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デルファイ法に基づく国際経済・交通に関する将来シナリオの設定

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Synopsis

For a discussion on a future vision of international transport infrastructure and forecast on future trade and cargo demand, predicted figures for variables in socio-economics and infrastructure should be given as prerequisites. They will be simply estimated by extrapolation of past trends or based somewhat on econometric methodology. However, these figures may be very uncertain and difficult to estimate, especially in long-term forecasting with large changes over time.

In this report, a questionnaire survey was conducted targeting many experts based on the Delphi method which seeks to consolidate expert opinions by repeating questions to the same respondents. The most probable future scenario for international economics and transport in East Asia was summarized in order to contribute to the discussion on the direction they will take in the future and how they ought to be.

This is a translation version in English of Technical Note of NILIM, No. 479 in principle.

Key Words: Future Scenario, Delphi Method, International Economics, International Transport, East Asia

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デルファイ法に基づく
国際経済・交通に関する将来シナリオの設定

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要　旨

国際交通インフラの将来像やそのあり方に関する議論を行ったり，またその一環として国際貿易額や貨物流動量といった貨物需要の将来予測を行う際には，これらの前提条件となる社会経済やインフラの状況に関する諸変数に関する将来予測値が必要となる．その簡便な予測方法としては，過去のトレンドに基づき，そのトレンドをそのまま外挿するか，あるいは計量経済学的な手法を適用することなどが考えられる．しかしながら，これら諸変数の将来予測値は，経済政策を含む多数の要因が複雑に影響することもあり，非常に大きな不確実性を有していると考えられ，特に，長期的な予測を行う際や，大きな時代趨勢の変化が生じると予想される状況下においては，上記のような手法で将来予測を行うことには大きな困難が伴う．

そこで本稿は，上記のような，東アジア地域を中心とした国際経済や交通のあり方に関する議論や，将来予測を行う際の一助とすることを目的に，多数の専門家に同一のアンケートを複数回繰り返すことによって，回答者が有する将来見通しの明確化と意見の収斂等を図るデルファイ法に基づいたアンケート調査を行い，最も蓋然性の高い将来シナリオをとりまとめるものである．

なお本稿は，原則として，国総研資料 No.479 を英訳したものである．

キーワード：　将来シナリオ，デルファイ法，国際経済，国際交通，東アジア

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Contents

1. Introduction

When discussing a future vision of international transport infrastructure and forecasting future situations of international trade and cargo demand, predicted figures for variables in socio-economic and infrastructural conditions (population, GDP, trade barriers such as tariffs, the progress of infrastructure development and increased size of transport equipment, the cost of fuel etc.) should be given as prerequisites. Extrapolation of past trends or econometric method are often applied as simple methods of forecasting; however, predicting future figures for these various variables will generally be attended by a great amount of uncertainty considering that numerous factors including economic policy will influence in a complex way. In particular, in making long-term forecasts, or under circumstances where major changes or gaps in trends of the times are anticipated to occur, future forecasting using the above methods will involve great difficulties.

This paper examines possible future scenarios for the international economy and transport fields by conducting questionnaire surveys to Japanese experts in order to support forecasting of the international economy and transport, especially focusing on East Asia and discussing them as they ought to be. Specifically, this paper attempts to investigate future trends across the overall international economy and transport fields by applying the Delphi method in which respondents answer the same questionnaire several times (twice in this survey) for a convergence of opinions. Chapter 2 will review previous literature relating to mid- and long-term forecasts. After providing a summary of the questionnaire survey in chapter 3, the survey results will be described in chapter 4. Based on these results, chapter 5 will summarize the most highly probable future scenarios. Finally, chapter 6 will discuss future prospects and application methods.

2. Literature review forecasting socioeconomic conditions and features of this research

The most renowned survey in Japan relating to forecasts based on a questionnaire survey targeting experts is the “Forecast survey on the mid- and long-term development of science and technology” conducted by the Ministry of Education, Culture, Sports, Science and Technology. This survey has been implemented once every five years starting in 1971. The eighth and most recent survey conducted in 2005 targeted thirteen,areas 130 fields, and 858 topics across the entire spectrum of science and technology, and responses were gathered from 155 respondents. Among them, the social infrastructure field was comprised of 97 topics on 14 fields. While there were questions which inquired as to the anticipated period for realizing certain themes such as “high speed oceanic transport at speeds of 50–60 knots capable of being utilized in the East Asian economic zone and Pacific routes” and “a system which will facilitate hubs at railways–roads, roads–ports/airports, and railways–ports/airports to streamline cargo transport and reduce time and costs at these interconnection points,” this survey focuses specifically on the future potential for realizing science and technology. It can also be emphasized that there are no questions relating to changes in socioeconomic conditions; and as this survey covers all fields, there are very few questions relating to the international transport field.

Apart from this research, numerous books and documents have been published relating to “forecasts for the future.” Even if we refer only to recently published books in Japan on the subject, several books can be raised such as Komine’s (2007) research which discusses the future of Asia based on long-term population forecasts for the world and Asia while also forecasting economic growth; a future scenario of the Japanese economy compiled by researchers of the Central Research Institute of Electric Power Industry (Hattori, 2004); and prospects for the Japanese economy compiled by The Institute for Research in Business Administration Waseda University (2005). Or books relating to forecasts published every year by various consulting companies and newspapers etc. (e.g. Mitsubishi Research Institute, 2007). In particular, Miyagawa (2007) discusses the overall political, economic, and social prospects for Japan and the world based on a questionnaire survey targeting more than 600 experts in industry, government, and academia, and is most similar to this study in terms of its direction. The peculiar characteristics of this study in comparison to the Miyagawa study (2007) are that this study focuses on the international transport field, as well as the international economic and political fields as they apply to the former. The Delphi method has been

employed as the survey method in conducting questionnaire surveys several times to the same respondents. Questions have been prepared from the outset with the intention of applying them in forecast models of international trade and transport flow.

3. Summary of the questionnaire survey

This survey was conducted in collaboration with the Future Scenario Writing WG (project general managers: professor Tsuneaki Yoshida, the University of Tokyo, and professor Kazutomo Abe, Tokyo Denki University) which was established within the Japan Society of Civil Engineers, International Transport Network Strategy Research Subcommittee (chairman: Katsuhiko Kuroda, professor emeritus at Kobe University). A summary of the survey is shown in Table 1. As explained in chapter 1, the Delphi method was employed in which the respondents answered the same questionnaire several times to clarify respondent forecasts and to achieve a convergence of opinions. The distinctive feature of the Delphi method is that the results of the previous survey are provided as feedback to respondents for questionnaires at the next questionnaire survey. The respondents reassess the questions based on the tendency in the opinions of others from the previous survey. The Delphi method was first employed in the 1950's by an American research institute and was named after the city of Delphi which flourished as an oracular site in ancient Greece. In this research, surveys were conducted twice. In the second survey, the aggregate results from the first survey were provided for each question so that respondents could revise each of their responses if they wished.

As questions were prepared with the intention of "supporting discussions on how the international economy and transport will be and ought to be in the future, focusing on the East Asian region," it is necessary that they be useful as inputs into international economic and transport models which have been developed by the authors and other researchers in the same field. In addition, these questions should be used as references in order to understand the background when developing the models and to examine the model outputs. They will also be useful when conducting general (i.e. qualitative) discussions over a broader range. We prepared a number of questions across the various topics of the international economy and transport as indicated in Table 1. There were a total of 81 questions in the international economics field, and a total of 103 questions in the international transport field including minor questions, for a total of 184 questions. Table 2 also shows the main topic and sub-topic of questions (the specific content of questions are indicated in Figure 2).

In this survey, we generally sent out requests by email and respondents filled out the questionnaire in an Excel file through pull-down selection or by entering numeric values. For a portion of the questionnaires, we mailed out and collected hard-copies. Apart from request forms and response sheets, preconditions relating to future population which have been established by the United Nations (because there is a relatively high level of certainty compared to other variables, they were adopted as a precondition for this survey), and reference materials containing information on the latest topics and present situation related to each question were prepared and distributed during the survey. All of the materials were written in Japanese. As described in Figure 1, in this survey, "Asian region" means the entire Asian region as defined by the United Nations, while the "East Asian region" means the North East, South East, Central, and South Asian regions (Russia's Siberian region, Kazakhstan, Turkmenistan, Afghanistan, Pakistan, and eastward), in so far as there are no specific indications to the contrary.

With respect to the question format shown in Figure 1, for the most standard questions, respondents were asked to choose from among 5 stages ranging from "there will be significant progress (or, depending on the question, there will be an acceleration, expansion, increase, elevation, or influence in the positive direction)" to "there will be significant setbacks (or, deceleration, contraction, reduction, decline, or influence in the negative direction)" which they think best answers the question being asked for each of four periods ranging from short-term (around 2010), mid-term (around 2015), long-term (around 2020), and very-long-term (after 2020 for roughly 30–40 years). In addition, in so far as no specific directions are
given, responses given for each period are to be responses from a previous period. This requirement is given in order to avoid difficulty in aggregating responses, as results from a previous period will differ depending on the respondent. As well, a format which

Table 1 Outline of Questionnaire Survey

1. Survey period
   1st survey: February 2008; 2nd survey: March 2008
2. Number of questions
   - International economics (politics and economics overall, trade and economic policies, etc.): 81 questions
   - International transport (shippers, ports and maritime transport, airports and air transport, land transport, common policies): 103 questions

   Total: 184 questions
3. Response method
   Survey requests were sent by e-mail and answers were entered in an Excel file (questionnaires were also sent out to some respondents as hard-copies by mail).
4. Materials distributed at time of survey
   - Survey request form and preconditions (omitted due to space constraints)
   - Questions and response sheets (a sample is shown in Figure 1)
   - Reference materials (omitted due to space constraints)

   *All materials were written in Japanese.
5. Question format (also refer to Figure 1)
   - For the most standard questions, respondents were asked to respond by choosing from among five stages ranging from “there will be significant progress (or, depending on the question, there will be an acceleration, expansion, increase, elevation, or influence in the positive direction)” to “there will be significant setbacks (or, deceleration, contraction, reduction, decline, or influence in the negative direction)” (also refer to the response forms indicated in Figure 1) for each of four periods ranging from short-term (around 2010), mid-term (around 2015), long-term (around 2020), and very-long-term (after 2020 for roughly 30–40 years).
   - For each sub-topic in the questionnaire survey, responses regarding level of expertise were given through self-reporting (in terms of four levels from high, medium, low, and nil).
6. Number of respondents
   93 people (universities: 20 people; government offices: 37 people; public institutions: 11 people; private-sector institutions: 25 people). Almost all respondents were Japanese living in Japan.

Table 2 Question Topics in the Questionnaire Survey

A Questions relating to international economics
A-1 Politics and economics overall
- Politics, economics, and diplomacy in the Asian region
- Economic growth
- Regional development

A-2 Trade and economic policies
- Trade promotion and facilitation
- FTA and EPA

A-3 Other economic policies and trends
- Government expenditures and capital formation
- Fiscal, monetary, and currency policies
- Education and labor
- Environment
- Industrial trends

B Questions relating to international transport
B-1 Shippers
- Upgrading of SCM and DCM, trends in site locations of industrial bases, other trends in logistics, etc.

B-2 Ports and maritime transport
- Trends in maritime transport demand focusing on East Asia
- Strategies of shipping companies
- Development of international RORO ships and international ferry transport
- Building and operating of Mega-Container Ships
- New construction and expansion of container terminals and mega-operator trends
- Passenger demand
- Safety and security
- Ports and maritime transport policies in Japan and Asia

B-3 Airports and air transport
- Air transport market trends in the East Asian
- Air transport policies in East Asia
- Air transport security
- Airport and air transport trends in Japan

B-4 Inland transport and intermodal transport
- Development of cross-border transport
- Investment into the inland transport infrastructure

B-5 Others
- Potential for collaboration in common transport policies in East Asia

asks the respondent to rank selections in order of descending priority (due to space limitations, enter your top 4 choices) is employed for a portion of questions. These questions ask the respondent to provide forecasts for 2020. A format is also employed for a portion of questions which inquires as to the number of services and ship size etc. according to time period. For each sub-topic in the questionnaire survey (corresponding to each entry itemized in Table 2), answered based on current status and not based on responses regarding the respondent’s level of expertise for the topic in question were made through self-reporting in terms of four levels (high, medium, low, nil; “level of expertise nil” responses were considered the same as “no response”).

As a result of soliciting cooperation from about 200–300 Japanese researchers and experts specializing in international transport and international economics, despite the questionnaire survey being a large-scale survey covering a broad range of topics, responses were ultimately obtained from 93 people, including Japanese experts living abroad. A breakdown of respondent affiliations is also shown in Table 1. As survey requests were sent out to numerous experts by e-mail etc., the rate of response cannot be calculated. A breakdown of the number of respondents and their level of expertise per sub-topic is included in Figure 2.

4. Aggregate Results of the Questionnaire Survey

The final results for all questions in the questionnaire survey (the aggregate results of the 2nd survey) conducted based on the aforementioned method are shown in Figure 2 from p.18–57. Regarding the aggregation of results, weighted aggregation was conducted based on the level of expertise for each sub-topic in the questionnaire survey. In other words, level of expertise responses of “high” were calculated as

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～A. 国際経済に関するシナリオ～

氏名	
所属	

※2回目の調査時にご記入頂いた内容とともに、集計結果をご報告致します。

ここでは、国際経済に関するシナリオについてお伺いします。
各設問について、時期ごと、または順位をご回答ください。なお、「2020年～」の欄には、長期的な視点での将来予測をご回答ください（概ね30～40年後）。また、各時点の回答は、現在を基準にお答えください。
特に時点の説明なく順位のみをたずねている設問は、2020年頃の状況を想定してお答えください。
なお、特に断りがなければ、「アジア地域」とはアジア全域を、「東アジア地域」とは北東・東南・中央・南アジア地域（ロシアのシベリア地方・カザフスタン・トルクメニスタン・アフガニスタン・パキスタン以東）をさします。

回答番号についての説明

※ご回答は、設問選択肢に応じて、下記番号（0～5）または○・△・×をご入力ください。

※なお、自由記入などの設問へは、直接、文字、数値等をご回答ください。

回答番号　※ご回答は、設問選択肢に応じて、下記番号（0～5）をご入力ください。

実現可能性	○実現する	△やや/部分的に実現する	×実現しない	？わからない

回答番号 / 設問選択肢	5（高い）	4（やや高い）	3（中立）	2（やや低い）	1（低い）	0
加速or減速／拡大or縮小／増加or減少／進展or後退	↑↑大きく/全面的に加速・拡大・増加・進展する	↑緩やかに/部分的に加速・拡大・増加・進展する	→横ばい/現状維持	↓緩やかに/部分的に減速・縮小・減少・後退する	↓↓大きく/全面的に減速・縮小・減少・後退する、マイナスとなる	？わからない
影響の度合い	↑↑増加方向に大きく影響する	↑増加方向に多少影響する	→ほとんど影響しない	↓減少方向に多少影響する	↓↓減少方向に大きく影響する	？わからない
上昇or下落	↑↑大幅に上昇する	↑やや上昇する	→横ばい/現状維持	↓やや下落する	↓↓大幅に下落する	？わからない

専門度	◎大	○中	△小	×なし*

***専門度×（なし）の場合はご回答いただかなくて結構です。**

A-1. 政治・経済全般

①アジア地域の政治・経済・外交

本分野に関する専門度を選択してください。　◎ ・ ○ ・ △ ・ ×

No	設問内容	資料編ページ	回答方法		ご回答欄 ～2010年（短期）	～2015年（中期）	～2020年（長期）	2020年以降（超長期）
	アジアにおける政治的安定（広域）							
1	**アジア地域**は、全体的に見てより**安定化に向かう**と考えられますか。	A-1～5	進展or後退	時期毎				
2	**北東アジア**（日本・中国・韓国・北朝鮮・ロシア）地域は、概ね安定化に向かうと考えられますか。		進展or後退	時期毎				
3	**ASEAN（10国）**地域は、概ねより安定化に向かうと考えられますか。		進展or後退	時期毎				
4	**南アジア**（インド・バングラデシュ・パキスタン・スリランカ・ネパール・ブータン）地域は、概ね安定化に向かうと考えられますか。		進展or後退	時期毎				
5	東アジア地域において、**EUのような政治・経済的統合が実現**すると思いますか。	－	実現可能性（○・△・×）	時期毎				

Figure 1　Sample of questionnaires and response form (for hard-copy responses)

a multiple of 3, responses of “intermediate” were calculated as a multiple of 2, responses of “small” were calculated as a multiple of 1, and responses of “nil” were calculated by a multiple of 0 (= excluded from aggregation). Regarding questions which ask the respondent to enter responses in ranking order, points were aggregated by awarding 1st ranked responses with 4 points, 2nd ranked responses with 3 points, 3rd ranked responses with 2 points, and 4th ranked responses with 1 point, while also taking into account the above level of expertise in the aggregation.

For almost all questions, a large disparity was not observed between the results of the first and second surveys. As well, referring to the graphs in Figure 2, there were few answers for which peaks split into two or were spread out among respondents .

In the following chapter, future prospects for the fields of international economics and transport reflecting the overall results of this questionnaire survey will be discussed. Before this, we will individually refer to several representative or contentious questions hereafter.

A. The field of international economics

(Q-A14) With the exception of China, the real rate of economic growth among East Asian countries has been hovering at 4–6% in recent years. What is your forecast for future growth rate compared to current conditions?

According to the aggregated results indicated on p.21, there were many respondents who forecast over the short- (presupposing around 2010) and mid-terms (2015) that growth rate would be slightly higher compared to present conditions. Over the long- (2020) and very-long-terms (after 2020), we can see that many respondents forecast that the growth rate would slow down compared to present conditions. This suggests that while for the next 10–15 years, various developing countries including India are expected to have more economic growth than ever before, after this, economic growth within the East Asian region will settle down and move onto a track of stable growth. Similarly for the next question Q-A15 on forecasts for future economic growth in China, forecasts that the status quo would be maintained over the short- and mid-terms, and that growth would slow down over the long- and very-long terms were predominant.

Figure 1
Sample of questionnaires and response form (for hard-copy responses)

(Q-A20) Intending to correct domestic disparities, the Chinese government has been proceeding to conduct priority development measures in Western China from around 2000 (the so-called “Grand development of the West”). Do you think that the gap between East and West China (the interministerial disparities in per capita GDP) will be reduced by implementing such measures? Or do you think investment into the coastal area will continue at a brisk pace despite implementing these measures and the disparity will widen?

This is an example of a question for which there is a dispersal in response peaks. Despite this being the Chinese government’s “Grand Development of the West” policy, while there were many respondents who forecast that disparities between East and West China would expand over the short- and mid-terms, opinions were divided on whether the effects of policies would manifest over the long- and very-long-terms. While most respondents presumed that disparities would shrink to a certain extent over the very-long-term, almost 30% of respondents expected disparities to continue along a widening course over the very-long-term as well.

B. The field of international transport

(Q-B29) It is said that in the first half of 2009, 16,000 TEU class mega-container ships are scheduled to go into service. In the future, how far do you anticipate the enlargement of container ship size will continue?

As indicated on p.40, the majority of respondents forecast that the size increases of large-size container ships would not go beyond 18,000–20,000 TEU class even when viewed over the very-long-term. This suggests the high possibility that the increases in container ship size will soon peak out.

(Q-B-31) 1) About how many ports of call do you expect mega-container ships to make in the East Asian region for every 1 loop? 2) Where do you anticipate their main port calls will be made?

As indicated on p.41, it is forecast that ultra-large container ships will call at roughly 3–5 ports in East Asia. As Japanese ports do not rank-in within the top 5 ports of call, this suggests the low possibility that mega-container ships will call to port at Japanese ports.

(Q-B-32) Among Japan's neighboring countries, the construction of new berths and expansion of terminals to possess hub functions are proceeding, such as the Port of Shanghai, Pusan New Port, and Gwangyang Port. Considering the investment plan on port facilities in the East Asian region (such as the number of under-constructed and planned new berths) and future cargo demand, 1) list the ports which you anticipate have a relatively high potential to achieve their port investment plans (or, to be implemented ahead of schedule). 2) As well, list ports which you anticipate have a relatively low potential to achieve their port improvement plans (or, to be implemented behind schedule).

As indicated on p.41, it is anticipated there is a high potential for the port investment plans of many Chinese ports to be realized, including the Port of Shanghai, Shenzhen, and Tianjin, or a high possibility for these plans to be implemented ahead of schedule. On the other hand, other port plans around China such as South Korea and Taiwan including the Port of Gwangyang, Pusan, and Kaohsiung Port, are anticipated to have a low potential for realization. While Pusan New Port ranked-in 2nd for either question, "low realizability" was greater in terms of score.

(Q-B-38) The inspection of all container cargo which is exported to the U.S. will be made mandatory in the future. Due to the implementation of such policies, how many days do you anticipate lead time at ports will be prolonged compared to current conditions? Consider the long-term course of policies in your response.

As indicated on p.43, due to the inspection of all cargo bound for the U.S. being made obligatory, while lead time is expected to increase by about 3 days for the time being (short-term), it is thereafter expected to gradually shorten with the passage of time owing to advances in technology etc. Ultimately (very-long-term), lead time is expected to return to present levels or to about 1–2 days longer than present levels.

5. Future scenario based on questionnaire survey results

Based on the results shown in the previous chapter and through discussions among authors, the most highly probable future scenario for the international economy and transport overall has been established, as shown below in 5.1 and 5.2. As well, we examined whether there is consistency across topics and fields with the established scenario, as shown in 5.3.

5.1 International economic scenario

(1) Politics and diplomacy in Asia

The basic scenario for the political and diplomatic situation in the overall Asian region is that, through patient dialogue among associated countries (for example, as can be seen with the six-nation talks for North Korean nuclear disarmament), while dramatic improvements are not expected to be seen over the short- and mid-terms, significant improvements toward regional stabilization are expected to be seen over the long- and very-long-terms. Looking at each region individually, improvements will continue in ASEAN[1] and slight improvements will be seen in North East and South Asia over the very-long-term.

