



EXTENDED EXCHANGE SERVICES

Survey conducted for the WFE Working Committee

by the Taiwan Stock Exchange Corporation

March 2004



EXTENDED EXCHANGE SERVICES¹

Survey conducted for the WFE Working Committee

Edward Chow, Jie-Haun Lee, Yu-Jane Liu², Nai-Kuan Huang³

Abstract

Extended exchange services have drawn more attention in the face of growing competition, business development, and internationalization. The status of WFE members providing extended exchange services was surveyed to serve as background material for debate in a special session at the Taipei Working Committee meeting in March 2004. The findings of the survey are:

- 1) Vertical integration along exchange functions could be observed, and the parent-subsidary relationship is most common.
- 2) Member exchanges perform more business activities than other market service providers.
- 3) Trade-related services remain the core activities of the exchange business.
- 4) Services charged separately are more common than package deals, and the participants granted access to markets are the main sources of these revenues.

March 2004

¹ This project is sponsored in part by the Taiwan Stock Exchange Corporation

² Professors, Department of Finance, National Cheng-chi University

³ Executive Vice President, Auditing, Taiwan Stock Exchange Corporation

1. Introduction

In March 2003, issues regarding after-trade market services provided by World Federation of Exchanges (WFE) members were raised in the Milan Working Committee meeting. The Chairman instructed the Committee to discuss the matter in Taipei; the Taiwan Stock Exchange Corporation sent out a questionnaire via the WFE Secretariat to members in December 2003. The survey questionnaire is copied in the appendix to this report.

Based on the suggestion of the Secretariat, the scope of the survey was widened to include a broad spectrum of extended exchange services provided to the market. Thirty-seven questionnaires were returned as of the end of January 2004.

The purpose of this paper is to facilitate a discussion of the current state of extended exchange services provided by WFE members. The results of the survey will serve as a basis for broad discussion, and for carrying this work forward. The questions addressed in recent WFE Cost and Revenue surveys served as a beginning, but the questionnaire for this survey listed many detailed questions and options covering these growing business activities in member exchanges.

Not all members of WFE responded to this survey, so this paper does not completely reflect the current state of affairs. The summary results should be considered as areas for further study, rather than definitive answers.

In the drive to develop for-profit businesses, extended exchange services have drawn increasing attention. Growing competition and internationalization provided added pressures and opportunities. Alternative trading systems in general, and electronic computer networks in particular, have prompted exchanges to review their core trading business. Demand from customers also stimulates member exchanges to improve their services. Demutualization and initial public offerings of exchanges are examples of the drivers prompting exchanges to make more profits to meet the expectation of their shareholders. Exchanges today are different businesses than they were a decade ago. What shapes an exchange today is the increasing pressure to make profit, the higher demand for customer services, and the keener competition of the global market.

In the face of these challenges, some WFE members are staying in their core trading business trying to improve its efficiency and save costs, while others are also expanding their business lines in hope of generating new revenues and profits. What are these other services and activities that most exchanges provide to their customers? How do exchanges charge for them? How do exchanges compete or join with other service providers? The summary of findings follows:

2. Organizational relationship

The aim of the first section of the survey is to understand the relationship between member exchanges and the clearing, settlement, and depository functions in their markets.

2.1 Value chain along exchange functions

The first questions inquired into the relationship between the above-mentioned functions and member exchanges according to the closeness of the relationship, namely internal departments, subsidiaries, parent companies, holding companies, independent companies, and others.

Along the value chain of the exchange business, functions are trading, clearing, settlement, and depository work. Not surprisingly, the answer indicates that the closer the function is to trading itself, the closer is its legal relationship to the exchange. To be more specific, clearing is more likely to be handled by an internal department of the exchange, while depository work is more likely to be carried out in an independent company. As illustrated in Figure 1, in terms of the closest relationship, which is the internal department, the numbers of responses for clearing, settlement, and depository range from 4, 3 to 0. For the second closest relationship, the subsidiary, the numbers are from 13, 11 to 10. For the most distant relationship, the independent company, the numbers range from 11, 12 to 12.

If we classify the department, the subsidiary, and the holding company as the broad exchange group, 55% of the respondents explain that the clearing function falls within the group structure. The percentages for the settlement and the depository within an exchange group are 47% and 42%, respectively. Some exchanges selected more than one option, because they operate in more than one market and have different

relationships with downstream functions in these different segments. Many exchanges ticked the others option, and expressed the view that they are actually in control of clearing, settlement, and/or depository, implying that the actual vertical integration along the value chain of exchange business is higher than the numbers reflected in our survey would indicate at first glance.

Figure 1 in the Figures and Tables also shows the relationship between each function and the member exchanges. The parent-subsidiary relationship is the most common, showing up 33% of the time for clearing, 29% for settlement, and 28% for depository work, respectively. One of the reasons for this could be that while exchanges have spun off some services, they still retain control over these subsidiaries, in order to maximize their profits and assure the proper execution of these key market services, among other objectives.

Question 1.4 of the questionnaire inquired into the ownership of other extended exchange services companies, as shown in Figure 2. There are not many exchanges that own other extended exchange services companies (only 27 responses representing 17 exchanges). Some exchanges own more than one such company. Excluding the “other” option, outsourcing IT services for small brokers, outsourcing of IT services for other market, and providing back-up IT facilities for small brokers were the most common responses.

3. Extended exchange services

The purpose of the second section of the questionnaire was to understand the types of extended services provided by exchanges and other service providers. There were 9 broad service categories outlined in questions 2.1 to 2.9, which were further broken down into 62 distinct service activities. Each category had two parts. One part sought to link the service fee to the service offered. The other part sought to depict the institutional relation of the service provider and the service activity.

3.1 Nine broad service categories

The responses for those 9 broad service categories are shown in Table 1 in the Figures and Tables. Since the number of questions varied greatly in each category, for ease of comparison the table is presented in percentage terms rather than in the number of responses.

3.2 Core competence of exchanges

Table 1 shows that, for the column of the exchange itself, trade-related services have the highest percentage against other service providers at 69%, implying it should indeed be a core function of exchanges. Data/information dissemination comes second at 61% and work for issuers is third at 56%, indicating exchanges have a strong commercial position in providing these services. Like the finding of value chain integration in section one, exchanges' dominances of clearing, settlement, and depository platforms in providing extended services ranged from 21%, 5% to 4%.

Figure 3 illustrates the relationship of 9 broad categories and the service providers. When we combine the responses for the three columns in the exchange group (the exchange, the parent company, and the other subsidiary), the relative position of the exchange group is strengthened, but the sequence in percentage of each service remains the same. Trade-related services is still ranked at the top with 76%. Data/information dissemination and work for issuers are second at 69%. In contrast to what is observed in the column of exchange itself in Table 1, the percentages of an exchange group providing clearing, settlement, and depository services are 60%, 41% and 38%, respectively, implying that the exchange group is still in control of the functions of its subsidiaries along the value chain, especially those in clearing trades.

