



Bank of Japan Working Paper Series

Discussions and Issues Related to Estimation Method of "Travel"

Maiko Wada*
maiko.wada@boj.or.jp

Bank of Japan
2-1-1 Nihonbashi Hongoku-cho, Chuo-ku, Tokyo 103-8660

No.06-E-13
September 2006

* International Department

Papers in the Bank of Japan Working Paper Series are circulated in order to stimulate discussion and comments. Views expressed are those of authors and do not necessarily reflect those of the Bank.

If you have any comment or question on the working paper series, please contact each author.

When making a copy or reproduction of the content for commercial purposes, please contact the Public Relations Department (webmaster@info.boj.or.jp) at the Bank in advance to request permission. When making a copy or reproduction, the source, Bank of Japan Working Paper Series, should explicitly be credited.

Discussions and Issues Related to Estimation Method of “Travel”

September 2006*

Maiko Wada

Summary

- “Travel” in Japan’s balance of payments statistics is currently compiled in accordance with the definitions stipulated by the IMF *Balance of Payments Manual, fifth edition (BPM5)*, which is the international guideline for compiling the balance of payments statistics. Specifically, expenditures of travelers are estimated based on instruments of payment used by them¹. This current method presents several problems. First, expenditures that should be recorded under other components in the balance of payments statistics are being increased. Second, a small amount of expenditures are not covered. Third, although the review of *BPM5* under discussion requires Japan’s current data collecting method to be changed, Japan will not be able to cope with the revision that may emerge from this review.
- A possible solution to these problems would be to directly estimate the expenditures of travelers based on a questionnaire survey concerning travel expenditures (expenditure approach). Such an approach can be expected to improve the accuracy of data. Moreover, it will enable statistics compilers in Japan (including the Bank of Japan) to further expand source data and improve the estimation method, as the medium- to long-term challenge.
- This paper aims to overview the current situation in the field of “travel” data, and to introduce the idea of new estimation method based on the expenditure approach. It also hopes discussions among researchers and statistics users for improving “travel” in the balance of payments statistics.

* I would like to express my thanks to Mr. Tetsuma Arita (Japan Center for International Finance) and Ms. Misuzu Ohana (International Department, Bank of Japan <hereinafter, the Bank>) for their assistance in the estimation work of this paper. I would also like to express thanks to my colleagues at the Bank’s International Department and Research and Statistics Department for their helpful comments. Views expressed in this paper are, however, solely those of the author and not those of the Bank, the International Department, or the Research and Statistics Department.

¹ This paper is based on the estimation method as of 22 June 2006, when the Japanese version of this paper was released. The current estimation method of “travel” was revised beginning with figures released in July 2006. For details, refer to “Change in the Method for Compiling “Travel” in the Balance of Payments Statistics,” which was posted on the Bank’s website on July 4 2006 (<http://www.boj.or.jp/en/index.htm>).

1. Introduction

In recent years, the Japanese government and various local bodies have been promoting policies for encouraging foreign travelers visiting Japan. For instance, “Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2002” (June 2002) contains various recommendations for stimulating the tourism industry and taking longer continuous holidays. The government has also implemented the “Visit Japan Campaign” consisting of overseas public relations activities for promoting tourism.

In this context, the improvement of tourism-related statistics has been considered an important issue. For instance, the Ministry of Land, Infrastructure and Transport (MLIT) has engaged in developing the conceptual outline of the statistical framework in “Study Group on Statistical Information Related to Foreign Tourists” and “Discussion Group on the Development of Tourism Related Statistics.” Furthermore, promoting the development of an economic census, service-related statistics, and tourism-related statistics is recommended in “Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2005” (June 2006).

In Japan’s balance of payments statistics, expenditures of foreign travelers visiting Japan are recorded as credit under “travel,” a sub-component of the current account. Conversely, expenditures of Japanese travelers abroad are recorded as debit under “travel” (Chart 1). The reports issued by the abovementioned “Study Group on Statistical Information Related to Foreign Tourists” and “Discussion Group on the Development of Tourism Related Statistics” emphasize “travel” in the balance of payments statistics as one of the important tourism-related statistics on expenditures of foreign travelers visiting Japan and Japanese travelers abroad.

Chart 1: Principal Items of the Balance of Payments Statistics (Net Balance for 2005) and “Travel”

		(billion yen)	
Current Account	18,259.1	Capital and Financial Account	-14,006.8
Goods & Services	7,693.0	Financial Account	-13,457.9
Trade Balance	10,334.8	Direct Investment	-4,740.0
Exports	62,631.9	Portfolio Investment	-1,070.0
Imports	52,297.1	Financial Derivatives	-802.3
Services	-2,641.8	Other Investment	-6,845.6
Transportation	-502.1	Capital Account	-549.0
Travel	-2,765.9	Capital Transfers	-446.0
Credit	1,371.0		
Debit	4,136.9		
Other Services	626.2		
Income	11,381.7	Changes in Reserve Assets	-2,456.2
Current Transfers	-815.7	Errors & Omissions	-1,796.0

Note: Negative figures (-) in Capital and Financial Account and Changes in Reserve Assets show outflow of capital (an increase in assets or a decrease in liabilities).

During fiscal 2005, the International Department of the Bank of Japan conducted a questionnaire survey concerning travel expenditures of foreign travelers visiting Japan and Japanese travelers abroad (hereinafter, Survey of Travelers). The purpose of this survey was to obtain new source data for estimating “travel” (see Box 1 for details).

The immediate issue is to determine how the results of this survey can be used in resolving some problems under current estimation method of “travel.” First, current estimation method entails a complicated process of aggregating a number of source data. Second, due to growing diversity in instruments of payment, it includes the amount of transactions other than “travel.” It would be possible to improve the accuracy of “travel” in the balance of payments statistics by using the results obtained from the Survey of Travelers.

In addition, the study of estimation method of “travel” may be the first step to comply with the new definition under discussion for forthcoming edition of the International Monetary Fund (IMF) *Balance of Payments Manual*,² which is the international guideline for compiling the balance of payments statistics. The balance of payments statistics of Japan and other countries are based on *Balance of Payments Manual, fifth edition (BPM5)*, which was released in 1993. International discussions are currently undertaken for the revision of *BPM5*, including discussions to review the definition of “travel.” If definition is revised, it will become necessary to compile statistics that comply with the new definition. (The forthcoming edition of the *Balance of Payments Manual* is scheduled to be completed by the end of 2008.)

In this paper, the concept of “travel” and various estimation methods will be outlined. Next, as an immediate issue, problems in the estimation method of “travel” used in Japan’s balance of payments statistics are identified, followed by the examination of some possible solutions using the results of the Survey of Travelers. Finally, as an issue of medium- to long-term concern, some additional reviews to be made in “travel” are examined in complying with the forthcoming edition of *Balance of Payments Manual*.

2. Concept and Estimation Methods of “Travel”

(1) Statistical Concept of “Travel”

In the balance of payments statistics, “travel” has unique feature. That is, all services other than “travel” are classified by type of services (transportation, communications, construction, insurance, financial services, etc.), whereas “travel” contains an assortment of services, such as goods acquired, accommodations and entertainment supplied. According to *BPM5*, “*travel* differs from other components of international services in that it is a demand-oriented activity. The consumer (traveler) moves to the location of the provider (residents of the economy visited) for the goods and services desired by the traveler. Thus, unlike other services, *travel* is not a specific type of service but an assortment of services consumed by travelers (para. 241).”

² The *Balance of Payments Manual* was first published in 1948 and has been successively revised.

At the same time, *BPM5* states that “*travel* covers primarily the goods and services acquired from an economy by travelers during visits of less than one year in that economy (para. 242).” It also states that “all goods and services acquired by travelers from the economies in which they (travelers) are traveling and for their own use,” such as lodging, food and beverages, entertainment, and transportation within the economy visited, are recorded.

As for travelers, *BPM5* states that “a traveler is an individual staying, for less than one year, in an economy of which he is not a resident (para. 243),” thus includes travelers for the purpose of business such as business travel and training, as well as travelers for the purpose of tourism and leisure. On one hand, as an exception to this rule, persons staying in a foreign country while working in the government enclaves (military bases and agencies of their home-government) are not counted as travelers. In other words, persons stationed for working in military bases or agencies of their home-government (including diplomats and other embassy employees) and their dependents are not included in travelers. Their expenditures are recorded under “government services n.i.e.”³ On the other hand, as another exception, international students and medical patients are qualified as nonresidents even when they stay in an economy in which they are not residents for one year or more. Their expenditures are recorded under “travel”⁴ (Chart 2).

Chart 2: Definition of “Travel”

	Non-residents		
	Travelers		Persons working in military bases and agencies of home-government and their dependents
	General travelers	International students and medical patients	
Goods and services acquired during visits of <u>less than one year</u>	Travel	Travel	Government services n.i.e.
Goods and services acquired during visits of <u>one year or more</u>	Not recorded in the balance of payments statistics (see note)	Travel	Government services n.i.e.

Note: Residency of general travelers (travelers other than international students and medical patients) change from nonresidents to residents if they stay in a foreign country for one year or more. Hence, their expenditures are outside the scope of the balance of payments statistics. (Specifically, when individual B, who is a resident of country A, stays in country C for one year or more, individual B is qualified as a resident of country C rather than country A [nonresident of country A], and the goods and services acquired by individual B while staying in country C fall outside the scope of “travel” in the balance of payments statistics of country A and country C.)

³ In the case of Japan, expenditures abroad of Self-Defense Forces dispatched overseas are recorded under “travel.”

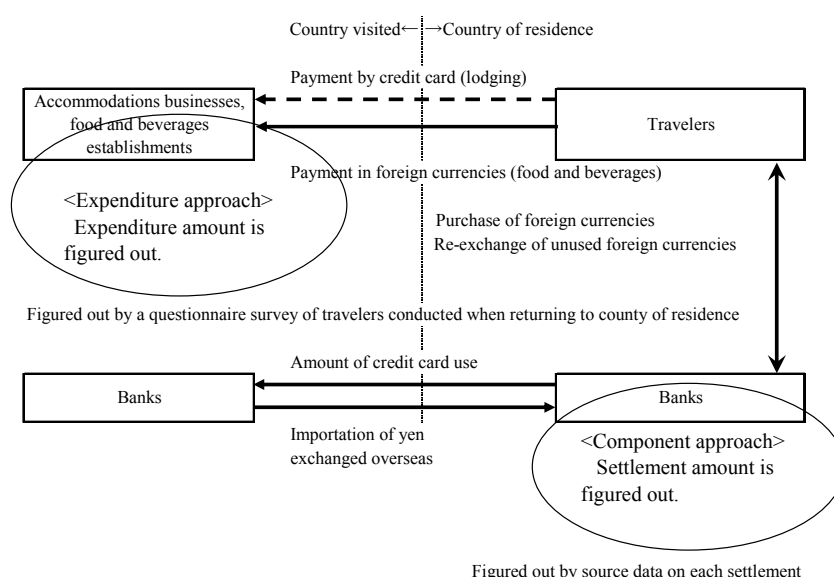
⁴ International students and medical patients are stipulated as residents of their economies of origin even when remaining in a foreign country for one year or more. So long as they remain members of households in their economies of origin, such persons are treated as having their centers of economic interest (criterion for determination of residence and nonresidence) in their home

(2) Estimation Methods of “Travel”

Estimation method of “travel” varies significantly among countries compiling and disseminating the balance of payments statistics. These variations reflect differences in the general environment of travelers, instruments of payment used, and systems for collecting source data.

The IMF *Balance of Payments Compilation Guide*, a practical guide concerning source data and details of compiling the balance of payments statistics, shows several different approaches as the estimation method of “travel.” These approaches allow for figuring out data by stages: at the expenditure stage where the goods and services are acquired by travelers (expenditure approach); and, at the settlement stage where travel and other expenditures are settled through settlement institutions such as banks and institutions transacting instruments of payment (component approach) (Chart 3).

Chart 3: Diagram of Estimation Methods of “Travel”



Note: The above chart shows a case in which a traveler visiting an economy for less than one year takes up lodgings, takes food and beverages (expenditure), and pays for these using credit cards (the actual amount spent is remitted overseas by instruction of credit card companies in the country of residence) and foreign currencies (settlement).

A. Expenditure approach (types of services acquired by travelers approach): figuring out the expenditure amount

- The expenditures of travelers and their breakdown (lodging, food and beverages, gift and souvenirs, etc.) are estimated based on a questionnaire survey of travelers, questionnaire

countries rather than in the economies where they are visiting. Hence, they are treated as nonresidents in the economies they are visiting, and their expenditures are recorded under “travel.”

surveys of accommodations businesses, food and beverages establishments, and gift and souvenir shops etc., or household surveys.

- A questionnaire survey of travelers is commonly conducted as a random sampling survey against to travelers immediately after their travel at airports, ports and international borders.

--- There are various approaches that are based on the same conceptual framework as the expenditure approach. Among these, the method of multiplying the estimated per capita expenditure amount by the number of travelers is frequently referred to as the “data model approach.” In this paper, the data model approach is included in the expenditure approach on the grounds that data at the expenditure stage is figured out.

B. Component approach (instruments used by travelers for payment of services approach):
figuring out settlement amount

- The amounts of instruments of payment used by travelers are estimated based on surveys or reports of banks and other institutions settling travel expenditures and transacting instruments of payment.
- Normally, this method involves collecting source data for each types of instruments of payment used for travel expenditures: settlement of credit card amounts spent in countries visited; amounts of foreign currencies and travelers’ checks acquired in the country of residence for use in countries visited; and amounts included in packaged tour payments that are transacted between country of residence and countries visited.

C. Partner country data approach: figuring out supplied amount

- Payments made for “travel” by country of residence are estimated by figuring out the amounts of expenditures of travelers and their breakdown through exchanging and sharing source data on goods and services supplied by the supplying countries (countries visited).

The IMF *Balance of Payments Compilation Guide* and other sources refer to the respective advantages and disadvantages of the expenditure approach and the component approach (Chart 4), but no general statement is made on which constitutes the more desirable approach. Currently, both the expenditure approach and the component approach are widely used in the estimation of “travel.”⁵

⁵ The partner country data approach has several issues, such as the extra time needed to obtain data from partner countries, and difficulties related to concluding agreements for the exchange of data. For these reasons, the approach is mainly used in mirror analysis of bilateral data (finding discrepancies and identifying their causes) aimed at improving the accuracy of data, and the use of partner country data in the estimation of official data is limited to a few countries.

Chart 4: Advantages and Disadvantages of Principal Approaches for Estimating “Travel”

	Expenditure Approach	Component Approach
Features	<p>Respondents : Large number of individuals</p> <p>Source data : A non-mandatory questionnaire survey of travelers for statistical purpose</p>	<p>Reporters : Small number of designated financial institutions and general business companies</p> <p>Source data : Mandatory reports for administrative purpose</p>
Advantages	<p>Source data</p> <ul style="list-style-type: none"> ▪ Changes in content (survey items, survey method, languages used, etc.) do not require revision of laws, prior notification, and modification of compiling systems of statistics compilers. ▪ Can be designed and reviewed to comply with IMF <i>Balance of Payments Manual</i>, and domestic and international needs. 	<p>Reporters</p> <ul style="list-style-type: none"> ▪ Reporting accuracy is relatively high. <p>Source data</p> <ul style="list-style-type: none"> ▪ Difficult to cover all instruments of payment for “travel,” but possible to compile statistics with high accuracy.
Disadvantages	<p>Respondents</p> <ul style="list-style-type: none"> ▪ Difficult to maintain data accuracy in case of poor interpersonal skills of surveyors and cooperation of respondents. <p>Source data</p> <ul style="list-style-type: none"> ▪ Acquisition of accurate data burdens statistics compilers due to the need for a regular survey of considerable scale. 	<p>Source data</p> <ul style="list-style-type: none"> ▪ Changes in content (report items) require revision of laws, prior notification, and modification of systems by statistics compilers. ▪ Difficult to flexibly design and review to comply with IMF <i>Balance of Payments Manual</i>, and domestic and international needs. ▪ Data coverage declines as the threshold of reporting is raised.

Source: Compiled from IMF *Balance of Payments Compilation Guide* and other sources.

- Notes: 1. Under the expenditure approach, it is also possible to estimate per capita expenditure of travelers based on questionnaire surveys of accommodations businesses, food and beverages establishments, gift and souvenir shops etc., and household surveys. However, questionnaire surveys of food and beverages establishments and gift and souvenir shops have the following issues; it is difficult to differentiate between resident and nonresident travelers; and, it is difficult to specify places of business patronized by travelers. Household surveys may yield inaccurate responses due to the time lag between timing of travel and timing of the survey. In light of these considerations, the expenditure approach in the above chart reflects the case in which source data is obtained from a questionnaire survey of travelers.
2. The chart shows advantages/disadvantages common to various countries. Therefore, all of them do not necessarily apply to Japan.

(3) Estimation Methods of “Travel” Used by Foreign Countries

Of the approaches described above, Japan has used the component approach. This is because the data needed for compiling the balance of payments statistics has traditionally been available from reports submitted by settlement institutions of travel expenditures and

institutions transacting instruments of payment as stipulated by the *Foreign Exchange and Foreign Trade Law* (hereinafter, the *Foreign Exchange Law*), the law on which the compilation of the balance of payments statistics is based.

A review of the estimation methods of “travel” used by foreign countries shows the following. With the exception of South Korea, which uses the same component approach as Japan, almost all countries are using the expenditure approach (Chart 5).

Reasons for preferring the expenditure approach differ among countries. For instance, EU countries switched to the expenditure approach at the time of the introduction of euro as a single currency (since January 2002). Since travel among most euro area no longer requires the exchange of home and foreign currencies, amounts of home and foreign currencies exchanged, which constitute an important source data in the component approach, became unavailable. On the other hand, the United States, Hong Kong, Singapore and others have long utilized the expenditure approach for the following reasons: settlement of travel expenditures is not subject to reporting; and, there is a relatively low correlation between the exchange of home and foreign currencies and expenditures of travelers.

Chart 5: Estimation Method of “Travel” Among Counties

	Japan	South Korea	United States	EU counties	Singapore, Thailand, China, Hong Kong, Malaysia, etc.
Expenditure Approach			O	O	O
Component Approach	O	O			

Source: IMF, Dissemination Standards Bulletin Board (<http://dsbb.imf.org/Applications/web/sddscountrylist/>) and sources of each country

A study of estimation methods of “travel” points to various instances where countries have switched from the component approach to the expenditure approach. An example of this is seen among EU countries that made the switch because statistical accuracy of “travel” could not be maintained using the component approach due to changes in instruments of payment. However, there are no instances of countries that have switched from the expenditure approach to the component approach. Quite clearly, the expenditure approach has some issues. Firstly, figuring out per capita expenditure of travelers requires implementing a regular and large-scale questionnaire survey of travelers, which creates considerable burdens for statistics compilers. Secondly, there are certain inherent limits to the accuracy of a questionnaire survey of travelers. However, a series of factors make it difficult and unlikely that any country will switch from the expenditure approach to the component approach. This is because, with steady progress toward deregulation, any attempt to create reporting systems on settlements of travel expenditures and

transactions of instruments of payment, as required under a component approach, would entail large costs.⁶

3. Japan’s Estimation Method of “Travel”

(1) Estimation Method of Total Credit/Debit

Japan’s estimation method of “travel” which is based on the component approach is as follows: data is estimated by report on settlements with nonresidents (hereinafter, Report on Payments)⁷ and report on instruments of payment (see below), both are based on the *Foreign Exchange Law*, supplemented by data obtained from the Surveys of Travelers.

A. Credit

Source data for credit are obtained from the following:

- Report on Payments (indicated in blue);
- Report on Purchase and Sale of Foreign Currencies and Traveler’s Checks (hereinafter, Report on Exchange of Currencies),⁸ and Report on Purchase of Foreign Currencies and Traveler’s Checks (hereinafter, Report on Purchase of Currencies)⁹ (indicated in yellow); and
- Survey of Travelers in fiscal 2002¹⁰ (indicated in pink)

Chart 6-1: Amounts and Share of Source Data in Total Credit (for the year 2005)

Source data	Share (Amount)
Report on Payments	
Reported by travel companies	Approx. 1% (Approx. 13.7 billion yen)
Reported by credit card companies	Approx. 23% (Approx. 315.3 billion yen)
Report on Exchange of Currencies, etc.	Approx. 14% (Approx. 191.9 billion yen)
Survey of Travelers in fiscal 2002	Approx. 62% (Approx. 850.0 billion yen)
Total	100.0% (1,371.0 billion yen)

⁶ However, some countries compile preliminary data on “travel” by multiplying the data on settlements with nonresidents (obtained from credit card companies) by the ratio of payments made by credit card (obtained from a questionnaire survey).

⁷ Ministerial ordinances concerning reports of foreign exchange transactions, etc. (hereinafter, ministerial ordinance) appendix formats Nos. 1–4. Residents are required to report receipts and payments with nonresidents exceeding 30 million yen.

⁸ Ministerial ordinance appendix format No. 29 requires financial institutions in Japan to report total amounts of foreign currencies and travelers’ checks purchased from/sold to persons in Japan (including nonresidents visiting Japan).

⁹ Ministerial ordinance appendix format No. 44 requires financial institutions in Japan to report total amounts of foreign currencies and travelers’ checks purchased from residents returning from abroad.

¹⁰ Refers to the report concerning “Survey of Expenditures of Foreign Visitors” conducted by the Ministry of Finance in 2002 (<http://www.mof.go.jp/jouhou/kokkin/tyousa2002tyousa.htm> <available only in Japanese>). Regarding “travel” credit, Report on Payments and Reports on Exchange of Currencies do not cover amounts of yen obtained in home country and brought into Japan by foreign travelers, and amounts of withdrawn from CD/ATMs in Japan and spent in Japan. For this reason, the Survey of Travelers was undertaken for the first time in fiscal 2002.

Chart 6-2: Estimation Method of Total Credit

A: Travel payments made through travel companies.	Expenditure amount = amount recorded in the balance of payments statistics (estimated as “A+B+C+E+F+G-I-J”)
B: Amount of credit card use.	
C: Yen obtained by exchanging foreign currencies in Japan.	
D: Foreign currencies not exchanged into yen in Japan.	
E: Yen brought into Japan from abroad.	H: Foreign currencies not spent in Japan and taken home as foreign currencies.
F: Yen withdrawn from CD/ATMs in Japan.	H: Yen not spent in Japan and exchanged and taken home as foreign currencies.
G: Yen earned as income in Japan and used to cover travel expenses.	I: Yen not spent in Japan and taken home as yen.

- Notes: 1. The yellow portion is computed as follows: (amount of foreign currencies purchased by financial institutions in Japan [A]) minus (A x ratio of foreign currencies purchased by financial institutions in Japan from residents returning from abroad [so-called “bring-back ratio”]). “Amount of foreign currencies purchased by financial institutions in Japan” is derived from Report on Exchange of Currencies, and “ratio of foreign currencies purchased by financial institutions in Japan from residents returning from abroad” is derived from Report on Purchase of Currencies.
2. Source data on D and H are unavailable. However, amounts of D and H are assumed to be equal because of the small number of regions and stores in Japan where foreign currencies are used as an instrument of payment.
3. Yen/foreign currencies refer to those in possession of foreign travelers visiting Japan.

B. Debit

Source data for debit are obtained from the following:

- Report on Payments (indicated in blue);
- Report on Exchange of Currencies and Report on Purchase of Currencies (indicated in yellow);
- Survey of Travelers in fiscal 2002 (indicated in pink); and
- Report on Importation of Japanese Currency (hereinafter, Report on Importation)¹¹

Chart 7-1: Amounts and Share of Source Data in Total Debit (for the year 2005)

Source data	Share (Amount)
Report on Payments	
Reported by travel companies	Approx. 8% (Approx. 331.0 billion yen)
Reported by credit card companies	Approx. 34% (Approx. 1,406.5 billion yen)
Report on Exchange of Currencies, etc.	Approx. 12% (Approx. 496.4 billion yen)
Survey of Travelers in fiscal 2002	Approx. 18% (Approx. 744.6 billion yen)
Report on Importation	Approx. 28% (Approx. 1,158.3 billion yen)
Total	100.0% (4,136.9 billion yen)

¹¹ Ministerial ordinance appendix format No. 30 requires financial institutions in Japan to report amounts of yen imported from nonresidents.

Chart 7-2: Estimation Method of Total Debit

A: Travel payments made through travel companies.	Expenditure amount = amount recorded in the balance of payments statistics (estimated as “A+B+C+J+ amount of yen spent abroad”)
B: Amount of credit card use.	
C: Foreign currencies obtained by exchanging yen in Japan.	
D: Foreign currencies obtained by exchanging yen abroad.	
E: Yen not exchanged into foreign currencies abroad.	H: Yen not spent abroad and brought home as yen.
F: Foreign currencies withdrawn from CD/ATMs abroad.	I: Foreign currencies not spent abroad and exchanged and brought home as yen.
G: Foreign currencies earned as income abroad and used to cover travel expenses.	J: Foreign currencies not spent abroad and brought home as foreign currencies.

- Notes: 1. The yellow portions are computed as follows. C is obtained from “amount of foreign currencies sold by financial institutions in Japan.” J is obtained by multiplying “amount of foreign currencies purchased by financial institutions in Japan” by “ratio of foreign currencies purchased by financial institutions in Japan from residents returning from abroad [so-called “bring-back ratio”]”.¹² “Amounts of foreign currencies purchased/sold by financial institutions in Japan” is derived from Report on Exchange of Currencies.¹³ “Ratio of foreign currencies purchased from residents” is derived from Report on Exchange of Currencies.
2. Yen/foreign currencies refer to those in possession of Japanese travelers abroad.
3. Source data on D, E, H and I (shadow area) are unavailable. However, “D+E-H-I” is estimated as “amount of yen spent abroad (by Japanese travelers abroad).” That is, “yen brought into Japan by foreign travelers” out of “amount of yen spent abroad” is obtained from the Survey of Travelers in fiscal 2002, and “yen returning through financial institutions” out of it is obtained from Report on Importation.¹⁴

(2) Estimation Method of Country/Regional Breakdown and Business/Personal Breakdown

County/regional breakdown and business/personal breakdown¹⁵ are estimated by distributing total credit/debit with allocation ratio based on surveys of other organizations (See BOX 2 for details).

¹² While J is subject to a certain time lag, it is assumed that unused foreign currencies are eventually brought to financial institutions in Japan to be exchanged into yen.

¹³ No assumption is made that foreign travelers will re-exchange their unused yen into foreign currencies (the purchase of foreign currencies from financial institutions in Japan) at the time of their departure from Japan. Therefore, the entire amount of foreign currencies sold by financial institutions in Japan, reported in Report on Exchange of Currencies, is treated to be sold to residents.

¹⁴ The amount of exportation of yen by financial institutions in Japan is small. Therefore, it is assumed that yen taken out of Japan by Japanese travelers abroad are brought back into Japan by either foreign travelers or returned through financial institutions. Based on this assumption, the two items are added together.

¹⁵ “Travel” is treated as follows in national accounts. Business travel is treated as a business related intermediate consumption, while personal travel is treated as a final consumption expenditure. Hence, for national accounts purpose, “travel” in the balance of payments statistics should be broken down into business and personal travel. For this reason, *BPM5* identifies the classification of “travel” into business and personal travel based on the purpose of travel as standard components (strongly recommended items for purposes of analysis) of the balance of payments statistics.

(3) Issues Pertaining to Estimation Method

The current estimation method of “travel” is well suited to Japan’s reporting system, and has traditionally been able to provide highly accurate estimate of “travel.” However, the following problems have emerged in recent years.

A. Inclusion of Amounts Unrelated to “Travel” Transactions

Report on Payments, Report on Exchange of Currencies, and Report on Importation have always been exposed to the possibility of including amounts unrelated to “travel” transactions (Chart 8). However, in recent years, the inclusion of amounts unrelated to “travel” has been increasing, thereby undermining the accuracy of the statistics.

An example of this problem can be seen in the use of credit cards for settlement of transactions with nonresidents as reported in Report on Payments. In the past, such credit card settlements were primarily related to those for expenditures incurred during traveling Japan or abroad. However, in recent years, it is believed that a significant portion of these settlements relate to Internet shopping, which should be recorded under “goods” in the trade balance, and to services obtained from foreign companies, which should be recorded under “communications services” or “computer and information services.”

Another problem pertains to growing purchases of used cars by the foreign ships’ crew stopping at Japanese ports. When an used car dealer who has received payment (predominantly in U.S. dollar cash) for cars sold to foreign ships’ crew exchanges this into yen, the amount exchanged is included in Report on Exchange of Currencies together with currencies exchanged by travelers. These transactions do not fall under “travel,” and should be recorded in the trade balance as shuttle trade (acquisition of goods for commercial purposes by travelers).

Yet another problem pertains to yen returned to Japan, which can be assumed to include yen taken out of Japan by foreign workers as workers’ remittances.

Ideally, the amounts of transactions unrelated to “travel” should be reported separately. However, in many cases, this is not easy to accomplish for practical reasons.

Chart 8: Unrelated Transactions Included in “Travel” under Current Reporting

- A. Amounts paid by credit card (from Report on Payments) include the following:
- Payments for Internet shopping: trade balance
 - Payments for courier services of foreign companies: communications services (sub-component of “other services”)
 - Payments for use of computer data bases: computer and information services (sub-component of “other services”)
 - Remittances of foreign workers to home countries: workers’ remittances (sub-component of “current transfers”)

<p>B. Amounts of foreign currencies exchanged by financial institutions (from Report on Exchange of Currencies) include the following:</p> <ul style="list-style-type: none"> ▪ Exchange of foreign currencies obtained by used car dealers as payment for cars sold to foreign ships' crew: trade balance ▪ Purchase of foreign currencies by foreign workers for carrying back to home countries: workers' remittances ▪ Exchange of foreign currencies by residents for investment purposes: excluded from balance of payments statistics as resident-resident transactions
<p>C. Yen returned to Japan (from Report on Importation) include the following:</p> <ul style="list-style-type: none"> ▪ Yen carried back to home countries by foreign workers: workers' remittances ▪ Yen used in foreign countries for purchase of merchandise: trade balance

B. Figuring out the Expenditures of Long-Term International Students

Currently, there are 115,000 long-term international students attending colleges and universities in Japan (“Survey of International Students in Japan (2005),” Japan Student Services Organization [JASSO]). Conversely, there are 78,000 long-term Japanese international students attending colleges and universities abroad (“Outline of the Student Exchange System in Japan (fiscal 2005),” Ministry of Education, Culture, Sports, Science and Technology [MEXT]).

Expenditures of these long-term international students are to be recorded under “travel.” However, under the current threshold of reporting of Report on Payments (30 million yen), a large portion of payments/receipts made for education and living expenses remain unreported.

Expenditures of foreign medical patients visiting Japan and Japanese medical patients abroad to receive medical treatment are also to be recorded under “travel.” While these expenditures can be assumed to be small, the use of Report on Payments as the source data implies that a large portion of these expenditures is not fully captured.

C. Updating Some Source Data

The estimation of total credit and debit is based on the Survey of Travelers conducted in fiscal 2002. Similarly, the estimation of the country/region breakdown and business/personal breakdown are based on the Japan National Tourist Organization (JNTO) “Survey of Expenditures of Foreign Visitors” conducted in fiscal 1994. Both surveys need to be updated, as it is likely that they do not accurately reflect current conditions.

4. Attempt of Estimating “Travel” Using Expenditure Approach

(1) Use of a Questionnaire Survey of Travelers

As described above, estimation of “travel” based on a component approach faces a number of problems. A possible solution would be to adopt the following expenditure approach based on per capita expenditure data obtained from the Survey of Travelers. (Here, source data on per capita expenditure is obtained from the Survey of Travelers.)

$$\begin{aligned} & \text{Per capita expenditure of travelers} \times \text{Number of travelers} \\ & = (\text{Per capita expenditure of individual travelers} \times \text{Ratio of individual travelers} + \text{Per capita} \\ & \quad \text{expenditure of group tour travelers} \times \text{Ratio of group tour travelers}) \times \text{Number of travelers} \end{aligned}$$

Per capita expenditure of individual travelers:

Total expenditures for visiting Japan/traveling abroad - Cost of air transportation to make an overseas journey - Gifts and other goods purchased for commercial purposes

Per capita expenditure of group tour travelers:

Cost of tour for visiting Japan/traveling abroad + Expenditures for visiting Japan/traveling abroad other than cost of tour - Amount equivalent to airfare for an overseas journey (estimated [see below]) - Gifts and other goods purchased for commercial purposes

A. Estimation of Number of Travelers

Per capita expenditure of travelers differs between foreign travelers visiting Japan and Japanese travelers abroad. Therefore, it is necessary to estimate per capita expenditure of the two groups separately and to respectively multiply these by the number of foreign travelers and the number of Japanese travelers abroad. The number of travelers is computed by adjusting¹⁶ the JNTO's "Number of Foreign Visitors to Japan" and "Number of Japanese Travelers Departing Japan."

In the expenditure approach, if it is not possible to obtain additional reference data, the per capita expenditure derived from the Survey of Travelers can continue to be used until the results of the next survey become available. This method can be deemed to be acceptable on the grounds that the spending behavior of travelers does not change so frequently. On the other hand, the number of travelers changes significantly from month to month. Hence, without proper information on changes in the number of travelers, it is difficult to determine the amount of "travel." This difficulty can be avoided by using the abovementioned data on the number of travelers, which is published monthly, to estimate the amount of "travel" in the monthly balance of payments statistics.

B. Exclusion of Cost of Transportation (Airfare)

In estimating per capita expenditure of travelers, it is necessary to exclude the cost of transportation between Japan and foreign countries (airfare) from "travel." This conforms to the *BPM5*, which notes: "Excluded is the international carriage of travelers, which is covered in passenger services under *transportation* (para. 242)."

In the Survey of Travelers, it was possible to obtain information on the cost of airfare from travelers not using packaged tours (hereinafter, individual travelers). This is because individual travelers pay for airfare separately from their other expenditures.

¹⁶ For example, adjustments are made to conform to the definition of traveler (persons residing for a period of less than one year in an economy other than their economies of origin). Specifically, data from the Ministry of Justice to compute the ratio of "persons residing in Japan for a period of less than one year" in "foreign residents entering Japan," and the ratio of "Japanese citizens who spent a period of less than one year in foreign countries" in "Japanese citizens returning to Japan." Finally, the number of travelers is multiplied by these ratios.

On the other hand, the cost of airfare could not be obtained for travelers using packaged tours (hereinafter, group tour travelers). This is because, in the case of group tour travelers, the cost of airfare is generally included in the price of packaged tours. Hence, to estimate “travel,” some method must be devised to exclude the amount equivalent to cost of airfare for group tour travelers. Foreign countries have generally opted for one of the three possible approaches described below. In light of the conditions that prevail in Japan, the most suitable approach would be “[3] Using the results of Survey of Travelers.” (Several different methods can be considered for using the results of Survey of Travelers. See Box 3 for details.)

[1] Obtaining source data from International Air Transport Association (IATA) and airline companies

- This approach can be used when the following information is available: IATA Passenger Air Tariff, Carrier Air Tariff (major carriers announce the maximum airfare contained in the price of tours, with IATA Passenger Air Tariff as a ceiling)

[2] Obtaining source data from travel companies and tourism related organizations

- This approach can be used when the following information is available: payments to airline companies (airfare) in price of packaged tours; payments to accommodations businesses, food and beverages establishments, and local transportation such as buses and trains; and, fees and commissions charged by travel companies.
- An alternative approach for estimating the amount equivalent to airfare is to subtract the following components from the price of packaged tours. Additional expenses related to extension of stay in free-design packaged tours are assumed to be equivalent to the cost of accommodations and food contained in the price of packaged tours. The amounts of fees and commissions for travel companies in the price of packaged tours are obtained from financial statements or interviews.

[3] Using the results of the Surveys of Travelers

C. Exclusion of Shuttle Trade

To further conform to the definition of “travel” (goods and services acquired by travelers for their own use in nonresident economies), it is necessary to exclude the amounts of gifts and other goods purchased by travelers for commercial purposes, which are obtained from the Survey of Travelers, from “travel.”

Based on the above, trial calculations of amounts to be recorded under “travel” show the following results (estimated figures for 2005). Annual expenditures of foreign travelers visiting Japan (credit) amounted to roughly 700 billion yen, while annual expenditures of Japanese travelers abroad (debit) amounted to roughly 2,700 billion yen.

(2) Using Other Source Data to Supplement Coverage

The foregoing exercise shows the most portion of “travel” figure can be estimated using an expenditure approach. However, this figure fails to properly reflect several sub-components. For example, categories of travel that are beyond the scope of the Survey of Travelers (long-term international students, etc.) are not included. Furthermore, other categories of travel are not fully covered. Examples include that host companies paid travel expenses of corporate guests during traveling in Japan and traveling abroad, and that companies bore travel expenses and dispatched their employees for training and business visits.¹⁷ Other data sources must be used to determine these expenditure amounts.