With respect to individual outstanding issues such as Japan's Northern Territories, the Korean Peninsula, China and Taiwan, and Myanmar, while the possibility of achieving resolutions over the short-, mid-, and long-terms is not favorable with the exception of Myanmar, the possibility does somewhat exist for the Korean Peninsula to head toward unification over the very-long-term. As well, while transition to civilian rule and to an open economy in Myanmar will be difficult over the short-term, the possibility does exist over the mid- and long-terms. With regard to Japan's Northern Territories issue, while there is a low possibility of reversion to Japan or of arriving at some sort of political solution over the very-long-term, and while the possibility is also low over the very-long-term of unifying China and Taiwan, the possibility of establishing "one country, two systems" cannot be

[1] ASEAN (Association of South East Asian Nations): comprised of 10 nations including Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, and Cambodia, with an overall population of 567 million people (2006 estimate).

denied. Thus, the potential to realize political and economic regional integration for the entire Asian region similar to the EU is not great, even when viewed over the very-long-term, and there is hardly any potential for realizing this when considered over the next 30–40 years. However, the possibility of realizing localized and partial economic regional integration including currency unification cannot be denied.

As for countries which will have a comprehensive political, economic, and diplomatic influence on North East Asia, ASEAN, Central Asia, and the South Asian region respectively at around 2020, China, the U.S., and Japan, in ranking order, will have an effect on North East Asia and ASEAN. On the other hand, Russia, China, and the U.S. in ranking order will be influential in Central Asia. India, the U.S. and China in ranking order will have influence in South Asia. As mentioned above, Japan's level of influence is small, ranking 3rd in its influence on North East Asia and ASEAN, and ranking after 6th place in terms of its influence on Central Asia and South Asia. Thus, Japan's external power of influence descends in ranking order relative to China, Russia, and India.

Summarizing the above basic scenario, political stability in Asia as a whole will gradually increase, and individual matters of concern which threaten regional political stability will head toward resolution over time. However, the realization of a consortium similar to the EU is still slim even several decades in the future.

Risks inherent within this basic scenario are those accompanying the resolution of major political themes such as disparity in income levels, ethnic minorities, and democratization within China. These "Chinese risks" will have a decisive influence on the stability of politics and diplomacy in the Asian region as a whole, as well as on economic growth.

(2) Economic growth

After the collapse of the cold war between the East and West, and on the occasion of the introduction of an open market economy in the East, the world economy was in a growth period attended by the vitalization of trade. If the countries of the world, as a principle, aspire toward a global economy, and are able to implement appropriate measures to counter the negative effects accompanying global economics, the world's economy will do well in the future. Even while environmental conditions and resource constraints become stringent, the growth of the global economy will continue to be pulled along by BRICs[2] over the short-to very-long-terms, and will thereafter be pulled along by ASEAN and NEXT11[3]. Real economic growth in East Asian countries with the exception of China and Japan over the short- and mid-terms will demonstrate a further increasing tendency compared to present conditions (4%–6%), but will slow down somewhat over the long- and very-long-terms. On the other hand, while China's growth rate will continue at around 10% over the short- and mid-terms, it will slow down somewhat over the long- and very-long-terms. In Japan, present conditions of economic growth will, for the most part, be maintained (1%–2%), and there is the possibility that it will slightly rise over the long- and very-long-terms due to structural reforms and technical innovations.

To summarize, while Japan will continue to maintain its current conditions, China and ASEAN will continue to have a steady economy for awhile, and will then start to slow down over the very-long-term due to constraints relating to the environment, resources, and real wage increases. Such trends also coincide with the convergence hypothesis which expounds that increases in income resulting from capital accumulation and productivity increases in developing countries will slow down over the mid- and long-terms. As well, in East Asian developing countries (particularly China), a declining birthrate and an aging population will progress over the mid- and long-terms. Despite such negative factors for growth, the basic scenario presupposes that technological advances (structural reforms and technical innovations) which support economic growth will continue. The fact that Japan's economic growth rate is lower than that of other East Asian countries is one factor for Japan's relative decline in external power of influence.

Keep in mind that the optimistic economic growth forecast in terms of the abovementioned basic scenario is only valid under the presupposition that political and diplomatic safety in Asia continues. As a result of global economics, the risks are not low that there will be anti-global movements accompanying labor dumping in developed countries in Asia, an expansion of extreme income disparities in least-developed countries, and

[2] The four countries of Brazil, Russia, India, China.
[3] NEXT11: South Korea, Bangladesh, Egypt, Indonesia, Iran, Nigeria, Pakistan, Philippines, Turkey, Vietnam, Mexico.

governmental collapse accompanying the failure of democratization particular to developing countries. In particular, we should be aware that whether or not domestic political issues in China and India can be smoothly overcome will have a great impact on economic growth in Asia as a whole.

(3) Regional development

Regarding major trends in Asian regional development, there is a high possibility that GMS[4] will achieve sustained accelerated growth through the deployment of various collaborative programs, and that Central Asia will realize economic and political integration over the long- and very-long-terms. On the other hand, the achievement of Tumen River Area development cannot be expected at an early date, although some progress can be expected over the very-long-term.

While regional disparities between China's eastern and western regions is expected to shrink over the short- and mid-terms due to the Chinese government's "Grand Development of the West" policy, opinions are split over whether regional income disparities will be narrowed or widened over the long- and very-long-terms. This regional income disparity and dramatic expansion of income disparities among people is interlinked with ethnic problems, and will become a major political risk for China together with the advancement of informatization and democratization. Keep in mind that this risk will greatly influence regional development in neighboring regions such as GMS, Central Asia, and the Tumen River Area.

(4) Trade Promotion and Facilitation

For the world as a whole, the commoditizing of open economy and market development strategies will continue. To this end, the streamlining of trade will continue to be maintained even over the very-long-term through the simplification of export procedures, reduction of non-tariff barriers, the conclusion of tariff unions, the promotion and promulgation of the WTO system, and reduction in international transport costs. However, a stable governance which pays adequate attention to correct the negative effects of globalization such as domestic and international income disparities and controls social concerns such as terrorism is an indispensable precondition for sustainable growth. As well, there is also the risk that growth will slow down over the very-long-term from the standpoint of environmental resource constraints. If such risks can be appropriately controlled, there is a high possibility that the trend for growth in trade value to exceed economic growth may continue to across the world as a whole and in the East Asian region over the mid- and long-terms as well. Thus, the role of politics both domestically and internationally in controlling these risks will be extremely important.

(5) Economic cooperation

Tariff rates in the world and in the East Asian region will gradually decline, although they will not be completely eliminated. Tariff rates between East Asian countries and Western countries will also decline gradually. On the other hand, although some time will be required until a further reduction of tariff rates between the U.S. and European countries will occur, due in part because they are already relatively low (approx. 4%), additional reductions in tariff rates will occur over the very-long-term.

With respect to Japan's FTA/EPA[5], while tariff rates between Japan and South Korea and between Japan and China will remain unchanged over the short-term, slightly drop over the mid- and long-terms, and will achieve significant reductions over the very-long-term, tariff rate reductions between Japan and China will be more limited over the very-long-term compared with those between Japan and South Korea. Among Japan's FTA/EPA partner nations, the most important is China, followed by ASEAN, South Korea, India, and Australia, in order of descending priority. Themes for the further promotion and facilitation of trade in Japan through the conclusion of FTA/EPA's etc. include market liberalization of the agricultural sector, simplification of import and export procedures, and reduction of costs for international transport.

With respect to FTA's concluded between other nations (between China and ASEAN; between the U.S. and South Korea), while trade between these respective countries will of course be promoted, their impact on trade with Japan will in either case be limited.

[4] Greater Mekong Subregion: The region downstream of Mekong River (Thailand, Myanmar, Laos, Cambodia, Vietnam) in addition to China's Yunnan Province and Guangxi Province, where regional development cooperation is being promoted.

[5] FTA: Free Trade Agreement; EPA: Economic Partnership Agreement.

(6) Government expenditures and capital formation

While Japanese government expenditures as a proportion of GDP will be similar over the short- and mid-terms, there will be a decreasing tendency in the long- and very-long-terms. On the other hand, government expenditures in China will continue to increase in the future.

Gross fixed capital formation in Japan is presently about 24% of GDP and this rate will continue along a decreasing trend in the future. Gross fixed capital formation in China is high at about 43% of GDP, and while it will continue along an increasing trend in the short- and mid-terms, this increase will be curtailed in the long- and very-long-terms. This means that mid-term capital accumulation and the process of high growth on this basis will decrease in the long-term. Gross fixed capital formation in other East Asian developing countries as a proportion of GDP will continue an increasing trend in the short- and mid-terms, and this percentage will be maintained over the long- and very-long-terms. Capital formation worldwide, while not as great as in East Asia, will be robust.

The total amount of ODA to East Asian developing countries will gradually decrease. The inflow of foreign capital in real terms to the entire area of East Asia including Japan and China will continue along an increasing trend. The improvement in capital balance accompanied with the decline of trade surpluses in East Asian countries (especially China), as well as the vitalization of foreign investment by these countries will form the background for this trend.

While investment into Japan's transport infrastructure will gradually decline, investment into the transport infrastructures in East Asian developing countries as a whole will continue along an increasing trend. A tendency for dependence on private funding as additional finances will continue. High priority methods to procure funding to promote transport infrastructure investment in East Asian countries include PPP/PFI[6], investment by transport companies, government investment through public loans etc., and ODA etc. in order of descending priority.

(7) Fiscal, monetary, and exchange policies

Although Japan's budget deficit will continue to expand, it will fall below current levels over the very-long-term. Among East Asian countries, China, The Philippines, Indonesia, and North Korea can be raised as countries at high risk of falling into financial crisis. The weakening of the U.S. dollar will continue for the time being relative to other major currencies, and will grow weaker than current conditions even when viewed over the long-term. In particular, there is a high possibility that the Chinese yuan will be revalued. While there is almost no possibility that a monetary union in East Asia will be realized over the next 10–20 years, a monetary union may be realized for a section of East Asia in the very-long-term.

(8) Education and labor

In East Asian countries as a whole, while the percentage of students moving on to higher education will continue to rise, the quality of labor will improve, and international labor movement will be invigorated; however, it cannot be said that this will continue substantially over the very-long-term. Real wages in China will continue to rise in the future, and the Household Registration Control System will be abolished in the next 10–20 years. Japan will promote immigration in the next 5–10 years, with the possibility of substantially increasing immigrant labor over the very-long-term. The policy proposal by the Japanese Central Education Council to substantially increase the number of foreign students (from the current 140,000 students, to 1 million students by 2025) can be seen as a precursor to this labor immigration.

(9) Environment

Efforts to form agreements for global warming countermeasures will continue to be planned, although specific results over the short-term for East Asia as a whole cannot be expected. Japan will introduce an environment tax over the mid-term, and East Asian countries will follow suit about 10 years later by introducing an environment tax in stages. On the other hand, CO_2 emissions trading will progress in stages, and will be introduced on a full scale after 10–15 years. Significant environmental effects can be expected over the very-long-term.

(10) Industrial trends

While the production volume and price of iron and steel

[6] PPP: Public Private Partnership; PFI: Private Financing Initiatives.

will dramatically rise over the next few years, it will thereafter settle down and then return to current levels. The production volume and price of agricultural products will rise. Production and consumption of automobiles, IT, electrical products will shift at higher than current levels.

Although the supply of crude oil will increase in the mid- and long-terms, there is a high possibility that supply will drop below current levels over the very-long-term. On the other hand, crude oil prices will rise over the short-term, and although current levels ($100 dollars) will be maintained over the very-long-term, it is possible they may fall slightly. The price of alternative energies will relatively drop over the very-long-term and shares will increase to about an equivalent level with conventional energies.

5.2 International transport scenario

(1) Shippers (multinational corporations)

The restructuring of manufacturing and logistics bases in Asia is proceeding, bolstered by progress through FTA/ETA's. Various factors are comprehensively drawn from to determine the location of such bases, such as market attractiveness, tariff rates, labor costs, the quality of labor, in addition to various conditions of infrastructural development, the accessibility of logistics services, and political stability, among others.

Since China's entry in the WTO at the end of 2001, investment in China is increasing, and this trend is expected to continue over the short-term (until 2010). In recent years, ASEAN (especially Thailand, Malaysia, and Vietnam) is being reevaluated as an investment destination. As well, India is attracting attention as a market, and over the mid- and long-terms (until 2020), investment into ASEAN and India is expected to relatively increase.

While these countries have introduced special zones which give tax incentives—particularly special logistics-related zones such as export processing zones—as a means to attract investment, it is expected that these zones will continue to increase for the time being. In the long-term, regional enterprises will become stronger, and the necessity to give preferential treatment to foreign capital will wane. Over the very-long-term, it is anticipated that the role played by special zones will become smaller due to the harmonization of industrial competition policies within the region.

Multinational corporations which are deployed in Asia obtain raw materials and industrial parts not only from local enterprises in the countries where they are located, but from companies in neighboring countries, and are shipping products within these countries and regions. Companies need to optimize their management of the entire supply chain within the region in accordance with final consumption demand. For example, in obtaining parts from abroad, the automobile industry is required to conduct "milk run" collections[7] of parts required for production, consolidate them into containers, and to swiftly transport them to assembly plants. While sophisticated logistics services which respond to the needs of shippers have been provided by Western and Japanese logistics companies, logistics companies established with local capital in China and ASEAN as 3PL[8] have also begun attempts in providing the same kind of services. The quality of services provided by these logistics companies established with local capital is expected to increase over the mid- and long-terms.

(2) Ports and maritime transport

a) Trends in maritime cargo and passenger transport demand with a focus on East Asia

International maritime container cargo demand in the world is expected to continue growing at least at its current pace into the future (at an annual rate of approx. 10%). It is possible that the pace of growth will further become robust temporarily over the short- and mid-terms. Even international maritime containers to/from the East Asian region and to/from other regions of the world including Western countries, which account for about 2/3 of the world's flow, are expected to follow a similar tendency. On the other hand, as for international maritime containers within the East Asian region, there is a high possibility that the current pace of increase will continue even over the short- and long-terms. While containerization is expected to proceed in the future with a focus on perishable food, scraps, wooden products, and grains etc., it is also possible that a slight swing-back may occur over the very-long-term.

Following 20ft, 40ft, and 40ft high-cube containers, while 45ft containers which received ISO standardization in 2005 only account for about 2% of overall container

[7] The manufacturer or consigned carrier collects industrial parts from shippers by making rounds following a predetermined pick up route.
[8] 3PL: Third Party Logistics refers to the outsourcing of all or a significant part of a shipper's logistics requirements, or refers to the outsourced provider of these services.

sizes, it is assumed that they will steadily increase in the future owing to ISO standardization. In Japan, on the other hand, while passage of semi-trailers with 45ft containers on general roads may become possible to some extent in the future, making their passage possible comprehensively will be difficult due to various restrictions.

As well, passenger ship cruise demand is expected to show an increasing trend in the East Asian region for the foreseeable future.

b) Shipping company strategies, commissioning of ultra-large size ships, and security problems

In recent years, shipping companies are operated under two main styles: major international container shipping companies forming alliances with one another in pursuit of advantage of scale; and the formation of a single giant shipping company through mergers and acquisitions etc. In the past years, although the forming of giant shipping companies has gained momentum (such as Maersk, MSC, and CMA-CGM), recently this trend has been receding. This can be seen for example in how Maersk suffered losses because it was unable to take advantage of the merits of the P&O-Nedlloyd merger. Under these circumstances, while there is a high possibility that the alliance style will become mainstream for the time being (for about 10 years), it is difficult to foresee which style will become predominant over the long-term. On the other hand, major companies have made advances into local shipping routes within East Asia in recent years, and the grouping of regional shipping companies into alliances is expected to continue.

Reduction of transport costs despite rising pressures due to the rise in fuel costs etc., and improving competitiveness to deal with fierce competition among shipping companies due to enlargement of scale and discounts, have become main future themes for shipping companies. Although there is a growing movement in the EU to reexamine competition law exemption regulations for international shipping businesses, the role of agreements between shipping companies will increase in the future. With respect to empty containers which are becoming a big issue in recent years, in addition to immediate countermeasures to ensure back-haul by offering discounts etc., more essential measures are needed such as accommodation between shipping companies and provision of inland depots and empty container depots and promoting their effective use.

The increasing trend in container ship size is still continuing today, and the building of the first ship to exceed 10,000 TEU was completed in September 2006. In October 2007, major South Korean shipbuilder Samsung Heavy Industries announced that is developed the world’s largest container ship with a container loading capacity of 16,000 TEU. Thus, the number of large-size container ships exceeding 10,000 TEU going into service is expected to increase in the future. On the other hand, in the long- and very-long-terms, India and Brazil will become the production centers for the next age, and due in part to the reduction in transport distance to North America and Europe etc., it is also possible that the number of larger ships entering into service will slightly decrease.

In the future, a maximum container ship carrying capacity of 16,000 TEU is expected over the short-term, approx. 18,000–20,000 TEU in about 5 years, and is expected to peak thereafter. While 30,000 TEU ships may emerge in the very-long-term, as diseconomies of scale may occur in the loading and unloading of cargo at ports if ships are too large, the majority of forecasts in this survey were skeptical. Due to the expansion of the Panama Canal scheduled to be completed by 2014, as passage of mega-ships will also become possible, shares of East Asian and North American East Coast routes (relative to North American West Coast routes) are anticipated to expand to some degree around 2020, and is also expected to greatly influence shipping route plans made by international container shipping companies. As a result, mega-ships are anticipated to start servicing not only Asia–European routes, but Asia–North American routes to a similar degree. The number of port calls made in the East Asian region is 3–5 ports for every 1 loop, and may decrease slightly in the future. Shanghai, Singapore, and Hong Kong are expected to be dominant calling ports, followed by Busan and Shenzhen.

From the perspective of maritime transport security, main topics of concern are countermeasures against pirate attacks and against terrorist attacks. Incidents of pirate attacks in the East Asian region are expected to continue occurring in the future with a focus on the Straits of Malacca and in Philippine waters, etc. While costs for security measures are expected to continue occupying a share of logistics costs, the frequency of pirate attacks is not expected to change greatly into the

future. On the other hand, owing to strengthening of U.S. container security measures (obligatory inspection of all imported cargo etc.), lead time at ports is anticipated to increase by about 2–3 days over the short-term. Over the long-term, it is expected to be reduced due to technological advances etc. and is ultimately expected to return to or be slightly more than current levels.

c) The development of international RORO ships and ferry transport

Even in the vicinity of Japan, logistics utilizing international RORO ships and international ferries to supplement container transport and air transport is recently attracting attention. Examples of this are the Shanghai Super Express connecting between Hakata and Shanghai, and the establishment of new international ferry routes crossing the Japan Sea. In the future, international RORO ship and ferry routes in the East Asian region are expected to steadily increase into the future with a focus on electrical and mechanical goods, perishable goods, general merchandise etc.. In particular, shipping routes are expected to be opened and expanded between Kyushu–South Korea and China, as well as between Hokuriku–Siberia. Among them, short-distance routes such as Kyushu–South Korea and South Korea–China possess the merits of not requiring handling at the port; mid-distance routes such as Kyushu–China and Kyushu–Taiwan possess the complementary element of being positioned between container transport and air transport in terms of cost and transport time; and the Siberia-Hokuriku route possesses the merits attending the expansion of Hot Delivery Service and advances by Japanese companies. Measures which are considered important to enhance use include chassis mutual entry between countries, obtaining major shippers etc. to ensure more stable cargo demand, and easing of regulations for various procedures relating to the establishment of international shipping routes.

d) Provisioning and expansion of container terminals, mega-operator trends, and port and maritime transport policies in Japan and East Asian countries

Large-scale port development is being planned in various countries, encouraged by the conspicuous growth in container flow and handling volume in the East Asian region in recent years. Among them, it is anticipated that development will proceed at a higher pace than initially planned at various Chinese ports which are recently experiencing the greatest growth (particularly the ports of Shanghai and Shenzhen). The advance of mega-operators and the handling of transshipped cargo are expected to increase with a focus on the above ports and the ports along the coast of Bohai Bay etc. On the other hand, the future for major existing ports and hub ports (or ports aiming to become hubs) in and around China is generally difficult. On this note, the situation of South Korea's Busan (New) Port and Gwangyang Port, Taiwan's Kaohsiung Port, and port of Hong Kong is more critical compared to Japanese ports which still have a larger domestic demand. However, steady growth is expected to continue for the Port of Singapore in the future, partly because it is geographically located far from China. Moreover, ports which have a strong growth potential over the long-term, although presently still inconspicuous, are Vietnamese ports such as Hai Phong and Ho Chi Minh, and ports in India. The advance of (mega-)terminal operators into these ports and in Far East Russia is expected to proceed in the future.

Starting from a few years ago, aiming to strengthen the international competitiveness of its ports, Japan has introduced super hub port policies in the context of "selective and focused" policies. The aim of these policies is to reduce port costs by 30% and to reduce customs clearance time to about 1 day, equivalent to the level of the Port of Singapore, until around 2010. While both objectives are expected to be achieved by around 2015–2020, their achievement by 2010 is expected to be difficult. As future policies which are considered necessary to sustain and strengthen the international competitiveness of Japan's ports, the easing of port transport regulations is expected to be important, in addition to making further efforts to pursue current agendas raised by the super hub port policies such as keeping the gates open for 24 hours, cooperative strengthening of ports and hinterland transport facilities, promotion of cooperation between ports, and the provisioning of large-scale terminals etc. In addition, it is possible there will be gradual progress made toward the easing of cabotage regulations in the East Asian region over the long- and very-long-terms.

(3) Air transport

a) The air transport market in East Asia

Air transport liberalizations are making headway in various regions around the world, especially in North America and Europe. In the East Asian region, regulations for aviation services between capital cities within the ASEAN region will be abolished by 2008, and full liberalization within the region and elimination of foreign capital regulations are scheduled by 2015. This movement has fallen into step with the goal of realizing the ASEAN Economic Community by the same year. On the other hand, in North East Asia, liberalization is not expected to make sufficient progress over the short-term. However, gradual liberalization[9] in the form of easing capacity regulations[9] is expected to proceed over the mid- and long-terms in this region.

