

**Taiwan Futures Exchange**  
**Principles for Financial Market Infrastructure**

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**Disclosure Report**  
**(CCP)**

Responding institution: Taiwan Futures Exchange Corporation

Jurisdiction(s) in which the FMI operates: Taiwan

Authority(ies) regulating, supervising or overseeing the FMI: the Securities and Futures Bureau of the Financial Supervisory Committee

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This disclosure can also be found at <http://www.taifex.com.tw/>

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## TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY.....	3
II.	SUMMARY OF MAJOR CHANGES SINCE THE LAST UPDATE OF THE DISCLOSURE .....	3
III.	GENERAL BACKGROUND OF TAIFEX .....	4
IV.	PRINCIPLE-BY-PRINCIPLE SUMMARY NARRATIVE DISCLOSURE .....	9
	PRINCIPLE 1 : LEGAL BASIS.....	9
	PRINCIPLE 2 : GOVERNANCE.....	12
	PRINCIPLE 3 : FRAMEWORK FOR THE COMPREHENSIVE MANAGEMENT OF RISKS .....	21
	PRINCIPLE 4 : CREDIT RISK.....	35
	PRINCIPLE 5 : COLLATERAL .....	54
	PRINCIPLE 6 : MARGIN .....	59
	PRINCIPLE 7 : LIQUIDITY RISK .....	68
	PRINCIPLE 8 : SETTLEMENT FINALITY.....	82
	PRINCIPLE 9 : MONEY SETTLEMENTS.....	85
	PRINCIPLE 10 : PHYSICAL DELIVERIES .....	90
	PRINCIPLE 11 : CENTRAL SECURITIES DEPOSITORIES .....	93
	PRINCIPLE 12 : EXCHANGE-OF-VALUE SECURITIES SYSTEMS .....	95
	PRINCIPLE 13 : PARTICIPANT-DEFAULT RULES AND PROCEDURES .....	96
	PRINCIPLE 14 : SEGREGATION AND PORTABILITY.....	104
	PRINCIPLE 15 : GENERAL BUSINESS RISK.....	111
	PRINCIPLE 16 : CUSTODY AND INVESTMENT RISKS .....	116
	PRINCIPLE 17 : OPERATIONAL RISK .....	120
	PRINCIPLE 18 : ACCESS AND PARTICIPATION REQUIREMENTS.....	132
	PRINCIPLE 19 : TIERED PARTICIPATION ARRANGEMENTS .....	137
	PRINCIPLE 20 : FMI LINKS.....	141
	PRINCIPLE 21 : EFFICIENCY AND EFFECTIVENESS.....	144
	PRINCIPLE 22 : COMMUNICATION PROCEDURES AND STANDARDS.....	146
	PRINCIPLE 23 : DISCLOSURE OF RULES, KEY PROCEDURES, AND MARKET DATA .....	147
	PRINCIPLE 24 : DISCLOSURE OF MARKET DATA BY TRADE REPOSITORIES .....	151
V.	LIST OF PUBLICLY AVAILABLE RESOURCES .....	152

## **I. Executive Summary**

This report has been prepared by the Taiwan Futures Exchange Corporation (TAIFEX) based on its role as a central counterparty (CCP) for futures transactions in Taiwan (the Republic of China). In this report, TAIFEX assesses its compliance with each of the 24 principles for financial market infrastructure (PFMI) implemented by CPSS-IOSCO in April 2012 and supplemented in October 2014, and to the Disclosure Framework and Assessment Methodology implemented in December 2012.

TAIFEX's clearing and settlement framework is founded on a strong legal basis and a robust corporate governance framework. It is capable of managing legal, credit, liquidity and operational risks, and its services incorporate measures that can adequately assess and monitor clearing members' credit risks and the market's liquidity risks. TAIFEX adopts the marked-to-market approach to calculate gains, losses and required margins on members' open positions. It has standardized margin calling procedures in order to lower members default risks.

To protect traders' interests, clearing members are required to account for their own capital separately from customers' cash margins. In the event that a clearing member undergoes bankruptcy, liquidation or business suspension, customers' cash margins and outstanding positions can still be transferred to another clearing member. In terms of operational risks, TAIFEX has comprehensive risk management policies in place to ensure total control. It maintains its assets and those of clearing members with the utmost prudence. TAIFEX has established open and fair criteria for its clearing membership. It engages clearing members in active communication to deliver service efficiency and transparent information. Overall, TAIFEX's settlement system is both efficient and secure.

## **II. Summary of major changes since the last update of the disclosure**

This is an update to TAIFEX's disclosure made in accordance with Principle 23 "Disclosure of rules, key procedures, and market

data" for FMIs after the Disclosure Framework and Assessment Methodology was announced by CPSS-IOSCO in December 2012. In relation to the previous edition updated in November 2017, TAIFEX published its disclosure in January 2018. Major changes to TAIFEX's clearing business since its last disclosure updated in November 2017 are as follows :

- TAIFEX amended the provisions of the Rules Governing Surveillance of Market Positions, to make the management of clearing member positions concentration of certain options series more robust, and started to introduce each contract's liquidity indicator as a reference on February 15, 2019. Also aiming to enhance the level of risk coverage for all products, TAIFEX adjusted the provisions of the Methods and Standards for Receipt of Clearing Margins, starting March 29, 2019. The new measure provides coverage of at least a 99% confidence level of price fluctuation with two-day liquidation period and includes anti-procyclicality margin measures. These revisions include Framework of the comprehensive management (Principle 3), Credit risk (Principle 4) and Margin (Principle 6).

In addition to the above changes, this document contains some additions and revisions to the previous document in association with the minor revisions to TAIFEX's new practices.

### **III. General background of TAIFEX**

#### **General description of TAIFEX and the markets it serves**

In December 1995, the Futures Market Promotion Panel was assembled with the support of the competent authority and the public for the purpose of developing a local futures market. TAIFEX's preparatory office was established one year later in December 1996. In March 1997, the Futures Trading Act passed legislative procedures and gave TAIFEX a legal basis on which to operate. On July 21, 1998, TAIFEX was officially opened for business and launched its first instrument - TAIEX Futures. Over the next few years, TAIFEX introduced a number of index futures including Electronic Sector Index Futures, Finance Sector Index Futures and Mini-TAIEX

Futures.

In December 2001, TAIFEX made its first entrance into options with the introduction of TAIEX Options, which provided market participants with a broader range of hedging instruments. In January 2003, Taiwan's first non-index instrument - the Equity Option was launched. In January 2004, 10-year Government Bond Futures was introduced to the local futures market, which broadened our product scope beyond the stock market.

In the area of commodity-based products, TAIFEX introduced US dollar-denominated Gold Futures on March 27, 2006. In consideration of market needs and the preferences and trading habits of domestic investors, TAIFEX launched New Taiwan Dollar (NTD)-denominated Gold Futures on January 28, 2008. To provide investors in the spot market for gold with more diverse trading and hedging instruments, TAIFEX launched NTD-denominated Gold Options on January 19, 2009. TAIFEX went on to launch Single Stock Futures on January 25, 2010, providing investors in the stock market with still better hedging instruments and reduced tracking error. In response to Taiwan's flourishing offshore RMB market, TAIFEX launched two USD/RMB FX Futures contracts on July 20, 2015, making standardized FX derivatives available to the market. These products allow investors to formulate more diverse trading strategies and give them greater flexibility in their utilization of funds. On December 21, TAIFEX introduced TOPIX futures based on the leading stock index of JPX to Taiwan investors, which is the first time for TAIFEX to list a foreign equity index futures. The launch of TOPIX futures provides investors with more diversified trading strategies and marks an important step in the internationalization of Taiwan futures market. In 2016, Following the launch of USD/RMB FX Options on June 27 2016, TAIFEX launched Nifty 50 Futures , EUR/USD FX Futures and USD/JPY FX Futures on November 7, 2016, to meet investors' diverse trading needs and invigorate the market development.

On May 15 2017, TAIFEX launched after-hours trading session which enables investors to manage their risks outside of the regular trading hours of Taiwan, giving investors access to the underlying

market right in Europe and the US trading hours. TAIFEX after-hour session, extending trading hours to 19 hours, successfully boosts the competitiveness of the Taiwan futures market. The launch of after-hours trading session coincides with DJIA Futures and S&P 500 Futures, which have further enhanced our sustainable development and competitiveness. TAIFEX further diversified our FX hedging channels by introducing GBP/USD FX Futures and AUD/USD FX Futures on 22 January 2018. To diversify product offerings, TAIFEX tapped into the energy market by launching the TWD-denominated Brent Crude Oil Futures on 2 July 2018.

TAIFEX was incorporated in accordance with the Futures Trading Act primarily to provide a centralized marketplace for futures trading, while in the meantime making sure that the market operates fairly and in-line with the public interest. As a result, building a more efficient, cost-effective and competitive trading environment that conforms to public interests has become TAIFEX's ongoing target.

In the future, TAIFEX will strive to perfect its current practices and keep up with world trends by devoting greater efforts to product development, system reform, and market education. Furthermore, TAIFEX will engage in global interaction on a larger scale with the objective of becoming a world-class futures exchange, bringing a more prosperous future to Taiwan's financial market.

### **General organization of TAIFEX**

TAIFEX's Articles of Incorporation were created in accordance with the Company Act of the Republic of China. The company has one Chairperson and one President. The Chairperson represents the company to the outside world, whereas the President manages the company's affairs according to the Chairperson's instructions and the board of directors' resolutions. The company has appointed two Vice Presidents to assist the President, and two Assistant Vice President to support certain requirements. TAIFEX also has various departments established, each run by one manager and one to two deputy managers. The management is assigned clear, segregated responsibilities and authorities to carry out its tasks, and details regarding corporate governance have been disclosed on the

company's website and in annual reports. The board of directors is the executive decision-making unit within TAIFEX; it comprises 15 directors and 5 supervisors. Board meetings are convened and chaired by the Chairperson. At least one-quarter of director and supervisor positions are held by non-shareholders with relevant expertise; half of them are appointed by the competent authority while the rest are chosen by the board of directors, subject to the competent authority's approval. The non-shareholder experts that the competent authority appoints as directors satisfy the requirements of independence and professionalism. TAIFEX's Internal Audit Office reports directly and regularly to the board of directors and provides effective internal supervision. In this way and in combination with external supervision from the competent authority, TAIFEX is deemed to have exercised adequate corporate governance to support the stability of its financial system and protect the interests of the public and stakeholders.

### **Legal and regulatory framework**

TAIFEX's clearing and settlement services are based upon the Futures Trading Act and its Operating Rules. The Securities and Futures Bureau of the Financial Supervisory Commission serves as the direct authority of TAIFEX. The bureau is responsible for supervising both securities and futures markets. The Financial Supervisory Commission is the ultimate financial authority within the R.O.C.

### **System design and operations**

TAIFEX concurrently serves as a futures clearing institution, and plays the role of a Central Counterparty (CCP) to settle transactions between futures buyers and sellers. Participants in TAIFEX's futures clearing and settlement services are required to sign settlement agreements separately with TAIFEX and attain membership status. Depending on the activities involved, TAIFEX offers three different membership statuses: individual clearing member, general clearing member, and special clearing member. Stringent financial requirements have been imposed on these membership statuses to ensure that only the financially strong may undertake these roles. A clearing member's role includes clearing transactions for futures

commission merchants and helping them manage risk. Their existence produces a multi-layered risk framework that enables risk sharing. All clearing members are bound to comply with TAIFEX's policies and announcements.

It has been clearly outlined in TAIFEX's Operating Rules, Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members, and other policies that futures commission merchants and clearing members must deposit and withdraw clearing margins within the timeframes specified by TAIFEX, and must follow TAIFEX's instructions on margin calls, position adjustments, settlement etc. Timing and rules of the settlement process have been outlined for all listed instruments, and are published on TAIFEX's website for public access.

All futures trading in Taiwan is subject to advanced margin collection (pre-margin). Futures brokers are required to collect margins or premiums from traders in the amounts specified by TAIFEX before accepting trade orders. To manage futures trading risks, open positions are marked to market at the current market price or the settlement price to calculate real-time gains/losses, and therefore determine the adequacy of current margins. After marking to market, clearing members with insufficient margin will be margin called and are required to place additional margins within the given time. After marking to market, traders with insufficient margin will be margin called by the futures commission merchant and will be required to increase margin account balances to the required level within the given time. Failure to do so will force the futures commission merchant to reject further orders from the trader, and close out the trader's outstanding positions.

TAIFEX is responsible for clearing, settling and guaranteeing delivery of confirmed futures deals, therefore ensuring the reliability of futures instruments. In addition to providing clearing members with better services, TAIFEX is also dedicated to the maintenance of market stability and security.



## IV. Principle-by-principle summary narrative disclosure

### **Principle 1 : Legal basis**

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

### ***Summary Narrative***

**Key consideration 1:** *The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.*

### **Material aspects and relevant jurisdictions**

The Taiwan Futures Exchange Corporation (TAIFEX) concurrently serves as a futures clearing institution, and plays the role of a Central Counterparty (CCP) for futures transactions in the Republic of China. Its duties as a futures clearing institution include: clearing and settling of futures transactions and guaranteeing delivery of futures contracts, market supervision, clearing margin management, and resolving of settlement defaults; all of which have been clearly stated in the Futures Trading Act, the Regulations Governing Futures Clearing Houses and TAIFEX's clearing policies.

TAIFEX's clearing and settlement services do not extend beyond domestic borders.

### **Legal basis for each material aspect**

TAIFEX's domestic futures clearing services are founded on a clear legal basis, for example: TAIFEX is a limited liability company incorporated in accordance with the Company Act; it has been licensed by the competent authority under the Futures Trading Act to perform futures clearing services. As a futures clearing institution, TAIFEX is bound to comply with the Futures Trading Act, Standards Governing the Establishment of Futures Clearing Houses, and Regulations Governing Futures Clearing Houses when conducting futures clearing business.

Participants in TAIFEX's futures clearing and settlement services are

required to sign settlement agreements separately with TAIFEX, attain membership status and comply with TAIFEX's policies, rules, announcements and agreement terms before partaking in said services.

**Key consideration 2:** *An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.*

**Open and defined legal basis**

Prior to any addition (amendment) of the clearing policy, TAIFEX would arrange public hearings and market surveys to gather opinions from businesses and market participants. In addition, a Trading Committee and a Clearing Committee consisting of industry and academic representatives have been assembled to conduct discussions with the Board of Directors to make sure the additions (amendments) are clear, unambiguous and compliant with laws. TAIFEX has an obligation to report to the competent authority any changes made to its Articles of Incorporation or other policies. Currently, TAIFEX does not have any rules, procedures or contractual terms that are not consistent with regulations.

**Key consideration 3:** *An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.*

**Legal basis for each material aspect**

Prior to implementing any laws or policies that are relevant to futures clearing, TAIFEX would notify the market through correspondences and announcements, and publish detailed terms on the Law Source Retrieving System of Stock Exchange and Futures Trading (<http://www.selaw.com.tw/>) for public access. In addition to communicating on its own, TAIFEX also engages the Chinese National Futures Association to disseminate relevant information and produce informative documents for the market. Additionally, information on clearing services is published on TAIFEX's website.

**Key consideration 4:** *An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should*

*be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.*

**Enforceability of rules, procedures and contracts**

All rules, procedures and contracts enforced by TAIFEX are subject to review by TAIFEX's Trading or Clearing Committee (whose members comprise experts from academia and industry participants) and the Board of Directors, and are subject to approval by the competent authority. Participants in TAIFEX's futures clearing and settlement services are required to sign settlement agreements separately with TAIFEX, attain membership status and comply with TAIFEX's policies, rules, announcements and terms of the agreement before services commence. For this reason, TAIFEX's rules, procedures and contracts are highly enforceable within the local jurisdiction.

**Degree of certainty of rules and procedures**

The Futures Trading Act provides the legal basis for TAIFEX's activities as a futures clearing institution, and for any rules, procedures and contracts established to govern its activities. This legal basis ensures certainty that actions taken are not voided, reversed or subject to stays.

**Key consideration 5:** *An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.*

**Cross-border supervision**

Currently, TAIFEX's clearing and settlement services are confined only to its own instruments listed for trading, which do not extend beyond domestic borders. As a result, no legal conflicts may arise from cross-border settlements.

## **Principle 2 : Governance**

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

### ***Summary Narrative***

**Key consideration 1:** *An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.*

According to Article 2 of the Regulations Governing Futures Clearing Houses, a futures clearing house has the responsibility to clear, settle and guarantee delivery of futures traded over TAIFEX.

### **Robust financial regulation framework**

TAIFEX places high value on the security of the futures market. In addition to the measures stated in the Futures Trading Act and Regulations Governing Futures Clearing Houses, TAIFEX adopts the practice of trial-calculation of gains and losses during trading hours, and simulation of participants' margin accounts in real time. Participants who have actual margin balances falling below the required balance will be notified by margin call during trading hours.

Furthermore, TAIFEX has ISO-compliant procedures in place to govern daily risk management, clearing and financial practices. These procedures have been designed to ensure both the security and efficiency of its services.

TAIFEX's financial stability is founded on a robust clearing membership system, where clearing members are required to join TAIFEX in bearing settlement obligations. In order to bear this burden, strong financial support is essential, and TAIFEX draws its support from clearing margins, the clearing and settlement fund contributed by clearing members, its own reserves, and the common bond from non-defaulting clearing members which is subject to the cap amount. In case the cap amount is insufficient, TAIFEX shall fulfill the remaining clearing and settlement obligation.

**Key consideration 2:** *An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.*

### **Corporate governance planning**

According to Article 22 of TAIFEX's Articles of Incorporation, TAIFEX is governed by 15 directors and 5 supervisors, each serving a renewable term of three years. According to the Futures Trading Act, at least a quarter of TAIFEX's directors and supervisors must be non-shareholders with relevant expertise. The Company complies with legal requirements by having 4 non-shareholder directors and 2 supervisors on its Board. Their main responsibilities are to supervise corporate governance practices and conduct regular evaluation on the design and effectiveness of internal control system. Through monthly Board meetings, the Board is regularly informed of the Company's financial position, thus enabling them to offer guidance and recommendations where appropriate. In addition, TAIFEX has an Internal Audit Office created directly under the Board of Directors to supervise financial and business audits on various departments.

Currently, futures clearing in the Republic of China is performed by TAIFEX as a concurrent service, for which TAIFEX has assembled financial management, clearing and risk management teams to perform member services, clearing and settlement, and risk management operations, respectively. TAIFEX also has a Clearing Committee in place to review members' financial positions, business activities, uses of clearing margins, and contributions and uses of the clearing and settlement fund.

### **Disclosure of corporate governance**

Information regarding TAIFEX's organizational structure and responsibilities of its Board of Directors, committees and departments have been disclosed on the TAIFEX website. All legal bases for the abovementioned structure and responsibilities can be found on the "Law Source Retrieving System of Stock Exchange and Futures Trading."

**Key consideration 3:** *The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.*

### **Roles and duties of the Board of Directors**

The Board of Directors is the ultimate decision-making authority within TAIFEX, and Article 27 of TAIFEX's Articles of Incorporation gives the Board of Directors the decision-making authority over the company's business activities. With the exception of items that require shareholders meeting resolutions pursuant to the Company Act, all other decisions can be made by the Board of Directors.

According to Article 28 of TAIFEX's Articles of Incorporation, Board meetings are convened by the Chairperson except for the first meeting of a new Board, which shall be convened by the director who receives the highest number of votes from candidates. All directors must be notified of the convention of Board meetings with a detailed agenda at least seven days in advance. However, meetings can be held at shorter notice in the event of an emergency.

According to Article 29 of TAIFEX's Articles of Incorporation, a Board resolution is passed only with the presence of more than half of the total directors, and with more than half of those present voting in favor, unless otherwise specified in the Company Act.

Directors who are unable to attend meetings personally may appoint another director in writing to attend on their behalf. However, one director may only represent one other director.

Pursuant to Article 178 of the Company Act, shareholders cannot vote, or appoint proxies to vote, on any agendas that present conflicting interests, if doing so may compromise the Company's interests. Paragraph 2, Article 180 of the Company Act also specifies that the number of voting rights held by parties who are prohibited to vote under Article 178 do not count towards total voting rights represented in the

meeting, for the purpose of the resolution made.

According to Article 40 of Regulations Governing Futures Clearing Houses, directors, supervisors, committee members and persons of equivalent status in a futures clearing institution are required to recuse themselves from making decisions that involve a conflict of interests.

#### **Performance evaluation**

According to Article 15 of TAIFEX's Articles of Incorporation, shareholders meetings are held once a year within six months after the end of a financial year. Shareholders meetings are convened by the Board of Directors in compliance with the Company Act.

At the end of each accounting period, the Board of Directors is bound by Article 228 of the Company Act to prepare the following reports and forward them for review by the supervisor 30 days before an annual general meeting:

1. Business report.
2. Financial statements.
3. Earnings appropriation or loss reimbursement proposal.

Furthermore, Paragraph 1, Article 230 of the Company Act requires the Board of Directors to present the abovementioned reports for acknowledgment during an annual general meeting.

**Key consideration 4:** *The board should contain suitable members with the appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member(s).*

#### **Directors' and supervisors' eligibility**

According to Paragraphs 1 and 2, Article 33 of Regulations Governing Futures Clearing Houses, directors and supervisors of a clearing house must not exhibit any one of the conditions mentioned in Paragraph 1, Article 28 of the Regulations; furthermore, they must possess one of the qualifications listed below:

1. At least 2 years of experience working in a futures institution, in an equivalent position of manager or higher.
2. A total of 5 years of experience or above working in a futures,

securities or financial institution, in an equivalent position of manager or higher.

3. A total of 5 years of experience or above in an administrative or managerial role that involves futures, securities or finance, and having been assigned an equivalent position of mid-level officer or above.
4. Having graduated from a local or foreign college or holds an equivalent degree, with adequate proof that the party possesses futures-related knowledge and is capable of managing a futures business.

Where the director or supervisor is a corporate entity, the above rules shall apply to the representative or authorized person of the corporate entity.

TAIFEX's directors and supervisors are elected according to Article 36 of the Futures Trading Act and TAIFEX's director and supervisor election policies. Each director and supervisor serves a term of three years and may be re-elected or reappointed at the end of the term.

TAIFEX has a total of 15 directors. In order to encourage diversity of opinion within the organization, the Futures Trading Act requires at least one-quarter of the Board to comprise non-shareholders with relevant expertise. Half of these non-shareholder experts are appointed by the competent authority while the other half are chosen by Board members, subject to the competent authority's approval.

**Key consideration 5:** *The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.*

#### **Roles and responsibilities of the management**

According to Article 34 of TAIFEX's Articles of Incorporation, TAIFEX managers may refer to the President, Senior Vice Presidents, Assistant Vice Presidents, committee members, heads of department and any person acting in a representative capacity.

The President's responsibilities are to execute the Chairperson's



instructions and the Board of Directors' resolutions, and oversee the company's business activities in accordance with TAIFEX's Articles of Incorporation and relevant laws.

Responsibilities of Senior Vice Presidents:

1. Assist the President in managing the company's business activities.
2. Perform duties as delegated by the President.
3. Co-ordinate work efforts and demarcate areas of responsibility with other departments.
4. Assume the responsibilities of the President during his/her absence.

Responsibilities of Assistant Vice Presidents are the same as items 1, 2 and 3 of Senior Vice Presidents.

Responsibilities of department heads:

1. Develop business plans and work schedules, and implement accordingly once they are approved.
2. Propose and implement improvements within delegated authorities.
3. Assign tasks among employees and offer supervision and guidance.
4. Conduct performance appraisal, issue rewards and administer disciplinary actions to employees.
5. Develop policies and interpret legal requirements that according to delegated authorities.
6. Circulation and approval of internal documents.
7. Approval of regular department activities.
8. Any other tasks assigned.

Responsibilities of deputy managers:

1. Assist the department head in managing department affairs.
2. Assume the responsibilities of the department head during his/her absence.
3. Act within the authority delegated by the department head.

### **Experience, skills and integrity**

TAIFEX's President is nominated by the Chairperson to the Board of Directors, and is appointed with the support of more than half of the total Board members. The same applies to any subsequent dismissal. TAIFEX's Senior Vice Presidents, Assistant Vice Presidents, chief auditor, and department heads are nominated by the President to the

Chairperson, and are appointed with the support of more than half of the total Board members. The same applies to any subsequent dismissal.

To ensure that senior management positions are assumed by employees with the required skills, the Company has complied with Paragraph 1, Article 34 of Regulations Governing Futures Clearing Houses, where no person who meets the conditions described in Paragraph 1, Article 28 of the Act shall serve as a manager of a futures clearing house. In addition, the manager candidate must satisfy one of the following qualifications:

1. At least 2 years of experience working in a futures institution, in an equivalent position of manager or higher.
2. A total of 3 years of experience or above working in a futures, securities or financial institution, in an equivalent position of manager or higher.
3. A total of 5 years of experience or above in an administrative or managerial role that involves futures, securities or finance, and having been assigned an equivalent position of mid-level officer or above.
4. A total of 5 years of experience or above working in a futures, securities or financial institution, in an equivalent position of deputy manager or higher.
5. Having graduated from a local or foreign college or holds an equivalent degree, with adequate proof that the party possesses futures-related knowledge and is capable of managing a futures business.

In addition performance appraisals of personnel graded deputy manager and above are conducted by the President and are approved by the Chairperson. Performance appraisals of the President, the chief auditor and the Internal Audit Office are completed by the Chairperson.

To dismiss the TAIEX President, a proposal must be raised by the Chairperson and be approved by the Board of Directors with more than half of Board members voting in favor of the decision. To dismiss a Senior Vice President, an Assistant Vice President, the chief auditor, a department head or a deputy manager, the proposal must be raised by the President to the Chairperson and be approved by the Board of Directors with more than half of Board members voting in favor of the

decision.

**Key consideration 6:** *The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.*

### **Risk management framework**

The risk management framework adopted by TAIFEX's Clearing Department has been developed based on Regulations Governing Futures Clearing Houses. The department's responsibilities include clearing, settling, and guaranteeing performance of futures contracts traded on TAIFEX. At the same time, TAIFEX has implemented internal control policies under which the Board of Directors, management and employees shall work together to achieve the following objectives:

1. Sound and efficient operations.
2. Reliable financial reporting.
3. Regulatory compliance.

Operations mentioned above are measurable using indicators such as profitability, performance targets and asset security. TAIFEX has also identified risk factors that are relevant to its operations, and adopted processes to assess likely impact should any risk materialize. Results of such assessments are helpful towards designing, revising and executing necessary controls to mitigate risks. In the event of an emergency situation, TAIFEX will continue operations according to its emergency response regulations to ensure the financial stability of the futures market.

TAIFEX reviews its internal control systems annually. Processes that are considered outdated or impractical will be revised to ensure the effectiveness of the risk management framework.

### **Authority and level of independence of risk management and audit**

### **personnel**

TAIFEX has an Internal Audit Office created directly under the Board of Directors. It conducts internal audits according to relevant laws and TAIFEX's Articles of Incorporation, and is responsible for developing internal controls within the company, supervising risk management, clearing margins and the clearing and settlement funds, and reporting to the company's supervisors and Board of Directors on such matters.

**Key consideration 7:** *The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.*

### **Identification and consideration of stakeholder interests**

TAIFEX's Board of Directors comprises representatives from clearing members, and shareholders and non-shareholders with relevant expertise. These representatives are directly involved in the decisioning of TAIFEX's organization, policies and future strategies therefore making sure that stakeholders' interests are well-accommodated.

With regards to identifying and resolving conflicts of interest, TAIFEX complies with Paragraphs 2 and 4, Article 206 of the Company Act, which requires any director who has a personal interest in a matter under discussion at a Board meeting to explain to the Board the nature of such personal interest. Furthermore, directors are not allowed to vote, whether on their own or on behalf of others, in any agenda where personal interest conflicts with that of the company.

### **Information disclosure**

Major decisions of the Board such as stock listing, trade suspension or termination of futures contracts are subject to approval by the competent authority, and must be announced to the market prior to implementation. Other material decisions of the Board are disclosed in annual reports.

### **Principle 3 : Framework for the comprehensive management of risks**

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

#### ***Summary Narrative***

**Key consideration 1:** *An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.*

#### **Risks that arise within or are borne by the FMI**

TAIFEX operates in accordance with Article 9 of Futures Trading Act, and provides services for a centralized futures trading market. TAIFEX's operations are prone to a number of risks, the most significant of which include market risk, liquidity risk, credit risk, counterparty risk, business risk, financial risk and management risk.

#### **FMI's risk management policy**

- TAIFEX currently adopts the following policies and procedures for identifying, measuring, monitoring and managing risk:
  1. TAIFEX is required under Articles 15 and 16 of the Futures Trading Act to outline procedures in its Operating Rules of the Taiwan Futures Exchange Corporation (the "Operating Rules") for purposes such as monitoring the futures market, handling and penalizing defaults, responding to contingencies, and managing risk. TAIFEX may publish information regarding any abnormal futures trading activities it has discovered during market surveillance. Appropriate actions may be taken against futures trading that presents serious concern to market order.
  2. According to Articles 47 and 48 of the Futures Trading Act, a futures clearing house is required to outline procedures in its operating rules for purposes such as monitoring the futures market, handling and penalizing defaults, responding to contingencies and managing risk. TAIFEX may take appropriate actions against clearing members that default on settlement obligation.
  3. According to Article 95 of the Futures Trading Act, the competent

authority is required to establish market surveillance guidelines for the purpose of protecting public interest and maintaining market order. TAIFEX has established the "Regulations Governing Market Trading Surveillance" and "Rules Governing Surveillance of Market Positions" in accordance with Article 5 of "Criteria Governing Oversight of Futures Trading" for the purpose of market surveillance.

- TAIFEX currently adopts the following policies and procedures for managing risks:
  1. The definition and treatment of abnormal futures trading have been outlined in the "Regulations Governing Market Trading Surveillance" to maintain fairness of futures trading and prevent unlawful manipulative acts. Standards for warnings and the limitation of events likely to affect market order have been imposed under "Rules Governing Surveillance of Market Positions" to regulate the position limit standards on futures traders, futures commission merchants and clearing members. These standards are established for maintaining futures market order and security.
  2. The clearance of futures trading, unless otherwise approved by the competent authority, shall be executed by a clearing member with its futures clearing house. To reduce the risk of clearing/settlement default, TAIFEX has implemented the "Criteria for Clearing Membership" and "Procedural Guidelines for Clearing Members Unable to Maintain Conformance With Clearing Member Standards" as the basis for reviewing and monitoring clearing members' eligibility. If a clearing member fails to perform its clearing and settlement obligation, the futures clearing house shall appropriate the funds as compensation in the various sources specified in Article 49 of the Futures Trading Act. If a clearing member exhibits any act of default listed in Article 101 of the Operating Rules of the Taiwan Futures Exchange Corporation, TAIFEX may take appropriate actions according to Chapter 12 - "Disposition of Defaults by Clearing Members."
  3. Clearing members are obligated to deposit clearing and settlement funds according to Chapter 13 - "Clearing and Settlement Funds" of the Operating Rules. Clearing members are also required to increase its deposits to the clearing and settlement fund within the period of

time specified by TAIFEX, if any of the conditions mentioned in Article 108 of the Operating Rules occurs.

4. According to Chapter 15 - "Market Surveillance and Emergency Measures" of the Operating Rules, TAIFEX shall immediately adopt measures to safeguard market order or trading fairness if the market encounters any one of the situations described in Article 116 of the Operating Rules.
5. Article 97-1 of the Futures Trading Act requires all futures exchange, futures clearing house and futures enterprises to establish financial and operational internal control systems. TAIFEX has incorporated risk management procedures as part of its internal control system.

TAIFEX has implemented a number of risk controls as part of its internal control system, and utilized a risk management system to help identify, measure, monitor and manage risks. The following is a description of such controls:

- (1) Intra-day position control: Futures positions held by clearing members as well as gains and losses are monitored in real-time during trading hours. Appropriate measures are taken to keep positions levels within legal requirements.
  - Basis of operations: Articles 5, 6 and 7 of Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions.
  - Operating procedures: Every day during trading hours, TAIFEX monitors margin requirements of new positions by monitoring the system, and calculates clearing members' profits and losses using the trading system (for futures and options), SPAN, and the clearing system both during and post trading periods to evaluate the adequacy of clearing members' margin account balances. If the remaining margin balance of a clearing member is below the margin requirement, TAIFEX issues an intraday margin call to the member.
- (2) Margin requirements and adjustment: Margins are primarily set at a level sufficient to cover two-day losses on futures or options; this serves as a security to delivery for both the buyer and the seller.
  - Basis of operations: Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins;

Articles 116 and 117 of the Operating Rules of the Taiwan Futures Exchange Corporation.

- Operating procedures: According to Article 43 of the Regulations Governing Futures Commission Merchants and Article 53 of the Operating Rules of the Taiwan Futures Exchange Corporation: Futures commission merchants shall collect in full the margins or premiums required by the regulations of the various futures exchanges before it is allowed to accept futures trading orders.

TAIFEX requires all margins to be placed in advance; in a futures transaction, both the buyer and the seller are required to place cash margins before placing trade orders, which reduces traders' default risks.

(3) Settlement pricing: Settlements are priced according to the trading rules to ensure accuracy of transaction data.

- Basis of operations: Taiwan Futures Exchange Corporation pricing rules for various instruments.
- Operating procedures: Every day after market close, TAIFEX announces the settlement price and the number of open positions for each listed instrument through the trading system (futures and options), and utilizes the trading statistics management system to recalculate margin standards and SPAN parameters. If the simulated margin level differs from the actual margin balance to a certain degree, TAIFEX may proceed to adjust its margin requirements.

(4) Limiting new positions: TAIFEX may no longer allow clearing members adding new position. Clearing members may specify in their brokerage agreements to: limit trading activities if the futures commission merchant is found to have violated rules.

- Basis of operations: Article 7 of Rules Governing Surveillance of Market Positions.
- Operating procedures: When any irregularity is found in financial condition, open positions of clearing members, TAIFEX is authorized under Article 7 of Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions to impose limits on the member's new positions. When a clearing member imposes limits on new positions of its futures commission merchant, such decision



must be advised to TAIFEX via fax or telephone so that controls may be implemented by TAIFEX's surveillance personnel.

(5) Reviews: TAIFEX conducts regular reviews on clearing members' margin balances, open positions and financial health, and directs special attention to those that present financial, business or credit risks.

- Basis of operations: Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions.
- Operating procedures: Every day after market close, TAIFEX will inquire via its clearance system and print out reports to monitor concentration of open positions, members with highest open positions, exposures to futures commission merchants, additional margins collected for various instruments, and members' maintenance margins. TAIFEX will also check the level of adjusted net capital (ANC) and liquidity ratio reported by each member to determine their credibility and financial status. The above information is then consolidated into a "Post-market Clearing Member Risk Analysis" report and forwarded for discussion during "Inter-department Meetings."

(6) Disposition of Defaults by Clearing Members: Defaults by clearing members are handled according to procedures with the emphasis on protecting futures traders' interests and securing TAIFEX's debt entitlements.

- Basis of operations: Chapter 12, Operating Rules of the Taiwan Futures Exchange Corporation.
- Operating procedures: TAIFEX will resort to the following measures in the event that a clearing member defaults or is rendered unable to fulfill its settlement obligations to TAIFEX:
  - A. Assemble a Default Action Team.
  - B. Suspend clearing and settlement services to the defaulting member.
  - C. Dispose of the defaulting clearing member's positions and margin funds.
  - D. Utilize the clearing and settlement fund.
  - E. Conduct a full assessment on the defaulting member's

asset status.

F. Initiate audit of the defaulting clearing member.

G. Pursue protective measures with respect to TAIFEX's obligatory rights.

### **Review of risk management policies, procedures and systems**

TAIFEX reviews its operating procedures based on analyzes of prevailing risks. It utilizes a risk management system to monitor clearing members' margin balances, open positions and financial health, and directs special attention to those that present financial, business or credit risks.

TAIFEX regularly reviews the policies, procedures and systems that participants have adopted to manage risks, and supervises flexible adjustments to their policies, procedures and system parameters depending on the prevailing market condition.

1. TAIFEX recalculates margin standards for each listed instrument every day after trading hours. If the simulated margin level differs from the actual margin balance by a certain degree, TAIFEX may proceed to adjust its margin requirements. TAIFEX also monitors SPAN parameters on a daily basis to determine whether adjustments are needed.
2. In addition to estimating the required clearing and settlement fund amount on a quarterly basis, TAIFEX also takes the initiative to assess potential default risks of open futures positions based on current trading activities and price fluctuations, thereby making sure that potential risks are adequately covered by the clearing and settlement fund. Adequacy of the clearing and settlement fund is also subject to ad-hoc review in whatever circumstances deemed necessary (e.g. occurrence of a significant event in the futures market).

TAIFEX follows its "Internal Control Self-assessment Policy" and assesses the effectiveness of its risk management policies, procedures and systems on a regular basis. TAIFEX also attempts to identify any part of its risk management policies that have become outdated or impractical over time, and assesses likely impacts. These assessments help TAIFEX adjust its risk management policies, systems, internal

controls and regulations in time to accommodate new risks.

**Key consideration 2:** *An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.*

### **Pre-margins and incentives**

1. TAIFEX requires cash margins to be placed in advance; in a futures trading, both the buyer and the seller are required to place cash margins before placing trade orders. As an incentive for upfront placement of clearing margins, TAIFEX offers to pay time deposit rates on cash that members place as clearing margins.
2. TAIFEX has developed a robust financial safeguard system where clearing members and TAIFEX are jointly responsible for settlement and transaction delivery within the futures market. Source of fund for the financial safeguard system includes clearing members' clearing margins, the TAIFEX compensation reserve fund, clearing members' contributions to the clearing and settlement fund, and common bonds that are allocated among the non-defaulting clearing members. These, in aggregate, provide strong support to ensure the soundness and success of the market in the event of default.
3. In the event where a clearing member undergoes bankruptcy, dissolution, business suspension or fails to fulfill settlement obligations, TAIFEX is authorized to transfer all the accounts related to its futures traders to another futures commission merchant which has entered into a succession contract with it . If necessary, TAIFEX may also order to have the accounts transferred to another member with whom no such agreement has been signed. Clearing members that refuse to accept the abovementioned accounts may be subject to penalties such as fines, revocation of member status, or other actions deemed necessary.
4. In an effort to protect futures traders, TAIFEX has established the "Taiwan Futures Exchange Corporation Rules for Encouraging Reporting of Unlawful Activities on the Futures Market" in which traders are given incentives to report illegal conduct in the futures market.
5. TAIFEX has a Disciplinary Committee consisting of clearing member representatives, scholars, and experts in place to enforce the discipline of the futures market. The committee exists to supervise compliance

and self discipline among futures commission merchants and clearing members, and provides opinion for cases that violate against laws.

### **Provision of information**

1. In addition to making SPAN parameters available for download at specific times of the day, TAIFEX will also generate new SPAN parameters for futures commission merchants whenever the market exhibits volatility above a certain level. And, aiming to assist market participant in measuring their liquidity risk exposure, TAIFEX publishes the liquidity indicator information for options and futures contracts on its website. By selecting contract month and strike price, etc., users are able to obtain certain contract's liquidity indicator as a reference.
2. Every day after market close, TAIFEX will review the "Clearing Members Position Concentration Report" over its clearing system and advise clearing members that have breached the alerts and limits outlined in Articles 5 and 6 of Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions regarding the sum and relative percentage of their open positions, and the ratio of their open positions to total market positions for each options series. Meanwhile, a "Clearing Members Additional Margin Report" is printed to notify clearing members of the additional amount of margins collectible and to remind them of their risk exposures.

### **Control measures**

1. Based on information such as traders' outstanding contracts and financial ratios reported by futures commission merchants on a daily basis, TAIFEX convenes daily inter-department meetings to discuss various issues such as current day's market movements, members' clearing margin balances, and maintenance margin of high-risk traders. Each day, TAIFEX generates a list of traders who have suffered massive losses in the current day and traders who may likely suffer massive losses in the following day, and submits the list for discussion during inter-department meetings. For high-risk traders, TAIFEX will remind the respective futures commission merchants to escalate risk management, and follow up on their responses during the next day's meeting.
2. As a sound risk management practice, clearing members and futures

commission merchants are required to monitor and manage customers' positions. Below are TAIFEX's controls over open positions held by clearing members:

- (1) Adjusted net capital (ANC): ANC is the position management criteria generally adopted by global futures exchanges and is computed in accordance with the rules prescribed by the competent authority.
  - (2) Clearing margin limit: The number of newly increased contracts of each clearing member shall be limited by its excess margin deposits.
  - (3) Concentration Risk: The percentage of the open positions of each clearing member to the total open interest of the same contract shall not exceed the prescribed level.
  - (4) Losses on open positions: The percentage of the loss on the net open positions of each clearing member to its adjusted net capital shall not exceed the prescribed level.
3. Surveillance of Market Positions:
- TAIFEX has established the "Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions" based on the "Criteria Governing Oversight of Futures Trading" and established standards for the warning and limitation of events likely to affect futures market order, and further maintaining futures market order and security, the TAIFEX imposes position limit standards on futures traders, futures commission merchants, and clearing members.
4. Regular review of the risk management system:
- TAIFEX regularly reviews the policies, procedures and systems that participants have adopted to manage risks, and supervises flexible adjustments to their policies, procedures and system parameters depending on the prevailing market condition.
- (1) TAIFEX recalculates margin standards for each listed instrument every day after trading hours. If the simulated margin level differs from the actual margin balance by a certain degree, TAIFEX may proceed to adjust its margin requirements. TAIFEX also monitors SPAN parameters on a daily basis to determine whether adjustments are needed.
  - (2) In addition to estimating the required clearing and settlement fund amount on a quarterly basis, TAIFEX also takes the initiative to assess potential default risks of open futures positions based on

current trading activities and price fluctuations, thereby making sure that potential risks are adequately covered by the clearing and settlement fund. Adequacy of the clearing and settlement fund is also subject to ad-hoc review in whatever circumstances deemed necessary (e.g. occurrence of a significant event in the futures market).

**Key consideration 3:** *An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.*

### **Clearing and settlement risks between TAIFEX and clearing members**

To participate in futures clearing and settlement, a party must first register as a TAIFEX clearing member. In order to prevent defaults by clearing members, TAIFEX has established the Criteria for Clearing Membership, which imposes various financial requirements for clearing members of different scopes of operations. Members' financial structures are reviewed on a daily basis to ensure that they continue to satisfy the eligibility requirements. Members that fail to meet the Criteria for Clearing Membership may be instructed to provide explanations and improvement plans, or be reported to the competent authority for an official audit. The above measures are intended to gain more insight into clearing members' financial and business performances, which TAIFEX may keep track and offer guidance where applicable.

### **Custody risk arising from TAIFEX and settlement banks**

To facilitate transfers of cash margin, TAIFEX and all clearing members are required to open margin accounts at a settlement bank. Clearing members and their settlement banks are required to sign separate agreements with TAIFEX, and settlement banks are bound to act according to TAIFEX's instructions when facilitating margin payments and receipts between clearing members and TAIFEX's. TAIFEX and clearing members are prone to the custody risk that arises due to cash margins placed at settlement banks.

TAIFEX chooses only settlement banks that satisfy certain financial and credit requirements, and with extensive experience in settling securities transactions or futures margins. All banks that TAIFEX extends banking relationships with are under the supervision of the Banking Bureau of the Financial Supervisory Commission, and are entirely covered by Central Deposit Insurance. All settlement banks are required to implement internal controls, internal audits, accounting controls, operating procedures, levels of approval authorities and any other systems demanded by TAIFEX or the competent authority as part of their business policies.

TAIFEX conducts regular assessments to determine whether settlement banks have the financial strength and credit status to protect assets entrusted by TAIFEX and the clearing members.

**Liquidity risks arising from TAIFEX and other securities related institutions**

TAIFEX, Taiwan Stock Exchange Corporation (TWSE), Taipei Exchange (TPEX) and any institution that provides centralized trading of securities or futures are prone to liquidity risks in the event of a major settlement default, local or foreign crisis, or malfunctions in the trading system. This is especially true if the occurrence is capable of causing high volatility and provoking a chain reaction that would compromise the discipline and security of the market.

TAIFEX may engage local or foreign institutions in information exchange, technological cooperation, joint investigation and other collaborative arrangements for the purpose of cross-market surveillance. TAIFEX has signed an Articles for Cross-market Information Exchange and Crisis Management with TWSE, TPEX and Taiwan Depository and Clearing Corporation (TDCC), in which the four parties have agreed to the following:

(1) Active reporting:

Any party that discovers any of the following occurrences capable of compromising the safety of TWSE, TPEX and the futures market shall immediately inform all other parties to the Articles.

Occurrences subject to common reporting:

- A. Major political or economic events, local or foreign.
- B. Major settlement default.
- C. Malfunction or disruption of trading system.
- D. Abnormal trading activities of material consequences.

(2) Request for confidential information:

Parties to the Articles may request from each other information that they have or control, and is immediately available, for the purposes and to the extent permitted under the Articles.

(3) Crisis management and monitoring of abnormal transactions across different markets:

A cross-market crisis management team has been assembled to resolve major cross-market incidents involving securities firms or futures commission merchants. A cross-market monitoring team has been assembled to facilitate contact and coordination in the event of a major trading incident.

**Key consideration 4:** *An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.*

**Scenarios that the FMI may be unable to provide critical operations and services**

TAIFEX has implemented preventive measures and response procedures to react to any possible emergencies capable of disrupting the futures market or TAIFEX's operations. These protocols help minimize damages should a disaster occur, and therefore ensure the safety of the trading and clearing process.

An emergency situation includes:

1. Market-wide incidents: Natural disasters, accidents, settlement defaults, merchants' defaults, trade or clearing system malfunctions, intranet virus infections, and communication disruptions that affect the entire futures market and TAIFEX.



## 2. Emergencies and incidents that are specific to a department.

Once a crisis management action is activated, all departments are bound to provide relevant information and report to the competent authority in manners that comply with TAIFEX's Emergency Response Committee Foundation and Operating Guidelines.

### **Recovery and resolution plan**

#### 1. TAIFEX's response procedures for major disasters and system malfunctions

(1) Basis of operations: TAIFEX has implemented a Business Continuity Plan (BCP) based on the existing "Information Security Management Directions for the Executive Yuan and its Subordinate Agencies" and "ISO27001" to guide its Business Continuity Management (BCM). The BCP serves to prevent disruption of key business activities, and incorporates a comprehensive set of response and recovery procedures to minimize disruption and damages in the event of natural disaster, accident, malfunction or malicious conduct.

#### (2) Response guidelines for emergency and abnormal situations:

- Pre-incident

- Step 1: Establish a reporting network

- Step 2: Prepare emergency response manuals

- Step 3: Segregate areas of responsibility and assemble task forces

- Step 4: Rehearse on a regular and ad-hoc basis

- During an incident

- Step 1: Execute emergency response procedures and file reports

- Step 2: Notify the crisis handling meeting convener to hold meetings and make decisions

- Step 3: Issue press releases through the spokesperson and report to the competent authority

- Post-incident

- Step 1: Conduct reviews after the state of emergency has been dismissed

- Step 2: File an "Emergency Response Report"

- Step 3: Circulate the "Emergency Response Report" to the

Chairperson and retain for future reference

- (3) The BCP is subject to practice drill and testing on a yearly basis to ensure that it continues to be effective, and that all personnel involved are familiar with their roles and procedures.
2. Operating procedures in the event of major default by a clearing member that may cause TAIFEX to default
    - (1) Basis of operations: Proceed according to the procedures described in Chapter 12 of TAIFEX's Operating Rules.
    - (2) Actions in the event of major default by a clearing member:
      - Assemble a Default Action Team.
      - Suspend the defaulting clearing member's clearing and settlement operations.
      - Dispose of the defaulting clearing member's positions and margin funds.
      - Utilize the clearing and settlement fund.
      - Conduct a full assessment on the defaulting member's asset status.
      - Initiate audit of the defaulting member.
      - Pursue protective measures with respect to TAIFEX's obligatory rights.
  3. TAIFEX is currently devising new procedures to address defaults, which will include: definition of default standards and criteria for activating default protection, operating rules on close out netting settlement, and procedures for sourcing urgent liquidity.

#### **Principle 4 : Credit risk**

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

#### ***Summary Narrative***

**Key Consideration 1:** *An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.*

#### **Financial stability system and source of funding**

TAIFEX's financial stability is founded on a robust clearing membership system, where clearing members are required to join with TAIFEX in bearing settlement obligations. In order to bear this burden, strong financial support is essential, and TAIFEX draws its support from clearing margins, the clearing and settlement fund contributed by clearing members, its own reserves, and the common bond from non-defaulting clearing members which is subject to the cap amount. In case the cap amount is insufficient, TAIFEX shall fulfill the remaining clearing and settlement obligation. Below are descriptions of each of the measures taken to address credit risks:

1. Pre-margin: Futures contracts are traded in margins, and since settlement defaults are possible by both the buyer and the seller, both

sides are required to deposit cash margins. To minimize traders' default risks, TAIFEX requires cash margins to be deposited in advance of any futures transactions.

2. Clearing margin: Clearing members are required to deposit clearing margins depending on the number of positions they hold in their own accounts or on behalf of customers.

(1) Intra-day margin calls: According to the "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," TAIFEX will issue margin calls during trading hours to clearing members in the event that the margin balance of a clearing member does not meet the minimum margin requirement.

(2) After-hours margin calls: According to the "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," clearing members whose margin balances (for proprietary and customers' positions) fall below the minimum margin requirement after trading hours are required to increase the margins to the required level before the given due time.

3. Clearing and settlement fund: Clearing members are required to make the following contributions to the clearing and settlement fund

	Individual Clearing Member	General Clearing Member	Special Clearing Member
Initial contribution	20% of paid-in capital or capital fund, subject to a maximum of NTD40 million	NTD40 million	NTD40 million
For every consigned futures commission merchant	Not applicable	Required deposit of NTD3 million	
For every new branch office of its contracted futures commission merchant	Not applicable	Required deposit of NTD1 million	
For every consigned futures introducing broker or every new branch office of the	Required deposit of NTD1 million		Not applicable

4. Compensation Reserve Fund: TAIFEX has been contributing 20% of its settlement income on a quarterly basis since operations began. However, TAIFEX is not required to make further provisions once the reserve fund accumulate to an amount equal to TAIFEX's paid-in capital or capital funds.
5. Common Bond: If a default remains unsatisfied after the above funds are applied, TAIFEX will invoke the common bond rule, in which the residual balance of the unsatisfied default will be proportionally allocated among the non-defaulting clearing members by cleared volume and the average daily open positions out of all clearing members and is subject to the cap amount. In case the cap amount is insufficient, TAIFEX shall fulfill the remaining clearing and settlement obligation.

The residual balance shall be apportioned among the non-defaulting clearing members as follows:

- (1) Fifty percent of the residual balance is based on a member's cleared volume in the six-month period before the defaulting day as a percentage of the total cleared volume of all non-defaulting clearing members.
- (2) The other fifty-percent is based on a member's average daily open positions over the previous 30 trading days as a percentage of the average daily open positions of all non-defaulting clearing members.

### **Credit risk management system**

TAIFEX has implemented a credit risk management system to address credit risks that arise in relation to payment, clearing and settlement. Below is a description of the framework:

1. Criteria for Clearing Membership: TAIFEX applies more stringent standards on clearing members than it does on futures commission merchants, and the standards vary depending on which business items the members apply to perform.
  - (1) Individual Clearing Members: This membership status is for futures commission merchants who wish to clear and settle their proprietary trades and transactions brokered through their brokerage businesses. It requires a minimum paid-in capital of

NTD200 million of the futures commission merchant. Institutions that concurrently operate as futures commission merchants are required to provide designated operating funds of at least NTD80 million for the business. The following financial covenants apply for this membership status:

- A. Shareholders' equity  $\div$  paid-in capital  $\geq$  80%;
- B. For dedicated futures commission merchants with paid-in capital or designated operating funds equal to or above NTD200 million: adjusted net capital  $\div$  margins on open interest  $\geq$  20%; For concurrent futures commission merchants with designated operating funds of at least NTD100 million but less than NTD200 million: adjusted net capital  $\div$  margins on open interest  $\geq$  25%; For concurrent futures commission merchants with designated operating funds less than NTD100 million: adjusted net capital  $\div$  margins on open interest  $\geq$  30%, and must have obtained irrevocable credit limits for futures settlement for at least NTD60 million from the settlement bank.
- C. Current assets  $\div$  current liabilities  $\geq$  100%. TAIFEX may require additional clearing margins if  $120\% >$  current assets  $\div$  current liabilities  $\geq$  100%.
- D. (Total liabilities - traders' equity)  $\div$  shareholders' equity  $\leq$  80%.

(2) General Clearing Members: This membership status allows a futures commission merchant to clear and settle its proprietary trades, transactions brokered through its brokerage business, and transactions of other futures commission merchants. A minimum paid-in capital or designated operating funds of NTD400 million is required for this membership status. The following financial covenants apply for this membership status:

- A. Shareholders' equity  $\div$  paid-in capital  $\geq$  80%;
- B. Adjusted net capital  $\div$  margins on open interest  $\geq$  20%.
- C. Current assets  $\div$  current liabilities  $\geq$  100%.
- D. (Total liabilities - traders' equity)  $\leq$  shareholders' equity.

(3) Special Clearing Members: This membership status applies to financial institutions that have been specially permitted by the competent authority to perform futures settlement. These members may only clear and settle transactions for other futures

commission merchants. Minimum designated operating funds of NTD400 million need to be dedicated for the service. The following financial covenants apply for this membership status:

- A. Shareholders' equity  $\div$  paid-in capital  $\geq$  100%;
- B. Adjusted net capital  $\div$  margins on open interest  $\geq$  20%.
- C. Current assets  $\div$  current liabilities  $\geq$  100%.
- D. (Total liabilities - traders' equity)  $\leq$  shareholders' equity.

## 2. Margin system

- (1) Pre-margin: Futures contracts are traded in margins, and since settlement defaults are possible by both the buyer and the seller, both sides are required to place cash margins. To minimize traders' default risks, TAIEX requires cash margins to be deposited in advance of any futures transactions.
- (2) Clearing margins: TAIEX collects clearing margins from clearing members based on the gross margining method. According to this method, the positions under each clearing member's account will be margined on a gross basis.
- (3) Margin requirement: TAIEX calculates clearing margin levels according to Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins on a daily basis, then compares whether current margin levels are sufficient to cover prevailing market risks.
- (4) Margin adjustments: TAIEX may adjust margin requirements if the level of required margin, calculated after the close of trading each day, differs from the amount of margins collected by more than a certain percentage. Once margin adjustment is announced, the new margin level will take effect from the effective date (one business day after the date of announcement, after trading hours).

## 3. Marking to market

- (1) Intraday real-time calculation of gains and losses: To ensure transaction security within the market, TAIEX adopts the practice of real-time calculating gains and losses on an intraday basis utilizing market prices. Clearing members who have actual margin balances falling below the required balance will receive margin call immediately from TAIEX during trading hours.
- (2) Daily settlement price: TAIEX determines the daily settlement price for each contract so that futures commission merchants and clearing members may calculate gains and losses on traders' open

interest.

- (3) After-hours margin calls: According to the "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," clearing members whose margin balances (for proprietary and customers' positions) fall below the minimum margin requirement after trading hours are required to increase the margins to the required level before the given due time.

#### 4. Exposure monitoring

- (1) Adjusted net capital (ANC): The position management criteria are commonly used by foreign futures exchanges and clearing houses. Calculation of ANC has been defined by the competent authority.
- (2) Clearing margin: The amount of new positions that a clearing member may undertake is capped by the excess amount of clearing margins placed with TAIFEX.
- (3) Concentration risk: Clearing members are not permitted to hold open interest that exceed a certain percentage of the market.
- (4) Losses on open interest: Losses on clearing member's net open interest are capped at a certain percentage of its adjusted net capital.

5. Safeguard system: comprising clearing margins, clearing members' contributions to the clearing and settlement fund, TAIFEX's compensation reserve fund, and the common bond from non-defaulting clearing members which is subject to the cap amount. In case the cap amount is insufficient, TAIFEX shall fulfill the remaining clearing and settlement obligation. These, in aggregate, provide strong support to maintaining market discipline and guaranteeing settlement in the event of default.

**Key Consideration 2:** *An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.*

#### **Source and types of credit risk**

Credit risk includes: risk of clearing member's default and default of banks in which the clearing and settlement fund or clearing margins are held in custody



Clearing members' credit risk may include:

1. The possibility that traders or futures commission merchants may default on settlement obligations, thereby causing the clearing member to be unable to fulfill its settlement obligations to TAIFEX, to the extent that it may impair the entire futures market.
2. The possibility that clearing members may default on their settlement obligations to TAIFEX, to the extent that it may impair the entire futures market.

### **Management of credit risks**

TAIFEX calculates clearing margin levels according to Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins on a daily basis, then compares whether current margin levels are sufficient to cover prevailing market risks.

By monitoring daily market activities, margin maintenance, and clearing members' ANC ratio, open interest, and risk exposure etc., TAIFEX produces "Post-market Clearing Member Risk Analysis" reports and raises them for discussion in "Inter-department Meetings" as a means of managing risks and taking appropriate measures. Below are the credit risk tools adopted by TAIFEX:

1. Pre-margin and daily marked-to-market :
  - (1)Pre-margin: Futures contracts are traded in margins, and since settlement defaults are possible by both the buyer and the seller, both sides are required to deposit cash margins. To minimize traders' default risks, TAIFEX requires cash margins to be deposited in advance of any futures transactions.
  - (2)Intraday real-time calculation of gains and losses: To ensure transaction security within the market, TAIFEX adopts the practice of trial-calculating gains and losses on an intraday basis utilizing market prices. Clearing members who have actual margin balances falling below the required balance will receive margin call immediately from TAIFEX during trading hours.
  - (3)After-hours margin calls: According to the "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," clearing members whose margin balances (for proprietary and customers' positions) fall below the minimum margin requirement after trading hours are required to increase the margins to the required level before the

given due time.

2. Controls over clearing members' open interest :
  - (1) Adjusted net capital (ANC): The position management criteria are commonly used by foreign futures exchanges and clearinghouses. Calculation of ANC has been defined by the competent authority.
  - (2) Clearing margin: The amount of new positions that a clearing member may undertake is capped by the excess amount of clearing margins placed with TAIFEX.
  - (3) Concentration risk: Clearing members are not permitted to hold open interest that exceeds a certain percentage of the market.
  - (4) Losses on open interest: Losses on clearing members' net open interest are capped at a certain percentage of adjusted net capital.
3. TAIFEX may take the following measures when a clearing member exhibits abnormal financial, business or credit status:
  - (1) Adjust the amount of clearing margins
  - (2) Issue multiple intraday margin calls
  - (3) Order liquidation of futures contracts in whole or in part
  - (4) Suspend its handling of clearing and settlement business other than for disposal of existing transactions.
  - (5) Any other measures necessary to maintain market order or to protect futures trading.

#### **Selection of custodian banks**

A default by the bank in which the clearing and settlement fund or clearing margin is deposited in custody may render TAIFEX unable to withdraw the clearing and settlement fund or clearing margin for their intended purposes. For this reason, TAIFEX selects custodian banks for its clearing and settlement fund and clearing margin based on the criteria specified in Letter No. Financial-Supervisory-Securities-Futures-1060047163 issued by the competent authority on December 8, 2017, and Letter No. Taiwan-Futures-Clearing-10603011770 issued by TAIFEX on December 29, 2017. Detailed criteria are listed below:

1. For local banks (including Taiwanese subsidiary of a foreign bank), the common equity ratio, tier 1 capital ratio, and capital adequacy ratio must not be lower than the minimums mentioned in Subparagraphs 1 and 2, Paragraph 1, Article 5 of Regulations Governing the Capital Adequacy and Capital Category of Banks. If the minimums are raised subsequently by the competent authority according to Paragraph 2 of

the same Article, the new minimum shall prevail.

2. For a Taiwanese branch of a foreign bank, the head office must have attained the following credit rating:

- (1) Rated by Standard & Poor's Ratings Services with a long-term credit rating of BBB- or above, and a short-term credit rating of A-3 or above.
- (2) Rated by Moody's Investors Service, Inc. with a long-term credit rating of Baa3 or above, and a short-term credit rating of P-3 or above.
- (3) Rated by Fitch Ratings Ltd. with a long-term credit rating of BBB- or above, and a short-term credit rating of F3 or above.
- (4) Rated by Taiwan Ratings Corp with a long-term credit rating of twBBB- or above, and a short-term credit rating of twA-3 or above.
- (5) Rated by Fitch Ratings Taiwan with a long-term credit rating of BBB- (tw) or above, and a short-term credit rating of F3 (tw) or above.

TAIFEX deposits clearing and settlement funds and clearing margins in multiple banks as a means to diversify the credit risk of custodian banks. TAIFEX currently utilizes 7 banks for transaction clearing, which includes 5 local banks and 2 foreign banks.

**Key Consideration 3:** *A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.*

**Coverage of exposures to each participant**

[Applies only to SSS]

**TAIFEX does not have a DNS or a DNS SSS to guarantee settlement**

[Applies only to SSS, and not CCP]

**Key Consideration 4:** *A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.*

#### **Coverage of current and future risk exposures of each participant**

##### 1. Margin system

###### (1) Pre-margin

Futures contracts are traded in margins, and since settlement defaults are possible by both the buyer and the seller, both sides are required to deposit cash margins. To minimize traders' default risks, TAIFEX requires cash margins to be deposited in advance of any futures transactions. In other words, all futures traders must deposit the full cash margins or premiums demanded by TAIFEX before being able to place futures orders.