3.3 The relationship of fee charge and service provider

Based on the respondents' services available in their markets as shown in Figure 4, fees are charged for most of the services provided. For depository work, fees are charged for 91% of the services offered. Settlement came second at 89% and IT services third at 88%. It is interesting to note that when the percentage of the services that is paid for is lower in a broad category, the exchange (and its group) had a higher presence. For example, work for issuers has the lowest percentage of fee-charged services at 58%, the "others" option has the second lowest percentage at 60%, and data/information dissemination comes in at the third lowest at 64%. The three broad categories also appear in the top four services rendered by the exchanges in Figure 3.

3.4 Diversity of service activities and revenues

We further broke down this analysis from 9 broad categories into 62 service activities. The findings are in line with those previously stated. According to the results of the survey as shown in the last row of Table 1, on average across the number of responses exchanges covered 17 out of 62 service activities surveyed (27%). The other

subsidiaries do 8 on average (13%), and the other independent companies 13 (21%). If we include the exchange itself, the other subsidiary, and the parent company as an exchange group, coverage extends to 26 of the surveyed activities (42%). This result would indicate that, in general, the exchanges are the key service providers in extended business activities. The respondents also indicated that on average 11 (18%) surveyed activities are not available at all in their markets. The services offered by the exchange itself range from 0 to 30 activities (0% to 48%), implying a great variety among the respondents in this industry, as there is in their capital markets.

An examination of the fee-based and free activities offered in Table 1 showed, on average, that fees were charged for 26 out of 62 (42%) of these service activities, while 10 activities on average were free of charge (16%). 11 activities were not available in the market (18%). The number of fee-based activities ranged from 3 to 47 (5% to 76%). For a similar service activity, some markets were able to charge fees while others were not. The fee-charging practice varied from market to market.

3.5 Core competence and competition between service providers

The top 10 core service activities provided by the exchange itself were contained in the broad categories of work for issuers, trade-related services, data/information dissemination, and others. The data showed that the exchanges have the core competence in these fields. Table 2 depicts more detailed information on the rankings.

As for services rendered by the other subsidiaries under the exchange group, the top ranked broad categories are again clearing, settlement, and depository. The activities in which independent companies have the higher presence are scattered across 6 other broad categories. This would be the result of the varied, numerous services performed by independent companies.

In comparing the services offered by exchanges and their subsidiaries, the result showed that the subsidiaries complement the services of the exchanges. To be more specific, the subsidiaries provide services in those areas where the exchanges have a lesser presence. It is easy to understand that because of the parent-subsidiary relationship, there is theoretically no conflict of interest or competition in this case.

When comparing the services offered by exchanges and independent companies, the responses did not allow for a conclusion as to whether there were any areas where the exchanges were most competitive with, or complementary to, the independent companies, mainly because the duplication of activities was not obvious.

The subsidiaries and the independent companies are engaged in keener competition with each other, especially for the activities of the registry and the corporate actions in the broad depository category.

This paper did not discuss the case in which the parent company and other related companies were service providers, because these two cases drew insignificant responses from the survey.

3.6 Fee-based and free service activities

Table 3 lists the top ten fee-based and free services. It should be noted that historical data appears in both rankings, because many respondents indicate that both free and fee-based services are available in the market.

Table 4 analyzes the top ten fee-based activities and their service providers in the market. The top four paying activities (all related to market data) are mostly performed by the exchange and are among their top ten business lines. Likewise, the next two top fee-based activities (clearing and settlement) are among the top ten subsidiaries' activities, and another four in the top ten fee-charged services (IT etc.) are among independent companies' top ten businesses. It seemed that every service provider along the value chain has found its position with no direct competition in the top fee-based activities.

Table 5 shows the leading free services. The exchange is the major service provider for nine of the top ten free activities, and six of those are also among the top ten exchange activities in Table 2. The result is in line with the role of the exchange as a business organization carrying out a mission in the public interest. The independent company is most active in only one free activity, the research reports for investors on the market. This could be the way that the independent companies promote themselves.

Looking at these responses from an exchange's perspective, as shown in Table 6, four of top ten activities have a higher percentage of responses on free activities than on fee-based ones. For example, for the market statistics, 84% of the respondents say that the activity is free in their market, while 46% of the respondents claim that a fee is charged. Some exchanges indicated that they provide both paying and free services. For the dissemination of listed company information other than market price data, 59% offer this free, while 41% charge a fee. Both activities are core activities in the exchange's business, although they might not be an important source of revenue.

Furthermore, the majority of exchanges responding not only provide the services of trade matching and dissemination of historical data and real-time data, but they also charge a fee. Some respondents checked both boxes, in order to express that they provide both free and for-payment services. Trade matching and data vending are both core activities of exchanges and important sources of revenues.

Finally, a correlation test was run on the fee and service provider relationship. The result in Table 7 indicated that exchanges and free activities had a high correlation at 0.71.

4. Sources of revenues

The purpose of the third section of the questionnaire was to probe the payers of services, and to determine whether the service fees were paid separately or as part of package deal. Questions 3.1 to 3.9 included how a customer pays a fee for the activities, and the identification of the sources of revenues – listing and listed companies, participants granted access to markets, or other service providers. Information on the amount of fee income is unavailable from our survey; therefore, the importance of the sources of revenues was based only on the number of activities rendered to the recipients. The value of this survey in this area must be appreciated with this qualification in mind.

4.1 Separate charges are more common than packages

The broad categories of section 3 of the questionnaire were identical to those of section 2. Table 8 shows the results for these nine broad categories; the presentation of the analysis was also made in percentages.

As for the way of charging for services, almost all of the activities were billed separately. This would indicate that separate charges were more common than package deals. The only exception was services related to clearing, where 58% of the fee-based services were included in a package deal, while the activities in the risk management for intermediaries had a 50-50 ratio of separately billed services and package ones. Figure 5 shows the result.

4.2 Participants granted access to market were the main source of revenues

In terms of sources of revenues, the participants granted access to markets had higher percentages than the other two in the six broad categories of services, as illustrated in

Figure 6. As a revenue source, the listing and listed companies had the highest percentage at 59% in the work for issuers category, while the other intermediate services providers had its strongest presence at 44% in the data/information dissemination category. The market participants category was the most important source of revenues among the recipients of services rendered by exchanges. However, the actual amount of revenues and costs would need to be collected to analyze the importance of each revenue source more carefully.

Based on the responses, Table 8 presents that, on average, 17 out of 62 (27%) service activities in the survey were billed separately, compared to 6 (10%) included in a package service, and 8 (12%) that were free of charge. In the column of free of charge, the average number of responses in section 3 is less than that in section 2 of the questionnaire, because there were more “no” responses to the answers in section 3.