Under these conditions, international passenger demand in the East Asian region is expected to continue increasing gradually over the short-, mid-, and long-terms, international cargo demand will increase significantly over the short-term, and is thereafter expected to maintain a high rate of growth with a focus on telecommunication devices. International services by low-cost carriers (LCCs) and regional carriers will increase over the short- and long-terms, and together with this trend, the use of mid-sized aircraft (B737, A320 class) with a seating capacity of 100–200 seats will be increased. The use of small aircraft (CRJ, Embraer class) which seat less than 100 passengers are expected to continue increasing. While the use of large-size aircraft is anticipated to increase gradually over the long-term, due to the emergence of ultra-large size A380 capable of seating passengers on two floors, the trend toward making larger aircraft will gradually decline over the very-long-term. Airlines entering into air transport alliances are expected to increase over the long-term, and mergers and acquisitions between alliances are expected to proceed over the mid- and long-terms as well.

b) Airports in East Asia

The development of Shanghai's Pudong International Airport and Seoul's Incheon International Airport into hub airports will proceed over the short- and mid-terms, in terms of both passenger and cargo, in the background of increased direct flights to North America owing to improvements in the performance of aircraft, expansion of airport capacity, and strategic cooperation between airlines and airports. It is also possible that Hong Kong International Airport, Beijing Capital International Airport, and Guangzhou Baiyun International Airport will grow as hub airports for the same reasons. Okinawa's Naha Airport is expected to become a hub airport for cargo transport in the region. In terms of airport development, new runways and terminals will probably be constructed at Pudong Airport and Incheon Airport, as well as at Beijing Airport and Bangkok's Suvarnabhumi Airport which are continuing to expect increased demand in recent years. The construction of new airports is also expected to continue in mainland China and India which are expanding rapidly in terms of air transport demand in the last decade.

Since the 9/11 terrorist attacks in the U.S. in 2001, security measures in the air transport sector are being strengthened annually. Due to these security measures, more time is being required to conduct various procedures at airport terminals, which makes increased congestion a possibility. In the long-term, the costs for these security measures may be shifted onto air fares.

c) Air transport and airports in Japan

As Japan's population has begun to decrease, domestic air transport demand and international outbound flight demand is expected to gradually increase until around 2015, and demand is expected to stagnate or decline thereafter. Due to the declining birthrate and a growing proportion of elderly people, passenger demand among the young adult segment is expected to decrease over the short- and mid-terms and demand among the elderly will increase. International inbound flight demand is expected to increase gradually due to the approval of travel without a visa and policies to attract tourists. In particular, demand from neighboring Asian countries such as China and South Korea will increase, and LCC and regional carriers will enter the market.

To respond to increased air transport demand in the Tokyo metropolitan area, airport capacity will be increased by improving air traffic control. Over the very-long-term, the construction of a third airport in the Tokyo metropolitan area may be discussed. After the completion of a 4th runway at Haneda Airport, scheduled international flights with the world's major cities especially with neighboring countries will most likely become operational. For Japan as a whole, reforms to the

[9] The capacity of international flights (type of aircraft and frequency) is determined through bilateral aviation service agreements However, airlines will be able to make these decisions by themselves after deregulations.

special account for airport development, and incorporation and privatization of public airports are expected to proceed. Over the long-term, a restructuring of the airport management system may occur.

(4) Inland transport and intermodal transport

a) Development of cross-border transport

Among regions in Asia, cross-border land transport is developing the most in the South East Asian region (ASEAN plus China's Yunnan Province and Guangxi Province) and continued development is anticipated into the future. In addition, cross-border barriers between North East Asia and Central Asia is expected to decrease over the long-term, and to continue in South Asia.

Important measures which will contribute to decreasing cross-border barriers, in order of descending priority, include the simplification of cross-border procedures, provisioning and upgrading of transport infrastructure and immigration management facilities, the improvement of cargo transshipment facilities and promotion of the mutual entry system, simplification of customs clearance procedures and worker training, demand stimulation and the introduction of intermodal promotion policies.

As for the acceleration of economic growth in Asian countries, the function that ports will play in effectively connecting their comparative advantage in manufacturing and other fields to the world's economy should be particularly noted. Ports not only serve as logistics bases, but have formed giant centers of production and consumption. Main Asian countries have shared an open market development strategy since the 1980's, and major cities and industrial centers formed in their environs have gradually transcended borders and established effective connections through economic corridors. In particular, ASEAN countries have made it their common objective to increase their international competitiveness through strengthening regional cooperation relative to the world market. In order for this region to achieve its common purpose, a reduction in cross-border barriers is indispensable. As well, reduction in cross-border barriers is also desirable from the viewpoint of correcting regional income disparities between coastal regions and inland regions.

b) Transcontinental infrastructure development

Routes on the Trans-Eurasian Railway forecast to have the largest demand are the Siberia Land Bridge, followed by the China Land Bridge, and the Mongol Tianjin route; there is a small demand in other routes. As well, individual routes such as the Trans-Korea Railway between South Korea and North Korea, and railways between Singapore and Kunming are not expected to enter service over the short- or mid-terms, although there are prospects over the very-long-term.

Among the many inland transit corridors of the Greater Mekong Sub-region (GMS), the most economically effective corridor is the North-South corridor, followed by the East-West corridor, and the Southern corridor in order of descending priority. Over the very-long-term, Myanmar and Thailand are expected to play greater roles as inland corridor hubs connecting the economic zones of China and India.

As for the development of Asia's highways and railway networks, while both show a tendency for increased development, there is a higher priority for the development of highways compared to railways and their pace of development is also fast. In the regions of China, ASEAN, and India, while shares of railway and domestic water transport are not expected to increase over the short-term, they are expected to increase over the long-term. This is because in addition to positive expectations of higher demand for long distance transport crossing borders, they are comparatively superior to roads in responding to increasing energy costs and environmental problems.

c) Development of inland centers

Although the development of inland centers which will be indispensable for the development of cross-border and transcontinental transport will not proceed immediately, much progress can be anticipated in the future due to the introduction of various policies in the mid- and long-terms (provisioning of depot facilities, development of intermodal hubs, reduction in lead time due to the procedures for consolidation and customs clearance through agency, and cost reductions due to accommodation for empty container transport).

An increase in door-to-door intermodal transport demand straddling various transport modes (road, railway, water, and air), with a focus on economic corridors which cross borders and connect mega-cities in the East Asian region can be expected over the short- and long-terms.

(5) Common transport policies

Although about half of the plans under the TEN-T project (which is being promoted under Europe's Common Transport Policy) are expected to be realized by around 2015, the realization of most projects is forecast for after 2020.

On the other hand, there are several issues which are impeding the realization of a seamless transport environment in Asia ("Seamless Asia"). Other than the delay in hard infrastructure development such as roads, railways, river routes, ports, and airports etc. which make up the Asian transport network, there are differences in structural, safety, and environmental standards for automobiles, trains, ships, and aircraft etc. which are important software (soft infrastructure) required for the smooth operation of the transport infrastructure. As well, administrative procedures in border-crossing such as customs, immigration control, and quarantine procedures etc., as well as various cross-border transport obstacles (cross-border barriers) originating from bilateral differences in soft infrastructure such as insurance systems etc. can be raised.

In overcoming these issues, following after the example of European Common Transport Policy, efforts to formulate cooperative transport policies and joint policies in the East Asian region are expected to become increasingly necessary in the future. These include dealing with standardization of data specifications and development and publication of joint database relating to domestic and international transport flow in the East Asian region and infrastructure stock etc.. This also includes promoting research exchange, strengthening and developing cooperation among East Asia's universities, research institutes, and working groups, as well as establishing socioeconomic scenarios and a framework which should be shared in East Asia.

5.3 Consideration of the consistency between scenarios and their risks

(1) The consistency and risks of each topic in the international economic scenario

There were no major discrepancies among the scenarios described in 5.1 for each sector prepared from the many opinions gathered from the results of the international economic section of the questionnaire, and there was consistency as a whole.

Major factors which would influence the economic achievements in Asia include political and diplomatic stability, ability to govern, the sharing of open market economic management policies, the political ability to adjust the negative effects of the global economy, demographic movements (percentage of population economically active), investment into education, technological progress and ability to absorb technology, and capital accumulation, among others. It can be said that a general directionality for these factors and a basic scenario derived from multiple opinions of the questionnaire results are largely consistent. However, the risks of very-long-term environment and resource constraints may have been underevaluated in many sectors.

One significant risk that can overturn the basic scenarios is major natural disasters such as large-scale volcanic eruptions which bring about climatic changes and epicentral earthquakes in mega-cities. Another risk is the derailing and stagnation of the open market economic management of each country due to mass antiglobal economic movements abruptly coming from both regional advanced countries and developing countries; in other words, the risk of a negative chain of political failures in dealing with the negative effects of the global economy. Moreover, the global economy, and especially the Asian economy, is becoming rapidly and deeply interconnected with the Chinese economy. China's political risks and economic risks, such as from collapse of the bubble economy due to imbalanced macro-economic management, are crucial and will have a significant impact on the overall economy of Asia.

(2) Consistency and risks of each topic in the international transport scenario

As with the section 5.1 on the international economy, the scenario described in 5.2 which was created from the numerous opinions obtained from the questionnaire results for the international transport section was generally found to be consistent overall. There were no major discrepancies in the tendencies of each sector such as goods holder, maritime transport and ports, air transport and airports, inland transport and intermodal transport, among others. However, differences in opinion were discovered for some questions with a focus on very-long-term trends, such as that containerization will slightly decline in the very-long-term, special logistics

zones will continue to exist even over the long-term, and the number of large-size ships will decrease over the very-long-term etc.

With respect to the “timing” which needs to be decided in advance when making specific forecasts using a model etc., there may also be cases which will diverge from the basic scenario that we have seen thus far. For example, perhaps no one who could have anticipated before 9/11 that terrorist attacks involving airplanes would occur causing air transport demand to drop significantly, requiring a certain amount of time for recovery. Or, how in the case of the Asian currency crisis in 1997, Asian trade was thrown into confusion if only temporarily. The occurrence of such unanticipated situations will have a major effect on the growth process of international transport. Using an analogy from more recent circumstances, it can be said that we are now at a crossroads in judging how the sharp rise in the resource price such as crude oil and worldwide financial crisis instigated in the U.S, are expected to influence international transport flow (whether it will influence short-term or long-term trends).

(3) Consistency between the international economic scenario and the international transport scenario

Examined comprehensively, large discrepancies between both scenarios were not observed and they were largely judged to be consistent. However, with respect to various types of transport infrastructure policies, in particular cross-border policies, we cannot expect the effect of the policies to be realized if the international politics of the regions in question do not stabilize. Again, cargo and passenger demand will of course be influenced by economic growth in each country, by international economic and trade policies such as FTA etc., or by regional development policies. In ascertaining these causal relationships and forecasting periods and sequences of realization, it is necessary to carefully investigate the circumstances using various models etc.

The escalation of environmental and resource issues as well as risk scenarios will effect both the international economy and international transport. For example, the major natural disasters mentioned in (1) as risks for international economics, will have a large impact on international transport flow, while the terrorist attacks mentioned in (2) as risks for international transport will of course have a large impact on international economics. With respect to climatic changes, while there will be an increased frequency of disasters and the increased risk of flooding of coastal regions etc., it is also possible that a significant reduction in transport costs may be realized from an increased supply of energy and utilization of Arctic routes through development of the Arctic area.

In developing models based on this scenario and considering derivative scenarios, they should be discussed keeping in mind the repercussions from all topics mentioned in this scenario, rather than focusing only on the individual results of responses.

6. Conclusion

In investigating possible scenarios which may arise in the future of the international economic and transport fields, the authors conducted a questionnaire survey toward experts based on the Delphi method and established the most probable scenarios based on aggregate results. We also investigated the mutual consistency between the survey topic results and the consistency between the international economic and the international transport scenarios. The results showed that despite the large number of respondents, there were many questions which showed relatively small variance. From a comprehensive viewpoint, the scenarios derived, as well as the aggregate results were within reason.

In addition to widely releasing the results of this study to the public both in Japan and internationally, and in applying the results to future forecast models which is one of the objectives for implementing this survey, it will be necessary to construct a quantitative future scenario based on the results of this survey. We hope to be able to use it for various applications such as for model input values, for validating output results, and as basic reference data to be shared among model constructors when setting policies and directions for model building.

(received November 14, 2008)

Acknowledgments

We would like to express our gratitude to all those who cooperated in responding to this questionnaire survey, despite its length. We would also like to thank chairman Kuroda and the members of the Japan Society of Civil Engineers, International Transport Network Strategy Research Subcommittee, as well as the members of the NILIM for their various support and assistance.

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2) The National Institute of Science and Technology and Institute for Future Technology, ed. *The Delphi Survey Conducted by the Ministry of Education, Culture, Sports, Science and Technology: Science and Technology in 2035*. Institute for Future Technology, 2005, p.1158

3) Miyakawa, Tadao, ed. Scenario for 2019: *Forecasting the Near-Future for Japan and the World.* Toyo Keizai, Inc., 2007, p.272

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6) Mitsubishi Research Institute, Industrial Strategy Group, ed. *Overall Forecasts: Japan in 2030.* Nikkei Publishing Inc., 2007, p.163

7) United Nations: World Population Prospects

Questionnaire survey final results relating to international economy

Explanation of response numbers

*** According to questions, enter the following numbers (0–5) or ○, △, × .**

*** For questions which ask you to respond freely, enter words or numbers etc. directly.**

Response numbers.

Achievement potential	○ Will be achieved	△ Will be achieved slightly/partially	× Will not be achieved	? Do not know

Response numbers / Question choices	5 (high)	4 (slightly high)	3 (medium)	2 (slightly low)	1 (low)	0
Accelerate or decelerate/ Expand or contract/ Increase or decrease/ Progress or decline	↑ ↑ will significantly/comprehensively accelerate, expand, increase, progress	↑ will gradually/partially accelerate, expand, increase, progress	→will level out/stay the same	↓ will gradually/partially decelerate, contract, decrease, decline	↓ ↓ will significantly/comprehensively decelerate, contract, decrease, decline and will have an adverse impact	? do not know
Degree of influence	↑ ↑ will have a significant increasing effect	↑ will have a slightly increasing effect	→will have almost no effect	↓ will have a slightly decreasing effect	↓ ↓ will have a significant decreasing effect	? do not know
Rise or fall	↑ ↑ will rise substantially	↑ will rise slightly	→will level out/stay the same	↓ will slightly fall	↓ ↓ will fall substantially	? do not know

Level of expertise	◎high	○medium	△low	×nil*

*In the case of × (nil), you do not need to provide a response.

A-1. Politics and economy overall

1) Politics, economics, and diplomacy in Asia	Number of respondents	81 people
Level of expertise	◎high 7 people	○medium 12 people	△low 62 people

Political stability in Asia (broad range)

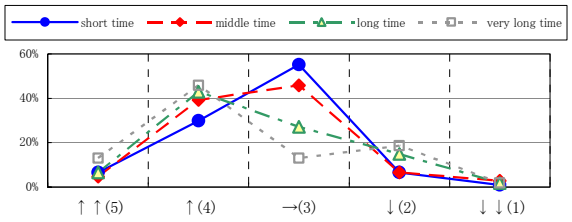
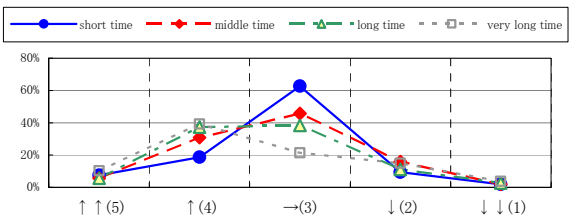
A1	Looking at the **Asian region** comprehensively, do you think Asia will **head toward greater stability?**	
A2	Do you think the **North East Asian region** (Japan, China, South Korea, North Korea, Russia) will move toward stabilization?	

Figure 2 aggregation results of questionnaire survey (1)

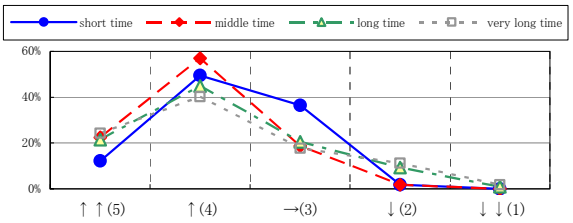
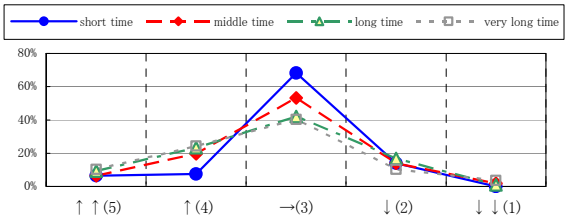
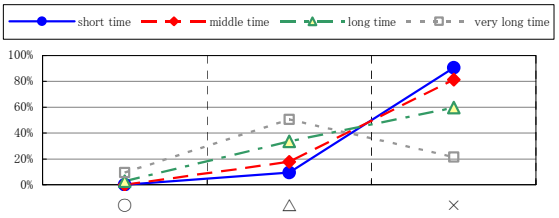
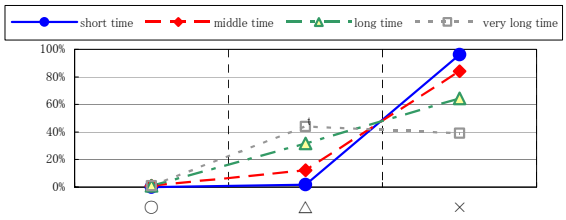
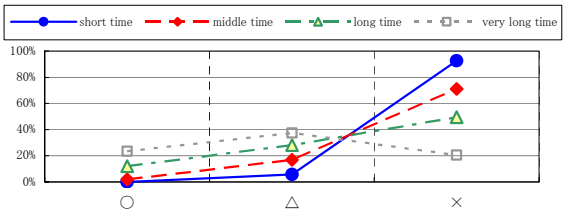
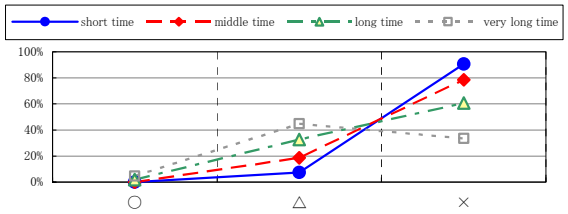
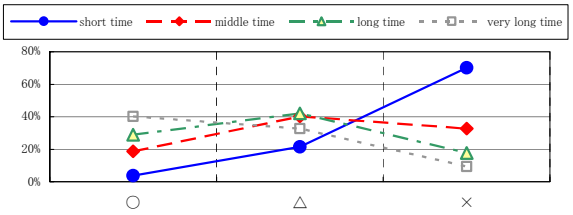
A3	Do you think the **ASEAN region (10 countries)** will head toward greater stabilization?	
A4	Do you think the **South Asian region** (India, Bangladesh, Pakistan, Sri Lanka, Nepal, Butan) will by and large head toward stabilization.	
A5	Do you **think political and economic integration like the EU will be realized** in the East Asian region?	
Political stability in Asia (individual concerned regions)		
A6	Do you think there will be a reversion of the **Northern Territories** to Japan, or some kind of political settlement will be realized in the form of a special zone? Respond with a ○ **if you think there will be a reversion of this region, or with a △ if you think there will be some kind of political settlement.** (please respond from viewpoints of **whether or not you think there will be changes in economic activity or international transport demand,** and how much these changes will influence the outcome. The same will apply until question A9.)	
A7	Do you think there will be a unification of the **Korean Peninsula** (South Korea and North Korea), or there will be a gradual political integration? Respond with a ○ **if you think there will be unification, or with a △ if you think there will be a gradual political integration.**	

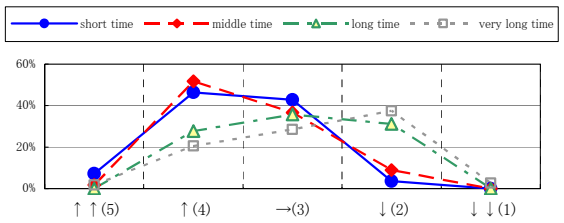
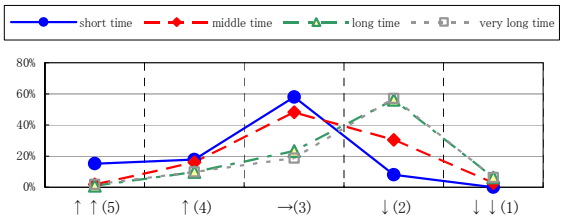
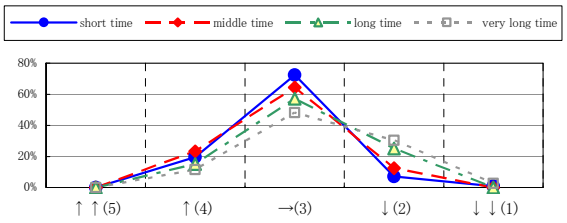
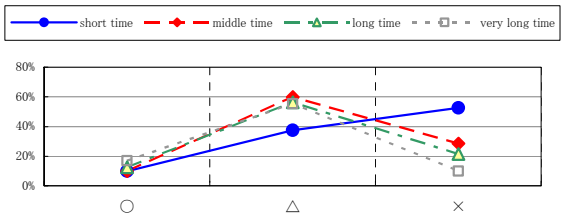
Figure 2 aggregation results of questionnaire survey (2)

A8	Do you think there will be a unification of **Taiwan with mainland China**, or there will be a gradual political integration? (One Country Two Systems formula similar to Hong Kong, etc.) Respond with a ○ **if you think there will be unification, or with a △ if you think there will be a gradual political integration**.	
A9	Do you think **Myanmar will experience economic liberalization and opening of borders** through transition to civilian rule?	

Influence of the world's countries on the economy and diplomacy of East Asian countries

		Rank	Response	Score
A10	Name four **countries that you think will have the biggest impact** on the politics, economy, and diplomacy of **North East Asian countries** at around 2020, in order from the countries which will have greater influence.	1st	China	380
		2nd	U.S.	304
		3rd	Japan	167
		4th	Russia	144
		5th	EU	39
A11	Name four countries that you think will have the biggest impact on the politics, economy, and diplomacy of **ASEAN countries** at around 2020, in order from the countries which will have greater influence.	Rank	Response	Score
		1st	China	357
		2nd	U.S.	279
		3rd	Japan	208
		4th	India	111
		5th	EU	66
A12	Name four countries that you think will have the biggest impact on the politics, economy, and diplomacy of **Central Asian countries** at around 2020, in order from the countries which will have greater influence.	Rank	Response	Score
		1st	Russia	334
		2nd	China	280
		3rd	U.S.	203
		4th	India	115
		5th	EU	90
A13	Name four countries that you think will have the biggest impact on the politics, economy, and diplomacy of **South Asian countries** at around 2020, in order from the countries which will have greater influence.	Rank	Response	Score
		1st	India	350
		2nd	China	232
		3rd	U.S.	230
		4th	EU	113
		5th	Russia	66

Figure 2 aggregation results of questionnaire survey (3)

2) Economic growth		Number of respondents 82 people
	Level of expertise	◎high 9 people ○medium 12 people △low 61 people
Real economic growth in the East Asian region		
A14	With the exception of China, the **real rate of economic growth among East Asian countries** has been hovering at 4–6% in recent years. What is your forecast for the future growth rate **compared to current conditions?**	
A15	**China's real rate of economic growth** has been hovering at about 10% in recent years. What is your forecast for the growth rate in the future.	
Real economic growth in Japan		
A16	**Japan's real rate of economic growth** has been hovering at 1-2% in recent years. What is your forecast for the growth rate in the future?	
A17	In the future, can you **expect to see structural adjustments and technical innovations** outweigh the persistent decrease in the labor force in **Japan**?	
Real economic growth in various regions around the world		
A18	Among the various regions in the world where you can expect to see future development, name the regions which you anticipate will have the highest rate of real economic growth according to time period (top 3 regions in descending order). 1) North America 2) Western and Central Europe 3) Japan 4) Australia 5) BRICs 6) ASEAN 7) Eastern Europe and former Soviet Union 8) Middle East 9) Central and South America 10) Africa 11) NEXT11（South Korea, Bangladesh, Egypt, Indonesia, Iran, Nigeria, Pakistan, the Philippines, Turkey, Vietnam, Mexico	

Rank	Short-term	Mid-term	Long-term	Very long-term
1st	5)BRICs	5)BRICs	5)BRICs	5)BRICs
2nd	6)ASEAN	6)ASEAN	6)ASEAN	6)ASEAN
3rd	8)Middle East	11)NEXT11	11)NEXT12	11)NEXT13
4th	11)NEXT11	7)Eastern Europe and former Soviet Union	7)Eastern Europe and former Soviet Union	10)Africa
5th	7)Eastern Europe and former Soviet Union	8)Middle East	9)Middle East	7)Eastern Europe and former Soviet Union

Figure 2 aggregation results of questionnaire survey (4)

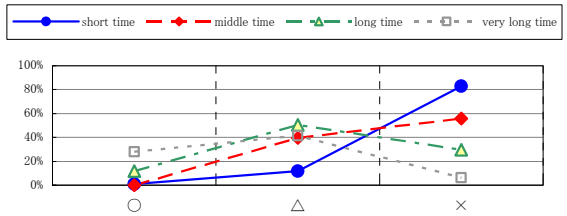
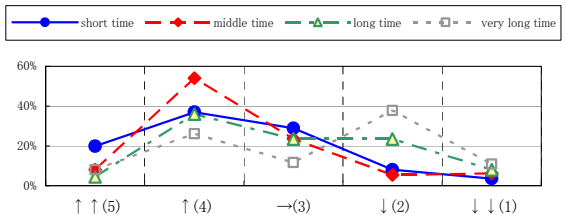
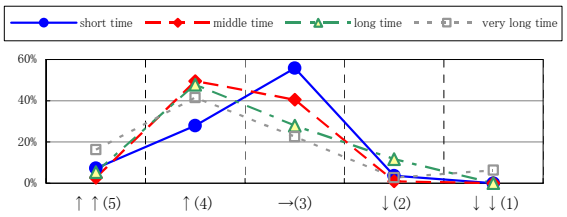
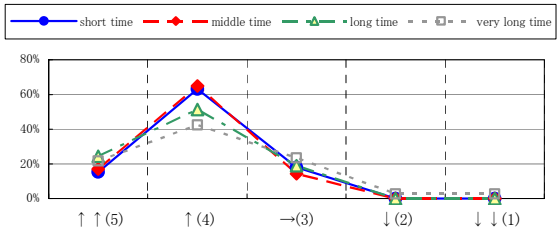
3) Regional development		Number of respondents 76 people
		Level of expertise ◎high 12 people ○medium 11 people △low 53 people
Development policies in East Asian regions		
A19	A UNDP-led development plan was prepared in the 1990's for the Tumen River delta region which straddles the borders of Russia, China, and North Korea. As the project had not progressed as initially planned, the plan was started anew as the "Great Tumen River Area Collaborative Programme" and was extended until 2015 targeting a broader area including North East China, the Russian maritime region, North Korea, Eastern Mongolia, East coast cities of South Korea. Do you think the development goals of this plan will be realized in the future?	
A20	Intending to correct domestic disparities, the Chinese government has been proceeding to conduct priority development measures in Western China from around 2000 (the so-called "Grand development in West China"). Do you think that the gap between East and West China (the interministerial disparities in per capita GDP) will be reduced by implementing such measures? Or do you think investment into the coastal area will continue at a brisk pace despite implementing these measures and the disparity will widen?	
A21	In the **Central Asian** region (Kazakhstan, Uzbekistan, Turkmenistan, Kirghiz, Tajikistan), the "Central Asian Regional Economic Cooperation Program" aiming to establish a customs union and common market was developed and dissolved, and was integrated into the "Eurasian Economic Community" which included Belarus and Russia (excluding Turkmenistan). Moreover, with the addition of China in the form of the "Shanghai Cooperation Organization," a framework for regional cooperation is being laid down. Do you think **economic and political integration in this region** will proceed in the future?	
A22	In the **GMS** (Greater Mekong Sub-region; Yunnan Province and Guangxi Province of China, Vietnam, Laos, Thailand, Myanmar, Cambodia), regional development has been proceeding at the initiative of the Asian Development Bank since the 1990's, and programs involving economic corridor development, intraregional trade and investment promotion are being pursued. Do you think that **economic growth in the region will be further accelerated** in the future through the implementation of such programs?	

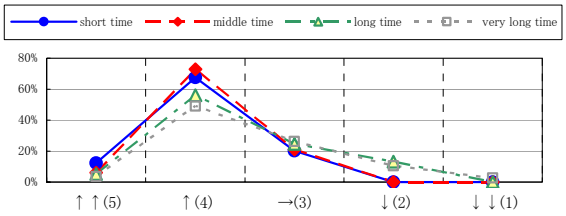
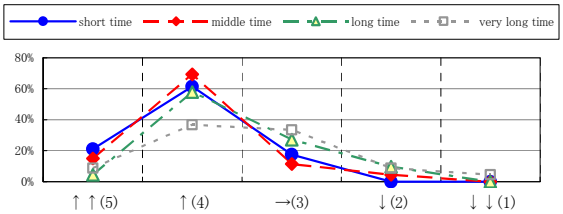
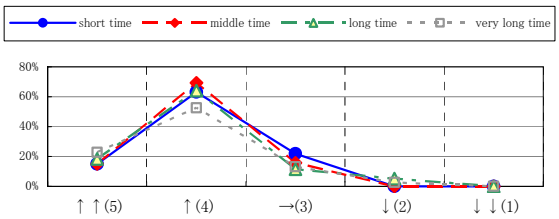
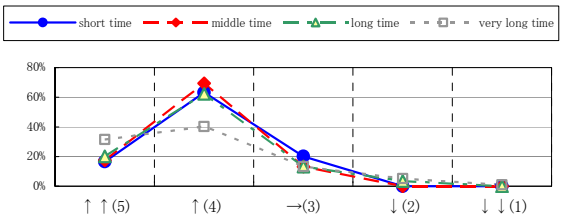
Figure 2 aggregation results of questionnaire survey (5)

A-2. Trade and economic policies

1) Trade Promotion and Facilitation — **Number of respondents 79 people**

Level of expertise ◎high 10 people ○medium 15 people △low 54 people

World and Asian Trade

A23	**The world's overall growth rate in trade values has surpassed the rate of economic growth**. What is your forecast for this trend in the future?	
A24	In the **East Asian region**, the **growth rate in trade values has surpassed the rate of economic growth**. What is your forecast for this trend in the future?	
A25	Do you think that **seamless trade** (reduction of nontariff barriers and transport barriers etc.) will progress **throughout the world** in the future?	
A26	Do you think that **seamless trade** will progress in the **East Asian region** in the future?	

A27 — In promoting the **facilitation of trade**, what items do you think are particularly **high priority**? (please answer with the top 4 items in order which you consider to be the most important)

Rank	Response	Score
1st	Simplification of import and export procedures	242
2nd	Entering into customs unions	240
3rd	Promotion and promulgation of the WTO system	210
4th	Reduction of costs (expenses and time) for international transport (ground, sea, and air)	192
5th	Political and economic integration similar to the EU	126

Figure 2 aggregation results of questionnaire survey (6)

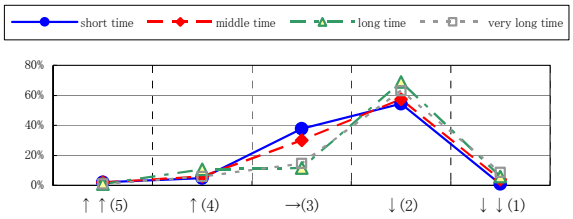
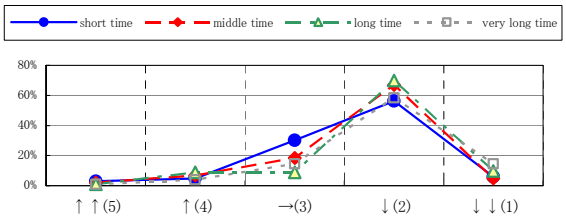
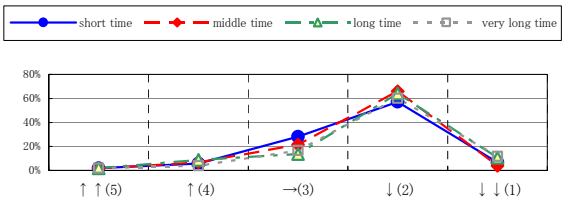
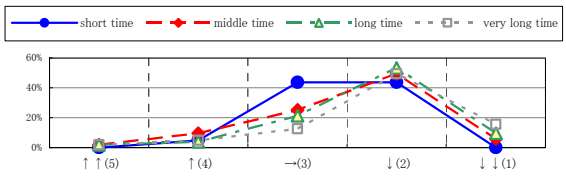
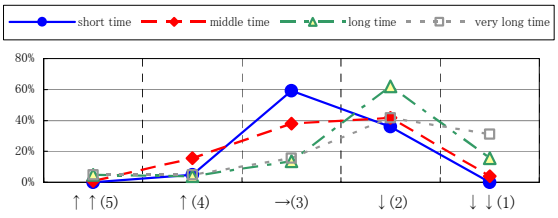
2) FTA・EPA		Number of respondents 73 people
	Level of expertise	◎high 8 people ○medium 14 people △low 51 people
FTA in the World and East Asia		
A28	Do you anticipate **tariff rates across the world will decline** in the future through successful WTO negotiations? (If you anticipate tariff rates will decline, select "↓ tariff rates will gradually decline"; if you anticipate tariff rates will decline to almost zero, select "↓ ↓ tariff rates will significantly decline." The same will apply until question A33.)	
A29	Tariff rates in the **East Asian region** as a whole are now about 9%, but do you anticipate **tariff rates will decline** in the future? (If you anticipate tariff rates will decline, select "↓ tariff rates will gradually decline"; if you anticipate tariff rates will decline to almost zero, select "↓ ↓ tariff rates will significantly decline.")	
A30	Do you anticipate **tariff rates** between Western countries and **East Asian countries as a whole will decline** in the future, due to the signing of FTA's etc. between these regions?	
A31	MFN simple average tariff rates in the U.S. and Europe (25 countries of the EU) are respectively about 4% (about 3% for non-agricultural items) and 5% (about 4% for non-agricultural items). Do you anticipate tariff rates between the U.S. and Europe will decline in the future, due to the signing of FTA's etc. between these regions?	
FTA・EPA related with Japan		
A32	MFN simple average tariff rates in **Japan and South Korea** are respectively about 6% (about 3% for non-agricultural items) and 12% (about 7% for non-agricultural items). Do you anticipate **tariff rates** between Japan and South Korea will decline in the future, due to the signing of FTA's etc. between these regions? (Respond **according to the period when such agreements take effect**.)	

Figure 2 aggregation results of questionnaire survey (7)

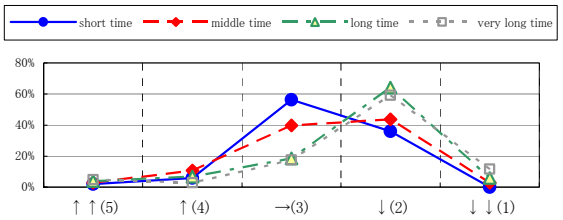
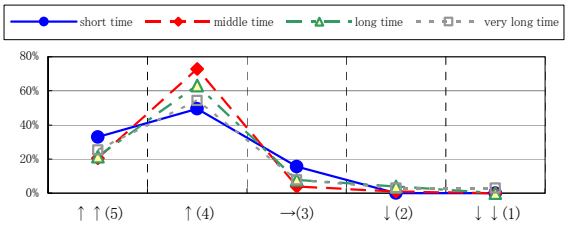
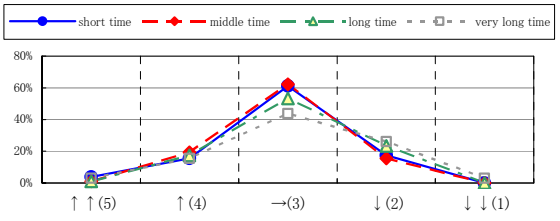
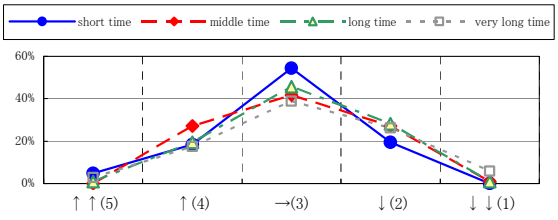
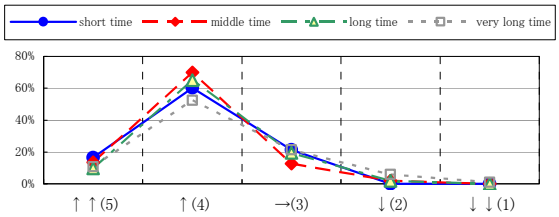
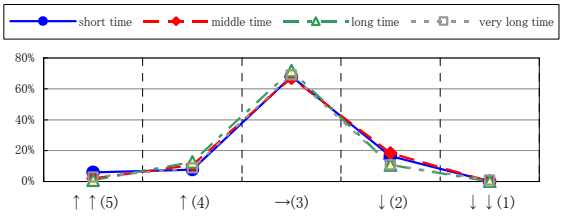
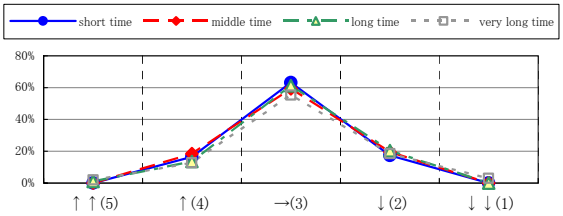
<table>
<tr><td>A33</td><td>MFN simple average tariff rates in <u>Japan and China</u> are respectively about 6% (about 3% for non-agricultural items) and 10% (about 9% for non-agricultural items). Do you anticipate <u>tariff rates</u> between Japan and China will <u>decline</u> in the future, due to the signing of FTA's etc. between these regions?</td><td> 
</td></tr>
<tr><td>A34</td><td><u>What countries are particularly important as FTA and EPA partners with Japan? (the top 4 countries)</u></td><td><table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>China</td><td>253</td></tr>
<tr><td>2nd</td><td>ASEAN</td><td>183</td></tr>
<tr><td>3rd</td><td>South Korea</td><td>151</td></tr>
<tr><td>4th</td><td>India</td><td>108</td></tr>
<tr><td>5th</td><td>Australia</td><td>64</td></tr>
</table></td></tr>
<tr><td>A35</td><td>In order for <u>Japan</u> to greater promote and <u>facilitate trade</u> through the signing of FTA's and EPA's etc., what do you foresee as <u>issues which Japan needs to improve</u> in the future? (the top 4 issues)</td><td><table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>Market liberalization of the agricultural sector</td><td>272</td></tr>
<tr><td>2nd</td><td>Simplification of import and export procedures</td><td>237</td></tr>
<tr><td>3rd</td><td>Reduction of costs (expenses and time) for international transport (ground, sea, and air)</td><td>148</td></tr>
<tr><td>4th</td><td>From bilateral talks, to multilateral talks</td><td>136</td></tr>
<tr><td>5th</td><td>From multilateral talks, to bilateral talks</td><td>105</td></tr>
</table></td></tr>
<tr><td colspan="3">The signing of FTA's between other countries and their impact on Japan</td></tr>
<tr><td>A36-1</td><td>The impact of <u>FTA 's between China and ASEAN countries</u>
1) Due to the effectuation of the EPA between China and ASEAN countries (January 2005) etc., <u>how do you foresee trade between these countries</u> changing in the future? (Respond under the premise that other conditions, such as FTA's between other regions and with other regions will not deviate from current situations. Similarly for the following.)</td><td> 
</td></tr>
<tr><td>A36-2</td><td>2) As well, how will this impact <u>trade between Japan and China</u>?</td><td> 
</td></tr>
<tr><td>A36-3</td><td>3) Again, how will this impact trade between <u>Japan and ASEAN countries</u>?</td><td> 
</td></tr>
</table>

Figure 2 aggregation results of questionnaire survey (8)

A37-1	The impact of **FTA's between the U.S. and South Korea** 1) Due to the conclusion of the FTA between the U.S. and South Korea (April 3, 2007), how do you foresee **trade between these countries** changing in the future?	
A37-2	2) As well, how will this impact trade between Japan and the U.S.?	
A37-3	3) Again, how will this impact trade between Japan and South Korea?	

A-3. Other economic policies and trends

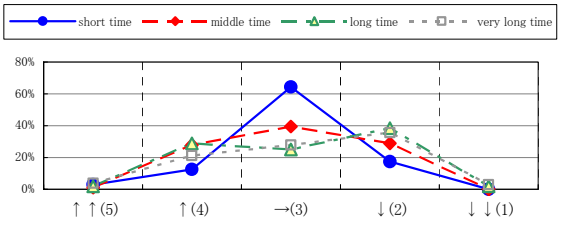
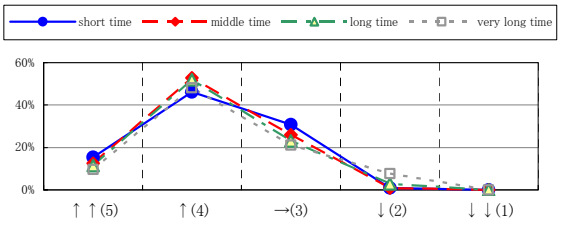
1) Government expenditures and capital formation	**Number of respondents**	**77 people**
Level of expertise	**◎high** **7 people**	**○medium** **13 people** **△low** **57 people**
Government expenditures		
A38	**Japanese government expenditures** accounted for about 37% of GDP in 2005. How do you foresee this situation changing in the future?	
A39	**Chinese government expenditures** currently account for about 19% of GDP. How do you foresee this situation changing in the future?	

Figure 2 aggregation results of questionnaire survey (9)

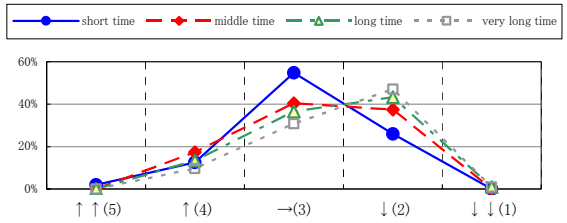
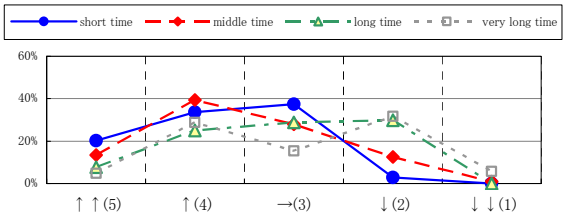
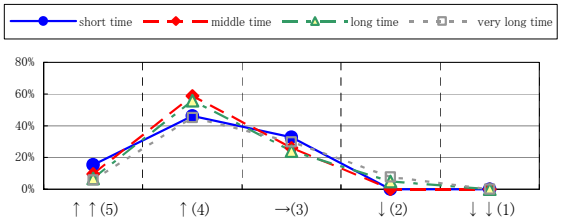
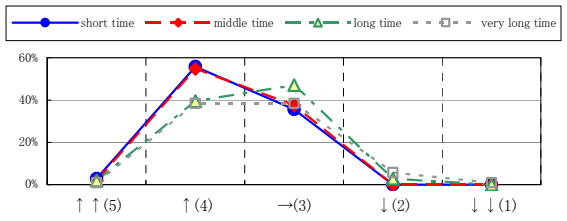
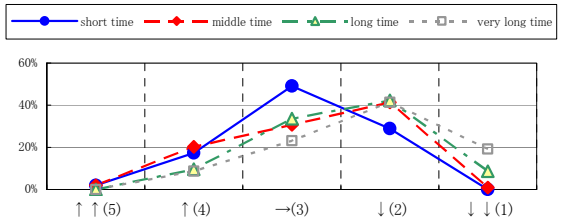
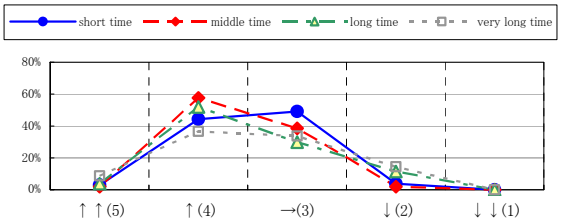
Gross fixed capital formation		
A40	**Gross fixed capital formation** (public investment plus private investment) **in Japan** accounted for about 24% of GDP in 2006. How do you foresee this situation changing in the future?	
A41	**Gross fixed capital formation in China** accounted for about 43% of GDP in 2006. How do you foresee this situation changing in the future?	
A42	**Gross fixed capital formation in other East Asian developing countries** accounted for about 20–30% of GDP in 2006. How do you foresee this situation changing in the future?	
A43	**Gross fixed capital formation worldwide** accounted for about 22% of GDP in 2006 on average. How do you foresee this situation changing in the future?	
ODA/FDI policies		
A44	How will the **total value of ODA (regardless of donor)** in real terms to **East Asian developing countries** change in the future?	
A45	How will the **total influx of foreign capital** (in real terms) to **Japan** change in the future?	