For cost-benefit reasons, the Survey of Travelers tends to be a sampling survey. Therefore, it is difficult to capture the spending behavior of relatively small groups of travelers who are big spenders. As a result, the per capita expenditure (sample mean) derived from the Survey of Travelers is likely to be smaller than the per capita expenditure of all travelers (population mean). This has led to discussions among the statistics compiling authorities of various countries concerning the need to improve the accuracy of “travel” through the use of other supplementary source data. (See Box 4 for the frequency distribution and bias of per capita expenditure obtained from the Survey of Travelers.)

From this, it would be appropriate to supplement the estimation method of “travel” based on an expenditure approach, which uses the results of the Surveys of Travelers, by information from Report on Payments and other available source data.

A. Estimating the Expenditures of Long-Term International Students and Others

The Survey of Travelers did not cover Japanese students staying in foreign countries for one year or more and foreign students staying in Japan for one year or more. The exclusion of these long-term international students was based on the assumption that an accurate picture of expenditures incurred during extended periods of stay could not be obtained from the Survey of Travelers conducted at airports.

Data needed in estimating the expenditures of foreign students in Japan can be derived from the following sources. The number of long-term foreign students in Japan can be obtained from JASSO’s “Survey of International Students in Japan.” Monthly living expenses and tuition (including self-financed expenditures) can be obtained from Association of International Education, Japan’s “Survey of Living Conditions of Non-Sponsored International Students in Japan.”

In contrast, data needed in estimating the expenditures of Japanese students abroad can be derived from the following source. The number of long-term Japanese students abroad, tuition scholarship and monthly scholarship excluding tuition (amounts are based on

¹⁷ This refers to expenses that are not made advances in Japan/abroad by travelers and not reimbursed later to them (applicable hereinafter).

government-sponsored overseas students) can be obtained from MEXT’s “Outline of the Student Exchange System in Japan.” Self-financed expenditures, thus expenditures other than scholarship, cannot be figured out from the abovementioned outline, however, this source data can be used in estimating most of the expenditures incurred by Japanese students abroad.

Using these source data, the following estimates (estimated figures for 2005) were obtained concerning the expenditures of long-term international students. Annual expenditures of foreign students in Japan for one year or more than (credit) amounted to roughly 200 billion yen, while annual expenditures of Japanese students abroad for one year or more than (debit) amounted to roughly 400 billion yen (Chart 9).

The surveys used in these estimates are published annually, making it possible to annually revise the annual estimated expenditure. However, no monthly figures are available. Under these circumstances, the second-best solution for compiling monthly balance of payments statistics would be to divide the annual amounts, estimated by the previous year surveys, into twelve equal portions and to use these as monthly data.

Chart 9: Estimation of Expenditures of Long-Term Students

Expenditures of foreign students in Japan staying for one year or more	Expenditures of Japanese students abroad staying for one year or more
<p>Approx. 200 billion yen/year = Monthly living expenses including tuition x 12 months (total number of foreign students – short-term foreign students) = \$1,207.55 x 12 months x 115,085 persons</p> <p>Sources: Japan Student Services Organization, “Survey of International Students in Japan (2005).” Japan Association of International Education, “Survey of Living Conditions of Non-Sponsored International Students in Japan (2004).”</p>	<p>Approx. 400 billion yen/year = (Tuition scholarship + monthly scholarship excluding tuition x 12 months) x Number of long-term Japanese students studying abroad = (\$30,000 + 105,000 yen x 12 months) x 16,084 persons (China) + (\$30,000 + 175,000 yen x 12 months) x 61,719 persons (excluding China)</p> <p>Source: Ministry of Education, Culture, Sports, Science and Technology, “Outline of the Student Exchange System in Japan (fiscal 2005).”</p> <p>Notes: 1. Full tuition scholarship is provided, with maximum amount of \$30,000. In estimation, it was assumed that annual tuition was \$30,000 for all Japanese students abroad. 2. Monthly scholarship excluding tuition, vary according to region. In estimation, lowest amount was used for China, and highest amount was used for all other regions.</p>

B. Use of “Report on Payments”

Certain types of expenditures cannot be covered by the Survey of Travelers conducted at airports. Among such expenditures, those involving receipts/payments exceeding 30 million

yen can be obtained from “Report on Payments.” Specifically, expenditures of Self-Defense Forces dispatched overseas, high-cost medical treatment received in Japan/overseas, and travel expenses not borne by travelers themselves (Examples include that host companies paid travel expenses of corporate guests during traveling in Japan and traveling abroad, and that companies bore travel expenses and dispatched their employees for training and business visits.). Such expenditures are difficult to obtain from the Survey of Travelers conducted at airports, but are reported in “Report on Payments” under the heading of “Expenses related to travel and overseas education (including receipt/payment for medical services received by residents/nonresidents in foreign countries/Japan in the course of their travels).”¹⁸ Therefore, this data is available. It would be appropriate to add these amounts in “travel” for the month in which receipt/payment occurred.

“Report on Payments” filed during January - March 2006 were used to estimate the amounts that would be added to “travel” under this method. It was estimated that annual amounts added to “travel” would come to roughly 10 - 20 billion yen for both credit and debit.

(3) Comparison of Expenditure of Travelers

As outlined above, “travel” can be estimated on the basis of the expenditure approach and supplemented where data coverage is not complete. Estimated figures for 2005 using this approach indicate that credit (expenditures of foreign travelers visiting Japan + expenditures of foreign students in Japan for one year or more) amounted to roughly 900 billion yen, while debit (expenditures of Japanese travelers abroad + expenditures of Japanese students abroad for one year or more) amounted to roughly 3,100 billion yen (Chart 10).

Chart 10: Estimated Figures of “Travel” for 2005 Based on the Expenditure Approach

	Estimated figures using the expenditure approach	(Ref.) Figures using the current component approach
Credit	Approx. 900	1,371
Debit	Approx. 3,100	4,136.9

The estimated figures of “travel” using the expenditure approach is lower than the figures of “travel” in the balance of payments statistics compiled using the current component approach. (Credit and debit are roughly 1,400 billion yen and 4,100 billion yen, respectively.) This can be attributed to the following factors.

First, the updated source data more accurately reflects recent trends in the expenditures of travelers. Specifically, in recent years, there has been a steady increase in the ratio of Asian travelers visiting Japan and the ratio of Japanese travelers to Asia. The expenditures of such travelers are relatively smaller than the expenditures of European and American travelers

¹⁸ “Report on Payments” requires reporters to use “balance of payments codes” to indicate the purpose of payments/receipts. The corresponding code for “Expenses related to travel and overseas study” is 111.

visiting Japan and of Japanese travelers to Europe and America. These changes contribute to reducing the total expenditures of travelers.

Second, the coverage of “travel” has been elaborated and transactions unrelated to “travel” have been excluded. These changes contribute to lowering the estimated figures. A summarization of the coverage of “travel” based on the expenditure approach (Chart 11) shows that this approach brings the statistics closer to the recommendations of *BPM5*. (Shadow area indicates where the scope has been brought closer to scope as stipulated in *BPM5*.)

Chart 11: Coverage of “Travel” and its Scope Stipulated in *BPM5*

	Travelers	
	General travelers	International students and medical patients
Goods and services acquired during visits of <u>less than one year</u>	<goods and services paid for by travelers themselves > Component approach: X --- Unrelated transactions are included in “travel.” Expenditure approach: O	Component approach : Δ Expenditure approach : O for international students, and Δ for medical patients
	<goods and services not paid for by travelers themselves > Component approach : Δ Expenditure approach : Δ	
Goods and services acquired during visits of <u>less than one year</u>	Not recorded in the balance of payments statistics	Component approach : Δ Expenditure approach : O for international students, and Δ for medical patients

Explanatory note: “O”: Fully consistent with the scope of “travel” as stipulated in *BPM5*.

“Δ”: Consistent with *BPM5*, but coverage may be incomplete due to 30 million yen threshold of reporting of “Report on Payments.”

“X”: Inconsistent with *BPM5*.

The updating source data by using the Survey of Travelers will make the statistics appropriately reflect current developments. This can be expected to improve the country/regional breakdown and business/personal breakdown.

From the foregoing, a method based on the expenditure approach would serve for more precise estimation of “travel.”

5. Discussions Related to Revision of the IMF Balance of Payments Manual and Japan’s Responses

Thus far in this paper, the immediate issue for improving Japan’s “travel” based on *BPM5*, the current IMF *Balance of Payments Manual*, has been focused. Meanwhile, various

international organizations including the IMF and the statistics compiling authorities of countries throughout the world are currently engaged in discussions on the revision of the IMF *Balance of Payments Manual*, a process scheduled to be completed by the end of 2008. This opens up a series of medium- to long-term issues concerning how Japan should respond to the expected forthcoming revisions in compiling its balance of payments statistics.

Discussions of “travel” including potential revision of the definition are currently conducted in the following forums. Firstly, the OECD-Eurostat Meeting of Experts in Trade in Services is jointly organized by the Organization of Economic Cooperation and Development (OECD) and Eurostat. Participants include the IMF, the United Nations, the World Trade Organization, and the statistics compiling authorities of various countries, including Japan. The second forum is the Task Force on Statistics of International Trade in Services, which operates under the aegis of the OECD-Eurostat Meeting of Experts. Both forums consist of group of experts whose deliberations are reported to the IMF Committee on Balance of Payments Statistics, the decision-making body on the revision of the IMF *Balance of Payments Manual*. (The IMF Committee on Balance of Payments Statistics meets annually with the participation of the IMF, related international organizations, and the statistics compiling authorities of IMF member countries.) As such, there is a high possibility that the discussions of these two forums will be reflected in the forthcoming revision of the IMF *Balance of Payments Manual*.