For the sources of revenues, the market participants category was the major source of revenues in 16 activities out of 62 (26%) on average, while 7 (11%) for the other intermediaries, and 5 (8%) for the listed companies were the other scores.

According to Table 9, the activities charged separately were most common in the broad categories of settlement, depository, and data/information dissemination. For package services, our result shows a concentration in the clearing activities.

As stated earlier, activities charged separately were more common than those included in package deals. In Table 9, three activities, including real-time data, indices & index licensing, and book-entry settlement, occurred in the top ranking of both tables. The percentages of services charged separately were at least twice as much as those of package services, reflecting the preference of separate charging over the package service, or at least the continuation of a long-standing market habit.

4.3 Data vending is the most used source of revenue

According to the survey results the market participants group was the more likely source of revenues than the other two categories of service recipients. Table 10 shows that the listed companies contributed revenues, logically enough, mainly in the work for issuers broad category. The market participants group was most likely to provide revenues in the areas of clearing, settlement, and data/information dissemination. The other intermediaries tended to use exchange services in the data/information dissemination category.

Table 10 also shows that historical data seemed to be the service most used by listed companies, participants granted access to markets, and other intermediaries. Real-time data and sales of systems and technical assistance to intermediaries were the services most used by market participants and other intermediaries.

5. Correlation analysis

The survey showed that the practices of WFE members in providing extended exchange services were widely different. But what made for the differences? In analyzing the responses, the relationships between the three major areas in the questionnaire (the integration along value chain, the diversity of services, and the effectiveness of fee income) were reviewed. Table 11 shows the result of the survey grouped by the respondents' geographic locations.

Three indicators in Table 11, namely the integration level, the diversity of services, and the effectiveness of fee income, were calculated from the responses. The average scores for the integration level, the diversity of services, and the effectiveness of fee income were 1.65, 6.6, and 16.4 respectively. The Asia/Pacific had the highest average scores for the integration level and the diversity of services at 2.17 and 7.2, respectively. The North America zone had the highest average score of the effectiveness of fee income, at 18.6.

To understand the relationship between the three indicators, a correlation analysis was run, as shown in Table 12. The three indicators were positively related to each other. The diversity of service and the effectiveness of fee income had the highest correlation coefficient at 58.34%. This might suggest that the more diversified the services in terms of the broad categories surveyed, the higher the number of activities generating fees existed. The integration level and the diversity of services had a correlation coefficient of 54.33%, indicating a statistically significant link between ownership of functional units in the value chain and the overall diversity of services provided by the exchange group.

Acknowledgements

We wish to thank the WFE Secretariat for its assistance in preparing the questionnaire, and the following members for their diligent responses:

Athens Exchange	Korea Stock Exchange
Australian Stock Exchange	Kuala Lumpur Stock Exchange *
Bolsa de Comercio de Buenos Aires	Ljubljana Stock Exchange
Bolsa de Valores de Lima	Luxembourg Stock Exchange
Bolsa de Valores do São Paulo	National Stock Exchange of India
Bolsa Mexicana de Valores	New York Stock Exchange
Bolsas Y Mercados Espanoles	Osaka Securities Exchange
Bourse de Montreal	Philippine Stock Exchange
BSE The Stock Exchange, Mumbai	Shanghai Stock Exchange
Budapest Stock Exchange	Shenzhen Stock Exchange
Chicago Board Options Exchange	Singapore Exchange
Colombo Stock Exchange	Stock Exchange of Tehran *
Copenhagen Stock Exchange	Stock Exchange of Thailand
Deutsche Börse	SWX Swiss Exchange *
Euronext	Taiwan Stock Exchange
Hong Kong Exchanges and Clearing	Tel-Aviv Stock Exchange
Irish Stock Exchange	Tokyo Stock Exchange
Istanbul Stock Exchange	TSX Toronto Stock Exchange
Jakarta Stock Exchange	Warsaw Stock Exchange
JSE Securities Exchange, South Africa	Wiener Börse

**late response*

The authors are indebted to many individuals at the member bourses of the World Federation of Exchanges who completed the questionnaire and contributed much valuable information to this survey. Special thanks are extended to Working Committee Chairman Russell Loubser for the guidelines he set, and Secretary General Thomas Krantz for offering many helpful suggestions for the design of this survey. This report would not have been completed without the hard work of our research assistants Lynn Chen and Vincent Dern, who have contributed untiring efforts. Albert Chou, Shih-lin Hsiung, Wei-yu Chen, and other staff members at the Taiwan Stock Exchange also provided invaluable assistance.

Figures and Tables (out of 37 questionnaire returned)

Figure 1 Organizational structure of functionalities (in number of responses)

