ke and Windle (2014) noted that the dummy approach was inadequate when dealing with multiple ASAs over time, and might even ignore the more complicated question of how ASAs generated additional traffic. Nonetheless, they still used three dummies to capture the impacts of the 1999, 2004, and 2007 revisions of the China–US ASA.

Moreover, WTO’s (2006) report was the first study to construct an indexing and score system to assess openness of ASAs. In 2006, WTO carried out a quantitative air services agreements review (QUASAR) program to assess ASA openness during the second review of Annex on Air Transport Services to the General Agreement on Trade in Services, which involved 1970 bilateral ASAs between 184 countries (WTO, 2006). The ASAs used in QUASAR came from International Civil Aviation Organization’s 2005 edition Database of World Air Services Agreements (WASA), under which only 73 ASAs for China could be found. However, by the end of 2005, for the QUASAR purpose, China had reached 97 ASAs. While the China–Japan air traffic market ranked at the top of the international air transport markets in China by passenger number, the China–Japan ASA was not included in WASA. As such, this is a good example to demonstrate the first reason mentioned above. Furthermore, some of those ASAs are out of date, let alone the amendments concluded after their enforcement. The ASA signed between China and Australia in 1984 is most restrictive in its original form, but the 1996 amendment allows multiple designations, code sharing, and partial fifth freedom, with permission for aircraft lease since the 2003 amendment. However, the measurement of the China–Australia ASA in WTO’s QUASAR showed zero openness in 2005. Consequently, WASA could not solve the two issues in measuring openness of a country’s ASAs, although it is an integral source for worldwide ASAs.

Piermartini and Rousová (2008) used the indexing system established by WTO in a WTO working paper, and formed another indexing system—factor index (FA index) to indicate ASA liberalization, which was similar to ordinary factor analysis. Later, Piermartini and Rousová (2013) followed the same approach.

Ismaila et al. (2014) also referred to the ALI of WTO in their study of the impact of Nigeria’s ASA liberalization. However, they slightly revised the ALI indexing system. They deleted the statistics indicator, replacing it with that of cooperation arrangements by commercial arrangements. They then adjusted the scores for the indicators of withholding and cooperation arrangements (commercial arrangements). When they scored Nigeria’s OSAs, commercial arrangements were declared as unrequired, as their score was zero. However, in the ALI of

### Table 1

Comparison of the liberalization of various ASA types.

<table>
<thead>
<tr>
<th>Types</th>
<th>Free Pricing</th>
<th>Unlimited Third and Fourth Freedoms</th>
<th>Unlimited Fifth Freedom</th>
<th>Unlimited Seventh Freedom</th>
<th>Unlimited Cabotage</th>
<th>Foreign Ownership and Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>US OSA</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Cargo only</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>EU OSA</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Cargo only</td>
<td>Partial</td>
</tr>
<tr>
<td>Oceania OSA</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Cargo only</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

1. However, because of limitations on sources for the amendments, time, and budget, we cannot completely deny the rationale for using dummies to indicate the liberalization of ASAs in research, since, at least, directional impacts can be identified.
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات