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Multilateral political effects on outbound tourism

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Multilateral Political Effects on Outbound Tourism

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Multilateral Political Effects on Outbound Tourism

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Abstract: To capture the role of politics in tourism, we propose a novel measure to quantify political relations based on text analysis of published diplomatic statements. We explain how political relations affect outbound tourist flows from China to Japan and Korea. Estimated on monthly data (1997m1-2018m12), our model shows how China-Japan disputes affect tourist flows to Korea and how China-Korea clashes influence the number of Chinese tourists going to Japan. The political effects are estimated to peak after three months, but half of the effects vanish in six months. We also observe asymmetries in the political effects—the tourists respond more to negative political shocks than to positive ones, and more to territorial disputes than to war history disputes.

Keywords: political relation; outbound tourism; China; multilateral interdependence

Highlights:

1. Apply text analysis to state media statements to quantify political relations.
2. China-Korea flows are more sensitive to political relations than China-Japan flows.
3. The political effects, both bilateral and multilateral, peak in three months.
4. Half of the political effects on outbound tourism from China disappear in six months.
5. Outbound tourism responds more to negative political shocks than to positive ones.

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1 INTRODUCTION

Politics and international tourism among neighboring countries with shared histories tend to be closely intertwined (Rowen, 2014; Kim et al., 2016). Tourist activities by their very nature involve contact between visitors and host societies, especially in the areas of culture dialogue and "people-to-people diplomacy" (Richter, 1983; Farmaki, 2017). Many studies emphasize how bilateral tourism can improve political relations when two countries or regions face mutual hostility, mistrust, or suspicion (Anastasopoulos, 1992). Well-known examples include North and South Korea, Pakistan and India, and Israel and its neighboring Arab countries. Tourism can often work as an effective means of communication to alleviate political tensions among nations, encourage peace and harmony, and even foster long-term political reconciliation (Kim & Prideaux, 2003). This paper, in contrast, focuses on the effect of politics on tourism (Litvin, 1998). We test the hypothesis that political conflicts hamper cross-border tourism, while political cooperation stimulates tourism (Richter, 1989). A historical example is the ideological confrontation and prohibited travel between the Eastern and Western blocs during the Cold War. The political barrier to tourism in the Eastern bloc resulted from the fear that Communism might be eroded by tourists from the West (Kreck, 1998). Another example is the political hostility and forbidden tourism between mainland China and Taiwan from 1949 to 1979. The bilateral tourist flows only began when political confrontation gradually diminished in the 1980s (Yu, 1997). An even more pertinent example for this paper involves China and Japan, where the political conflicts rooted in traumatic war history and serious territorial disputes often disturb bilateral tourist flows (Lin et al., 2017). Nevertheless, due to complicated interplays between politics and tourism (Chen et al., 2016), there are still extensive research gaps on how international politics affects tourism (Butler & Mao, 1996).

Most studies on international tourism adopt a bilateral paradigm (Kim & Prideaux, 2012), which does not consider how politics between two countries can affect the tourism flow to a third country, ignoring *multilateral interdependence* (Marrocu & Paci, 2013). To address this omission, we develop a multilateral paradigm in the China-Japan-Korea context, one of the most important geopolitical relationships in the world (For brevity, this paper uses "China" to refer to "mainland China" and "Korea" to refer to "South Korea"). As the two most popular outbound tourist destinations for China, Japan and Korea are close substitutes for one another due to geographic proximity, so any factors that affect the China-Japan tourist flow are likely to affect the China-Korea flow and vice versa. In particular, political relations can be interpreted as a type of "distance" as in gravity models (Morley et al., 2014) and our model allows for China-Japan and China-Korea "distances" to affect both tourist flows. An

empirical model of outbound tourist flows, featured with multilateral interdependence, is the first contribution of this paper to the literature.

As its second contribution, this study deepens the understanding of tourism politics, initially developed by Mathew (1975) and Richter (1983). Most studies on this issue either rely on conceptual analysis (Kim et al., 2016) or case studies (Lin et al., 2017). Limited by qualitative research methods, their findings are mainly descriptive. Moreover, they concentrate on negative political relations or political conflicts, telling only a partial story (Farmaki, 2017). This paper, in contrast, proposes a quantitative measure of political relations that spans a complete spectrum ranging from negative to positive with differentiated severity. To construct this novel measure, we manually examined more than 8,000 newspapers and articles published by the Chinese state media, which makes our approach a *hybrid* one—incorporating text analysis and econometric modeling.

The third contribution of the study is to advance our knowledge of Chinese outbound tourism, a vigorous part of the international tourism market (Guo et al., 2007). The fast growth in the Chinese economy has led to a remarkable number of outbound tourists from China, accounting for 10.7 percent of all international tourist arrivals worldwide (UNWTO, 2019). Japan and Korea remain two of the most popular destinations for Chinese outbound tourism. In 2018, about one in four tourists to Japan (JNTO, 2018) and one in three tourists to Korea (KTO, 2018) were from China. The sheer size of the Chinese outbound tourism stimulates a vast research interest (Tse, 2015). The estimated model of this study provides a useful tool to forecast the dynamic path of tourist flows after abrupt changes in political relations. It generates valuable implications for both policymakers and decision-makers in the tourism industry.

2 THEORETICAL FOUNDATION AND A NARRATIVE ACCOUNT

In the literature on international trade, the role of political relations is well researched. Political conflicts can reduce commercial activities both in the short run (Hegre et al., 2010) and in the long run (Glick & Taylor, 2010). Fisman et al. (2014) investigate the asymmetry in reactions of Japan and China to adverse political shocks. Regarding the measure of political relations, Mityakov et al. (2013) use divergence in United Nations General Assembly voting patterns to quantify political relations among countries. Du et al. (2017) develop a Goldstein-scale index to quantify political relations between China and its nine major trade partners. Lin et al. (2019) use event dummies to estimate the Dalai Lama effect on imports to China.

As a special form of trade of services, international tourism deserves a separate examination. Pearce & Stringer (1991) interpret the link between political relations and international tourism as a social psychological phenomenon. An extensive literature grows out of this idea

to elucidate the mechanisms underlying the link. The first stream is the literature on country image developed in international marketing research. It posits that political conflicts paint an unfriendly image of a destination, making it a less attractive tourism choice (Chen et al., 2016). The second stream, rooted in political science literature, concerns nationalism. As a political ideology, nationalism reflects people's shared beliefs about their own country, which can cause psychological reluctance to visit a hostile country, as the visitors may be treated as "traitors" (Cheng & Wong, 2014). The third stream proposes that policy interventions may be used by governments to facilitate or hinder international tourism to achieve certain political goals (Richter, 1983). For tourists, both country image and nationalism are related to *subjective* preferences, while government intervention pertains to *objective* costs to travel. **Figure 1** summarizes the conceptual framework to explain the causality between political relations and outbound tourism in the literature. This framework will be applied in the narrative account (section 2.4) and formally built into a mathematical model in the online supplementary material.

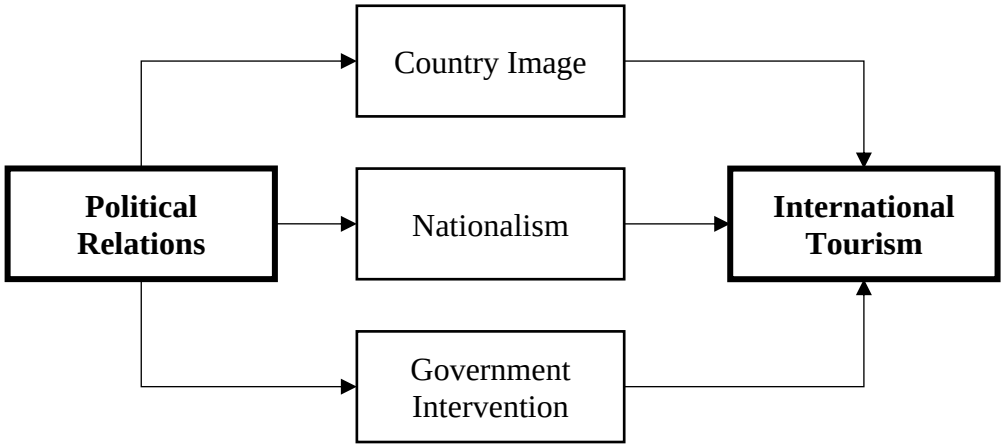

Figure 1 The conceptual framework between politics and tourism.

2.1 Country Image

Decisions on international tourism are affected by perceived images of destination countries (Nadeau et al., 2008), which are closely related to official political relations (Stepchenkova & Shichkova, 2016) and unofficial stereotypes (Chen et al., 2016). In fact, the formation of international stereotypes is essentially a reflection of political relations. A cognitive process is initiated to determine whether a foreign country is a threat in terms of goal compatibility, relative power, and cultural status (Alexander et al., 1999, 2005).

Depending on whether the political relations are cooperative or conflicting, the country image can move from being perceived as an ally to an enemy to a barbarian (Chen et al., 2016). Taking mainland China and Taiwan as examples, Chen et al. (2012) claim that the period of political confrontation before the 1990s triggered the stereotyping process and negative

images soon emerged. Once formed, the biased country image persists and is very difficult to dispel (Hall, 2002). Erecting information barriers about foreign countries, politicians can influence public opinion and mental depictions of a foreign country with their broadcast voices (Tasci & Gartner, 2007). Mass media play a critical role in the formation of country image (Croteau & Hoynes, 2018). State media can also propagandize the official attitude to shape a negative or positive image of a given country.

Once a biased country image arises, a subjective evaluation of the products of that country becomes fundamentally twisted (Laroche, 2005). International marketing literature uses the term "animosity" to describe the remnants of antipathy to a country related to previous or ongoing political conflicts (Klein et al., 1998; Nes et al., 2012). Empirical studies demonstrate that animosity results in not only a refusal to buy products from a hostile country, but also a tendency to buy substitute products from other countries (Heslop, 2008; Amine, 2008). For example, instead of buying products from Japan, many Chinese consumers prefer substitutes from other countries despite their belief in the higher quality of Japanese products (Klein et al., 1998). Similarly, Jews used to reject cars manufactured in Germany (Johansson, 1989). These studies support the hypothesis of *multilateral interdependence* of political relations in this paper.

The animosity effect is even more evident in the context of tourism product, because to travel or not is a binary decision sensitive to emotional changes (Nadeau et al., 2008; Podoshen & Hunt, 2011). For example, the continuing political conflicts between Turkey and Israel raised animosity and reduced travel intentions (Alvarez & Campo, 2014). The same conclusion applies to the US-Russia context, where animosity can be reflected at national, personal, and general levels (Stepchenkova & Shichkova, 2016). Most studies focus on the negative side (conflicts) of political relations (Su et al., 2020). Our measure, by contrast, extends the metric to cover the full range (both positive and negative). It enables us to empirically capture the asymmetric effect of political relations with different signs.

2.2 Nationalism

While country image is about the perception of the country abroad, nationalism emphasizes the common beliefs in the home country (Davis & Meunier, 2011). It is logically impossible to have the concept of "foreigners" without the awareness of "us", and nationalism can be understood as a political ideology (Cheng & Wong, 2014) to answer the question of "who we are". The functionalist theory proposes that nationalism is a necessity for the survival of a nation (Geller, 2008). Going one step further, the culturist theory contends that nationalism is a manifestation of national culture (Griffiths & Sharpley, 2012) to attain autonomy, unity and identity for a population (Smith, 2010). However, the constructivist theory takes a more

sceptical view, downplaying nationalism as a result of elite manipulation of the public (Deutsch, 1966).

Chinese nationalism is rooted in the collective memory of the nation, including the glorious past before 1840 and the humiliation history in the late 19th century (Carlson, 2009). The historical trauma resulted in a need for a powerful nation, including a strong government. Therefore, the Chinese people are deeply influenced by politics (Tang & Darr, 2012) and political conflicts with other countries can easily insult their nationalism.

In addition to the trickle-down nationalism fed by the Chinese government, bubble-up nationalism gained increasing popularity in China thanks to the explosive development of social media (Gao, 2012). The territorial dispute between China and Japan over the ownership of Diaoyu/Senkaku island is always accompanied by nationwide waves of strong anti-Japan sentiment and boycotts of Japanese products in China (Fisman et al., 2014; Yang & Tang, 2014), including tourism to Japan (Lin et al., 2017; Kim et al., 2016). Nationalists, however, differ in degree. “Core nationalists” not only reject tourism to Japan but also try to persuade other people not to go, while the “social nationalists” hesitate to visit Japan mainly due to social pressure (Crawford et al., 1991). This heterogeneity among nationalists implies an asymmetry in responding different types of political relations. People are more sensitive to worsened than to improved relations, because the “social nationalists” respond only to political conflicts and not to political unanimity.

2.3 Government Intervention

It is not uncommon for governments to control outbound tourism to accomplish political goals. The US led a boycott of the Moscow Olympic Games in 1980 as a response to the invasion of Afghanistan by the USSR, leading to fewer international tourists at the games (Richter, 1983). More recently, the US imposed travel restrictions on visits to Cuba in 2019 as an economic sanction (Oppmann & Vazquez, 2019), while China stopped issuing individual travel permits to Taiwan in 2019 to warn the independence-leaning president in Taipei (Hancock & Liu, 2019).

The most frequent government intervention is to issue travel security alerts or advisories for politically hostile countries. For instance, after the annexation of Crimea by Russia in 2014 and the military conflicts in Donbass, the Russian government issued a travel advisory against the US (Stepchenkova et al., 2018). Another example is the travel security warning issued by both China and Canada against each other in 2019, after Canada arrested one of Huawei’s top executives and China detained two Canadian citizens (CBC, 2019). A direct consequence of a higher risk rating is to raise perceived uncertainties and to reduce travel intentions.

In addition to issuing travel warnings, the Chinese government has the power to control the cross-border mobility of its people. Before China opened up in 1978, almost all outbound tourism was limited to communist countries (Mak, 2013). After 1978, the restrictions were gradually removed, but government interventions are frequently exerted on outbound tourism (Tse & Hobson, 2008; Nyiri, 2006). The "approved destination status" is used by the Chinese government to control which countries can host tourist groups from China (Guo et al., 2007). In addition to this direct restriction on destinations, the government can also indirectly influence travel costs by imposing time-consuming document requirements, exchange control (Hall, 1994; Jørgensen et al., 2020) and transportation restrictions (Jin et al., 2019). For example, flights and cruises from China to Korea were drastically reduced by Chinese regulators after the dispute over Terminal High Altitude Area Defence (THAAD) deployment in 2017 (Su et al., 2020).

2.4 A Narrative Account

This subsection applies the theoretical foundation to give a narrative account of political effects on outbound tourism from China to Japan and Korea. The three countries share a long history of cultural communication, economic connection, and political interaction over 2,000 years. The First Sino-Japanese War (1894-1895) and the Second Sino-Japanese War (1931-1945, as part of World War Two) shaped the collective memory of the three countries. Brutal massacres of civilians by the Japanese army left deep scars on both the Chinese and Korean people. The historical trauma continues today. Political relations among them are frequently haunted by disputes on history and territory that originated in the two abovementioned wars (Kim et al., 2016; Soshiroda, 2005).

In the two decades of our sample (1997m1-2018m12), China-Japan political relations can be roughly divided into three phases.

- **Phase 1 (1997m1-2006m8): Confrontation.** Most of the official statements in China regarding Japan were negative, reflecting continuing disputes on territorial and historical issues annotated in the upper panel of **Figure 2**. The China-Japan tourist flow tended to drop following these conflicts while the China-Korea tourist flow grew faster thanks to peaceful relations between China and Korea.
- **Phase 2 (2006m9-2010m8): Amelioration.** After a series of mutual state visits, China-Japan political relations enjoyed a four-year sweet interval, during which most of the Chinese official statements on Japan were positive. Therefore, the outbound tourist flows to Japan and Korea grew at a similar rate.
- **Phase 3 (2010m9-2018m12): Deterioration.** Due to escalating confrontations related to Diaoyudao/Senkaku island and burgeoning right-wing attitudes towards war history of the Japanese government, China-Japan political relations plummeted to a historical

low level in this period. This dragged the tourist flow to Japan below that to Korea until the China-Korea relation *per se* encountered a large setback in late 2016.

By contrast, China-Korea political relations are much simpler because the two countries do not have any territorial disputes (Ye, 2016), and both were victims of Japanese imperialism in the two Sino-Japanese wars. In fact, the Korean and Chinese governments usually expressed similar anger when the Japanese government denied its war crimes during World War Two. A particularly sensitive activity to both Korea and China is worship of the Yasukuni Shrine where the names of 1,068 convicted war criminals (14 of whom are A-class criminals of World War Two) are carved. Viewing Korea as a friendly state with a common enemy, the Chinese official statements regarding Korea were mostly positive or neutral, until 2016m11 when the THAAD deployment irritated the Chinese government. It was regarded as a serious military threat to China (Yu et al., 2020). There were unprecedentedly eight "strong condemn" statements by the Chinese government within one year. The tourist flow to Korea plunged and regressed to its 2010 level (Stepchenkova et al., 2019). In the meantime, China-Japan tourism witnessed a modest growth because the THAAD incident dwarfed other disputes.

In reviewing political relations between China and its two neighbors, we observe two key patterns in the nature of the issues. First, disputes on war history are chronic and periodic but mild. Examples include the denial of the Nanking Massacre and abuse of sex slaves ("comfort women") during World War Two. These issues are not likely to be resolved in the short run and they are brought up every year when annual memorials are held. Thus, part of the effect is absorbed in the seasonality in the tourist flows. Arguably, the effect mainly takes the pathways of country image and nationalism, so tourists intentionally reduce their trips due to negative feelings.

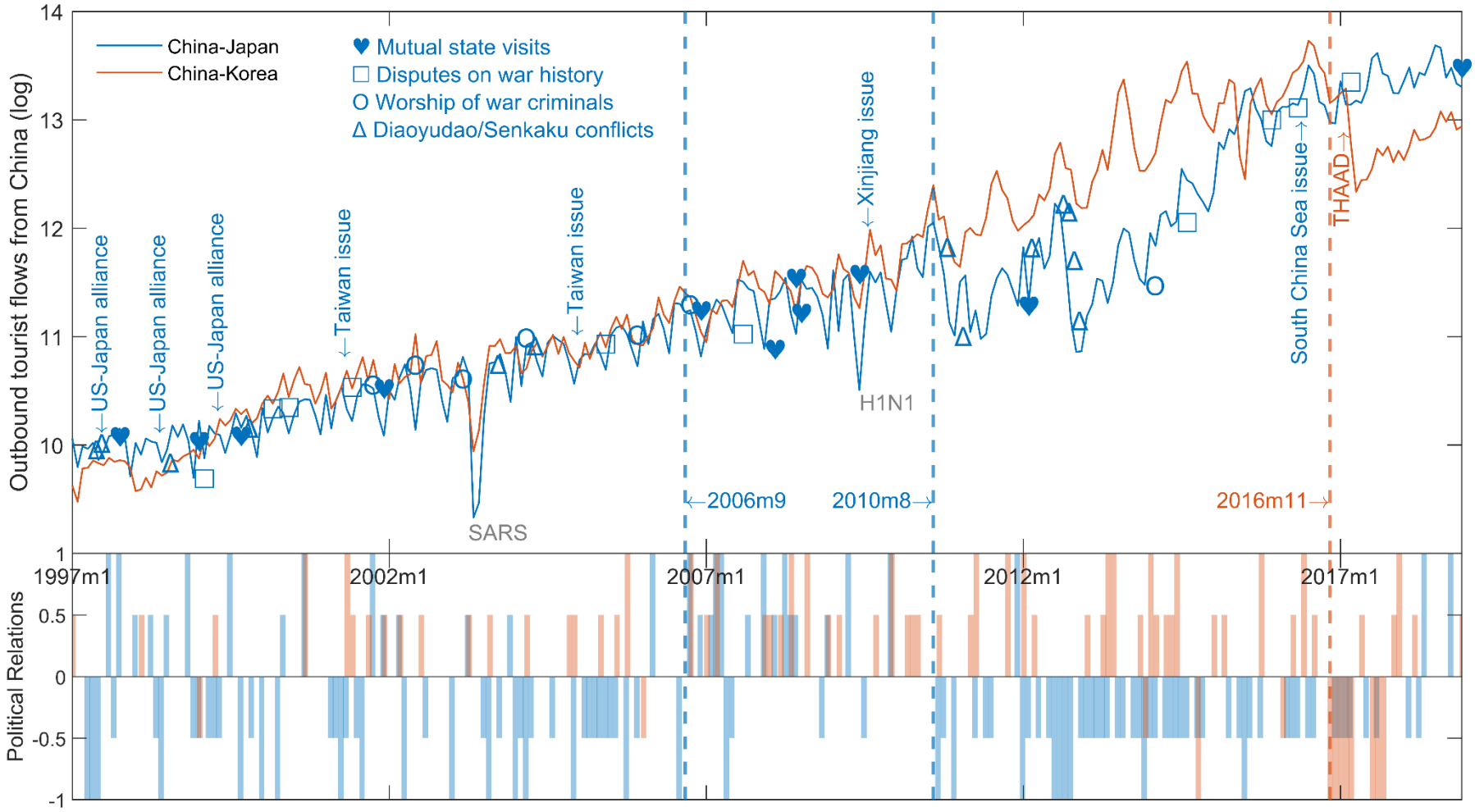

Figure 2 Political relations and outbound tourist flows from China to Japan/Korea.

The second pattern concerns territorial integrity and security, such as Diaoyudao/Senkaku island conflicts with Japan and the THAAD incident with Korea. Other examples (annotated in the upper panel of **Figure 2**) include anti-China attitudes towards Taiwan and Xinjiang separationists, South China Sea sovereignty disputes, as well as military operations of Japan/Korea with the US. Clearly, the US plays a paramount role underlying geopolitics in East Asia. Many disputes are directly or indirectly related to the strategies of the US to restrain China, North Korea, and Russia. These conflicts tend to be acute and influential because they are more relevant and more immediate to the present. The Chinese government may intervene to sway the tourist flows because outbound tourism can be used as a bargaining chip in political negotiations. For example, during the THAAD deployment, China's tourism administration authority banned travel agencies from organizing group tours to Korea (Jin et al., 2019).

3 EMPIRICAL METHODS

3.1 The Measure of Political Relations

To empirically quantify political effects on outbound tourism, a fundamental challenge is to find an appropriate measure of political relations. In the existing literature, most attempts at quantifying perceived political relations (such as animosity) are based on questionnaires or interviews (e.g., Alvarez & Campo, 2014; Moufakkir, 2014). However, historical opinions and attitudes cannot be retrieved. This prevents primary data collection from a long time-series analysis. To tackle this difficulty, we utilize the official statements of the Ministry of Foreign Affairs published by the state media in China (*People's Daily*) as in Yan & Qi (2009) and Yan et al. (2010). The Chinese government has a long tradition of publishing its official views in *People's Daily* including opinions on both domestic and foreign affairs (People's Daily Online, 2021), so it is an accurate indicator of official attitudes. Other state- and non-state media such as newspapers, websites, TV programs and even some social media in China usually report the official views published by *People's Daily.* This unique political culture of China makes the statements in *People's Daily* a powerful propaganda tool to influence public sentiment and the texts of official statements offer a good measure of political relations.

We digitally searched all published editions of *People's Daily* between 1997 and 2018 (over 8,000 files) for all articles related to Japan and Korea. The sample period is chosen to match the data available for outbound tourist flows from China. We then manually conducted text analyses to gauge the sentiments expressed by the Chinese government. Text analysis is widely used in finance literature to measure sentiment (Garcia, 2013). Fortunately, the diplomatic phrases in the official statements are very strict and well-defined, so an educated Chinese citizen can readily determine overall attitudes as well as severity.

We suggest a 5-scale measure of political relations as illustrated in **Figure 3**. In the negative domain, -1 is assigned if the statement uses modifiers like "strongly" or "seriously". -0.5 is used if the statement expresses "concern" or "regret" without further modification. In the positive domain, 1 is used if "tremendous" progress is made in state visits or if "great" friendship is praised in difficult times (e.g., earthquakes or epidemics). A mild positive (0.5) refers to other visits by senior officials or civil delegations. To ensure accuracy and consistency, two authors of this paper independently conducted text analyses and identified only a small number of divergences. The three authors then met to reach a consensus. This 5-scale metric is our baseline measure of political relations. To test the robustness of the conclusions, we also merge the mild and the significant/serious categories to form a 3-scale metric $(-1, 0, +1)$ as an alternative measure.

Du et al. (2017) develop a comprehensive 19-scale index to quantify political relations between China and its nine major trade partners. Their use of the Goldstein scale is necessary because, in their research context, different countries have different political issues with China. However, our study focuses on Japan and Korea, which share similar types of political issues with China in a long term. Therefore, it is more efficient to set up separate dummy variables in regressions to better identify the effects of different types of issues, rather than mixing all the information in one single index.

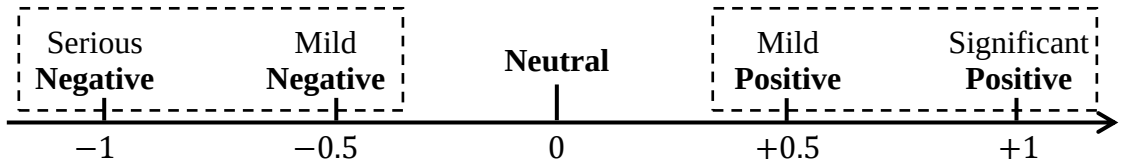

Figure 3 The measure of political relations.

3.2 An Empirical Model

Based on the measure of political relations, we formulate a multivariate time-series model to quantitatively estimate how politics affects tourism. A formal derivation of this empirical model from a theoretical model can be found in the online supplementary material. It is a vector autoregressive (VAR) equation system with two endogenous variables because there is interdependence between the (logarithmic) tourist flows to Japan (F_{CJ}) and Korea (F_{CK}). We use a succinct matrix form in equation (1) to model this sophisticated relationship:

$$\underbrace{\begin{bmatrix} \ln F_{CJ} \\ \ln F_{CK} \end{bmatrix}}_{\equiv \mathbf{y}_t} = \underbrace{\begin{bmatrix} \boldsymbol{\beta 0}'_J & \boldsymbol{\beta 1}'_J & \boldsymbol{\beta 2}'_{CJ} \\ \boldsymbol{\beta 0}'_K & \boldsymbol{\beta 1}'_K & \boldsymbol{\beta 2}'_{CK} \end{bmatrix}}_{\equiv \mathbf{B}} \underbrace{\begin{bmatrix} \mathbf{x0}_t \\ \mathbf{x1}_t \\ \mathbf{x2}_t \end{bmatrix}}_{\equiv \mathbf{x}_t} + \underbrace{\begin{bmatrix} \epsilon_J \\ \epsilon_K \end{bmatrix}}_{\equiv \boldsymbol{\epsilon}_t}, \text{ or just } \mathbf{y}_t = \mathbf{B}\mathbf{x}_t + \boldsymbol{\epsilon}_t. \quad (1)$$

In the VAR model, the deterministic term ($\mathbf{x0}_t$) contains a constant component, a trend component, and a seasonality component. We also include two types of covariates to model the monthly tourist flows in light of the empirical literature:

(i) the covariates related to only one country ($\mathbf{x1}_t$, China, Japan or Korea): GDP per capita (Cao et al., 2017), (log) number of official holidays including weekends and traditional festivals (Lin et al., 2017) and events/disasters of each country (Jin et al., 2019).

(ii) the covariates related to country pairs ($\mathbf{x2}_t$, China-Japan or China-Korea): **political relations**, exchange rate and international (Brent) oil price (Cao et al., 2017).

Note that equation (1) includes the popular bilateral gravity model of tourist flow (Dogru et al., 2017) as a special case where elements of the coefficients matrix ($\mathbf{B}$) involving any third country are restricted to zero. Morley et al. (2014) provide a microeconomic foundation of the bilateral gravity model based on the optimization behavior of rational consumers. Using their neoclassical terminology, we propose that country image and nationalism affect the "utility function" of tourists, while government intervention enters the tourism decision via the "budget constraint". A distinctive feature in our model is that we also allow China-Japan political relations (a type of "distance") to influence the China-Korea tourist flow and vice versa ($\mathbf{x}_t \rightarrow \mathbf{y}_t$), and thus demonstrate interdependency.

Still missing from equation (1) are the properties of the random error $\boldsymbol{\epsilon}_t$, which determine the *dynamic features* of the tourist flow, such as a lag effect $\mathbf{y}_{t-1} \rightarrow \mathbf{y}_t$ (in mean) and conditional heteroscedasticity (in variance). For this purpose, we adopt the MGARCH model (Hoti et al., 2007), which combines the dynamic features of both VAR (Sims, 1980) and GARCH (Engle, 1982; Bollerslev, 1986). Therefore, two distributional assumptions of the error term $\boldsymbol{\epsilon}_t$ are added to the econometric model:

$$\boldsymbol{\Phi}(L^p)\boldsymbol{\epsilon}_t = \boldsymbol{\Theta}(L^q)\mathbf{u}_t,\ \mathbf{u}_t \sim N(\mathbf{0}, \boldsymbol{\Sigma}_t) \tag{2}$$

$$\mathrm{vech}(\boldsymbol{\Sigma}_t) = \mathbf{s}(\mathrm{vech}(\boldsymbol{\Sigma}_{t-1}), \dots; \mathrm{vech}(\mathbf{u}_{t-1}\mathbf{u}'_{t-1}), \dots) \tag{3}$$

Two dynamic features are explicitly built into the model by these two assumptions of the error term. In equation (2), $\boldsymbol{\Phi}(L^p)$ and $\boldsymbol{\Theta}(L^q)$ are polynomials of lag operator L of order p and q, while $\mathbf{u}_t$ is the independently and identically distributed random process disturbing the system. A common choice is $p = q = 1$ (Bollerslev, 1990). This assumption equips equation (1) with *multilateral lag effects* (both within-country and cross-country). In equation (3), $\mathbf{s}(\cdot)$ is a multivariate linear function, and $\mathrm{vech}(\cdot)$ function stacks the unique elements that lie on

or below the main diagonal in a symmetric matrix into a vector. This assumption enriches equation (1) with conditional heteroscedasticity to capture the *volatility clustering* feature in the monthly tourism data (Shareef & McAleer, 2008; Santamaria & Filis, 2019).

However, the cost of having both multivariate structure and conditional heteroscedasticity is that the general MGARCH model is too flexible due to excessive free parameters. Therefore, various restrictions on $\mathbf{\Sigma}_t$ have been developed to strike a balance between flexibility and parsimony. We adopt the popular constant conditional correlation assumption that the correlation between the shocks to the two tourist flows is constant. It is based on the observation that patterns of interactions in China-Japan-Korea geopolitics is relatively stable in recent decades. A more sophisticated specification (such as dynamic conditional correlation MGARCH) can add more flexibility to the specification, but it can easily lead to non-convergence problems in estimation (Bollerslev, 1990).

In sum, compared to the traditional bilateral paradigm, our empirical model has three distinctive features: multilateral interdependence ($\mathbf{x}_t \rightarrow \mathbf{y}_t$), multilateral lag effect ($\mathbf{y}_{t-1} \rightarrow \mathbf{y}_t$), and conditional heteroscedasticity ($\mathbf{\Sigma}_t$).

3.3 The Data

As summarized in **Table 1**, China-Japan political relations are neutral half of the time in our sample period (1997m1-2018m12), but negative episodes (37.2%) occur three times as often as positive ones (12.1%). The biggest contributor to the negative relationship is disputes over war history during World War Two ($2.3\% + 12.1\% = 14.4\%$), while disputes over territory are more important when it comes to the "serious" scale. In contrast, China-Korea relations are more peaceful except for the THAAD incident. Most negative statements about Korea (9 out of 13) are related to this event, and almost all negative statements (8 out of 9) are rated as "serious".

The time series of political relations (5-scale) and tourist flows are synchronically shown in **Figure 2** to visualize the connection between politics and tourism. Influential events, especially those between China and Japan, are annotated in the figure to provide a more detailed storyline. We will frequently refer to this summary of the political relations in the empirical analyses in the following sections. The descriptive statistics of the monthly data used for the empirical model are listed in **Table 2**.

Table 1 Political relations between China and Japan/Korea by sign and by type.

A. China-Japan Political Relations (PR_J)					
	Negative		**Neutral**	**Positive**	
Dispute on	Serious	Mild		Mild	Significant
Territory	16 (6.1%)	20 (7.6%)			
History	6 (2.3%)	32 (12.1%)		15 (5.7%)	17 (6.4%)
Other	4 (1.5%)	20 (7.6%)			
Total	26 (9.9%)	72 (27.3%)			
	98 (37.2%)		**134 (50.8%)**	**32 (12.1%)**	
B. China-Korea Political Relations (PR_K)					
	Negative		**Neutral**	**Positive**	
Dispute on	Serious	Mild		Mild	Significant
THAAD	8 (3.0%)	1 (0.0%)		42 (15.9%)	18 (6.8%)
Other	1 (0.0%)	3 (1.1%)			
Total	9 (3.4%)	4 (1.5%)			
	13 (4.9%)		**191 (72.3%)**	**60 (22.7%)**	

a) Each cell contains the number/percentage of months belonging to that category.
b) The percentage is calculated out of 264 months (1997m1-2018m12).

Table 2 Descriptive statistics of all variables used in the empirical model.

Variable	Definition	Obs.	Mean	St. Dev.	Min	Max
$\ln F_J$	log of China-Japan tourist flow	264	11.344	1.079	9.331	13.687
$\ln F_K$	log of China-Korea tourist flow	264	11.544	1.121	9.476	13.729
$Disaster_C$	disasters in China	264	0.030		0	1
$Disaster_J$	disasters in Japan	264	0.019		0	1
$Disaster_K$	disasters in Korea	264	0.027		0	1
$Event_C$	international events in China	264	0.004		0	1
$Event_J$	international events in Japan	264	0.011		0	1
$Event_K$	international events in Korea	264	0.004		0	1
$\ln GDPP_C$	log GDP per capita in China	264	5.450	0.894	3.883	6.869
$\ln GDPP_J$	log GDP per capita in Japan	264	8.059	0.126	7.754	8.406
$\ln GDPP_K$	log GDP per capita in Korea	264	7.560	0.354	6.561	8.146
$\ln Holiday_C$	log number of holidays in China	264	2.240	0.174	1.792	2.639
$\ln EX_{CJ}$	log exchange rate (CNY-JPY)	264	2.690	0.118	2.489	3.007
$\ln EX_{CK}$	log exchange rate (CNY-KRW)	264	5.037	0.156	4.630	5.365
$\ln OIL$	log oil price	264	3.870	0.656	2.285	4.888
PR_{CJ}	3-scale China-Japan political relations	264	-0.250	0.657	-1	1
	5-scale China-Japan political relations	264	-0.142	0.475	-1	1
PR_{CK}	3-scale China-Korea political relations	264	0.178	0.496	-1	1
	5-scale China-Korea political relations	264	0.106	0.368	-1	1

a) The outbound tourist flows (F_J and F_K) include both business travelers and holidaymakers from China.
b) GDP data are usually quarterly. To interpolate the monthly GDP data, we use monthly data on electricity generation to calculate the shares of each month, on the grounds that economic activities in the modern economy are proportional to electricity consumption (Moreau & Vuille, 2018).
c) Data sources: F_J (Japan National Tourism Organization), F_K (Korea Tourism Organization), $GDPP_C$ (National Bureau of Statistics), $GDPP_J$ (Economic and Social Research Institute), $GDPP_K$ (Bank of Korea), EX_{CJ}, EX_{CK} (State Administration of Foreign Exchange), OIL (Brent Crude in US dollars), disaster and event dummies of the three countries are constructed by authors (available in the online supplementary materials).

4 RESULTS

This section applies the empirical method in section 3 to tests the political effect on outbound tourism. The maximum likelihood estimation results of the MGARCH model are listed in columns [1]-[2] of **Table 3**. All three key features of our model are verified. For the *multilateral interdependence* feature ($\mathbf{x}_t \rightarrow \mathbf{y}_t$), disastrous incidents in Japan (e.g., tsunami) and Korea (e.g., military tension with North Korea) have effects that extend beyond the places where these events originally occurred. A similar conclusion can be drawn for international events hosted by Japan (e.g., Expo 2005 Aichi) and Korea (e.g., Pyeongchang 2018 Winter Olympics). Political relations also belong to $\mathbf{x}_t$ and will be discussed separately. For the *multilateral lag effect* ($\mathbf{y}_{t-1} \rightarrow \mathbf{y}_t$), the VAR components have significant coefficients with an interesting pattern: the tourist flow positively depends on its own past value and negatively on the other's past value. For example, if the China-Japan tourist flow is high in period 1, then the China-Japan flow in period 2 tends to be high also, but the China-Korea flow in period 2 will be lower. This suggests that Japan and Korea are close substitutes for China's outbound tourism market. Lastly, *conditional heteroscedasticity* parameters ($\mathbf{\Sigma}_t$) are all significant, confirming the necessity of modelling the volatility clustering feature in the data. To formally prove that, we perform the ARCH test proposed by Engle (1982) in the online supplementary material.

The augmented Dickey-Fuller tests suggest that the (log) tourist flows are trend-stationary, i.e., the series are stationary after detrending. Other time series in the model are also stationary after detrending or demeaning (details can be found in the online supplementary material). Therefore, our empirical regressions are not spurious. The spurious regression would only occur if the series are difference-stationary or random walks (Hamilton, 1994).

4.1 The Political Effect

It is difficult to see the overall political effect directly from the coefficients of **Table 3**, because there are complicated dynamic interactions in time series models. A common way of showing the effect is to compute the implied time paths of endogenous variables after a given political shock—the impulse-response functions (**Figure 4**) (Gounopoulos et al., 2012; Cao et al., 2017).

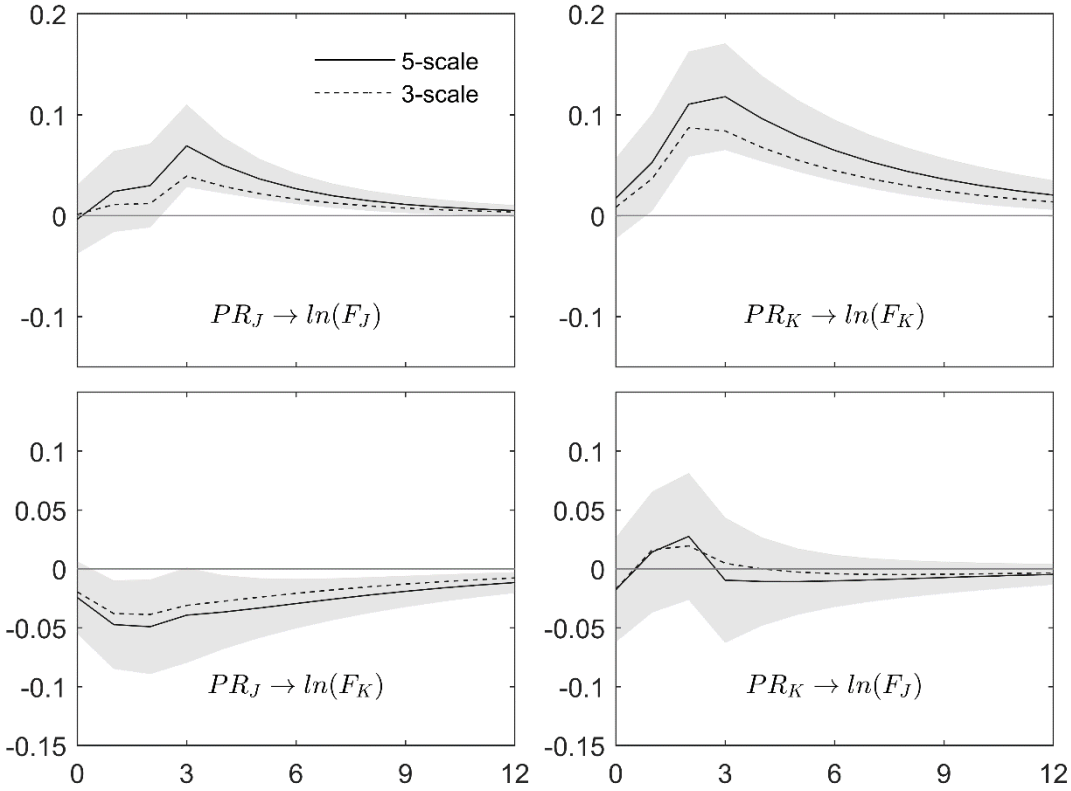

Figure 4 Impulse-response functions after a typical political shock.

Note: The solid lines are the percentage deviations of tourist flow from the predicted trends, the shaded areas are 95% confidence intervals, the dotted lines use the alternative 3-scale measure of political relations, and the horizontal axes are months after shocks. A "typical shock" is defined as a **positive** political shock equal to one standard deviation of the measure of political relations.

The top two panels of **Figure 4** show the bilateral effects of political relation changes: the tourist flow rises (drops) if political relations between the two countries improves (worsens). This verifies our earlier observations in the narrative account. The China-Korea flow (12% deviation from its trend at the peak) is more sensitive than the China-Japan flow (7% deviation from its trend at the peak). Note that the two peaks occur not immediately but in three months after shocks occur. This hump-shape is typical in aggregate economic behavior due to heterogeneity in individual reactions (Song & Witt, 2006, Fig2; Gounopoulos et al., 2012, Fig2). To quantify the persistence of political effects, half-life is usually used instead of full-life (Rapach & Wohar, 2004), because tourist flows converge to the predicted trends asymptotically (the full-life is always infinity). Half-life, initially developed in nuclear physics, measures the number of periods required for the peak effect of a shock to be halved. In this case, the half-lives are about six months, which means 50 percent of the political effects disappear in half a year.

The difference in sensitivity of bilateral political effects (top two panels) mainly results from the different levels of Chinese government intervention. In the China-Japan case (top left),

most disputes are chronic and periodic, so no direct restrictions are imposed on outbound tourism to Japan. However, the THAAD incident between China and Korea (top right) was so intense that the Chinese government explicitly banned group tourism to Korea as a retaliation (Jin et al., 2019). To understand why the Chinese government and people react so differently, we suggest that a well-known theory in psychophysics, the *Weber-Fechner Law*, applies. It states that human perception of the same stimulus diminishes logarithmically because people become less sensitive to the same shock that occurs repeatedly (Fechner, 1966). We have seen in **Table 1** that the frequency of political collisions between China and Japan is much higher than the China-Korea case. When a rare and acute incident (THAAD deployment) between China and Korea broke out, the long-standing peaceful relationship was severely damaged, and the China-Korea flow plunged sharply (Juan et al., 2017).

The bottom two panels in **Figure 4** present the multilateral or cross-country effects of political relations, consistent with the patterns in the narrative story. Again, the sensitivity of the China-Korea flow (to China-Japan political shock) is greater than that of the China-Japan flow (to China-Korea political shock). The lower left panel clearly illustrates that, if there is an improvement in China-Japan political relations, the China-Korea flow will significantly drop below the trend. In the lower right panel, better China-Korea relations only temporarily and insignificantly reduce the China-Japan flow, which then overshoots right away to compensate for the initial drop. Note that if the shaded bands (the 95 percent confidence intervals) cover the horizontal axes, the impulse-response functions are not significantly different from zero.

A possible explanation for the difference in sensitivity of multilateral political effects (bottom two panels of **Figure 4**) is that China-Japan tourism is frequently disturbed by political conflicts, so travel agencies specializing in China-Japan tourism have adapted to this uncertainty by providing quick alternatives like Korea. By contrast, China-Korea tourism is rarely disrupted, so the rerouting arrangements are less developed. Another reason for different sensitivities is that Chinese nationals can visit Jeju Island (one of the most attractive destinations in Korea for Chinese tourists) without a visa. In contrast, all trips to Japan require a visa, making the process of traveling to Japan more cumbersome.

To test the robustness of the results, we first use an alternative measure (3-scale metric) of political relations to compare with the baseline case (5-scale metric). We find that the estimates (columns [3]-[4] of **Table 3**) are qualitatively similar. The dotted lines in **Figure 4** are the impulse-response functions based on this 3-scale metric, which all lie within the 95 percent confidence intervals of the baseline model. In addition, we also report the estimation results of the traditional bilateral model in columns [5]-[6]. The results are qualitatively similar, but omission of multilateral interdependence quantitatively biases the estimates.

Table 3 Estimation Results of Models with Different Measures and Specifications.

		Model 1 (Baseline) Multilateral, 5-Scale		**Model 2** Multilateral, 3-Scale		**Model 3** Bilateral, 5-Scale	
		[1] $\ln(F_J)$	**[2]** $\ln(F_K)$	**[3]** $\ln(F_J)$	**[4]** $\ln(F_K)$	**[5]** $\ln(F_J)$	**[6]** $\ln(F_K)$
$\mathbf{y}_{t-1}$	$\ln F_J\,(t-1)$	0.621***	-0.111***	0.608***	-0.098***	0.739***	
		(19.64)	(-4.10)	(18.41)	(-3.61)	(18.10)	
	$\ln F_K\,(t-1)$	-0.111***	0.772***	-0.098***	0.761***		0.809***
		(-4.89)	(31.35)	(-3.62)	(29.79)		(28.09)
x0	Deterministic terms (constant intercept, time trend and monthly dummies) are not reported here.						
x1	$Disaster_C$	0.035	-0.017	0.028	-0.023	0.016	-0.045
		(0.88)	(-0.55)	(0.68)	(-0.79)	(0.42)	(-1.40)
	$Disaster_C(t-1)$	-0.171***	-0.035	-0.161***	-0.043	-0.173***	-0.056
		(-2.77)	(-1.08)	(-2.96)	(-1.35)	(-3.35)	(-1.40)
	$Disaster_J$	-0.184***	-0.107***	-0.188***	-0.092***	-0.199***	
		(-4.27)	(-2.96)	(-4.12)	(-2.62)	(-2.64)	
	$Disaster_J(t-1)$	0.035	0.022	0.025	0.012	0.028	
		(0.86)	(0.60)	(0.60)	(0.36)	(0.48)	
	$Disaster_K$	0.038	0.035	0.023	0.027		0.012
		(1.00)	(1.10)	(0.66)	(0.81)		(0.30)
	$Disaster_K(t-1)$	-0.008	-0.063**	-0.038	-0.052*		-0.071*
		(-0.19)	(-2.04)	(-0.85)	(-1.69)		(-1.77)
	$Event_C$	-0.106*	-0.092	-0.133**	-0.081	-0.193	-0.126
		(-1.79)	(-1.28)	(-2.02)	(-1.08)	(-0.00)	(-0.00)
	$Event_C(t-1)$	-0.179**	0.013	-0.152**	-0.003	-0.117	-0.038
		(-2.46)	(0.21)	(-2.14)	(-0.06)	(-0.00)	(-0.19)
	$Event_J$	-0.083	-0.163***	-0.105*	-0.155***	-0.140*	
		(-1.47)	(-3.59)	(-1.81)	(-3.31)	(-1.77)	
	$Event_J(t-1)$	0.080*	0.015	0.089	0.017	0.090**	
		(1.65)	(0.31)	(1.61)	(0.36)	(1.99)	
	$Event_K$	-0.152***	-0.042	-0.168***	-0.055		-0.049
		(-2.61)	(-0.75)	(-2.65)	(-0.95)		(-0.59)
	$Event_K(t-1)$	-0.363***	0.207***	-0.394***	0.226***		0.220***
		(-5.19)	(2.60)	(-5.56)	(2.83)		(2.87)
	$\ln GDPP_C$	-0.326***	0.170*	-0.359***	0.150	-0.256**	0.227*
		(-3.05)	(1.71)	(-3.17)	(1.58)	(-2.46)	(1.76)
	$\ln GDPP_J$	-0.201	-0.213	-0.152	-0.156	-0.048	
		(-1.02)	(-1.29)	(-0.72)	(-0.97)	(-0.20)	
	$\ln GDPP_K$	0.704***	0.027	0.602***	-0.068		-0.19
		(4.73)	(0.17)	(3.69)	(-0.48)		(-0.78)
	$\ln Holiday_C$	0.090***	0.043***	0.081***	0.050***	0.096***	0.031
		(4.82)	(2.65)	(4.29)	(3.01)	(4.82)	(1.61)
x2	PR_J	0.008	-0.035***	0.011	-0.029***	0.005	
		(0.61)	(-2.88)	(1.18)	(-3.08)	(0.37)	
	$PR_J(t-1)$	0.024*	-0.007	0.021*	-0.014	-0.011	
		(1.96)	(-0.50)	(1.73)	(-1.38)	(-0.75)	
	$PR_J(t-2)$	0.041***	0.009	0.028***	0.005	0.032**	
		(2.98)	(0.66)	(2.87)	(0.50)	(2.01)	
	$PR_J(t-3)$	0.043***	-0.003	0.027***	-0.001	0.030**	
		(3.26)	(-0.19)	(2.66)	(-0.09)	(2.02)	
	PR_K	-0.013	0.043***	-0.015	0.028**		0.044**
		(-0.79)	(2.68)	(-1.24)	(2.48)		(2.18)
	$PR_K(t-1)$	0.022	0.019	0.018	0.025**		0.022
		(1.34)	(1.19)	(1.46)	(2.16)		(1.06)
	$PR_K(t-2)$	0.025*	0.020	0.014	0.033***		0.018
		(1.71)	(1.23)	(1.21)	(2.73)		(0.86)
	$PR_K(t-3)$	-0.018	0.029*	-0.007	0.014		0.033
		(-0.83)	(1.90)	(-0.51)	(1.18)		(1.53)

	$\ln EX_{CJ}$	0.032	-0.101	0.082	-0.037	0.14	
		(0.18)	(-0.63)	(0.43)	(-0.24)	(0.65)	
	$\ln EX_{CK}$	0.536***	-0.065	0.426**	-0.147		-0.226
		(3.32)	(-0.38)	(2.44)	(-0.93)		(-0.82)
	$\ln OIL$	-0.154***	-0.065**	-0.157***	-0.041	-0.068**	-0.024
		(-6.71)	(-2.56)	(-6.36)	(-1.58)	(-2.51)	(-0.84)
$\boldsymbol{\Sigma}_t$	$ARCH(t-1)$	1.175***	1.071***	1.064***	1.092***	1.098***	0.759***
		(3.37)	(4.72)	(3.99)	(5.14)	(4.68)	(3.71)
	constant	0.005***	0.005***	0.006***	0.005***	0.006***	0.008***
		(2.91)	(4.55)	(4.16)	(4.76)	(3.92)	(4.53)
	correlation	0.420***		0.417***			
		(7.54)		(7.51)			
	AIC	-590.583		-587.198		-253.501	-278.683
	BIC	-273.34		-269.956		-135.872	-161.054

a) ***, **, *: statistical significance levels at 1%, 5% and 10%. Heteroscedasticity-consistent t-statistics are in parentheses.
b) $C =$ China, $K =$ Korea, $J =$ Japan, $EX =$ exchange rate, $OIL =$ Brent oil price, $PR =$ political relations.
c) $ARCH$ = Autoregressive-Conditional-Heteroscedasticity.
d) AIC/BIC = Akaike/Bayes Information Criterion, used for determining the optimal lag lengths.

4.2 The Signs of Political Relations

To further analyze the political effect, we break up the measure of political relations by sign into positive and negative dummies and re-estimate the model (columns [1]-[2] of **Table 4**). An asymmetry appears in the impulse-response functions (**Figure 5**). In all cases, the responses to negative political relations tend to be greater than those to positive ones. In the top-left panel, if there is a negative China-Japan political relation (PR_J^-), the China-Japan tourist flow is 7 percent lower than the trend at the peak; if there is a positive China-Japan political relation (PR_J^+), the effect on the China-Japan flow is not significant. In the case of the China-Korea flow (top-right panel), the negative effect (11 percent) is slightly larger than the positive effect (8 percent) and both are significant. Similar patterns of multilateral interdependence are found in the bottom two panels of **Figure 5**, where the China-Korea flow is relatively more responsive to China-Japan political shocks than the China-Japan flow to China-Korea political shocks.

This asymmetry in sign can be explained by the mental accounting theory in behavioural economics. According to Thaler (1985), people think of value in relative rather than absolute terms. They derive pleasure not just from an object's value, but also from the quality of the deal. For example, the utility increment due to winning one dollar is different from the utility decrease due to losing one dollar (Kahneman & Tversky, 1984). Similarly, in our context, the damage effect of a negative political shock has a greater magnitude than the improvement effect of a positive political shock. As in many human relationships, it is easier to make enemies than to make friends because a bitter memory lingers longer than a positive one.

Table 4 Estimation Results of Models with Separate Signs and Types of Political Relations.

Model 4: Separate Signs of Political Relations			**Model 5: Separate Types of Political Conflicts**		
	[1] $\ln(F_J)$	**[2]** $\ln(F_K)$		**[3]** $\ln(F_J)$	**[4]** $\ln(F_K)$
PR_J^-	-0.007	0.005	$PR_J^{Territory}$	-0.001	0.009
	(-0.415)	(0.471)		(-0.038)	(0.479)
$PR_J^-(t-1)$	-0.008	0.027***	$PR_J^{Territory}(t-1)$	-0.082***	-0.082***
	(-0.646)	(2.705)		(-3.569)	(-3.504)
$PR_J^-(t-2)$	-0.037**	0.009	$PR_J^{Territory}(t-2)$	-0.036	-0.042**
	(-2.464)	(0.813)		(-1.297)	(-2.244)
$PR_J^-(t-3)$	-0.043***	-0.003	$PR_J^{Territory}(t-3)$	-0.049***	0.004
	(-3.000)	(-0.265)		(-2.609)	(0.197)
PR_J^+	0.029	-0.049**			
	(1.376)	(-2.485)			
$PR_J^+(t-1)$	-0.016	-0.047***	$PR_J^{History}$	-0.040**	0.043***
	(-0.960)	(-3.396)		(-2.259)	(2.806)
$PR_J^+(t-2)$	0.020	0.075***	$PR_J^{History}(t-1)$	0.000	-0.006
	(0.621)	(3.486)		(0.008)	(-0.300)
$PR_J^+(t-3)$	-0.058	-0.037***	$PR_J^{History}(t-2)$	-0.024	0.035*
	(-1.508)	(-2.637)		(-1.561)	(1.747)
PR_K^-	0.063*	-0.020	$PR_J^{History}(t-3)$	-0.019	-0.006
	(1.802)	(-1.013)		(-1.046)	(-0.326)
$PR_K^-(t-1)$	-0.030	-0.011			
	(-0.776)	(-0.540)			
$PR_K^-(t-2)$	-0.004	-0.043*	PR_K^{THAAD}	0.098**	-0.091***
	(-0.121)	(-1.667)		(2.003)	(-2.721)
$PR_K^-(t-3)$	0.057*	0.011	$PR_K^{THAAD}(t-1)$	-0.033	0.063*
	(1.764)	(-0.540)		(--0.619)	(1.819)
PR_K^+	0.023	0.023**	$PR_K^{THAAD}(t-2)$	-0.007	0.035
	(0.877)	(2.113)		(-0.174)	(0.941)
$PR_K^+(t-1)$	0.009	0.038***	$PR_K^{THAAD}(t-3)$	-0.003	-0.159***
	(0.701)	(3.427)		(-0.084)	(-3.864)
$PR_K^+(t-2)$	0.032	0.043***			
	(1.347)	(4.156)			
$PR_K^+(t-3)$	-0.010	0.011			
	(-0.605)	(0.994)			

a) ***, **, *: statistical significance levels at 1%, 5% and 10%. Heteroscedasticity-consistent t-statistics are in parentheses.
b) To save the space, only key regressors are reported.
c) AIC/BIC = Akaike/Bayes Information Criterion, used for determining the optimal lag lengths.

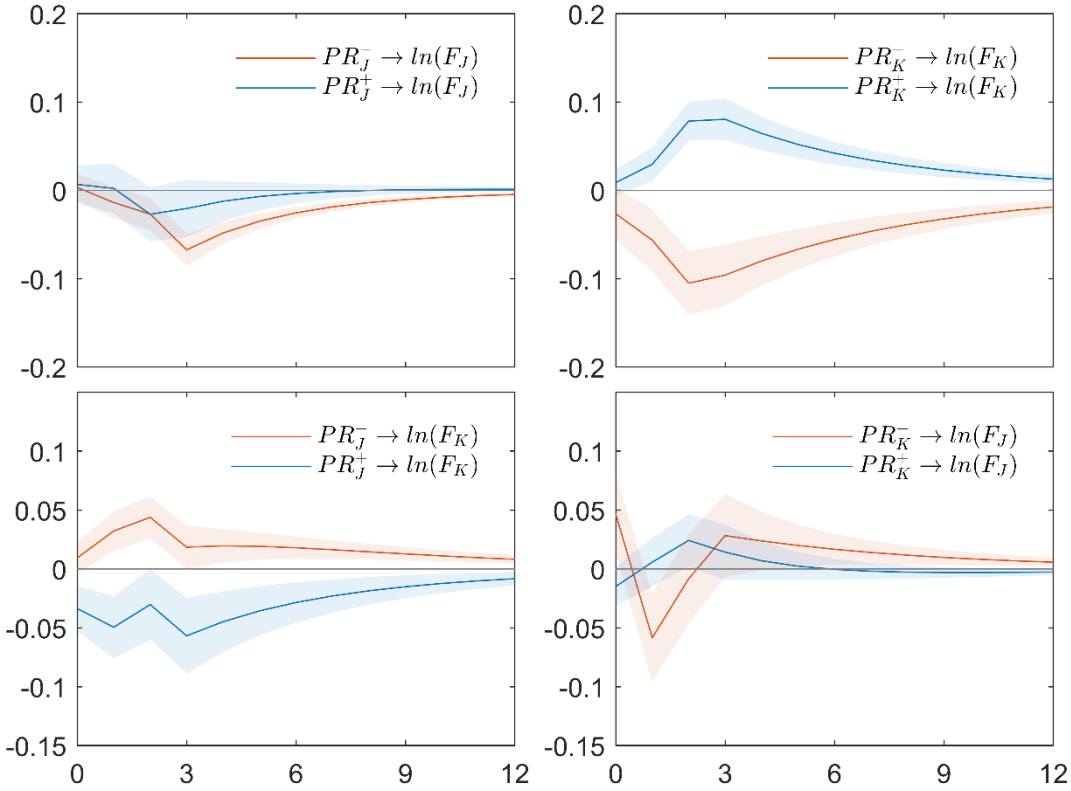

Figure 5 Impulse response functions of political shocks with different signs.

Note: Red lines are responses after negative political shocks, blue lines are responses after positive shocks, and the bands are 95% confidence intervals.

4.3 The Types of Political Conflicts

We further categorize political conflicts, i.e., negative political relations, into different types. We identify two important types of chronic political conflicts between China and Japan: disputes on territory and on history. We identify one particularly acute type of conflict between China and Korea: disputes on THAAD, as shown in **Table 1** and **Figure 2**. The re-estimated models are presented in columns [3]-[4] of **Table 4** and the corresponding response functions are reported in **Figure 6**.

The left panels show that the disputes on war history between China and Japan have a negative effect on the China-Japan tourist flow and a positive effect on the China-Korea flow, another evidence for multilateral interdependence. The territorial disputes between China and Japan reduce the China-Japan flow with a similar magnitude, but the China-Korea flow also drops slightly. One possible reason for the drop is that geopolitical collisions caused by territorial disputes usually lead to military demonstrations and temporary tensions throughout the region, which can raise security concerns (Kim et al, 2016) and reduce outbound tourism to Japan and Korea at the same time.

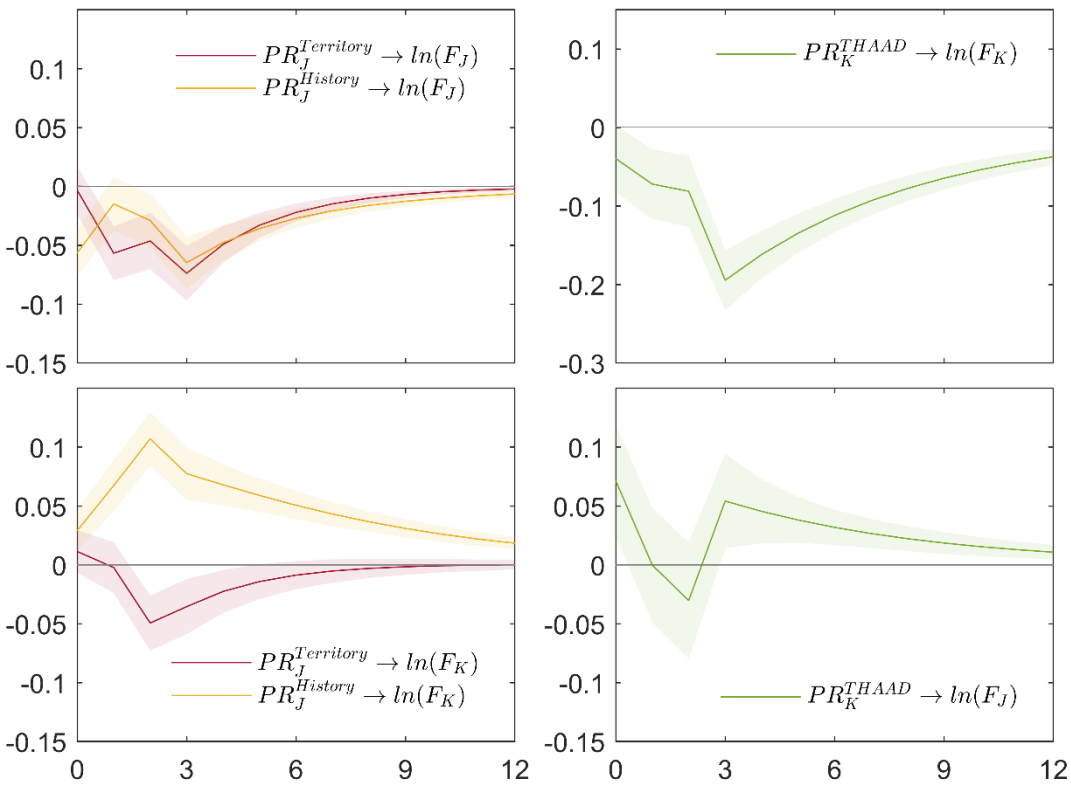

Figure 6 Impulse response functions of different types of political conflicts.

As indicated earlier, the only major shock in China-Korea political relations during our sample period was the THAAD incident. The findings are consistent with the baseline model reported in **Table 3**—the China-Korea flow is more sensitive (20% drop in the top-right panel) than the China-Japan flow (6% rise in the bottom-right panel). The overshooting pattern in the bottom-right panel also exists in **Figure 4** and **Figure 5**, which show that there are oscillatory political effects of the China-Korea relations on the China-Japan tourist flow.

5 CONCLUSIONS

This paper adopts text analysis to measure political relations between China and its two important neighbors, Japan, and Korea. We then develop a multilateral model to understand the effects of political relation on outbound tourism. The econometric model can capture sophisticated short-run dynamic features of monthly tourist flows from China to Japan and Korea.

We document the following aspects of the political effect. First, the China-Japan flow deviates from its trend by 7 percent and the China-Korea flow deviates by 12 percent in the three months after a typical political shock. Second, negative effects triggered by political conflicts tend to be greater than positive effects brought about by political unanimity. Third, China-Japan political relations affect the China-Korea tourist flow, but China-Korea political

relations do not significantly affect the China-Japan flow. Fourth, half of the effect disappears after about half a year. Last, tourist flows are more sensitive to acute incidents (e.g., THAAD incident) than to chronic disputes (e.g., disputes on war history).

Note that the data are *monthly*, so our empirical findings reflect short-term dynamics of political effects, which are complementary to the medium- and long-term findings in political science studies where consumers are unlikely to change their behavior in response to political disputes (Davis & Meunier, 2011). In light of these findings, we can draw useful implications for stakeholders in the international tourism industry.

For government policymakers, our findings confirm the importance of peaceful political relations to international tourism market. Nevertheless, many governments still purposely exploit the political effect and use outbound tourism as leverage to achieve their goals, especially when two countries are in the process of trade or political negotiations. The political ability to influence tourist flows can raise the bargaining power of the home country, but there are unintended consequences. First, volatile political relations may cause disruptions beyond the tourism market and destabilize the entire economy of the home country, so it is a double-edged sword. Moreover, it is always more difficult to remedy a broken relation than to destroy a friendly one, so it is more beneficial to maintain cooperative relations through reasonable dialogues than to engage in a threat-retaliation-escalation cycle using tourism and trade as weapons. We contend that political manipulations do more harm than good to countries involved in multilateral relations.

For business decision-makers, this study provides a powerful model to forecast tourist flows following changes in political relations. The implied impulse-response functions give more accurate information on when an effect reaches its peak and when the flow converges to the normal trend. With the predicted time paths of tourism flows, travel agencies and companies can plan ahead to allocate their human and financial resources and make their marketing strategies, instead of passively incurring unexpected losses. Our empirical findings also provide comprehensive and detailed knowledge on how tourist flows respond to different signs and types of political relations. For example, the effect of a political conflict between China and Japan can be counteracted by timely marketing promotions and price discounts, while improved political cooperation may not promote demand as much as a decline in hostile times. More importantly, multilateral political effects on outbound tourism suggest that product diversification is beneficial for businesses in tourism industry to hedge against political uncertainties. Travel agencies and companies can benefit from developing tourism products that are close substitutes, like travel to Japan and Korea.

There are a few limitations of our paper for future research to investigate. First, the econometric model can verify the existence, magnitude, and patterns of political effects, but

the underlying mechanisms (such as mediator) are not directly tested. Questionnaires and interviews can be employed to address this omission. Another promising extension of this study would entail applying big data (e.g., social media) to enrich measures of political relations. This provides an alternative measure of political relations using the individual attitude complementary to the official attitude. Second, this paper does not explore the effects of political relations on inbound tourist flows from Japan and Korea to China. We suggest that the stories on the inbound tourism should be told separately because political relations of a country pair are perceived differently by the two sides. Measures of political relations from the perspectives of Japan and Korea may differ from those of China. It is because Japan and Korea lack a state media and have a more diversified and democratic political culture. It remains for future researchers to explore tourist flows from Japanese and Korean perspectives.

Finally, the multilateral paradigm developed in this paper is readily generalizable to any regional tourism market with close geopolitical interactions. The model can apply to such regions as UK-France-Spain, US-Canada-Mexico, and Italy-Greece-Turkey, just to name a few. Theoretically, our framework has the potential to be extended to the global tourism market, but the empirical model will need some careful treatment.

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