Figure 2 aggregation results of questionnaire survey (10)

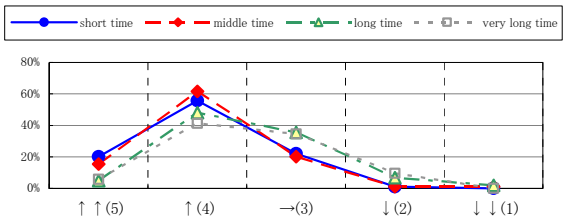
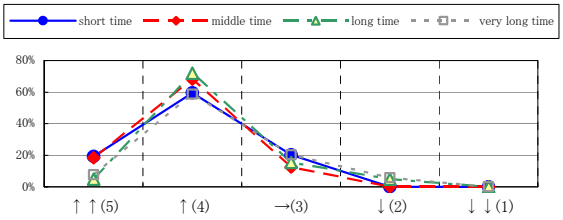
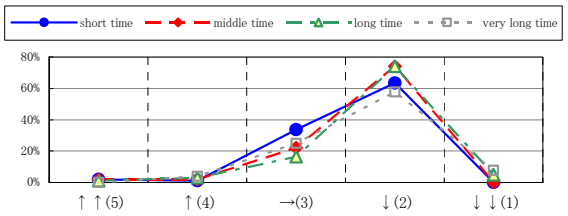
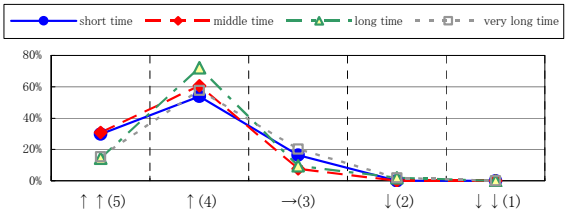
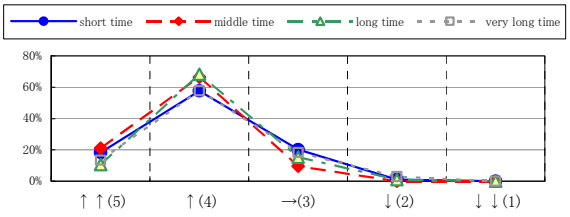
<table>
<tr><td>A46</td><td>How will the <u>total influx of foreign capital</u> (in real terms) to <u>China</u> change in the future?</td><td> 
</td></tr>
<tr><td>A47</td><td>How will the <u>total influx of foreign capital</u> (in real terms) to <u>other East Asian developing countries</u> change in the future?</td><td> 
</td></tr>
<tr><td colspan="3">Investment into the infrastructure sector</td></tr>
<tr><td>A48</td><td>What is your forecast for <u>investment into the transportation infrastructure</u> of East Asian developing countries overall in the future?</td><td> 
</td></tr>
<tr><td>A49</td><td>What is your future forecast for the <u>scale of investment into the transportation infrastructure of East Asian developing countries overall</u>?</td><td> 
</td></tr>
<tr><td>A50</td><td>What is your forecast for investment by the <u>private sector such as PPP</u> into the transportation infrastructure of East Asian developing countries in the future?</td><td> 
</td></tr>
<tr><td>A51</td><td>In order to promote transportation infrastructure development in East Asian countries, <u>what kind of funding frameworks will be important</u> in the future?</td><td>
<table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>Domestic and international investments through PPP and PFI</td><td>265</td></tr>
<tr><td>2nd</td><td>Domestic and international investment by the private sector (such as by transport companies) on a market economy basis</td><td>234</td></tr>
<tr><td>3rd</td><td>Direct investment by the governments of each country based on fund procurement through public bonds</td><td>226</td></tr>
<tr><td>4th</td><td>International direct public investment, including ODA's</td><td>152</td></tr>
<tr><td>5th</td><td>Direct investments by the governments of each country with a focus on sound fiscal administration (securing tax revenue)</td><td>136</td></tr>
</table>
</td></tr>
</table>

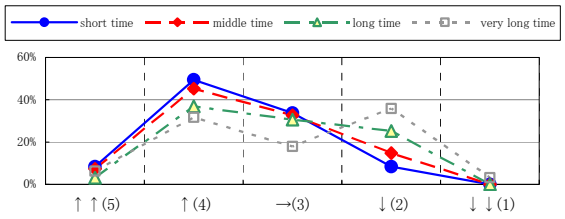
Figure 2 aggregation results of questionnaire survey (11)

2) Fiscal, monetary, and exchange policies — **Number of respondents 73 people**

Level of expertise — **◎ high 9 people** / **○ medium 4 people** / **△ low 60 people**

Fiscal and monetary policies

A52 **Deficit financing** is continuing **in Japan**. What is your forecast for this **deficit** in the future?

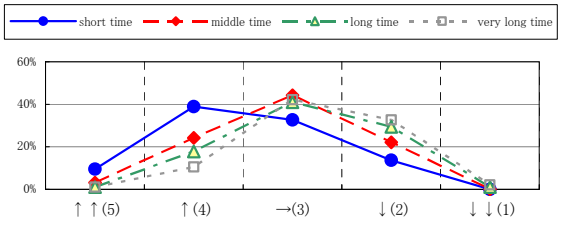


A53 Among East Asian countries, what countries do you think **may potentially fall into financial crisis** in the future? (the worst 4 countries)

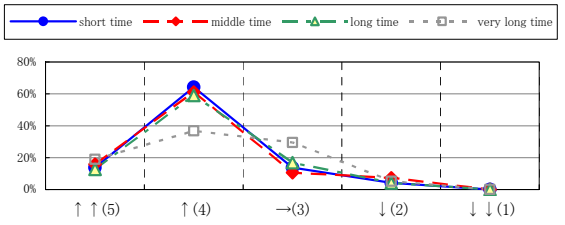
Rank	Response	Score
1st	China	147
2nd	The Phillipines	138
3rd	Indonesia	125
4th	North Korea	59
5th	South Korea	45

Exchange policies

A54 What is your forecast for the **Japanese yen's exchange rate against the dollar** in the future? (fluctuated between 123–110 yen/dollar in 2007)
(Select "↑ ↑ it will rise substantially" or "↑ it will rise slightly" if you expect the yen to rise against the dollar, or "↓ it will fall slightly" or "↓ ↓ it will fall substantially" if you expect the yen to fall against the dollar.)



A55 What is your forecast for the **Chinese yuan's exchange rate against the dollar** in the future? (fluctuated between 7.8–7.3 yuan/dollar in 2007)



A56 What is your forecast for the **euro's exchange rate against the dollar** in the future? (fluctuated between 0.78–0.68 euro/dollar on average in 2007)

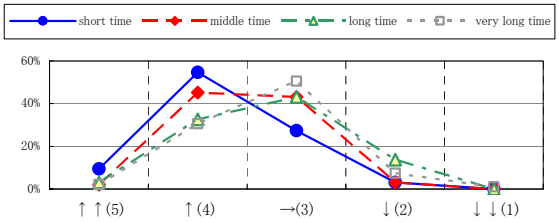
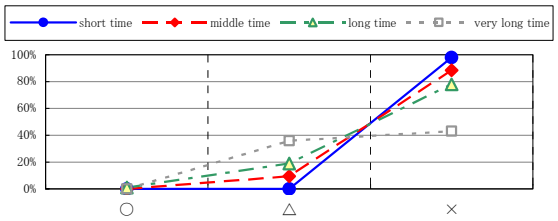


Figure 2 aggregation results of questionnaire survey (12)

A57	Do you think a **monetary union** will be realized in the **East Asian region**?	

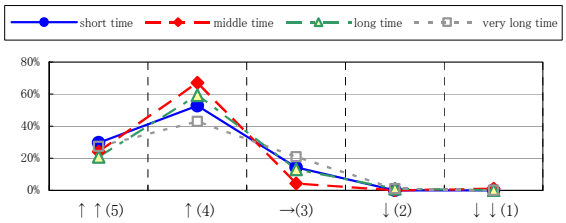
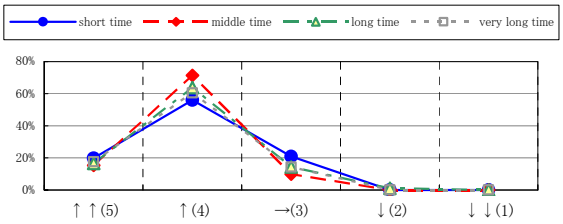
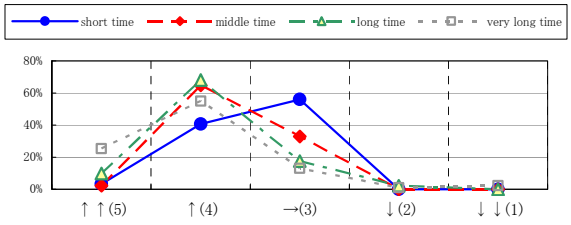
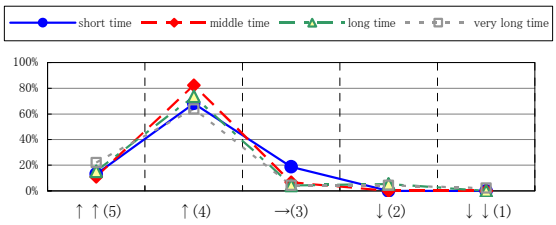
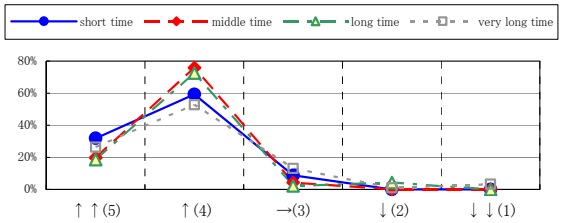
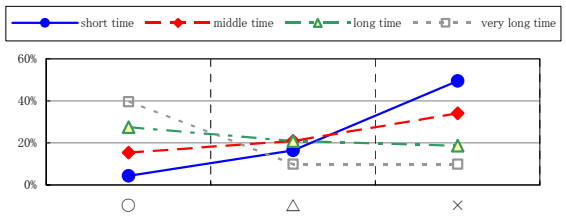
3) Education and labor	**Number of respondents**	**73 people**
	Level of expertise	**◎high** **○medium** **△low**
		8 people **2 people** **63 people**
Educational standard (worker quality)		
A58	The **percentage of students in China continuing on to senior high school** (upper secondary education) was about 48% in 2004. What do you foresee for trends in the future?	
A59	The percentage of students **attaining upper secondary level education** in **other developing countries in Asia** was about 40–60% in 2006. What do you foresee for trends in the future?	
Restrictions on labor movement etc.		
A60	Japan is accepting labor power for a segment of job types due to the effectuation of FTA's and EPA's. Do you anticipate Japan will increasingly **accept immigrants** into the work force in the future?	
A61	Do you anticipate **labor movement across borders** (labor immigration) will increase in the future in the **East Asian region**?	

Figure 2 aggregation results of questionnaire survey (13)

A62	As a result of labor costs rising in China, there will be cases of factories moving to countries like Vietnam. What are your forecasts for **labor costs in China** in the future?	
A63	When do you anticipate **China's Household Registration Control System to be abolished**? (respond according to feasibility for each period of time)	

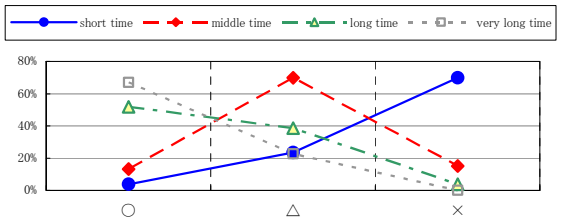
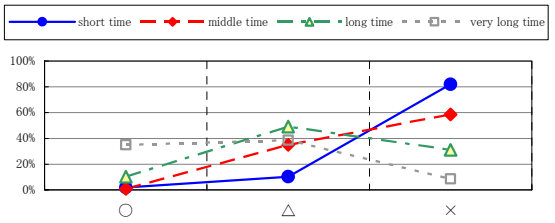
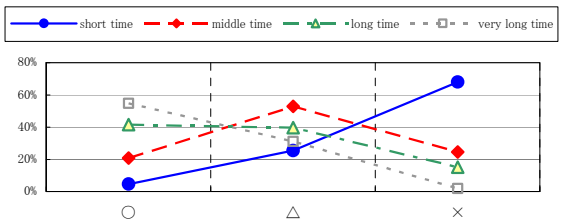
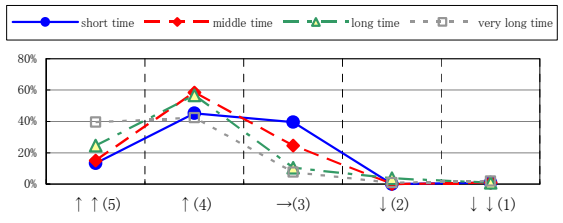
4) Environment	**Number of respondents**	**83 people**
	Level of expertise	**◎ high** **○ medium** **△ low**
		6 people **11 people** **66 people**
Environment tax and emissions trading etc.		
A64	When do you anticipate an **environment** tax (carbon tax) will be introduced **in Japan**? (respond according to feasibility for each time period)	
A65	When do you anticipate an environmental tax will be introduced in **various East Asian countries** except Japan?	
A66	When do you anticipate **carbon dioxide emissions trading in East Asian countries** will **get into full swing**?	
A67	Due to the Kyoto Protocol and similar treaties thereafter, do you think that an **effective framework for global warming countermeasures** such as carbon dioxide reduction will be preserved and expanded upon in the future?	

Figure 2 aggregation results of questionnaire survey (14)

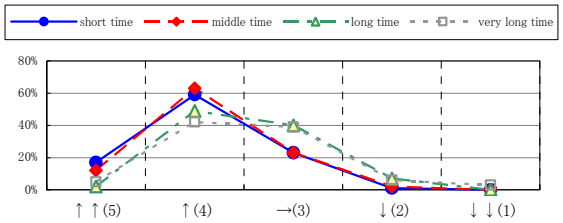
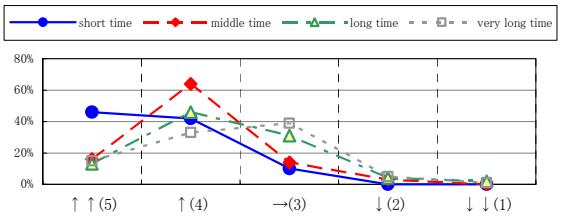
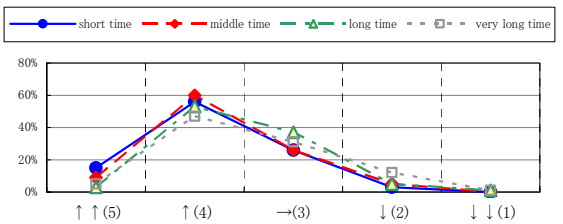
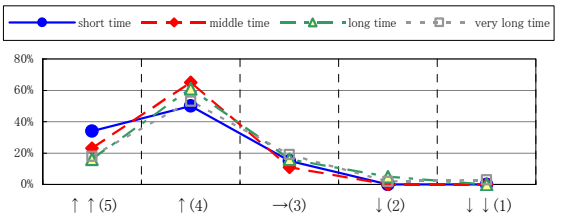
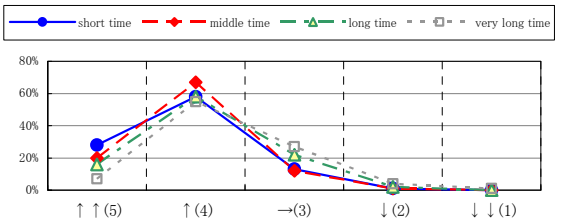
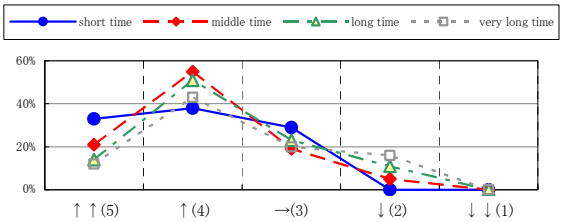
5) Trends in Industry		Number of respondents 73 people
	Level of expertise	◎high 10 people ○medium 7 people △low 56 people
Production volume and price changes in primary industries		
A68	The global **production volume of iron and steel** is presently increasing at an annual rate of about 3–5%. What are your forecasts for the **growth rate** in the future?	
A69	How do you see **iron and steel (real) prices** changing in the future?	
A70	The global **production volume of agricultural products** is presently increasing at an annual rate of about 5%. What are your forecasts for the **growth rate** in the future?	
A71	How do you see **agricultural (real) prices** changing in the future?	
A72	The global **production volume of automobiles** is presently increasing at an annual rate of about 3-4%. What are your forecasts for future **growth rate**?	
A73	The global **production volume of IT and electronic products** is presently increasing at an annual rate of about 20%. What are your forecasts for future **growth rate**?	

Figure 2 aggregation results of questionnaire survey (15)

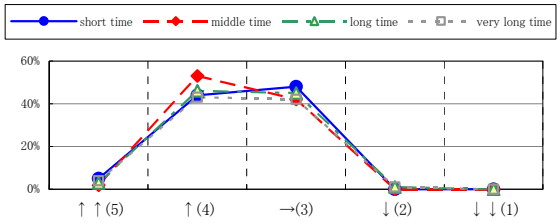
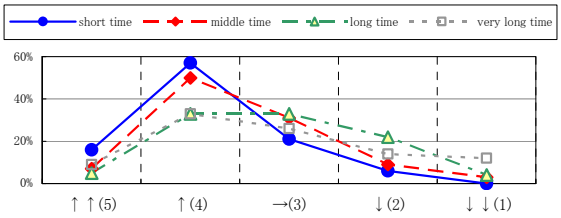
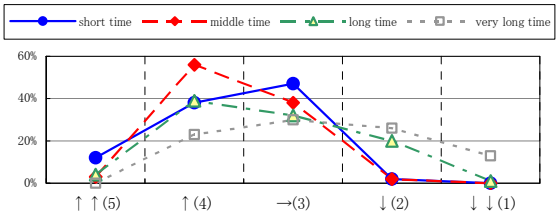
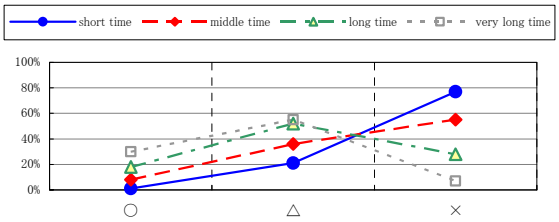
A74	Trends in the global **production volumes of everyday consumption goods** are different according to commodity and **remain mostly level** overall. What are your forecasts for future growth rate?	
Energy (crude oil and alternative energy)		
A75	Crude oil prices were on the rise after 2004, and at one point exceeded 100 dollars/barrel (WTI prices) on January 2, 2008. While prices are currently shifting at the 90 dollar level, how do you see **crude oil (real) prices** changing in the future?	
A76	What are your forecasts for **crude oil production volume** in the future? (please respond in terms of the **increase/decrease in absolute amount**, rather than growth rate)	
A77	Together with concern for the depletion of fossil fuels and soaring crude oil prices, there is increasing demand for alternative energies such as biofuels (biomass) etc. Main alternative energies other than biofuels include oceanic energy, wind power, solar energy, hydrogen, and methane hydrate etc. Presently, these alternative energies occupy only about 1% shares, in relation to conventional energies such as oil, natural gas, coal, atomic energy, and hydro-energy. In the future, do you anticipate that **alternative energy will grow to eventually occupy an equal proportion of shares with conventional energies**?	

Figure 2 aggregation results of questionnaire survey (16)

Final results of the questionnaire survey relating to international transport

B-1. Goods holder

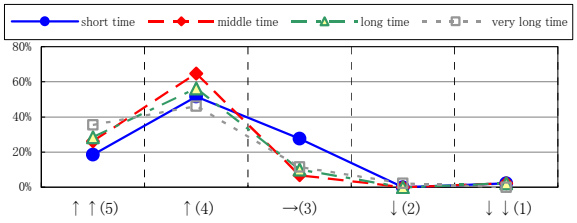
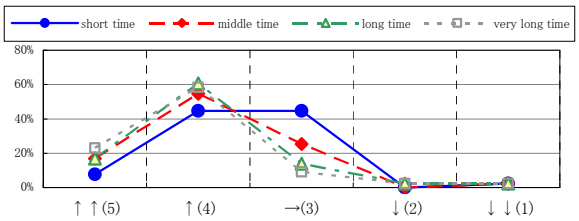
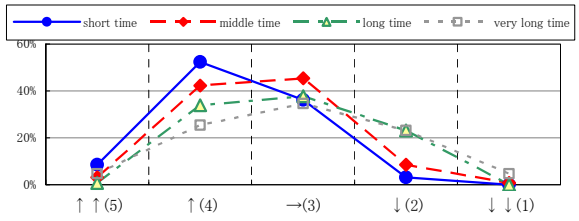
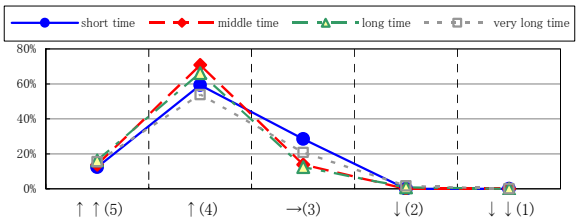
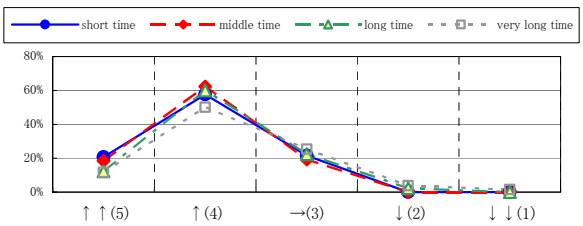
Upgrading SCM and DCM, trends in site location of industrial bases and other trends in logistics		**Number of respondents**	**81 people**
	Level of expertise	**◎ high**	**○ medium**	**△ low**
		13 people	**24 people**	**44 people**
Upgrading SCM and DCM				
B1	Do you anticipate that the **sophistication of Supply Chain Management (SCM) comparable to Western standards** (inventory control, just-in-time transportation, introduction of high-frequency small-lot deliveries, etc.) in manufacturing businesses such as electronic and electric equipment and automobile manufacturing etc. in **China and ASEAN regions** will progress in the future?			
B2	Do you anticipate that the sophistication of Demand Chain Management (DCM) in **China and ASEAN regions** will progress in the future as the level of distribution services sought by consumers rises to Japanese or Western standards, etc.?			
Site location of manufacturing bases				
B3	How do you foresee **Japanese companies** improving and strengthening **functions of manufacturing bases in China** in the future?			
B4	How do you foresee Japanese companies improving and strengthening **functions of manufacturing bases in India** in the future?			
B5	How do you foresee Japanese companies improving and strengthening **functions of manufacturing bases in ASEAN regions** in the future?			