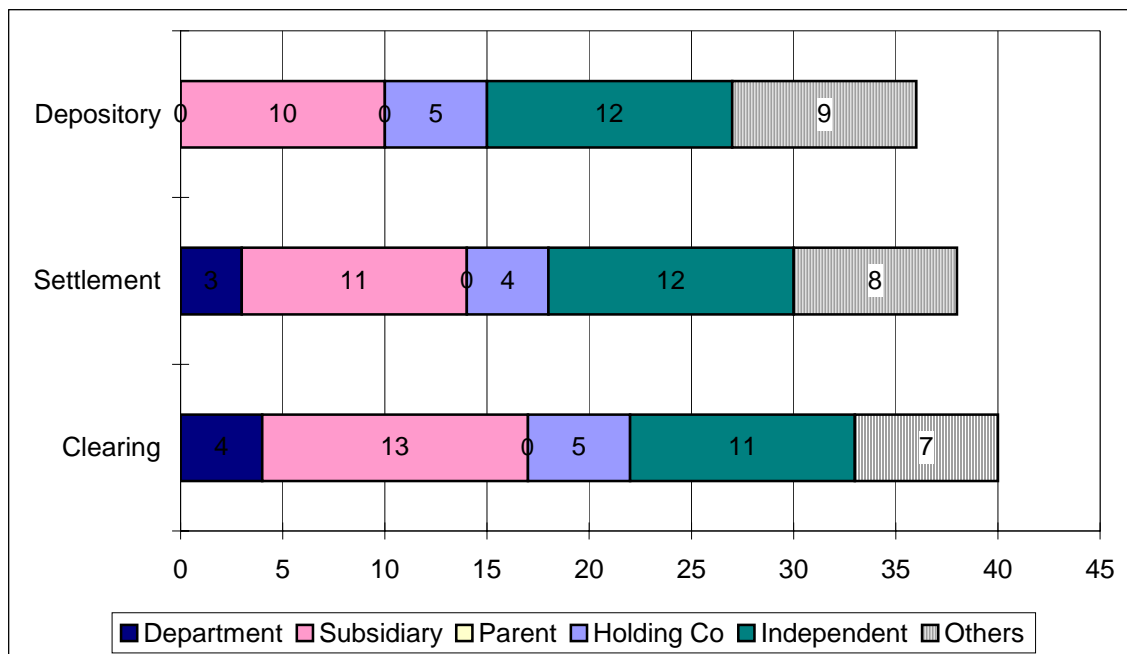


Figure 2 Other extended exchange services companies owned by exchanges

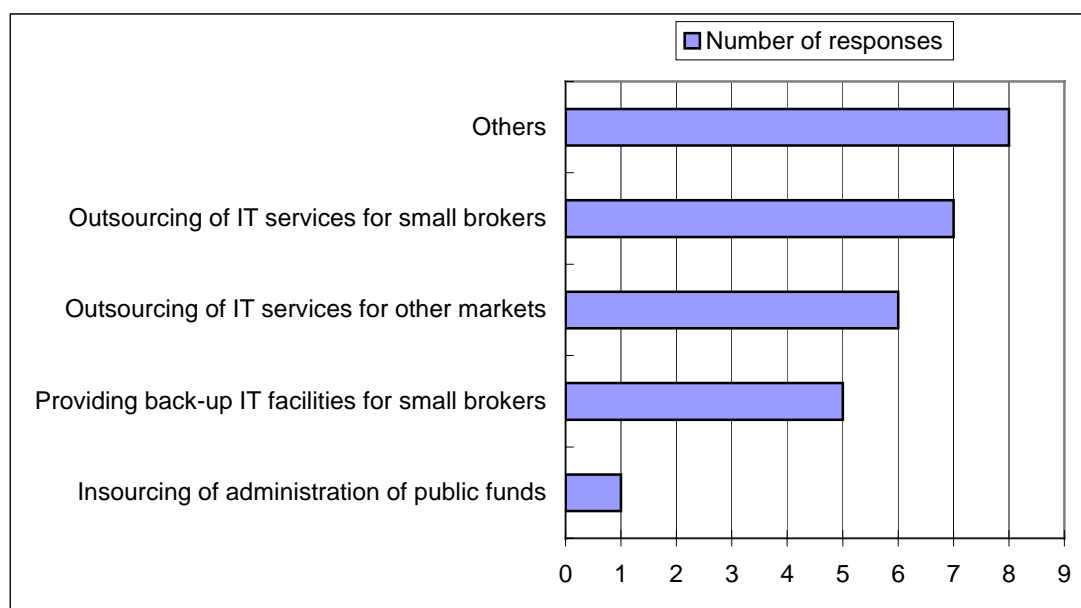


Figure 3 Relationship of services and their providers

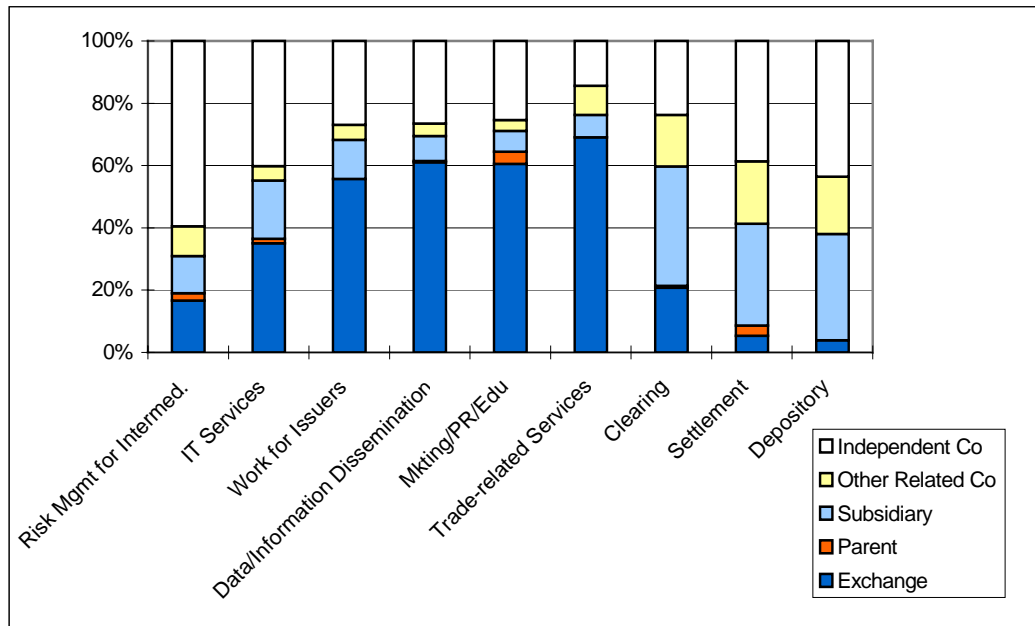


Figure 4 Fees or Free

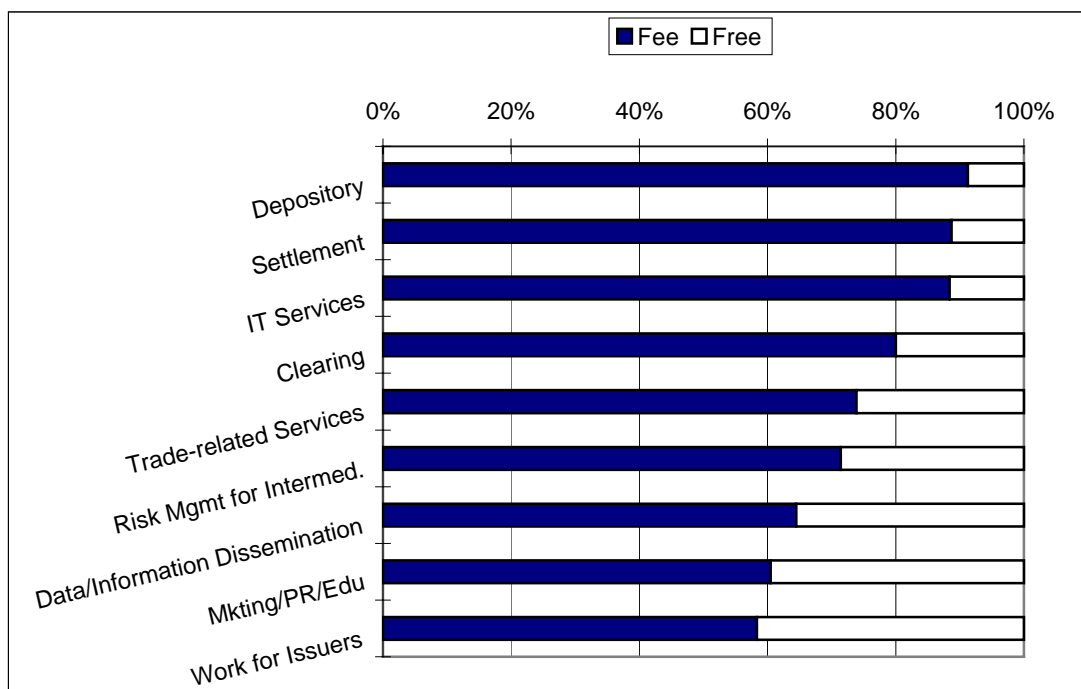


Figure 5 Charging Policy

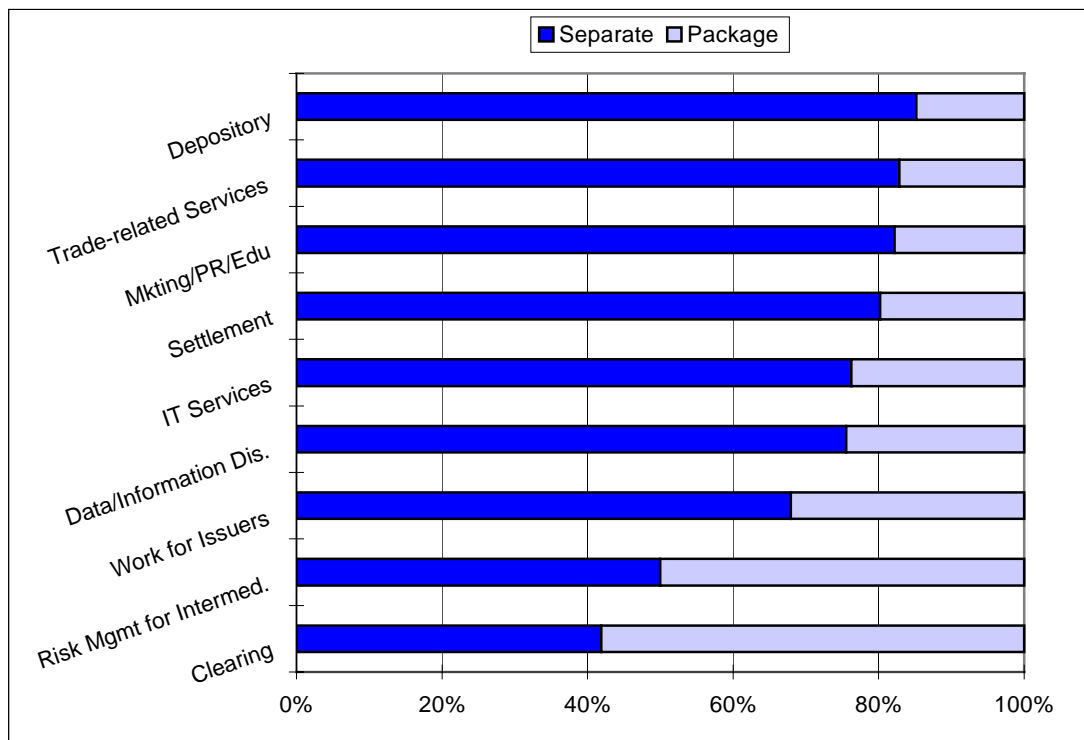


Figure 6 Services and sources of revenues

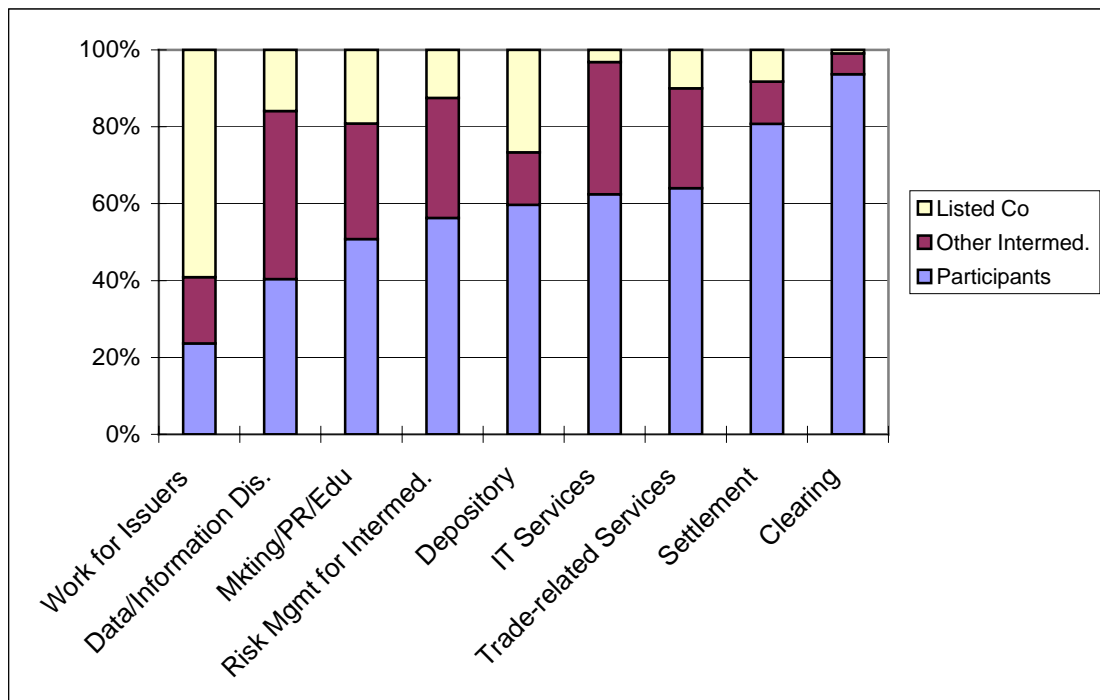


Table 1 Percentage of responses on extended exchange services: by broad categories, service fee charge, and service provider

Categories	Fee/Free Services			Service Provider					
	Fee	Free	Total counts (100%)	Under your Exchange Group			Other related company	Independent company	Total counts (100%)
				Exchange itself	Parent company	Other subsidiary			
1. Work for Issuers	58%	42%	156	56%	0%	13%	5%	27%	167
2. Trade-related Services	74%	26%	88	69%	0%	7%	9%	14%	97
3. Clearing	80%	20%	130	21%	1%	38%	16%	24%	164
4. Settlement	89%	11%	115	5%	3%	33%	20%	39%	150
5. Depository	91%	9%	137	4%	0%	34%	18%	44%	179
6. Data/Information Dis.	64%	36%	242	61%	0%	8%	4%	27%	249
7. Risk Mgmt for Intermediaries	71%	29%	28	17%	2%	12%	10%	60%	42
8. IT Services	88%	12%	181	35%	1%	19%	5%	40%	214
9. Mkting/PR/Edu	60%	40%	248	61%	4%	7%	4%	25%	284
Total counts	973	352		615	22	285	141	483	
Average count of responses	26	10		17	1	8	4	13	