One of the issues being discussed is the re-definition of “travel,” which is stipulated in *BPM5* as follows. “*Travel* covers primarily the goods and services acquired from an economy by travelers during visits of less than one year in that economy.” Although *BPM5* collaterally notes that “goods and services may be paid for by the traveler, paid for on his or her behalf, or provided to him or her without a quid pro quo (e.g., free room and board received by official visitors or by friends and relatives) (para. 250),” it admits that it is difficult to obtain source data and accepts that, in certain cases, these expenditures will not be recorded. Under the definition, the ongoing discussions are in the direction of more explicitly and strongly recommending the inclusion of goods and services “provided without a quid pro quo” to travelers (double-entry is made under “transfers” based on the imputation).

The following inconsistency will arise if goods and services obtained without a quid pro quo are not included in “travel.” That is, although there are no inherent differences in goods and services paid for by travelers or those acquired by travelers free of charge, only the former will be included in the balance of payments statistics. Moreover, efforts to figure out expenditures without quid pro quo will create a gap between “travel” data in the balance of payments statistics and statistics on tourism that focus on general travelers. Finally, such efforts will face serious limitations in terms of the source data needed for compilation practices. In light of these considerations, it would be appropriate to examine it cautiously whether or not to introduce the review in Japan.

However, if this were to be adopted, the following approaches would merit consideration. The cost of goods and services not paid for by travelers (Examples include that host companies paid travel expenses of corporate guests during traveling in Japan and traveling abroad, and that

companies bore travel expenses and dispatched their employees for training and business visits.) are generally unknown to travelers. Hence, it can be assumed that these expenditures cannot be figured out through the Survey of Travelers. However, as mentioned earlier, these can be figured out by using “Report on Payments” as source data.

Room and board received from friends and relatives is not reflected in “Report on Payments” because these do not involve settlements with nonresidents. In light of this problem, questions on goods and services provided for free and their offerer could be included in the next Survey of Travelers. If it is discovered that there are many cases that are not figured out by “Report on Payments,” a possible solution would be to reflect these goods and services in “travel” by computing the average expenditures of travelers without free goods and services. For example, the daily costs of accommodations and food and drink for travelers staying in the same country, multiplied by the number of days stayed, can be used. However, the accuracy of these estimates will have to be viewed with a degree of range.

6. Conclusions

In this paper, the discussions and specific problems pertaining to “travel” have been reviewed, followed by a summarization of the content and directions of changes in the estimation method to be adopted for responding to these problems. Under the estimation method based on the expenditure approach, it will be essential to find ways to regularly update the source data on per capita expenditure of travelers, as this will be a key factor in improving the accuracy of the statistics. From the perspective of developing general tourism-related statistics with reducing costs, a promising solution would be to obtain or share source data through cooperation with various organizations.

References

IMF, “Balance of Payments Statistics, fifth edition,” 1993

___, “Balance of Payments Compilation Guide,” 1995

___, “Balance of Payments Textbook,” 1996

___, “Revision of the Balance of Payment Manual, fifth edition (Annotated Outline),” 2004

(Japanese)

Kanko Seisaku Shingikai (Tourism Policy Council), “Kongo no kanko seisaku no kihonteki na hoko ni tsuite” (The Basic Direction of Future Tourism Policy), June 1995

Kanko Seisaku Shingikai (Tourism Policy Council), “21 seiki shoto ni okeru kanko shinko hosaku ni tuite” (Measures for promoting tourism in the early 21st century), December 2000

Kanko Rikkoku Kondankai (Japan Tourism Advisory Council), “Kanko rikkoku kondankai hokokusho” (Report by the Japan Tourism Advisory Council), April 2003

Kanko Rikkoku Kankei Kakuryo Kaigi (The ministers’ council on the tourism-based country policy), “Kanko rikkoku kodo keikaku” (Action plan for tourism-based country), July 2003

Ministry of Land, Infrastructure and Transport, “Gurobaru kano senryaku” (Global tourism strategies), December 2002

Morihiro Kawada, Katsuya Hihara, and Hideo Keage, “Gaikokujin kanko kyaku ni kakawaru tokei joho no arikata ni kansuru kenkyu” (Research on statistical information concerning foreign tourists), Policy Research Institute for Land, Infrastructure and Transport Report No. 38, November 2004

Ministry of Land, Infrastructure and Transport, “Waga kuni no kanko tokei no seibi ni kansuru chosa hokokusho” (Research report on the development of Japan’s tourism statistics), August 2005

Cabinet Office Committee for Promotion of Development on Economic and Social Statistics, “Seifu tokei no kozo kaikaku ni mukete” (Toward structural reform of government statistics), June 2005

Box 1: Survey of Travelers Conducted by International Department of the Bank of Japan

In fiscal 2005, the International Department of the Bank of Japan conducted the Survey of Travelers for the purpose of updating the source data for estimating “travel.” The survey was conducted at the Narita International Airport and the Kansai International Airport and the respondents consist of foreign travelers visiting Japan and Japanese travelers abroad. The survey found that per capita expenditure of travelers amounted to 122,000 yen for foreign travelers and 157,000 yen for Japanese travelers abroad.

--- For an outline of the Survey of Travelers, refer to “The Outline of Survey Results on Expenditures for Traveling to Japan and Traveling Abroad,” available on the Bank of Japan’s web site (<http://www.boj.or.jp/en/index.htm>).

Since other organizations have also conducted similar surveys on per capita expenditure of foreign travelers visiting Japan and Japanese travelers abroad, the results of the Bank of Japan can be compared to these. Such a comparison was undertaken after various adjustments were made in other surveys to make them comparable. This comparison shows that per capita expenditure of travelers obtained from the Survey of Travelers in fiscal 2005 is relatively reliable.

Chart: Per capita expenditure Based on Some Surveys (Estimated Figures)

(10,000 yen)

	Bank of Japan’s Survey of Travelers	Estimated based on “JNTO Survey of Foreign Visitors Satisfaction Index” (June 2005)	Estimated based on “Tokyo Metropolitan Government Survey of Tourists” (fiscal 2004)	Estimated based on JTM Survey of Overseas Travel” (2005)
Foreign travelers	12.2	17.0	11.8	---
Japanese travelers	15.7	---	---	16.4

Notes: 1. JNTO is the abbreviation for Japan International Tourist Organization. JTM is the abbreviation for Japan Tourism Marketing Co..

2. Per capita expenditure of travelers derived from the Bank of Japan’s Survey of Travelers was computed based on the weighted average of per capita expenditure of individual travelers and that of group tour travelers, using ratios obtained from the “Survey of International Air Passenger Travel” of the Ministry of Land, Infrastructure and Transport. (The ratios are 80%:20% for foreign travelers visiting Japan, and 56%:44% for Japanese travelers abroad [fiscal 2004].)

3. To conform to definitions of “travel,” the results of other surveys were adjusted as follows for estimation: “excluding international airfare; including travel-related expenses paid before arrival in Japan (excluding international airfare).” Specifically, the following adjustments were made. For the JNTO and Tokyo Metropolitan Government surveys (both publish “expenditures spent in Japan”), the price of packaged tours paid before arrival in Japan (excluding international airfare) were added

based on figures obtained from the Bank of Japan's Survey of Travelers. For the JTM survey (which publishes "per capita expenditure, including airfare"), international airfare was excluded based on figures obtained from the Bank of Japan's Survey of Travelers.

The Outline of Survey Results on Expenditures for Traveling to Japan and Traveling Abroad

(Outline of the survey)

Period of survey: June, August, November–December, 2005, January–February, 2006 (one week per survey)

Respondents: Foreign travelers immediately before their departure and Japanese travelers immediately upon their return

--- Those with the purpose of entering a country to work, long-term international students, and tour conductors are excluded.

Sample number: 4,259 for foreign travelers and 6,263 for Japanese travelers (valid respondents)

--- Sample number is large enough to ensure that per capita expenditure of travelers for the entire world achieves a statistical error of less than 5 percent with a 95 percent confidence interval.

Place of survey: Narita International Airport, and Kansai International Airport

--- According to JNTO's "Number of legal foreign entrants by port of entry and nationality" and "Number of departing Japanese by port of departure and country of destination," approximately 73 percent of all foreign travelers visiting Japan and 79 percent of all Japanese travelers abroad used one of the two airports noted above.

Method of survey: Questionnaire survey filled out by respondents

--- Japanese, English, Korean, and Chinese (simplified characters) are used in the questionnaire.

--- The actual conducting of the survey was entrusted to a research company (respondents are randomly selected at the place of survey).

Survey content: Gender, age, length of visit, main purpose of visit, travel expenditures and their breakdown etc.

(Measures taken for survey)

The statistics compiling authorities of countries conducting a questionnaire survey of travelers for estimating "travel" have thought out questions (order and content of questions) to improve the accuracy of responses from travelers. The experiences of these countries were taken into consideration in the following measures for the Survey of Travelers.

1. The questionnaire starts with questions that are relatively easy to answer and those easily remind travelers of their travel (gender, age, countries visited, length of visit, etc.).
2. In addition to questions concerning expenditures (total amount and their breakdown), there are questions concerning instruments of payment (amount of currencies exchanged, amount withdrawn from CD/ATMs), which are designed to facilitate responses on total amount and their breakdown.
3. In addition to questions concerning total expenditures, there are questions concerning their breakdown. When the total expenditures differ significantly from the sum of their breakdown, the response is deemed to be of low confidence and treated as invalid.