Figure 2 aggregation results of questionnaire survey (17)

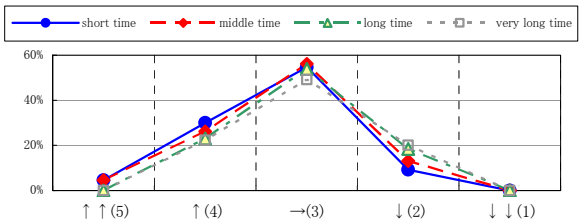
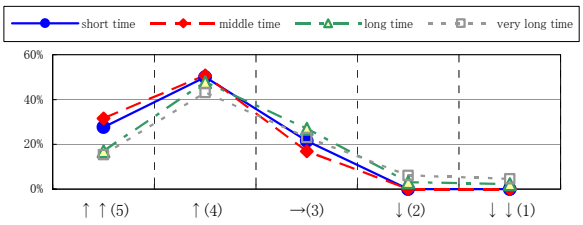
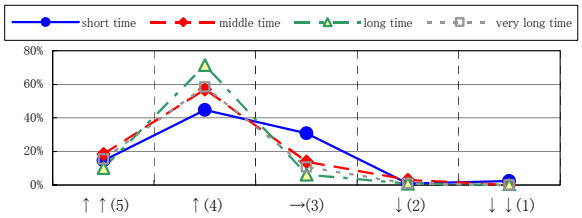
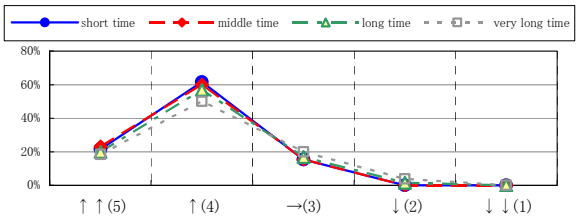
<table>
<tr><td>B6</td><td>Concerned about operating risks overseas (leaking of trade technology), do you anticipate an <u>increase in companies</u> cutting back on overseas production and <u>strengthening production activities in Japan</u>?</td><td> 
</td></tr>
<tr><td>B7</td><td>Do you anticipate that <u>special zones for logistics and export processing zones etc. will continue to proliferate</u> in the <u>East Asian region</u> in the future?</td><td> 
</td></tr>
<tr><td colspan="3">Other logistics trends etc</td></tr>
<tr><td>B8</td><td>Do you foresee an increase in cases of <u>companies established with local capital in China and the ASEAN region</u> involved in ground transport and warehousing, <u>venturing into the 3PL business</u> etc. in the future?</td><td> 
</td></tr>
<tr><td>B9</td><td>The transport of waste products such as used paper and iron scraps between Japan and China is an emerging trend. Do you foresee a market for this kind of transport and trade becoming established in the <u>East Asian region</u> and <u>trade volume increasing</u>?</td><td> 
</td></tr>
<tr><td>B10</td><td>What significant <u>trends</u> do you foresee on the side of <u>shippers</u>, such as SCM and DCM sophistication and production base changes, in the East Asian region in the future? (top 4 responses)</td><td>
<table>
<tr><th>Rank</th><th>Responses</th><th>Score</th></tr>
<tr><td>1st</td><td>Upgrading of service levels demanded from transport companies</td><td>369</td></tr>
<tr><td>2nd</td><td>Optimization and restructuring of SCM at the East Asian region-wide level</td><td>349</td></tr>
<tr><td>3rd</td><td>Sophistication of the service level of customer delivery</td><td>308</td></tr>
<tr><td>4th</td><td>Shortening of the product and service lifecycle</td><td>156</td></tr>
</table>
</td></tr>
</table>

Figure 2 aggregation results of questionnaire survey (18)

B-2. Ports and maritime transport

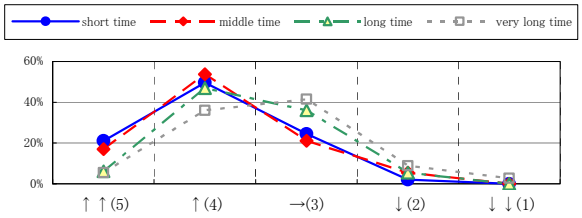
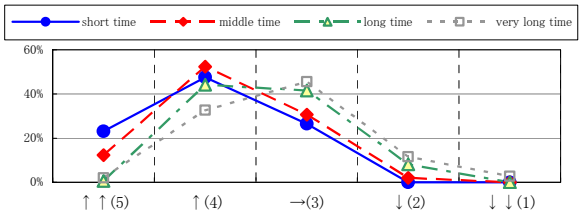
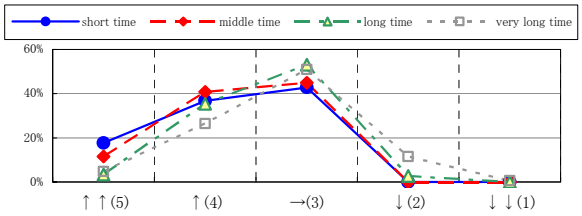
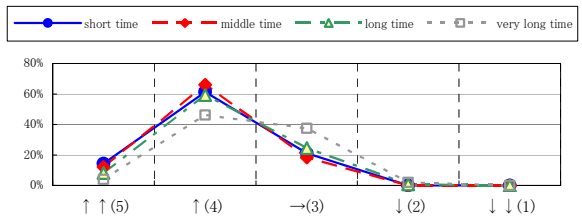
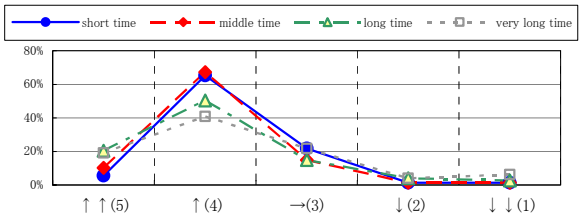
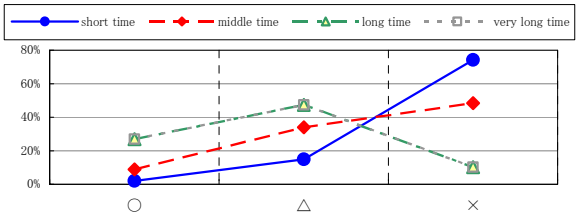
1) Trends in maritime transport demand focusing on East Asia		Number of respondents	83 people
	Level of expertise	◎high	○medium	△low
		20 people	24 people	39 people
Container and bulk cargo demand				
B11	**International maritime container cargo demand worldwide** was approx. 92.69 million TEU (net cargo circulation) in 2006, and in recent years (the past 5 years) has been growing at an average annual rate of about 11%. What are your forecasts for **growth rate** in the future compared to the current conditions?			
B12	**International marine container demand to/from the East Asian region and from/to other regions of the world with a focus on Western countries**, accounts for about 2/3 of such transport flow in the world, and in recent years (the past 5 years) has been growing at an average annual rate of about **12%**. This accounts for a large share of the world market, and slightly exceeds global average growth. In the future, what are your forecasts for the **growth rate** of such cargo, **relative to global average growth**?			
B13	**International maritime container demand within the East Asian region** accounts for less than about 20% of such transport flow in the world, and in recent years (the past 5 years) has been growing at an average annual rate of about **13%**. While the average annual growth rate was between 15-20% until a few years ago, it has remained at about 10% in recent years on a par with the global average. In the future, what are your forecasts for the **growth rate** of such cargo, **relative to global average growth**?			
B14	**Container cargo accounts for approx. 1/4** (on a ton basis) **of maritime transport cargo to and from the East Asian region**. The remainder is cargo transported by tankers, ore carriers, automobile carriers, and general bulk carriers, among others. What are your forecasts for **container cargo shares** of the East Asian region in the future?			
B15	What kinds of cargo (goods) do you anticipate will be containerized in the East Asian region in the future? (list the top 4 items which you anticipate will show the largest growth in containerization)	Rank	Response	Score
		1st	Perishable goods	343
		2nd	Scrap materials	294
		3rd	Wood product	261
		4th	Grains	187
		5th	Oil and chemicals	111

Figure 2 aggregation results of questionnaire survey (19)

Use of 45ft containers		
B16	Do you foresee an increase in the **worldwide use of 45ft containers** for international maritime container shipping in the future?	
B17	When do you foresee **45ft containers capable of being transported on general roads in Japan** (including public highways, with the exception of harbor roads)	

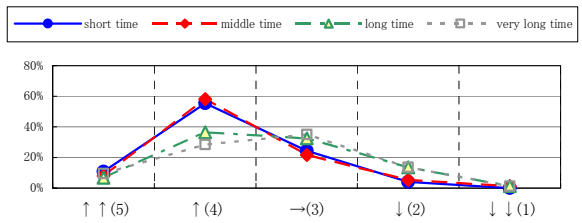
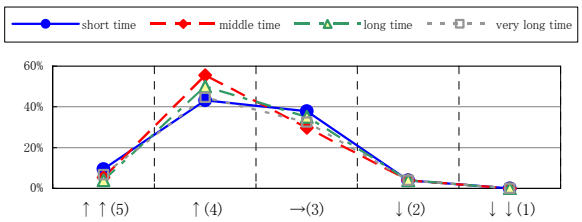
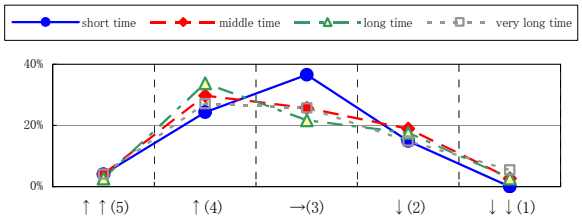
2) Shipping company strategies		**Number of respondents**	**74 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		12 people	**22 people**	**40 people**
Future strategies, alliances, and coalitions of shipping companies			
B18	Do you foresee a **future expansion of alliances** between container shipping companies with main **shipping routes** connecting Asia and the West in the formation of oligopolies? Or do you see such alliances shrinking and a small number of individual shipping companies formed through mergers competing?		
B19	Even with respect to **regional shipping routes in the East Asian region**, do you foresee a promulgation of container shipping company alliances, and the **shares of such alliances and major shipping companies operating on main shipping routes expanding**? Or do foresee competition among several local shipping companies continuing?		

Figure 2 aggregation results of questionnaire survey (20)

B20

In the EU, there is a growing movement to reexamine competition law exemption regulations for international shipping businesses, and the environment surrounding the conclusion of agreements among shipping companies is changing. How the U.S. and Japan will respond to these movements in the future is a major theme. What role do you foresee for these **agreements between shipping companies in the container transport market to/from East Asia** in the future? (Select "↑ ↑ they will rise substantially" or "↑ they will rise gradually" if you expect the role of shipping company agreements to expand, or "↓ they will diminish gradually" or "↓ ↓ they will diminish substantially" if you expect the role of shipping company agreements to diminish.)



B21

What do you foresee will be the **most important issues for container shippig companies in the future**?

Rank	Response	Score
1st	Cost reductions to deal with rising transport costs due to the rising cost of fuel etc.	187
2nd	Improving competitiveness to deal with fierce competition among shipping companies due to enlargement of scale and discounts of freight etc.	140
3rd	Responses to cope with the diversification of goods holder needs	92
4th	Responses toward cargo imbalances and forwarding of empty containers	87
5th	Proactive investment into making larger ships, faster ships, and terminals	81

Shipping route formation (transshipment, empty container transport)

B22-1

Currently, Busan, Kaohsiung, Hong Kong, Singapore, Tanjun Pelapas, Colombo, etc. are main transshipment ports (including domestic and international transshipment) in the East Asian region. As well, even with respect to mainland Chinese ports, the rate of transshipment is expected to increase in the future due to the dramatic increase of cargo volume itself and proactive port investment. 1) Name the ports you anticipate will have an increased rate of transshipment in the future (top 4 ports).

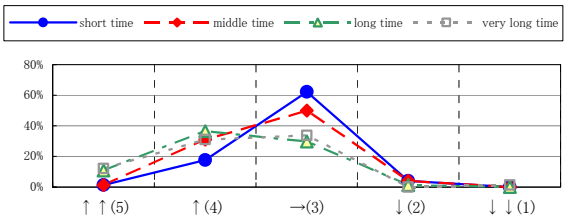
Rank	Response	Score
1st	Shanghai	301
2nd	Singapore	163
3rd	Pusan	100
4th	Hong Kong	100
5th	Shenzhen	88

B22-2

2) Name ports which you anticipate will have a decreased rate of transshipment in the future (the top 4 ports). Here, an increase in locally exporting/importing cargo as well as the decline of ports can be factors for the decreased rate of transshipment.

Rank	Response	Score
1st	Pusan	210
2nd	Hong Kong	143
3rd	Kaohsiung	135
4th	Columbo	81
5th	Singapore	66

Figure 2 aggregation results of questionnaire survey (21)

		Rank	Response	Score
B23	As can be seen with transport between East Asia and North America, the worldwide forwarding and transport of empty containers due to container cargo imbalances has become a major issue. What do you think is the most effective solution to this problem?	1st	Accommodation between shipping companies	164
		2nd	Ensuring back-haul by offering discounts etc.	124
		3rd	Outfitting and utilizing inland depots and empty container depots	100
		4th	Sophisticated container forwarding plans	79
		5th	Changes in the balance of worldwide cargo demand	73
Effects of the Panama Canal expansion				
B24	Approx. 75% of cargo between East Asia and North America is transported by way of the North American West Coast route, while the remaining approx. 25% is transported by the North American East Coast route. Expansion work on the Panama Canal is currently underway, and by 2014, the passage of 12,000 TEU class container ships will be possible. On the other hand, observations have also been made that canal passage fees will be raised substantially. How will shares of the East Asian and North American East Coast routes be affected by the Panama Canal expansion project? If there are any other effects that you can think of, please write them in the comments column.			

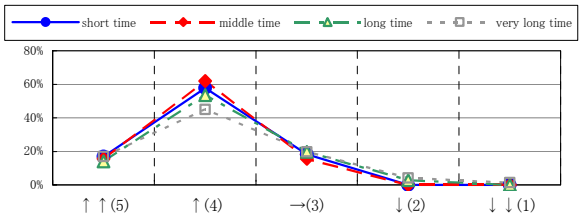
3) Development of international RORO ships and international ferry transport		**Number of respondents**		**68 people**
		Level of expertise	**◎high 16 people**	**○medium 20 people** **△low 32 people**
Formation of international RORO shipping routes and international ferry routes				
B25	Cargo transport utilizing international RORO ships and international ferries to supplement container transport and air transport, such as the Shanghai SuperExpress connecting Hakata and Shanghai, and movements to establish new international ferry routes across the Japan Sea are attracting attention. Do you foresee the **number of routes in the East Asian region for international RORO ships and international ferries** increasing in the future?			
B26-1	1) Name **routes which you expect will be established or expanded as international RORO ship and ferry routes** in the future. (List the top 4 routes. Respond according to country of departure/arrival, or if possible, at a regional or port level).	Rank	Response	Score
		1st	South Korea-Kyushu	112
		2nd	China-Kyushu	101
		3rd	Siberia-Hokuriku	60
		4th	Taiwan-Kyushu	44
		5th	China-South Korea	41

Figure 2 aggregation results of questionnaire survey (22)

		Rank	Response	Score
B26-2	2) As well, for what reasons do you anticipate this demand will occur? (enter the most important reasons for each of the above routes) 1st Enhancement of more speedy services, such as through hot delivery services etc.	1st	Enhancement of more speedy services, such as through hot delivery services etc.	140
		2nd	It is positioned between air transport and container transport in terms of the balance of cost and speed, and is easy to use.	125
		3rd	International RORO and ferries can handle and transship at the port more effectively than container transport	118
		4th	The creation of transport demand due to the local advance ofJapanese companies	72
		5th	Enhancement of hinterland transport networks, such as the Trans-Siberian Railway	55
B26-3	3) Currently, International RORO ships and ferries transport mainly textiles, general merchandise, electrical and mechanical products, fresh produce, among others. What goods do you foresee will increase transport demand in the future?（top 4 items）	Rank	Response	Score
		1st	Electrical and mechanical	168
		2nd	Fresh produce	154
		3rd	Food items	94
		4th	General merchandise	80
		5th	Textiles and general merchandise	71
B27	To enhance international RORO ship routes and international ferry routes, **what measures** (policies and easing of regulations) do you think **are necessary**? (top 4 measures)	Rank	Response	Score
		1st	Seamless transport such as mutual entry of chassis between countriess	183
		2nd	Acquiring major shippers etc. to ensure more stable cargo demand	121
		3rd	Easing of regulations for various procedures relating to the establishment of international routes	120
		4th	Enhancement of Hot Delivery Service	89
		5th	Securing and seeking out passenger demand for ferry routes	38

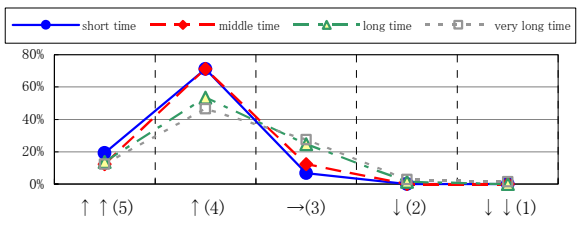
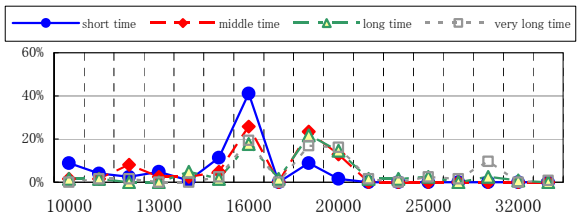
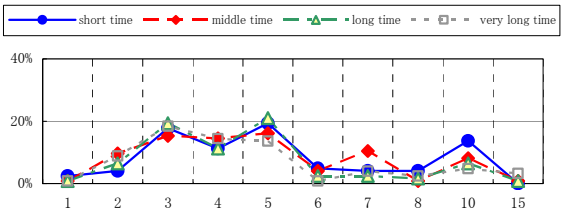
4) Building and operating of Mega-Container Ships		**Number of respondents** 73 people
	Level of expertise	**◎ high ○ medium △ low** **17 people 18 people 38 people**
Building of Mega-Container Ships and service routes		
B28	The size of container ships is getting larger, and currently more than 100 orders have been placed for the manufacture of Mega-Container Ships exceeding 10,000 TEU. As the enlargement of container ship size progresses, what is your forecast for the **number of Mega-Container Ships exceeding 10,000 TEU** entering service in the future?	
B29	It is said that a 16,000 TEU class Mega-Container Ship is scheduled to enter service in the first half of 2009. To what extent do you anticipate the **enlargement of container ship** size will progress in the future? (enter the **maximum loading capacity (TEU) that you anticipate** for each period of time)	

Figure 2 aggregation results of questionnaire survey (23)

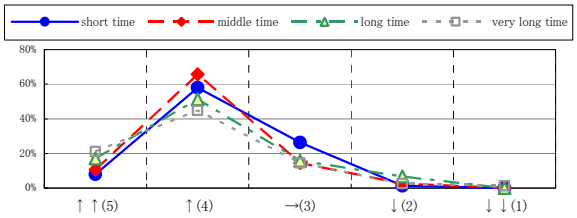
B30	With a focus on what kinds of routes do you expect the above Mega-Container Ships will be placed into service? (enter routes in order from those that will see the most number of ships entering service)	Rank	Response	Score
		1st	Asia–North America route	205
		2nd	Asia–Europe route	204
		3rd	Europe–Asia–North America (pendulum route)	142
B31-1	With respect to **calling ports in the East Asian region**, 1) **how many ports of call** do you anticipate will be made for **every 1 loop**?			
B31-2	2) as well, what do you foresee will be the **major calling ports** (list the top 4 ports in order from those which will see the most number of calls made)	Rank	Response	Score
		1st	Shanghai	345
		2nd	Singapore	272
		3rd	Hong Kong	182
		4th	Pusan	89
		5th	Shenzhen	83

5) Provisioning and expansion of container terminals and mega-operator trends		**Number of respondents**	**59 people**
	Level of expertise	**◎high 15 people**	**○medium 20 people**	**△low 24 people**
Plans for the new construction and expansion of container terminals in East Asia			

B32-1	"Among Japan's neighboring countries, the construction of new berths and expansion of existing terminals to possess hub functions are proceeding, such as Shanghai Port, Pusan New Port, and Gwangyang Port. Considering the investment plan on port facilities in the East Asian region (such as the number of constructed and planned new berths) and future cargo demand, 1) list the ports which you anticipate have a relatively high potential to achieve their port improvement plans (or, to be implemented ahead of schedule) (top 4 ports).	Rank	Response	Score
		1st	Shanghai	385
		2nd	Pusan New Port	108
		3rd	Shenzhen	92
		4th	Singapore	63
		5th	Tianjin	32
B32-2	2) As well, list ports which you anticipate have a relatively **low potential to achieve their port improvement plans** (or, to be implemented behind schedule) (top 4 ports).	Rank	Response	Score
		1st	Gwangyang	165
		2nd	Pusan New Port	120
		3rd	Kaohsiung	65
		4th	Pusan	47
		5th	Singapore	30

Figure 2 aggregation results of questionnaire survey (24)

		Rank	Response	Score
B32-3	3) Name ports (or countries) which do not intend to become hub ports, but for which the outfitting and expansion of container terminals in particular will be important in the future, from the standpoint of the development of developing countries and to respond to increased local cargo demand in the surrounding region. (top 4 ports or countries)	1st	India	194
			Vietnam	194
		3rd	Thailand	52
		4th	Ho Chi Minh	47
		5th	Indonesia	34
Megaterminal operator trends				
B33	Mega-terminal operators are proactively conducting efficient and inexpensive operation of container terminals at the world's major ports. Name **countries or regions in East Asia where you foresee mega-operators venturing into** in the future. (top 4 countries/regions)	Rank	Response	Score
		1st	India	197
		2nd	Vietnam	165
		3rd	China	122
		4th	Bohai Bay off the coast of Northeast China	81
		5th	Far East Russia	63

6) Passenger demand (passenger cruise ship)		**Number of respondents**	**73 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		11 people	**14 people**	**48 people**
Cruise ship demand				
B34	Do you anticipate **demand for passenger cruise ships** (including domestic and international) in the **East Asian region** including Japan will increase in the future?			