Table 2 Top activities provided by exchanges, subsidiaries, and independent companies

Exchange			Subsidiaries			Independent Companies		
Activity	Response	%	Activity	Response	%	Activity	Response	%
Dissemination of company information	33	89%	Book-entry settlement	15	41%	Research reports on the market for investors	17	46%
Market statistics (daily closing prices, volumes, etc.)	33	89%	Clearing data processing	14	38%	Registry of Depository	16	43%
Trade matching	32	86%	Membership of the clearer	13	35%	Securities lending & borrowing to enhance securities owners' revenues	16	43%
Historical data	32	86%	Margin & collateral management	12	32%	Sales of systems & technical assistance to provide back-office administration	16	43%
Real-time data	29	78%	Central counter-party	12	32%	Corporate actions of Depository	15	41%
Queries	28	76%	Membership of the settlement house	12	32%	Securities lending & borrowing to facilitate settlement	15	41%
Indices & index licensing	26	70%	Dematerialized depository	12	32%	Consulting services	15	41%
Investor education	26	70%	Default risk management	11	30%	Registry Work for issuers	14	38%
Advertisements on Exchange's publications, websites...	22	59%	Membership of the depository company	11	30%	Sales of systems & technical assistance to intermediaries	14	38%
Training for intermediaries	21	57%	Corporate actions of depository	10	27%	Investment management (portfolio tracker, notice, consolidated statements, etc.)	14	38%
			Physical Depository	10	27%	Research reports on share activity for corporate treasurers	14	38%
			Registry of Depository	10	27%			

Table 3 Top 10 fee-charged and free service activities

Fee-charged			Free		
Activity	Response	%	Activity	Response	%
Real-time data	35	95%	Market statistics (daily close prices, volumes, etc.)	31	84%
Historical data	32	86%	Investor education	26	70%
Trade matching	32	86%	Dissemination of listed company information other than market price data	22	59%
Indices & index licensing	26	70%	Queries	18	49%
Sales of systems & technical assistance to intermediaries	25	68%	Corporate actions (shareholder meeting, proxy voting, dividends distribution, etc.)	15	41%
Clearing data processing	25	68%	Advertisement/hyper-links of listed companies	15	41%
Book-entry settlement	25	68%	Marketing & public relations jointly with brokerage community	14	38%
Registry of Depository	24	65%	Research reports on the market for investors	13	35%
Sales of systems & technical assistance to provide back-office administration	23	62%	Historical data	12	32%
Securities lending & borrowing to facilitate settlement	23	62%	Training for intermediaries (systems operation, product knowledge, etc.)	12	32%

Table 4 Top 10 fee-based activities and their service providers

Activities	% of respondents charging fees	Service provider	
		Most active	Activity %
Real-time data	95%	Exchange	78%
Historical data	86%		86%
Trade matching	86%		86%
Indices & index licensing	70%		70%
Book-entry settlement	68%	Subsidiary	41%
Clearing data processing	68%		38%
Sales of systems & technical assistance to intermediaries	68%	Independent company	38%
Registry of Depository	65%		43%
Securities lending & borrowing to facilitate settlement	62%		41%
Sales of systems & technical assistance to provide back-office administration	62%		43%

Table 5 Top 10 free activities and their service providers

Activities	% of respondents providing free services	Service provider	
		Most active	Activity %
Market statistics	84%	Exchange	89%
Investor education	70%		70%
Dissemination of listed company information other than market price data	59%		89%
Queries	49%		76%
Corporate actions (shareholder meeting, proxy voting, dividends distribution, etc.)	41%		51%
Advertisement/hyper-links of listed companies	41%		51%
Marketing & public relations jointly with brokerage community	38%		43%
Research reports on the market for investors	35%	Independent company	46%
Training for intermediaries	32%	Exchange	57%
Historical data	32%		86%

Table 6 Top 10 exchange activities and their fee status

Activities	Exchange's top activities	% of charge	
		Fee	Free
Market statistics (daily close prices, volumes, etc.)	89%	46%	84%
Dissemination of listed company information other than market price data	89%	51%	59%
Historical data	86%	86%	32%
Trade matching	86%	86%	5%
Real-time data	78%	95%	8%
Queries	76%	32%	49%
Investor education of Others	70%	35%	70%
Indices & index licensing	70%	70%	24%
Advertisements on Exchange's publications, websites, and so on.	59%	51%	14%
Training for intermediaries (systems operation, product knowledge, etc.)	57%	46%	32%

Table 7 Correlation of fee status and service provider

	Service Provider		
	Exchange	Subsidiary	Independent company
Fee	0.40	0.55	0.42
Free	0.71	-0.14	-0.05

Table 8 Percentages of responses on extended exchange services: by broad categories, fee charge, and sources of revenues

Broad Categories	Charge Separated/Package			Sources of Revenues			
	Separated	Package	Total count (100%)	Listing & listed companies	Participants granted access to markets	Other intermediate service providers	Total count (100%)
1. Work for Issuers	68%	32%	78	59%	24%	17%	110
2. Trade-related Services	83%	17%	35	10%	64%	26%	50
3. Clearing	42%	58%	105	1%	94%	5%	111
4. Settlement	80%	20%	96	8%	81%	11%	109
5. Depository	85%	15%	108	27%	60%	14%	124
6. Data/Information Dis.	76%	24%	143	16%	40%	44%	208
7. Risk Mgmt for Intermediaries	50%	50%	12	13%	56%	31%	16
8. IT Services	76%	24%	139	3%	62%	34%	157
9. Mkting/PR/Edu	82%	18%	146	19%	51%	30%	183
Total count	635	227		188	608	272	
Average count of respondents	17	6		5	16	7	

Table 9 Top 10 activities charged separately or as a package

Separate charge			Package service		
Activity	Response	%	Activity	Response	%
Real-time Data	29	78%	Clearing data processing	16	43%
Historical Data	28	76%	Central counter party	14	38%
Registry for Depository	21	57%	Default risk management	12	32%
Securities Lending for Settlement	20	54%	Dissemination of listed company information other than market price data	11	30%
Sales of systems & technical assistance to intermediaries	20	54%	Margin & collateral management	11	30%
Advertisements on Exchange's publications, websites, and so on.	19	51%	Real-time data	8	22%
Securities Lending for Post-Trade Services	18	49%	Indices & index licensing	8	22%
Indices & index licensing	18	49%	Book-entry settlement	8	22%
Book-entry settlement	17	46%	Membership of the clearer	8	22%
Dematerialized Depository	17	46%	Providing secure back-up to intermediaries	8	22%

Table 10 Top 10 activities as the sources of revenues for services provided to Listed & Listing companies, Participants Granted Access to Market, and Other Intermediate Service Providers

Listed & Listing Companies			Participants Granted Access to Markets			Other Intermediate Service Providers		
Activity	Response	%	Activity	Response	%	Activity	Response	%
Dissemination of listed company information other than market price data	17	46%	Clearing data processing	25	68%	Real-time data	26	70%
Corporate actions (shareholder meeting, proxy voting, dividends distribution, etc.)	17	46%	Historical data	24	65%	Historical data	23	62%
Registry of Work for issuers	15	41%	Book-entry settlement	22	59%	Indices & index licensing	16	43%
Registry of Depository	13	35%	Sales of systems & technical assistance to intermediaries	21	57%	Market statistics (daily close prices, volumes, etc.)	14	38%
Advertisements on Exchange's publications, websites, and so on.	11	30%	Margin & collateral management	21	57%	Advertisements on exchange's publications, websites, and so on.	12	32%
Historical data	10	27%	Real-time data	20	54%	Rent of exchange's properties	11	30%
Advertisement/hyper-links of listed companies	9	24%	Membership of the clearer	20	54%	Sales of systems & technical assistance to intermediaries	9	24%
Corporate actions of Depository	9	24%	Default risk management	20	54%	Dissemination of listed company information other than market price data	9	24%
Marketing & public relations for issuers	8	22%	Securities lending & borrowing	19	51%			
Investor relations of Work for issuers	7	19%	Training for intermediaries (system operation, product knowledge, etc.)	18	49%			
Dematerialized depository	7	19%	Central counter-party	18	49%			

Table 11 Exchange Statistics by Geographic Areas

Geographic Location	Exchange	Integration Level ⁴	Diversity of Services ⁵	Effectiveness of Fee Income ⁶
Asia - Pacific	Australian Stock Exchange	3.00	8	30
	Shanghai Stock Exchange	1.50	3	5
	Shenzhen Stock Exchange	1.50	5	4
	Hong Kong Exchanges and Clearing	3.00	7	14
	The Stock Exchange of Mumbai	1.89	8	14
	National Stock Exchange of India	2.20	9	14
	Jakarta Stock Exchange	1.93	7	8
	Osaka Securities Exchange	0.17	6	7
	Tokyo Stock Exchange	1.30	5	12
	Korea Stock Exchange	3.51	8	30
	Philippine Stock Exchange	1.14	8	14
	Singapore Exchange	3.00	8	29
	Colombo Stock Exchange	3.00	8	1
	Taiwan Stock Exchange	2.10	9	22
	Stock Exchange of Thailand	3.30	9	17
	Asia - Pacific Average	2.17	7.2	14.7
Europe, Africa, Middle East	Wiener Börse	2.10	8	23
	Copenhagen Stock Exchange	1.00	6	19
	Eurexnext	0.55	6	10
	Deutsche Börse	3.00	8	20
	Athens Exchange	3.34	8	29
	Budapest Stock Exchange	0.75	7	24
	Irish Stock Exchange	0.00	0	0
	Tel-Aviv Stock Exchange	3.00	6	9
	Bourse De Luxembourg	0.10	6	17
	Warsaw Stock Exchange	1.00	5	11
	Ljubljana Stock Exchange	0.00	5	15
	JSE Securities Exchange	2.12	9	24
	Bolsas y Mercados Espanoles	3.60	7	26
	Istanbul Stock Exchange	0.72	8	12
	Europe, Africa, Middle East Average	1.52	6.4	17.1
North America	Bourse de Montreal	2.00	7	16
	TSX Group	0.64	5	19
	Bolsa Mexicana de Valores	0.07	8	44
	Chicago Board Options Exchange	0.60	5	9
	New York Stock Exchange	1.00	4	5
	North America Average	0.86	5.8	18.6
South America	Bolsa de Comercio de Buenos Aires	1.00	8	26
	Bolsa de Valores do Sao Paulo	0.92	5	11
	Bolsa de Valores de Lima	0.91	5	16
	South America Average	0.94	6.0	17.7
	Total Average	1.65	6.6	16.4

⁴ Integration Level is measured in two steps. First, sum up the percentage of ownership in questions 1.1 to 1.3. When this sum is positive, add 10% to it for each check in question 1.4. If it is zero, the integration level is then set to ten times the number of checks in 1.4.

⁵ Diversity of Services is measured by counting the number of broad service categories (maximum 9) provided by each exchange group.

⁶ Effectiveness of Fee Income is measured by counting the number of fee charged service activities (maximum 62) in each exchange group.

Table 12 Correlation of the Integration Level, Diversity of Services, and Effectiveness of Fee Income

Correlation	Integration Level	Diversity of Services
Diversity of Services	54.33%	
Effectiveness of Fee Income	25.88%	58.34%

Appendix The Questionnaire of Extended Exchange Service Survey

WFE Survey on Extended Exchange Services

Section 1 Relationships Basic to these services

The aim of this section is to understand some basic data regarding the relationships between your Exchange, clearing organization, settlement organization, and depository organization.

Unless inapplicable, **please fill out the questionnaire as a consolidated group of companies.**

Relationship

1.1 What's the relationship between your Exchange and the clearing organization?

Types of organization	<input checked="" type="checkbox"/>	% ownership
1. Clearing organization is a department in our Exchange	<input type="checkbox"/>	
2. Clearing organization is a subsidiary of our Exchange	<input type="checkbox"/>	
3. Our Exchange is a subsidiary of the clearing organization	<input type="checkbox"/>	
4. Our Exchange and the clearing organization are under the same holding company	<input type="checkbox"/>	
5. Our Exchange and the clearing organization are two independent companies (no controlling seats on the board and no controlling shares)	<input type="checkbox"/>	
6. Other, please specify	<input type="checkbox"/>	

1.2 What's the relationship between your Exchange and the settlement organization?

Types of organization	<input checked="" type="checkbox"/>	% ownership
1. Settlement organization is a department in our Exchange	<input type="checkbox"/>	
2. Settlement organization is a subsidiary of our Exchange	<input type="checkbox"/>	
3. Our Exchange is a subsidiary of the settlement organization	<input type="checkbox"/>	
4. Our Exchange and the settlement organization are under the same holding company	<input type="checkbox"/>	
5. Our Exchange and the settlement organization are two independent companies (no controlling seats on the board and no controlling shares)	<input type="checkbox"/>	
6. Other, please specify	<input type="checkbox"/>	

1.3 What's the relationship between your Exchange and the depository organization?

Types of organization	<input checked="" type="checkbox"/>	% ownership
1. Depository organization is a department in our Exchange	<input type="checkbox"/>	
2. Depository organization is a subsidiary of our Exchange	<input type="checkbox"/>	
3. Our Exchange is a subsidiary of the depository organization	<input type="checkbox"/>	
4. Our Exchange and the depository organization are under the same holding company	<input type="checkbox"/>	
5. Our Exchange and the depository organization are two independent companies (no controlling seats on the board and no controlling shares)	<input type="checkbox"/>	
6. Other, please specify	<input type="checkbox"/>	

1.4 Ownership of other after-trade services companies

Please list each by their business function.

Business function	% ownership
1. Insourcing of administration for other exchanges	
2. Insourcing of administration of public funds	
3. Outsourcing of IT services for small brokers	
4. Outsourcing of IT services for other markets	
5. Providing back-up IT facilities for small brokers	
6. Insourcing of paperwork or accounting for small brokers	
7. Others, please specify :	

Section 2 Extended Exchange Services

The aim of this section is to understand what kind of non-trade services your Exchange provides? If your Exchange doesn't provide the services, then what's the relationship between the service provider and your Exchange?

Please specify (1) if a customer has to pay a fee for the following activities; and (2) who are the service providers - your Exchange (Exchange itself, the parent company, other subsidiary), another related company where your Exchange is the source of its income, or an independent company.

* Please answer **each half** of these tables.

2.1 Work for issuers

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
0. Example	✓			✓				
1. Dissemination of listed company information other than market price data								
2. Advertisement/hyper-links of listed companies								
3. Corporate actions (shareholder meeting, proxy voting, dividends distribution, etc.)								
4. Registry								
5. Investor relations								
6. Others, please specify								

2.2 Trading-related services at the exchange

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Trade matching								
2. Queries								
3. Securities lending & borrowing								
4. Others, please specify								

2.3 Clearing

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Clearing data processing								
2. Membership of the clearer								
3. Central counter party								
4. Default risk management								
5. Margin & collateral management								
6. Others, please specify								

2.4 Settlement

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Physical delivery settlement								
2. Book-entry settlement								
3. Membership of the settlement house								
4. Credit facility to facilitate banking settlement								
5. Securities lending & borrowing to facilitate settlement								
6. Others payment services								
7. Others, please specify								

2.5 Depository

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Dematerialized depository								
2. Physical depository								
3. Membership of the depository company								
4. Securities lending & borrowing to enhance securities owners' revenues								
5. Registry								
6. Corporate actions								
7. Others, please specify								

2.6 Data/information dissemination

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Market statistics (daily close prices, volumes, etc.)								
2. Real-time data								
3. Historical data								
4. Research reports on the market for investors								
5. Research reports on share activity for corporate treasurers								
6. Indices & index licensing								
7. Investment management (portfolio tracker, notice, consolidated statements, etc.)								
8. Others, please specify								

2.7 Risk Management for Intermediaries

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Consulting services								
2. Risk assessment of counterparty and own-account positions, and the like								
3. Others, please specify								

2.8 IT Services

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Sales of systems & technical assistance to intermediaries								
2. Sales of systems & technical assistance to fund management companies								
3. Sales of systems & technical assistance to provide back-office administration								
4. Sales of systems & technical assistance to third parties (for example to smaller investment firms)								
5. IT systems consulting								
6. Terminal leasing								
7. Systems leasing								
8. Providing secure back-up to intermediaries								
9. Others, please specify								

2.9 Others

Activities	Service Fee Charge			Service Provider				
	Service is available and charge a fee	Service is available but free of charge	Service is not available in your market	Under your Exchange Group			Other related company	Independent company
				Exchange itself	Parent company	Other subsidiary		
1. Computer operations								
2. Systems development								
3. Marketing & public relations for issuers								
4. Marketing & public relations for exchanges								
5. Marketing & public relations jointly with brokerage community								
6. Rent of Exchange's properties and related property management services								
7. Advertisements on Exchange's publications, websites, and so on.								
8. Licensing intermediaries								
9. Training for intermediaries (systems operation, product knowledge, etc.)								
10. Investor education								
11. General consultant								
12. Others, please specify								

Section 3 Sources of Revenues

The aim of this section is to understand what the sources of revenues are, and how a customer pays the service fees.

Please specify (1) if a customer has to pay a fee for the following activities; and (2) who are the sources of revenues – listing and listed companies, participants granted access to markets, or other service providers.

3.1 Work for issuers

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted access to markets	Other service providers
1. Dissemination of listed company information other than market price data						
2. Advertisement/hyper-links of listed companies						
3. Corporate actions (shareholder meeting, proxy voting, dividends distribution, etc.)						
4. Registry						
5. Investor relations						
6. Others, please specify						

3.2 Post-trade services

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted access to markets	Other intermediate service providers
1. Queries						
2. Securities lending & borrowing						
3. Others, please specify						

3.3 Clearing

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Clearing data processing						
2. Membership of the clearer						
3. Central counter party						
4. Default risk management						
5. Margin & collateral management						
6. Others, please specify						

3.4 Settlement

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Physical delivery settlement						
2. Book-entry settlement						
3. Membership of the settlement house						
4. Credit facility to facilitate banking settlement						
5. Securities lending & borrowing						
6. Others payment services						
7. Others, please specify						

3.5 Depository

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Dematerialized depository						
2. Physical depository						
3. Membership of the depository company						
4. Securities lending & borrowing						
5. Registry						
6. Corporate actions						
7. Others, please specify						

3.6 Data/information dissemination

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Market statistics (daily close prices, volumes, etc.)						
2. Real-time data						
3. Historical data						
4. Research reports on the market for investors						
5. Research reports on the market for corporate treasurers						
6. Indices & index licensing						
7. Investment management (portfolio tracker, notice, consolidated statements, etc.)						
8. Others, please specify						

3.7 Risk Management for Intermediaries

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Consulting services						
2. Risk assessment and the like						
3. Others, please specify						

3.8 IT Services

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Sales of systems & technical assistance to intermediaries						
2. Sales of systems & technical assistance to fund management companies						
3. Sales of systems & technical assistance to provide back-office administration						
4. Sales of systems & technical assistance to third party (usually smaller investment firms)						
5. IT system consulting						
6. Terminal leasing						
7. System leasing						
8. Providing secure back-up to intermediaries						
9. Others, please specify						

3.9 Others

Activities	Service Fee Charge			Sources of Revenues		
	Charged separately	Included in a package service	Free of charge	Listing and listed companies	Participants granted accessed to markets	Other intermediate service providers
1. Computer operations						
2. System development						
3. Property management & services						
4. Marketing & public relations for issuers						
5. Marketing & public relations for exchanges						
6. Marketing & public relations jointly with brokerage community						
7. Advertisements on Exchange's publications, websites, and so on.						
8. Training for intermediaries (system operation, product knowledge, etc.)						
9. Investor education						
10. General consultant						
11. Rent of Exchange's properties						
12. Other real-estate transactions						
13. Others, please specify						

We thank you for having taken your time to answer this questionnaire.



WORLD FEDERATION OF EXCHANGES

Tel : (33.1) 58 62 54 00

Fax : (33.1) 58 62 50 48

E-mail : secretariat@world-exchanges.org