(Survey results)

Expenditures of foreign travelers by county/region

(number of samples, Japanese yen)

	Individual travelers								Tour travelers	
	Number of samples	Per capita expenditures						Souvenirs	Number of samples	Per capita expenditures
Airfares		Domestic travel	Lodgings	Food and beverages	Entertainment					
Total	3,262	190,891	74,865	13,489	37,767	20,483	9,570	17,026	997	192,512
Asia	1,096	162,884	47,597	11,553	32,858	18,466	9,079	23,066	869	190,483
Korea	248	105,343	35,855	8,327	15,819	12,140	6,524	9,379	294	137,928
P.R. China	193	209,347	43,440	19,223	37,859	22,009	10,686	37,457	70	232,439
Hong Kong	171	154,552	48,687	7,167	28,152	17,785	11,992	28,386	202	179,892
Taiwan	190	124,217	34,521	10,387	26,414	14,368	7,854	23,215	232	248,481
Singapore	56	211,559	81,951	7,514	58,434	19,078	7,334	20,022	30	141,086
Europe	661	215,405	96,367	14,238	41,530	20,810	8,842	14,547	29	162,892
U.K.	207	232,709	103,678	13,613	44,310	20,284	11,141	17,220	9	375,408
Germany	92	251,199	128,249	15,228	53,778	21,923	5,514	8,081	4	363,278
France	119	192,659	77,769	15,903	40,212	19,195	7,250	16,550	2	121,529
Oceania	397	202,048	94,206	12,846	42,136	18,423	8,890	11,224	29	198,251
Australia	306	206,988	96,091	13,206	46,018	18,549	8,113	11,547	28	188,221
North America	1,005	204,292	87,149	15,345	40,630	23,532	10,516	12,709	63	229,438
U.S.A	800	202,980	89,163	15,892	41,872	24,316	9,819	12,589	56	244,102

Notes 1: Due to other expenditures (e.g., communication cost), sum of breakdowns is not equal to total (same in the following table).

2: Expenditures by tour travelers include package tour fee (same in the following table).

3: Country/Regional breakdowns are based on resident countries or regions.

Expenditures of Japanese travelers by country/region

(number of samples, Japanese yen)

	Individual travelers								Tour travelers	
	Number of samples	Per capita expenditures						Souvenirs	Number of samples	Per capita expenditures
Airfares		Domestic travel	Lodgings	Food and beverages	Entertainment					
Total	2,835	253,610	107,286	13,922	50,261	23,151	12,433	26,183	3,428	256,500
Asia	1,017	161,022	61,254	10,264	34,141	16,768	8,955	14,922	900	139,969
Korea	241	135,502	42,724	8,028	33,314	16,717	10,050	19,264	248	111,939
P.R. China	318	163,875	68,024	11,521	31,094	17,964	8,805	11,041	112	128,976
Hong Kong	44	156,800	64,270	7,996	36,001	15,503	5,691	17,746	49	124,561
Taiwan	96	130,145	45,641	6,153	30,777	12,910	4,290	14,257	109	102,125
Singapore	40	118,780	53,752	3,639	28,368	10,790	2,915	14,630	64	134,672
Europe	896	315,747	146,141	17,264	59,631	28,130	12,282	35,222	1,334	327,912
U.K.	178	322,231	142,680	16,524	59,774	22,941	12,411	25,619	145	353,172
Germany	125	319,504	157,966	22,656	61,513	29,146	12,103	26,987	135	343,630
France	185	350,429	158,714	19,127	61,942	38,413	13,378	56,309	142	332,707
Oceania	79	337,053	118,771	12,024	106,702	26,486	22,609	21,250	105	327,442
Australia	40	299,089	118,313	11,175	58,364	31,729	23,411	22,399	49	288,656
North America	769	275,260	108,533	14,130	51,794	24,451	14,919	31,277	944	246,391
U.S.A	666	274,838	110,000	13,680	53,178	24,537	14,524	31,097	645	263,523

Note: Country/Regional breakdowns are based on visited countries or regions.

Box 2: Estimation Method of Country/Regional Breakdown and Business/Personal Breakdown

(1) County/Regional Breakdown

A. Credit

$$\begin{aligned} &\text{Amount of County N} \\ &= \text{Total amount of credit x} \\ &\frac{\text{Number of travelers of N nationality x Per capita expenditure of travelers from country N}}{\sum \text{Number of travelers of nationality x Per capita expenditure of traveler from county}} \end{aligned}$$

Number of travelers by nationality: Ministry of Justice (MOJ)'s "Monthly Statistics of Legal Affairs."
Per capita expenditure by country: Japan National Tourist Organization (JNTO)'s "FY 1994 Survey of Expenditure by Foreign Visitors to Japan."

B. Debit

$$\begin{aligned} &\text{Amount of County N} \\ &= (\text{Total amount of debit - Payment to Country N obtained from Report on Payments submitted by travel} \\ &\text{companies}) \times \frac{\text{Number of travelers departing to County N x Per capita expenditure of travelers}}{\sum \text{Number of travelers departing to Country x Per capita expenditure of travelers}} \\ &+ \text{Payment to Country N obtained from Report on Payments submitted by travel companies} \end{aligned}$$

Number of travelers departing by country: MOJ's "Embarkation/Disembarkation Cards"¹⁹ (July 2000 - June 2001) x Growth rate in the Ministry of Land, Infrastructure and Transport (MLIT)'s "Provisional Statistical Report on Air Transport" x Adjustment factor to take circular trip into account.
Per capita expenditure of travelers: Japan Tourism Marketing Co. (JTM)'s "Survey of Overseas Travel."

(2) Business/Personal Breakdown

A. Business Travel

$$\begin{aligned} &\text{Amount of Business Travel} = \\ &\text{Total credit/debit x} \\ &\frac{\text{Number of business travelers x Per capita expenditure of business travelers}}{\sum \text{Number of business travelers x Per capita expenditure of business travelers} + \text{Number of Personal travelers x Per capita expenditure of personal travelers}} \end{aligned}$$

<Credit>

Number of business travelers: Commercial travelers in JNTO's "Foreign Visitors to Japan by Nationality and by Purpose of Visit" + "Foreign visitors with status of residence corresponding to business travel"²⁰ in MOJ's "Monthly Statistics of Legal Affairs."

¹⁹ Embarkation/Disembarkation Card (so-called ED Card). Japan abolished the ED Card at the end of June 2001.

²⁰ Diplomat, official, professor, artist, religious activist, journalist, legal/accounting services, medical services, researcher, instructor, engineer, specialist in humanities/international relations, entertainer, skilled laborer, and trainee.

Per capita expenditure of business travelers: JNTO's "FY 1994 Survey of Expenditure by Foreign Visitors to Japan," and the Survey of Travelers in fiscal 2002.

Number of personal travelers: JNTO's "Total Number of Foreign Visitors to Japan" - Number of business travelers noted above.

Per capita expenditure of personal travelers: JNTO's "FY 1994 Survey of Expenditure by Foreign Visitors to Japan," and the Survey of Travelers in fiscal 2002.

<Debit>

Number of business travelers: JNTO's "Total Number of Japanese Travelers Abroad" x ratio of travelers with the purpose of business,²¹ and JTM's "Survey of Overseas Travel."

Per capita expenditure of business travelers: JTM's "Survey of Overseas Travel."

Number of personal travelers: JNTO's "Total Number of Japanese Travelers Abroad" - Number of business travelers noted above.

Per capita expenditure of personal travelers: JTM's "Survey of Overseas Travel."

B. Personal Travel

Amount of personal travel

= Total credit/debit x (1 - ratio of business travel noted above)

²¹ Business trips, participation in meeting, training/inspection and research.

Box 3: Estimation Method of Airfare Included in Price of Packaged Tour

[1] Method based on data obtained from International Air Transport Association (IATA) and airline companies

[2] Method based on data obtained from travel companies and tourism related organizations

[3] Method based on results from the Survey of Travelers (details are described below)

[3]-(1) Use airfares for individual travelers by purpose of travel (assume that airfares for individual travelers by purpose of travel are the same as those for group tour travelers by purpose of travel).

Amount equivalent to airfare of group tour travelers

= Ratio of business travelers in group tour travelers x Airfare of individual business travelers + Ratio of personal travelers in group tour travelers x Airfare of individual personal travelers

[3]-(2) Use breakdown ratios of expenditures of individual travelers (assume that ratio of airfare in total expenditures is the same for individual travelers and group tour travelers).

Amount equivalent to airfare of group tour travelers

= Per capita total expenditures of group tour travelers (including price of packaged tours) x Ratio of airfare in per capita total expenditures (including airfare) of individual travelers

[3]-(3) Use breakdown ratios of expenditures of individual personal travelers (assume that ratio of airfare in total expenditures is the same for individual personal travelers and group tour travelers).