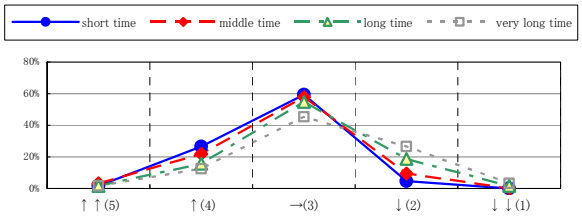
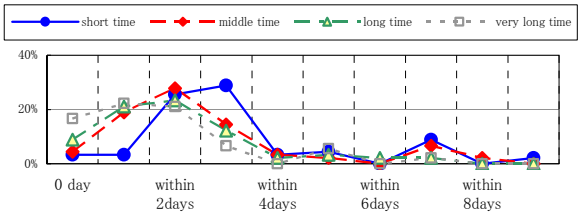
7) Maritime transport safety and security		**Number of respondents**	**62 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		6 people	**14 people**	**42 people**
The effects of pirate attacks				
B35	Do you anticipate the **incidence of pirate attacks** in the East Asian region will increase in the future? As well, if you anticpate that the types of vessels targeted and the form that damages will take will change, write your opinions in the comment column.			

Figure 2 aggregation results of questionnaire survey (25)

B36	Name the ocean area in the East Asian region **where you expect pirate attacks will most occur**. (top 4 areas)	Rank	Response	Score
		1st	Straits of Malacca	234
		2nd	Philippine waters	122
		3rd	Indian Ocean	51
		4th	East China Sea	48
		5th	Indonesia waters	30
B37	If pirate attacks occur, what **impacts on logistics** can you foresee will result? (top 4 answers)	Rank	Response	Score
		1st	Increases in transport costs due to cost increases for security measures	187
		2nd	Decreased usage rate of these routes; increased transport costs and time due to transport route changes	153
		3rd	Compensation for shippers	141
The effects of strengthening the U.S. Container Security Initiative				
B38	In the future, inspection of all cargo at the port of the exporting country will be made mandatory for all container cargo bound for the U.S. Due to the implementation of such policies etc., how many days do you anticipate lead time at ports will be prolonged compared to current conditions? Consider the long-term course of policies in your response.			

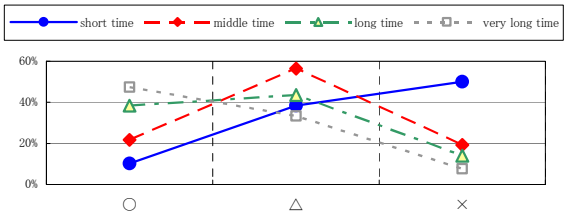
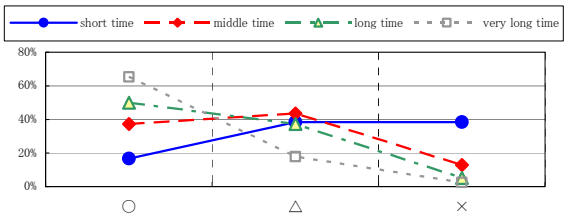
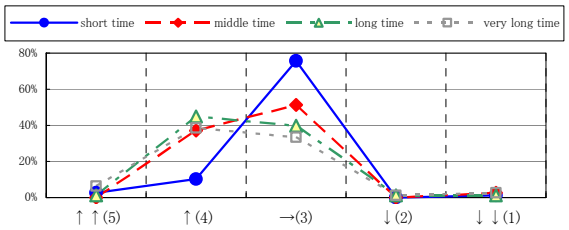
8) Port and marine transport policies in Japan and Asia		**Number of respondents**		**78 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		25 people	**14 people**	**39 people**
Super hub port policies				
B39-1	Super hub port policies toward strengthening the international competitiveness of Japan's ports are being implemented targeting a 30% reduction in port costs and customs clearance time of about 1 day, which will be equivalent to the level of ports in Singapore, by the year 2010. Until now, a 13% reduction in logistics costs and approx. 1–2 days reduction in customs clearance time has been achieved. 1) Do you foresee the t**arget of 30% reduction in port costs** being achieved?			

Figure 2 aggregation results of questionnaire survey (26)

B39-2	2) Do you foresee the target of **reducing customs clearance time to about 1 day** being achieved?	
B39-3	3) In addition, what measures do you expect will be necessary (policies and easing of regulations etc.) in order to **sustain and strengthen Japan's international competitiveness**? (top 4 measures)	Rank / Response / Score 1st: Easing of port transport regulations — 166 2nd: Keeping the gate open for 24 hours — 106 3rd: Reinforcing interconnections between ports and hinterland transport (roads and railways) — 97 4th: Promoting cooperation between ports — 96 5th: Further development of large-scale terminals such as successive operation of multiple berths — 94
B40	Do you foresee an **easing of cabotage regulations for the domestic shipping** of each nation within **East Asia** including Japan?	

B-3. Air Transport

1) Air transport market trends in the East Asian region	**Number of respondents**	**63 people**
Level of expertise	**◎high**	**○medium**	**△low**
	8 people	**10 people**	**45 people**
Air transport demands in the East Asian region			

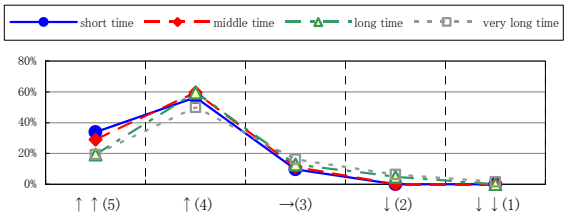
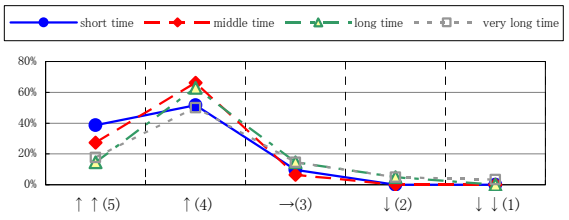
B41	What are your forecasts for the annual average **growth rate in international air "passenger"demand** in **North East Asia** (Japan, China, South Korea etc.) in the future?	
B42	What are your forecasts for the annual average growth rate in international air "cargo"demand in North East Asia (Japan, China, South Korea etc.) in the future?	

Figure 2 aggregation results of questionnaire survey (27)

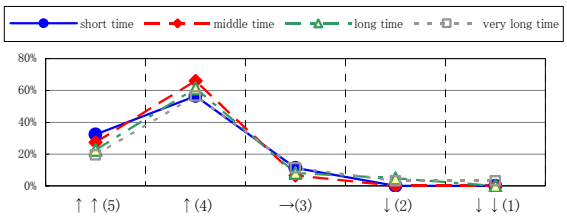
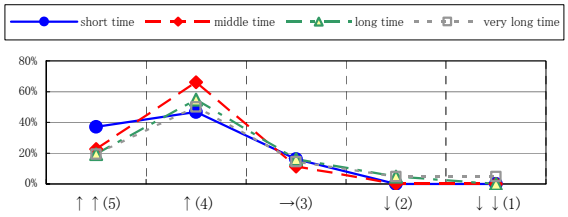
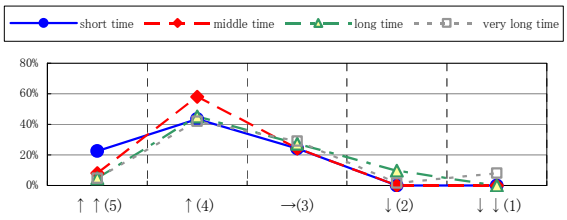
<table>
<tr><td>B43</td><td>What are your forecasts for the annual average <u>growth rate</u> in <u>international air "passenger"demand</u> in <u>South East Asia</u> (ASEAN) in the future?</td><td> 
</td></tr>
<tr><td>B44</td><td>What are your forecasts for the annual average growth rate in international air "cargo"demand in the South East Asian region (ASEAN) in the future?</td><td> 
</td></tr>
<tr><td colspan="3">Airline alliances</td></tr>
<tr><td>B45</td><td>How do you foresee the airlines which constitute each alliance being restructured in the future? (or, do you anticipate they will stabilize and not change?) (response number) 1) Stabilize and not change 2) Be focused on Star Alliance 3) Become 4 major alliances with an increase in one alliance 4) Stay as 4 major alliances 5) Become 3 major alliances with the collapse of one alliance 6) Integration of One World and Sky Team (toward a 2 major alliance age) 7) Polarization into Star Alliance and Sky Team 8) Restructuring in the U.S. and Europe; entry of Chinese company into alliance 9) An increase in companies breaking away from Sky Team 10) China Eastern Airlines entry into One World; Malaysia Airlines entry into Sky Team 11) Restructuring in the U.S. and Europe 12) Consolidation will proceed 13) Polarization 14) 2 major alliances (Star Alliance and one other alliance) 15) Proceed on the basis of the current 3 major alliances 16) Restructuring from 3 major alliances into 2 major alliances</td><td>
<table>
<tr><th>Rank</th><th>Short-term</th><th>Mid-term</th><th>Long-term</th><th>Very long-term</th></tr>
<tr><td>1st</td><td>1)</td><td>1)</td><td>1)</td><td>1)</td></tr>
<tr><td>2nd</td><td>10)
15)</td><td>13)
14)
15)</td><td>13)
14)
15)</td><td>13)
14)
16)</td></tr>
<tr><td>3rd</td><td></td><td></td><td></td><td></td></tr>
<tr><td>4th</td><td>8)</td><td></td><td></td><td></td></tr>
<tr><td>5th</td><td>2)</td><td>9)
11)</td><td>6)
7)</td><td>5)
7)
12)</td></tr>
</table>
</td></tr>
<tr><td>B46-1</td><td>1) Do you foresee <u>emerging airlines</u> in the East Asian region <u>joining alliances</u> increasing in the future?</td><td> 
</td></tr>
</table>

Figure 2 aggregation results of questionnaire survey (28)

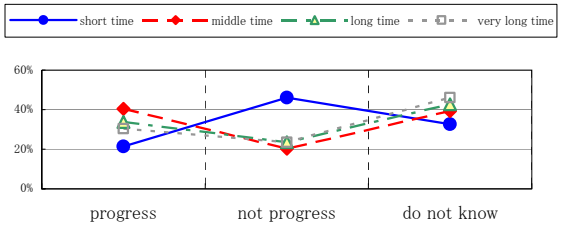
<table>
<tr><td>B46-2</td><td>2) Specifically which non-allied airlines do you anticipate will join which alliances?
(response number) 1) MU→One World, CI/MH→Sky Team 2) AI/MS/TK→Star Alliance 3) Garuda Indonesia: One World; Vietnam Airlines: One World; EVA Air: Star Alliance 4) EVA Air, China Airlines, Philippine Airlines, Garuda Indonesia will join an alliance 5) Airline companies of India and Pakistan will join an alliance 6) Star Alliance, One World 7) Malaysia Airlines will join an alliance 8) Emerging Chinese airlines will enter some type of alliance 9) Hainan Airlines will join an alliance 10) Uzbek Air will join Star Alliance 11) By 2015 (mid-term), China Eastern Airlines will join One World; Egypt Air and Air India will join Star Alliance; Malaysia Airlines will join Sky Team; Middle Eastern airline companies (Emirates Airline, Qatar Airways etc.) and emerging Chinese airline companies will enter some kind of alliance</td><td>
<table>
<tr><th>Rank</th><th>Short-term</th><th>Mid-term</th><th>Long-term</th><th>Very long-term</th></tr>
<tr><td>1st</td><td>6)
7)
11)</td><td>4)
6)
9)
11)</td><td>5)
6)
11)</td><td>6)
11)</td></tr>
<tr><td>4th</td><td>1)
3)</td><td></td><td></td><td></td></tr>
<tr><td>5th</td><td></td><td>2)</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>B47</td><td>What are your forecasts for mergers of airlines in the East Asian region?</td><td> 
</td></tr>
<tr><td colspan="3">Airline hubs in the East Asian region</td></tr>
<tr><td>B48</td><td>Which airports in the East Asian region do you foresee becoming hub airports for "passenger transport" in the future? (top 4 airports)</td><td>
<table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>Shanghai Pudong</td><td>131</td></tr>
<tr><td>2nd</td><td>Incheon</td><td>108</td></tr>
<tr><td>3rd</td><td>Hong Kong</td><td>57</td></tr>
<tr><td>4th</td><td>Guangzhou</td><td>28</td></tr>
<tr><td>5th</td><td>Beijing</td><td>16</td></tr>
</table>
</td></tr>
<tr><td>B49</td><td>Which airports in the East Asian region do you foresee becoming hub airports for "cargo transport" in the future? (top 4 airports)</td><td>
<table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>Incheon</td><td>105</td></tr>
<tr><td>2nd</td><td>Shanghai Pudong</td><td>95</td></tr>
<tr><td>3rd</td><td>Guangzhou</td><td>59</td></tr>
<tr><td>4th</td><td>Hong Kong</td><td>51</td></tr>
<tr><td>5th</td><td>Naha</td><td>22</td></tr>
</table>
</td></tr>
</table>

Figure 2 aggregation results of questionnaire survey (29)

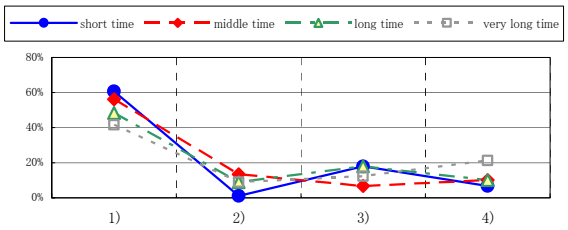
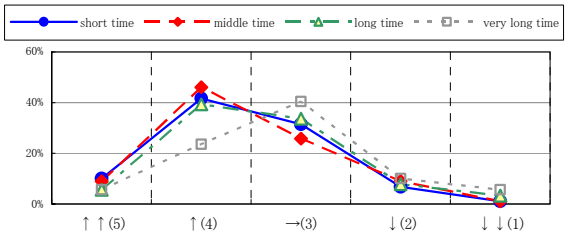
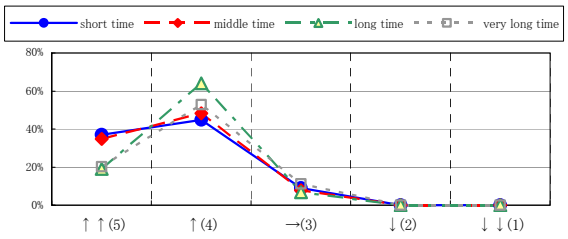
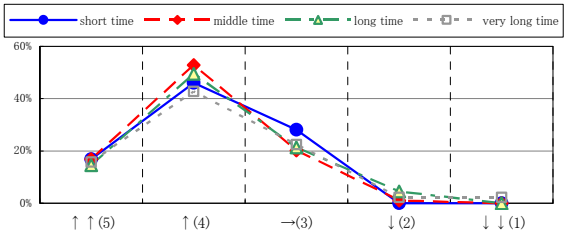
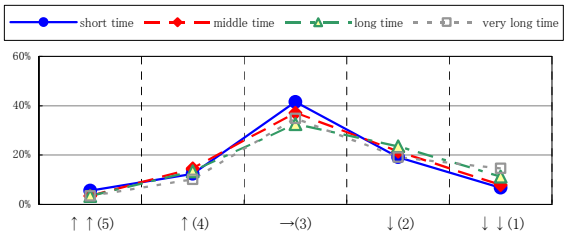
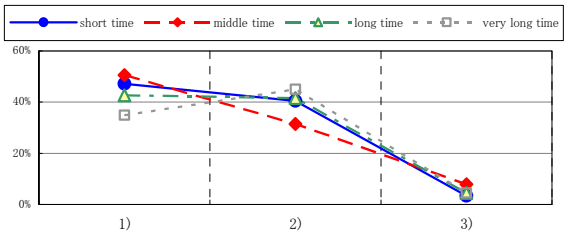
Regional carriers and low-cost carriers (LCCs) in the East Asian region		
B50	Do you anticipate that **regional carriers** and **low-cost carriers** (LCCs) will increase in the East Asian region in the future? 1) Both will increase 2) Only regional carriers will increase 3) Only low-cost carriers will increase 4) Neither will increase	
Aircrafts in the East Asian region		
B51	Do you foresee an increase in services by **large size aircraft** (B777, B747, A380 etc.) in the East Asian region in the future?	
B52	Do you foresee an increase in services by **small and mid-size jet airplanes** (B737, A320 class) in the East Asian region in the future?	
B53	Do you foresee an **increase in services by** small and regional aircraft (CRJ, EMBRAER class) in the East Asian region in the future?	
B54	Do you anticipate that international air transport by **turboprop aircraft** will increase in the East Asian region in the future?	
B55	Do you anticipate that international cargo aircraft servicing the East Asian region will grow in size? 1) They will become larger 2) They will not change in size 3) They will become smaller	

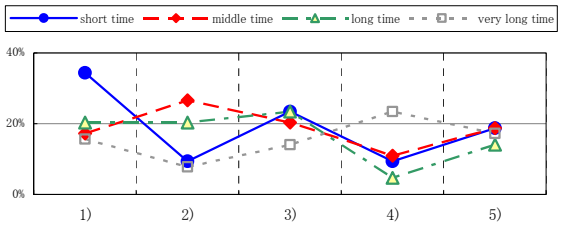
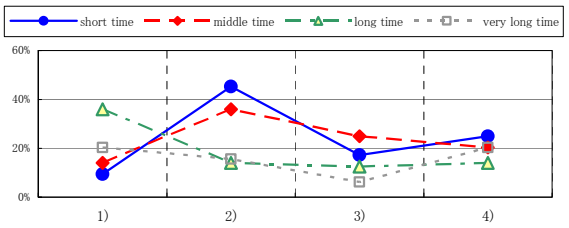
Figure 2 aggregation results of questionnaire survey (30)

International air cargo transport in the East Asian region				
B56	For **what kinds of goods** do you foresee **shares in international air cargo transport** in the East Asian region **increasing** in the future? (top 4 goods)	Rank	Response	Score
		1st	Computer-related and telecommunication equipment	243
		2nd	Semiconductors	237
		3rd	Machinery	132
		4th	Clothing	78
B57	For **what kinds of goods** do you foresee **transport shares** in international air cargo transport in the East Asian region **decreasing** in the future? (top 4 goods)	Rank	Response	Score
		1st	Clothing	201
		2nd	Machinery	111
		3rd	Computer-related and telecommunication equipment	78
		4th	Semiconductors	76

2) Air transport policies in the East Asian region		**Number of respondents**			**40 people**
	Level of expertise	**◎high**	**○medium**	**△low**	
		6 people	**7 people**	**27 people**	
Trends in the liberalization of air transport in the East Asian region					
B58	What kind of **liberalization** (deregulation) do you foresee progressing in the East Asian region in the future? [fare regulations, traffic regulations, service regulations (beyond rights, fifth and sixth freedom rights, cabotage rights etc.)] (response number) 1) Liberalization will not progress 2) Bilateral Open-Skies agreements 3)Full bilateral liberalization 4) Gradual bilateral liberalization 5) Approval of trilateral tag end cabotage 6) Abolishment of trilateral traffic regulations 7) Deregulation of fares, designated airlines, and traffic regulations 8) Cabotage approval 9) Full liberalization 10) Abolition of traffic regulations 11) Bilaterally cabotage deregulation 13) Bilateral liberalization 14) Others	Rank	Short-term	Mid-term	Long-term	Very long-term
		1t	1)	1)	1)	9)
		2nd	4),6),7) 10),11)	6)	6) 3)	1)
		3d		2),8) 13),14)	14)	5),14)
Construction of runways and new airports					
B59	Which airports in the East Asian region do you expect will **construct additional runways** in the future? (response numbers) 1) Shanghai Pudong (China) 2) Incheon (South Korea) 3) Beijing (China) 4) Suvarnabhumi (Thailand) 5) Guangzhou (China) 6) Tokyo International (Japan) 7) Changi (Singapore) 8) Shenyang (China) 9) Hong Kong (China) 10) Delhi (India) 11) Ho Chi Minh (Vietnam) 12) Shenzhen (China) 13) Wuhan (China) 14) Narita (Japan) 15) Chubu International Airport (Japan) 16) Others	Rank	Short-term	Mid-term	Long-term	Very long-term
		1st	1)	1)	4)	2),11)
		2nd	2)	4)	5)	
		3rd	3)	3)	2),9)	16),16)
		4th	10)	10)		
		5th	4),6),14)	2),7)	3),10)	6),15),16)

Figure 2 aggregation results of questionnaire survey (31)

		Rank	Response	Score
B60	Which cities do you anticipate will construct **new airports** in the future? [top 4 cities (or countries)]	1st	China	47
		2nd	India	35
		3rd	Beijing	23
		4th	Shanghai Pudong	20
		5th	Vietnam	18

3) Air transport security		**Number of respondents**	**51 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		4 people	**5 people**	**42 people**
Security measures in the air transportation sector				
B61-1	What kinds of security measures in the air transport sector do you anticipate will be taken (strengthening) in the future? (enter the numbers for the following responses) 1) Measures taken by airports for air passenger transport 2) Measures taken by airports for air cargo transport 3) Measures taken by airlines for air passenger transport 4) Measures taken by airlines for air cargo transport 5) Other measures			
B61-2	Due to the security measures implemented, **what particular** effects do you foresee occurring? 1) Rise in air fares 2) Congestion of airport terminals 3) Increase in required and travel time 4) Others			

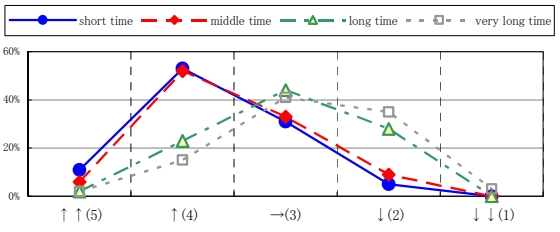
4) Air transport trends in Japan		**Number of respondents**	**66 people**
	Level of expertise	**◎high**	**○medium**	**△low**
		11 people	**12 people**	**43 people**
Air passenger demand in Japan				
B62	Japan is now facing a shrinking and aging population, and falling birthrate. Due to such demographic changes, how do you foresee Japan's air transport demand changing in the future?			