Amount equivalent to airfare of group tour travelers

= Per capita total expenditures of group tour travelers (including price of packaged tours) x Ratio of airfare in per capita total expenditures (including airfare) of individual personal travelers

Chart: Estimated Airfare Amount Included in Price of Packaged Tour

Unit: 10,000 yen

	[1] Based on IATA Passenger Air Tariff	[2] Based on packaged tour price information	[3]-(1) Based on airfare of individual travelers by purpose of travel	[3]-(2) Based on breakdown ratios of expenditures of individual travelers	[3]-(3) Based on breakdown ratios of expenditures of individual personal travelers	(Ref.) Based on airfare of individual travelers obtained from the Survey of Travelers
W	---	---	10.1	10.7	9.8	10.7
K	7.1	1.8 - 10.0	4.0	3.5	3.7	4.3
T	9.8	3.4 - 23.2	4.4	3.9	3.6	4.6
C	14.0	5.2 - 23.5	5.7	5.3	5.2	6.8
U	15.1	5.4 - 39.7	10.8	10.7	9.5	11.0
E	24.6	7.6 - 42.0	13.7	14.8	13.4	14.6

- Notes: 1. “W” indicates world average, “K” is South Korea, “T” is Taiwan, “C” is China, “U” is United States, and “E” is Europe.
2. IATA Passenger Air Tariff is calculated using OFC Inc.’s “IT Fares for Departures from Japan.”
3. The price of packaged tours are derived from prices for free-type packaged tours (tours excluding meal, sightseeing and pick-up services) of JTB Corp, Kinki Nippon Tourist Co., Ltd and Nippon Travel Agency Co., Ltd. Prices are based on average price for Shanghai/Beijing for China, San Francisco/Los Angeles/New York for the United States, and Paris/London/Rome for Europe. (The prices of packaged tours vary significantly between cities visited. Therefore, estimation of appropriate airfare will be difficult if data on number of travelers per city is unavailable.) The lower price represents price of lower-class seat in low season, while the upper price represents price of upper-class seat in peak season. (The lower price tends to be foreign airlines, and the upper price tends to be Japanese airlines.)
4. Because IATA Passenger Air Tariff is based on departures from Japan, for purposes of comparison in this table, other estimation methods (from [2] to [3] – (3)) and airfares for individual travelers derived from the Survey of Travelers (Ref.) were also used as data for departing Japanese travelers.

Chart: Advantages and Disadvantages of Estimation Methods for Airfare Included in Price of Packaged Tours in Light of Conditions in Japan

	Advantages	Disadvantages
[1] Based on IATA Passenger Air Tariff	<ul style="list-style-type: none"> ▪ Published information are available. ▪ Regularly updated (published quarterly). 	<ul style="list-style-type: none"> ▪ Airlines can set own airfares with IATA Passenger Air Tariff as ceiling. Due to deregulation, there is a significant gap with actual airfare in Japan. ▪ Data by airport must be aggregated for each country. ▪ As data is for roundtrip originating in Japan, it must be assumed that airfare for foreign travelers is the same as for departing Japanese travelers.
[2] Based on packaged tour price information	<ul style="list-style-type: none"> ▪ Published information are available. ▪ Regularly updated (published seasonally). 	<ul style="list-style-type: none"> ▪ Necessary to select free-type package tours from various travel companies and to compute airfare (separately for each airlines). Due to diversification of packaged tours in Japan, estimation results will be affected by packaged tours selected and frequency of use in estimation. ▪ Data by airport must be aggregated for each country. ▪ As computation of data on packaged tours to Japan from abroad is burdensome and difficult, it must be assumed that airfare for foreign travelers is the same as for departing Japanese travelers.
[3]-(1) Based on airfare for individual	<ul style="list-style-type: none"> ▪ Available by processing results of the Survey of Travelers. ▪ Airfare can be computed separately 	<ul style="list-style-type: none"> ▪ Appropriate updating is difficult unless a questionnaire survey of travelers is regularly conducted.

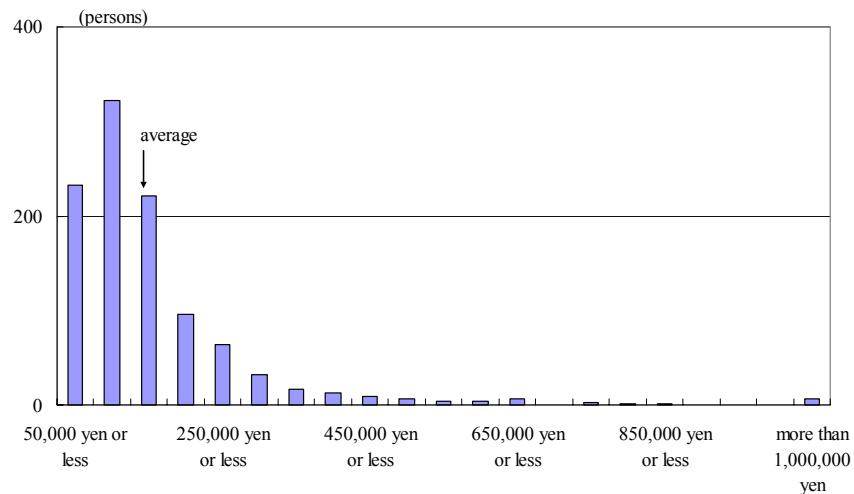
	Advantages	Disadvantages
travelers by purpose of travel	for departing Japanese and foreign travelers.	<ul style="list-style-type: none"> Due to deregulation of airfares in Japan, it is not necessarily appropriate to assume that airfares by purpose of travel are the same for individual travelers and group tour travelers.
[3]-(2) Based on breakdown ratios of expenditures of individual travelers	<ul style="list-style-type: none"> Available by processing results of questionnaire the Survey of Travelers. Airfare can be computed separately for departing Japanese and foreign travelers. 	<ul style="list-style-type: none"> Appropriate updating is difficult unless a questionnaire survey of travelers is regularly conducted. As individual travelers include many business travelers thought to be paying full fare, actual airfare may be overestimated.
[3]-(3) Based on breakdown ratios of expenditures of individual personal travelers	<ul style="list-style-type: none"> Available by processing results of the Survey of Travelers. Airfare can be computed separately for departing Japanese and foreign travelers. Approx. 90% of group tour travelers (minimum 87.3% for United States and maximum 95.5% for South Korea) are personal travelers. Hence, there is strong justification in assuming that ratio of airfare in total expenditures is the same for individual personal and group tour travelers. 	<ul style="list-style-type: none"> Appropriate updating is difficult unless a questionnaire survey of travelers is regularly conducted.
(Ref.) Based on airfare of individual travelers obtained from the Survey of Travelers	<ul style="list-style-type: none"> Available by processing results of the Survey of Travelers. Airfare can be computed separately for departing Japanese and foreign travelers. 	<ul style="list-style-type: none"> Appropriate updating is difficult unless a questionnaire survey of travelers is regularly conducted. As individual travelers include many business travelers, use of amount equivalent to airfare of individual travelers may result in overestimation of airfare.

Box 4: Distribution and Bias of Per capita expenditure in the Survey of Travelers

While a necessary level of confidence can be achieved for variance between per capita expenditure obtained from the Survey of Travelers and the population mean by ensuring an appropriate sample size, it is impossible to completely eliminate the variance between survey results and the true population mean under a sampling survey.

The variance between survey results and the true population mean is generally tolerated when an acceptable level of confidence is achieved. However, it would be useful to review the characteristics of this variance, in order to use expenditures of travelers in estimating “travel.” The frequency distribution of per capita expenditure derived from the Survey of Travelers is positively skewed, indicating the presence of a relatively small group of travelers with high levels of expenditures. This observation leads to the following hypothesis concerning the possible variance between the sample mean and population mean. That is, if that relatively small group of big spenders is not properly covered in the Survey of Travelers, it is possible that the sample mean will tend to be smaller than the population mean.

Chart: Frequency Distribution of Per Capita Expenditure (Foreign Group Tour Travelers)



Note: The frequency distribution is based on individual data obtained from the Survey of Travelers, from which airfare (estimated using breakdown ratios of expenditures of individual personal travelers) and shuttle trade have been excluded.

This possibility was verified by using individual data obtained from the Survey of Travelers to examine the presence of a directional bias in sample mean depending on sample size. First, a designated number of samples were randomly selected from the individual data and sample mean was computed. This process was repeated 4,000 times. Next, the mean was computed for the means of 4,000 samples. By comparing the results obtained while changing the sample size, it is possible to determine how, “on average,” the sample size affects sample

mean (Monte Carlo simulation). The results can be interpreted to indicate the bias that means obtained from designated number of samples will, “on average,” show against means derived from larger samples. Tendencies observed here can be assumed to apply to the relation between the sample mean and population mean.

The results of simulations conducted with sample sizes of 100, 300, 500, and 700 are summarized in the table below. Mean decreases as the sample size becomes smaller, thus the rate of variance from the sample mean obtained from all responses becomes larger.²² The shape of the frequency distribution of per capita expenditure of travelers hints that per capita expenditure of travelers computed from a sample survey could be smaller than the population mean. Nevertheless, even if such a qualitative tendency does exist, the rate of variance between the sample mean obtained from all responses and sample means obtained from smaller sample sizes is extremely small and does not undermine the confidence of the Survey of Travelers.

Chart: Verification of Bias by Sample Size (Foreign Group Tour Travelers)

Sample size	Sample mean (yen)	Standard deviation (yen)	Rate of variance from sample mean obtained from all responses (%)
100	144,006	2,366	-0.8
300	144,057	1,419	-0.7
500	144,728	1,008	-0.3
700	144,984	961	-0.1
All responses	145,120	---	---

²² Means obtained from very small sample sizes do not vary significantly from the mean obtained from all responses. But this does not imply that sample size can be reduced in the Survey of Travelers. The means shown in the table for various sample sizes represent means obtained from 4,000 calculations, and not from just one calculation. As such, these indicate what the sample mean obtained from each sample size will look like “on average.” Smaller the sample size, larger the variance in the means obtained from 4,000 calculations. Conversely, larger the sample size, smaller the variance in the means. The Survey of Travelers is equivalent to a single trial undertaken in the course of this simulation. This implies that results obtained from a survey with a smaller sample size are likely to vary significantly from the population mean.