Figure 2 aggregation results of questionnaire survey (32)

B63 For which **age groups** do you foresee **domestic** air passenger demand **increasing** in the future? (select your top 3 age groups from the choices below)

Rank	Response	Score
1st	Early-stage elderly (65–74 years old)	364
2nd	Latter-stage elderly (75 years and older)	238
3rd	Young adults	216

B64 For which age groups do you foresee **domestic** air passenger demand **decreasing** in the future? (select your top 3 age groups from the choices below)

Rank	Response	Score
1st	Young adults	329
2nd	Latter-stage elderly (75 years and older)	181
3rd	Early-stage elderly (65–74 years old)	124

B65 For which age groups do you foresee **international** air passenger demand (outbound passengers) **increasing** in the future? (select your top 3 age groups from the choices below)

Rank	Response	Score
1st	Early-stage elderly (65–74 years old)	373
2nd	Latter-stage elderly (75 years and older)	223
3rd	Young adults	211

B66 For which age groups do you foresee **international** air passenger demand (outbound passengers) **decreasing** in the future? (select your top 3 age groups from the choices below)

Rank	Response	Score
1st	Young adults	279
2nd	Latter-stage elderly (75 years and older)	192
3rd	Early-stage elderly (65–74 years old)	115

B67 When do you anticipate it will become possible for ordinary Japanese tourists **without visas to travel** to countries in the East Asian region (Russia, North Korea, Central Asia, India etc.) which cannot be currently visited by Japanese tourists without

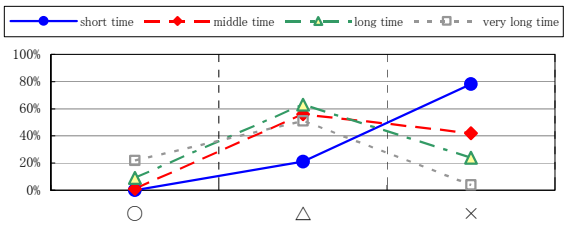


Figure 2 aggregation results of questionnaire survey (33)

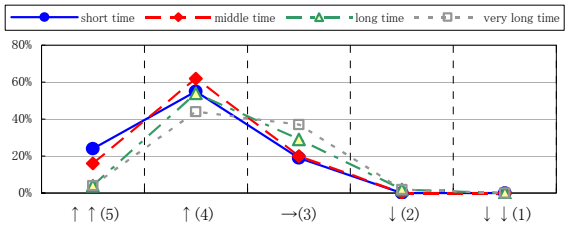
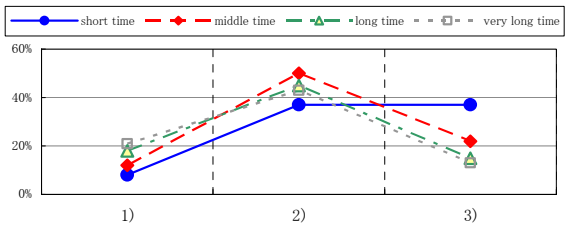
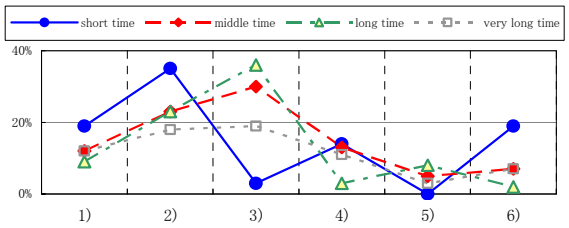
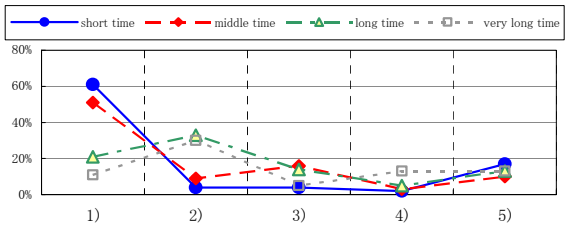
<table>
<tr><td>B68</td><td>Do you expect <u>tourist attraction policies</u> such as the Visit Japan Campaign (VJC) will serve to <u>increase inbound passengers</u>?</td><td> 
</td></tr>
<tr><td colspan="3">Potential for the establishment of Japanese air cargo-exclusive airlines</td></tr>
<tr><td>B69</td><td>Do you foresee Japanese air cargo-exclusive airlines being established in the future? (enter the following numbers)
1) Will definitely be established
2) May be established
3) Will not be established</td><td> 
</td></tr>
<tr><td colspan="3">Entry of regional carriers and low-cost carriers in East Asia</td></tr>
<tr><td>B70</td><td>Do you foresee the entry of <u>regional carriers and low-cost carriers in Asia into Japanese routes</u> in the future? Name the routes which you foresee these carriers entering. (top 4 routes in descending order of possibility)</td><td><table>
<tr><th>Rank</th><th>Response</th><th>Score</th></tr>
<tr><td>1st</td><td>Shanghai–Kansai</td><td>54</td></tr>
<tr><td>2nd</td><td>Shanghai–Tokyo</td><td>36</td></tr>
<tr><td>3rd</td><td>Shanghai–Fukuoka</td><td>26</td></tr>
<tr><td>4th</td><td>Tokyo–New Chitose</td><td>21</td></tr>
<tr><td>5th</td><td>South Korea–Tokyo</td><td>19</td></tr>
</table></td></tr>
<tr><td colspan="3">Japan's airport development and management system, and the further expansion of Haneda (Tokyo International) Airport</td></tr>
<tr><td>B71</td><td>What reforms do you expect will be made to <u>Japan's airport development and management</u> system in the future? (enter the following numbers)
1) Reforms will be made to the special account for airport development
2) Incorporation and privatization of public airports will proceed
3) Public airports will be restructured
4) Vertical division of existing public airports will proceed
5) Other institutional reforms will proceed
6) Reforms will not be instituted in particular</td><td> 
</td></tr>
<tr><td>B72</td><td><u>After the expansion of Haneda Airport</u>, do you expect <u>airport capacity in the Tokyo metropolitan area</u> to increase? (enter the following numbers)
1) Will increase mainly due to air traffic control
2) Will increase due to the new construction of a third airport in the Tokyo metropolitan area
3) Will increase due to utilization of the Shizuoka Airport and Hyakuri Airfield
4) Will increase due to other reasons
5) Will not increase</td><td> 
</td></tr>
</table>

Figure 2 aggregation results of questionnaire survey (34)

		Rank	Response	Score
B73	Due to **the deregulations in traffic rights for scheduled international routes owing to the expansion of Haneda Airport**, which routes from which overseas cities do you anticipate will be realized? (top 4 cities)	1st	Shanghai Pudong	306
		2nd	Beijing	140
		3rd	Hong Kong	84
		4th	Dalian	33
		5th	Taipei	27

B-4. Inland transport and intermodal transport

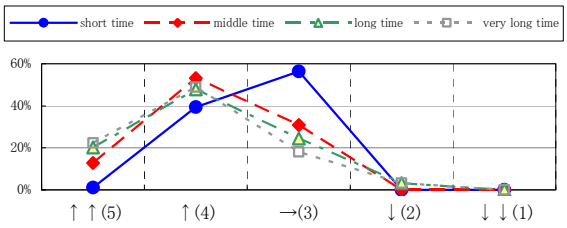
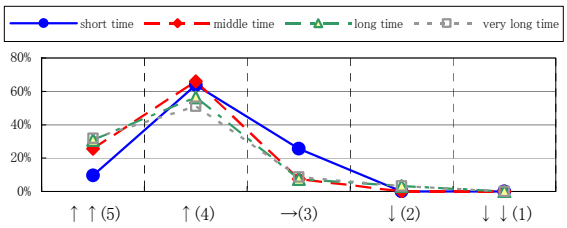
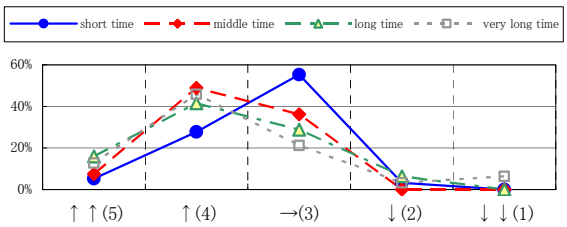
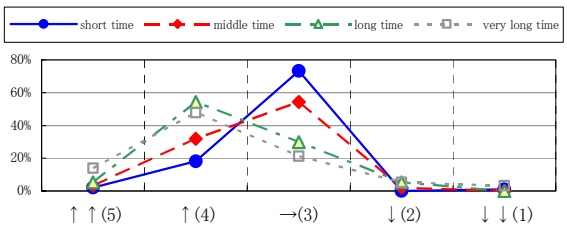
1) Development of cross-border transportt	Number of respondents 65 people Level of expertise ◎high 10 people ○medium 9 people △low 46 people
Development of cross-border transport (over a broad range)	
B74 Do you anticipate that various policies for cross-border infrastructure development and cross-border barrier reduction implemented in the **North East Asian region** (South Korea, North Korea, Russia, Mongolia, North East China) will accelerate the **reduction in cross-border transport** (cargo and passengers) **barriers**?	
B75 Do you anticipate that various policies for cross-border infrastructure development and cross-border barrier reduction implemented in the **South East Asian region** (South China, Vietnam, Laos, Cambodia, Thailand, Myanmar, Malaysia) will accelerate the reduction in cross-border transport barriers?	
B76 Do you anticipate that various policies for cross-border infrastructure development and cross-border barrier reduction implemented in the **Central Asian region** (West China, Russia, Kazakhstan, Uzbekistan, Turkmenistan, Kirghiz, Tajikistan) will accelerate the reduction in cross-border transport barriers?	
B77 Do you anticipate that various policies for cross-border infrastructure development and cross-border barrier reduction implemented in the **South Asian region** (South West China, Nepal, Bhutan, India, Bangladesh, Pakistan) will accelerate the reduction in cross-border transport barriers?	

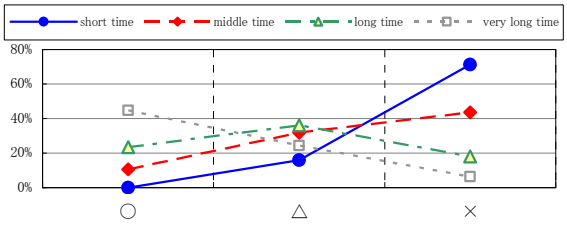
Figure 2 aggregation results of questionnaire survey (35)

B78 What are the key factors in assessing the **development of cross-border transport**?

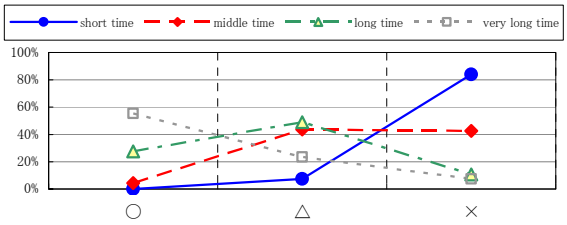
Rank	Response	Score
1st	Reduction of time and costs required for cross-border procedures (implementation of one-stop service; streamlining with IT)	248
2nd	Development of transport infrastructure and emigration and immigration facilities	184
3rd	Reduction of cost and time required for cargo transshipment (conclusion of mutual entry agreements for trucks; improvements in railway track width etc.)	169
4th	Measures relating to the dispatch of customs officers (advance clearance from customs, constant placement of customs officers, improvement of ethics etc.)	119
5th	Evoking and expanding demand; policies to promote intermodal transport etc.	84

Development of cross-border transport (individual routes)

B79 There are **two railway lines connecting South Korea and North Korea** (one is the Gyeong-ui Line in the West from Seoul to Pyongyang; the other is the Donghae Line running along the east coast of the Korean Peninsula toward Russia). Although some regular services have started for this railway connecting the South and the North, **when** do you anticipate **full service will commence**?



B80 The Trans-Asian Railway is planned as an approx. 5,500km railway network from Singapore, through Thailand and Vietnam, to Kunming in Southern China. When do you forecast construction of this transcontinental railway will be completed? (respond according to possibility in each time period)



B81 A **total of 6 routes** have been proposed as **transcontinental transport infrastructure connecting North East Asia and Europe**, including the Siberia Land Bridge passing through Russia, and the China Land Bridge passing through China, Central Asia, and Russia. What do you anticipate will be the **most important (largest demand) routes** in order of descending priority?

Rank	Response	Score
1st	Siberia Land Bridge	229
2nd	China Land Bridge	168
3rd	Mongolia and Tianjin Trade Corridor	128
4th	Tumen River Trade Corridor	93
5th	Suifen River Trade Corridor	72

B82 In the **Greater Mekong Sub-region (GMS)**, the development of economic corridors called the East West Corridor, the North South Economic Corridor, and the Southern Economic Corridor is proceeding. In future trade in this region which utilizes surface transport networks including the above economic corridors, what routes do you anticipate will have the **greatest economic benefit** in order of descending priority?

Rank	Response	Score
1st	North South Economic Corridor	230
2nd	East West Corridor	222
3rd	Southern Economic Corridor	199

Figure 2 aggregation results of questionnaire survey (36)

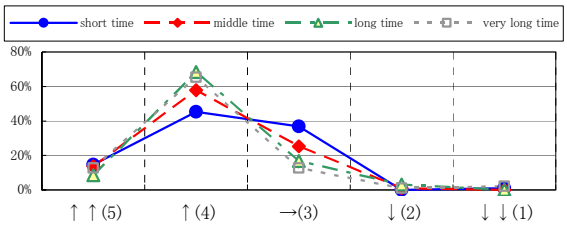
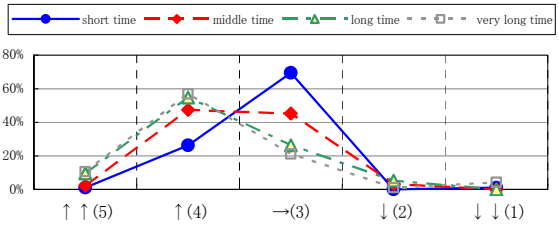
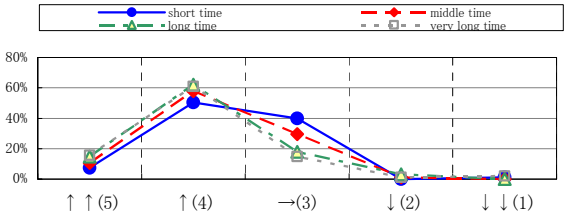
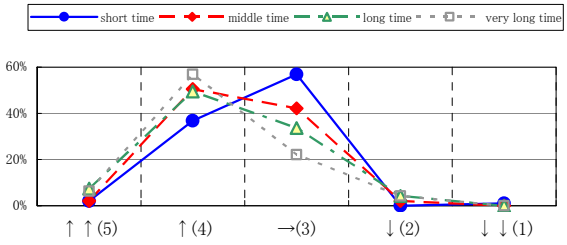
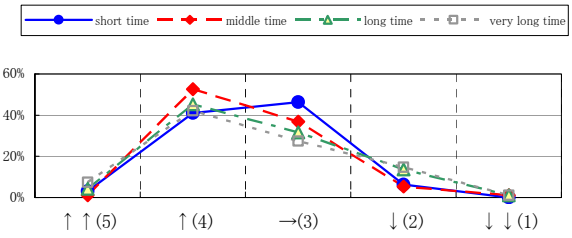
2) Investment into inland transport infrastructure		Number of respondents 66 people Level of expertise ◎high 11 people ○medium 7 people △low 48 people
Transcontinental infrastructure		
B83	Do you anticipate development of the **road network proposed by UNESCAP's Asian Highway plan** will accelerate overall in the future?	
B84	Do you anticipate development of the **railway network proposed by UNESCAP's Asian Railway plan** will accelerate overall in the future?	
B85	Do you anticipate **development of the ASEAN Highway and ASEAN Railway** will accelerate overall in the future?	
Transport infrastructure development and demand in various countries (roads, railways, river transport)		
B86	In China, in the midst of continuing proactive investment into highways and high-speed railways, the infrastructures of existing railways is insubstantial and military demand and resource transport is prioritized (crude oil, coal etc.). As well, stable supply by container cargo etc. to meet regular cargo transport needs is an issue. Together with the development of railways etc., do you anticipate **shares of regular cargo transport by railway** (container cargo transport) will increase in the future?	
B87	In China, through investment into dam construction and channel dredging works such as for the Three Gorges Dam etc. or container terminals etc. in the inland region, the further utilization of inland water transportation employing major rivers such as the Yangtze has been raised as an issue. Do you expect **shares of river cargo transport** will increase in the future? (with the exception of coastal shipping)	

Figure 2 aggregation results of questionnaire survey (37)

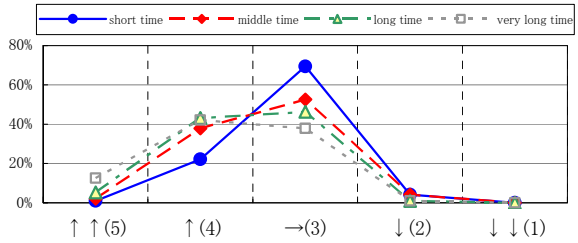
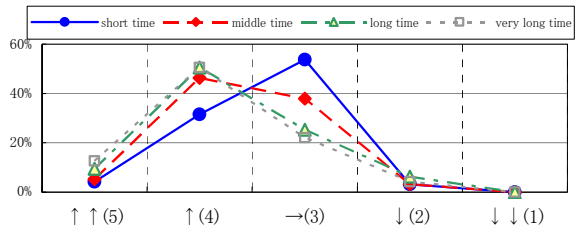
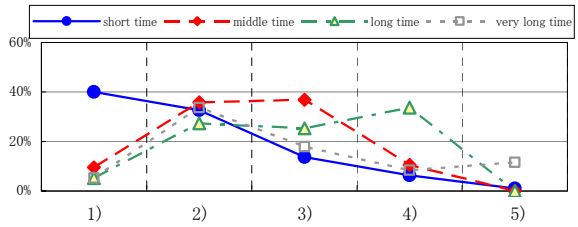
B88	In the ASEAN region, cargo transport utilizing railways has been negligible until now. In the future, do you anticipate **railway shares in ASEAN countries will increase (mainly assuming the IndoChina Peninsula)**? for example, due to the development of the aforementioned Asian Railway and ASEAN Railway etc.	
B89	A total of 6 lines are planned to be constructed for India's high-speed cargo railway. Due to these developments etc., do you anticipate India's **shares of cargo transport by railway** will increase?	
Development of inland centers		
B90	In the East Asian region, do you expect **development of inland centers** for inland depots etc. will progress? As well, if you expect development will progress, **what benefits** can most be anticipated? (response numbers) 1) Development will not progress 2) Hubs interconnecting roads, railways, and rivers (development of intermodal transport) 3) reduction of lead time at ports and airports through the handling of loading and customs clearance procedures by agency 4) Reduction in transport costs and traffic volume through more flexible handling of empty containers etc. 5) Other effects	

Figure 2 aggregation results of questionnaire survey (38)

B-5. Common transport policies

1) Common transport policies in East Asia — **Number of respondents 93 people**

※Items subject to response by all respondents

Realization of a seamless Asia

		Rank	Response	Score
B91	To realize a seamless Asia such as through sustainable development for Japan and each country in Asia, as well as through the formation of continuous international transport networks, **what issues and themes should be dealt with immediately**? (top 4 issues)	1st	2) Delays in development of hard infrastructure such as roads, railways, ports, and airports etc.	203
		2nd	4) Cross-border transport barriers caused by differences in structural, safety, and environmental standards for automobiles, trains, ships, and aircraft etc.	196
		3rd	5) Cross-border transport barriers caused by differences in cross-border administrative procedures including customs, immigration control, quarantine etc., as well as insurance system	191
		4th	3) Discontinuities in the domestic transport network and cross-border transport infrastructure accompanying delays in infrastructure development and upgrades	166
		5th	1) Delays in introducing the principle of competition for the transport sector	74
B92	Toward the formulation of cooperative and joint policies for transport in the East Asian region, what kind of measures do you foresee need to be taken in the future? Respond in order of measures which are most important. 1) Strengthening and development of research exchange and collaboration between universities, research institutes, and working groups in East Asia 2) Standardization of data specifications and development and publication of joint database relating to domestic and international transport flow in East Asia and infrastructure stock etc. 3) Establishment of a socioeconomic scenario and framework which should be shared in East Asia 4) Forecasting of transport demand and flow 5) Building of outcome index and performance index from the customer's perspective (passenger, goods holder); monitoring and evaluation of project effect	Rank	Response	Score
		1st	2) Data on transport flow and infra-stock etc.	243
		2nd	1) Strengthening and development of research exchange and collaboration 205	205
		3rd	3) Socioeconomic scenarios etc. which should be shared by East Asia 146	146
		4th	4) Forecasting of transport demand and flow	113
		5th	5) Outcome index from the customer's perspective (passenger and goods holder) etc.	91

Figure 2 aggregation results of questionnaire survey (39)

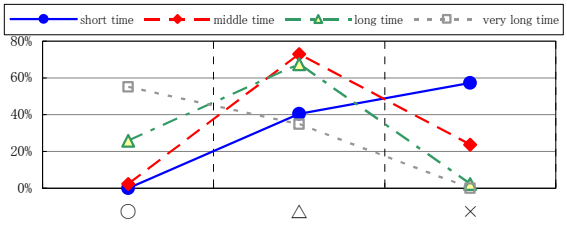
2) Common transport policies in the EU		Number of respondents 59 people
	Level of expertise	◎high 13 people ○medium 9 people △low 37 people
B93	Forecast the **progress** for each of the projects approved by the Common Transport Policy or **TEN-T** in Europe (choose ○ if almost all projects will be completed; choose △ if about half of the projects will be completed)	

Figure 2 aggregation results of questionnaire survey (40)

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