###### (2) Clearing margin

TAIFEX requires clearing members to deposit clearing margins based on their total open interest. The clearing margins provides coverage of at least a 99% confidence level of price fluctuation with two-day liquidation period and includes anti-procyclical effects of margins. If a major market event occurs TAIFEX would also flexibly raise the required margin to avoid margin

calls and defaults. The amount of margins that clearing members have deposited above the required margin of open interest is known as excess margins. Excess margins can be treated as additional margin that clearing members have deposited to cover future price variations.

## 2. Contributions to the clearing and settlement fund

According to Article 3 of TAIEX's "Regulations Governing Clearing Member Deposits to the Clearing and Settlement Fund Following Clearing and Settlement Operations," the amount of additional clearing and settlement funds to be deposited by clearing members as a whole after the carrying out of clearing and settlement operations shall be the amount by which the total clearing and settlement fund exceeds the base clearing and settlement fund. TAIEX adopts the practice of performing quarterly calculations to review the amount of clearing and settlement fund needed to cover default risks associated with the market's open interest. In addition, TAIEX also takes the initiative in monitoring trade activities and price variations to measure the risks of default associated with market's open interest.

## 3. Stress testing scenarios used for determining adequacy of financial resources

### (1) Stress testing of clearing margins

Every day after market closes, TAIEX performs a stress test to estimate the amount of losses clearing members may endure and margin calls for the next business day. Based on results of stress tests, TAIEX lists the accounts that may suffer major losses and monitor those accounts during trading hours and followed up on margin calls on next business day. Futures commission merchants may be contacted by phone if necessary to prevent default. Stress test scenarios are designed to simulate extreme market conditions given the recent changes in market price, volatility and position. The parameters of stress tests are adjusted according to market conditions.

### (2) Stress testing of clearing and settlement fund

To ensure that the clearing and settlement fund is adequate to cover the default risk of open interest in the futures market, TAIEX estimates the required amount by calculating the average of the two clearing members that are likely to suffer the

highest losses under a stress scenario. The amount of additional clearing and settlement funds to be contributed by clearing members as a whole shall be divided among the clearing members according to the following ratios:

- (i) For 50 percent of the additional clearing and settlement funds to be deposited, the amount each clearing member shall deposit shall be determined by the ratio of the cleared volume of the given clearing member to the total cleared volume of all clearing members for the most recent year.
- (ii) For the remaining 50 percent, the amount each clearing member shall deposit shall be determined by the ratio of the average daily open positions of the given clearing member to the average daily open positions of all clearing members for the most recent year.

#### **Additional financial resources**

1. Apart from clearing members' clearing margins and the clearing and settlement fund mentioned above, TAIFEX reserves compensation reserve fund for Taiwan's futures market. TAIFEX made an initial provision of NTD 300 million to the compensation reserve fund at startup, and has contributed 20% of its total clearing income on a quarterly basis thereafter. To date, TAIFEX's compensation reserve fund has amassed to NTD 1.5 billion. According to Article 49 of the Futures Trading Act, in case a clearing member fails to perform its clearing and settlement obligation, the futures clearing house shall first apply the defaulting clearing member's clearing margin to cover the default. If that is insufficient, it shall apply the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, the other clearing members' contributions to the clearing and settlement fund, and amounts to be borne by the other clearing members in proportions determined by the clearing house.

Furthermore, short-term credit facilities have been obtained from settlement banks to meet market emergencies, as required by the competent authority.

Overall, TAIFEX possesses adequate financial resources to cover all stress scenarios, including the default of two largest clearing members at

their highest credit exposure under extreme market conditions.

**Supporting reasons and corporate governance**

Pursuant to Articles 55 and 38 of the Futures Trading Act, Article 26 of Regulations Governing Futures Clearing Houses, and Article 36 of TAIFEX's Articles of Incorporation, TAIFEX has assembled a Clearing Committee vested with the authority to manage financial resources and review uses of members' clearing margins. The Clearing Committee may also recommend clearing margin adjustments to the board of directors depending on the market's overall risks, and supervise contributions, custody and uses of the clearing and settlement fund.

According to Article 108 of TAIFEX's Operating Rules, clearing members that exhibit any of the following are required to make additional contributions to the clearing and settlement fund within the timeframe specified by TAIFEX. The amount of the contribution is to be determined by the Clearing Committee, and effected with board of directors' resolution:

1. Irrevocable execution of assets by a court;
2. Dishonor of any issued bills due to insufficient funds where there is no record of cancellation of the dishonored bill;
3. A substandard rating under the TAIFEX's Guidelines for Early Warning of Operational Risk of Futures Commission Merchants and Clearing Members, or occurrence of consecutive losses and owner's equity lower than 60 percent of paid-in capital;
4. A substandard rating for internal auditing where improvements have not been made after guidance and reassessment;
5. Likelihood of an increase in market risk under the provisions of the internal control system of a clearing member or its mandating futures commission merchant, or inability to practically implement provisions of its internal control system;
6. Material violations of laws or regulations or bylaws of this Corporation, resulting in multiple instances of sanctions being imposed by the Competent Authority or this Corporation without improvement;
7. Other severe unforeseen incidents or upon instructions of the Competent Authority;
8. When the clearing and settlement fund is insufficient to cope with

perceived market risk, the TAIEX may adjust the clearing and settlement fund requirements for all clearing members.

**Key Consideration 5:** *A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.*

### **Stress testing**

TAIFEX estimates defaults amount using stress tests. The method of estimation is explained below:

1. Every day after the market closes, TAIEX performs a stress test to estimate the amount of losses clearing members may endure and margin calls for the next business day. Based on results of stress test, TAIEX lists the accounts that may suffer major losses and monitor those accounts during trading hours and followed up on margin calls on next business day. Futures commission merchants may be contacted by phone if necessary to prevent default. Stress test scenarios are designed to simulate extreme market conditions given the recent changes in market price, volatility and position. The parameters of the stress test are adjusted according to market conditions.
2. Stress tests are performed on trading account basis to estimate possible losses each clearing member may be prone to. The average



of the two clearing members that present the highest losses is used to estimate the required level of the clearing and settlement fund.

To ensure that the clearing and settlement fund is sufficient to cover potential defaults in the futures market, TAIFEX is required to perform timely assessments based on a number of factors such as the size of the market, the variety of instruments, asset prices, and volatility. As a conservative approach, TAIFEX takes the initiative in assessing adequacy of the clearing and settlement fund whenever it believes there is increased risk of defaults in the futures market. In addition to performing annual assessments as required in Article 3, Paragraph 2 of TAIFEX's Regulations Governing Clearing Member Deposits to the Clearing and Settlement Fund Following Clearing and Settlement Operations and submitting them for review with the authorities, TAIFEX also adopts the practice of reviewing clearing and settlement funds on a quarterly basis and whenever deemed necessary (e.g. in a major occurrence). Once transactions have been settled, any required contributions to the clearing and settlement fund in addition to the existing balance are shared proportionally among clearing members.

### **Review and validation**

TAIFEX adopts the practice of performing quarterly and daily after-market calculations to determine the amount of clearing margins and clearing and settlement fund needed to cover default risks associated with the market's open interest. In addition, TAIFEX takes a pro-active approach to review the appropriateness of its existing models and scenarios, and estimate default risk of open interest based on trade volume, price volatility and other stress test parameters, thereby making sure that the risks are adequately covered by the clearing margins and clearing and settlement fund.

**Key Consideration 6:** *In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of*

*forward-looking stress scenarios in a variety of extreme but plausible market conditions.*

### **Description of the stress test**

TAIFEX constructs stress test scenarios using historical events as adopted by futures exchanges around the world, and estimates stress levels based on the stress presented during the historical event.

Below are descriptions on the scenarios, models, parameters, and assumptions used in a stress test analysis:

1. Parameters on price volatility for stress tests

TAIFEX constructs stress test scenarios using historical events as adopted by futures exchanges around the world, and estimates price volatility based on the level of volatility presented during the historical event. When applying stress tests on clearing members' gains/losses, TAIFEX adopts scenarios of extreme but possible volatility on the price of futures and options as the basis for clearing members' stress tests.

2. Estimating gains/losses for each trading account

The possible gains/losses that each clearing member may be prone to are estimated by summing up trading accounts' gains/losses on open interest, after considering the risk-mitigating effects of a trading account.

3. The adequacy of the clearing and settlement fund is assessed based on the average of the two clearing members that present the highest losses under stress scenarios

(1) CME defines the total size of clearing and settlement fund based on total amount of the two clearing members that present the highest losses under stress scenarios.

(2) IOSCO recommends to set the amount of the clearing and settlement fund based on the greatest possible losses estimated from a number of stress test scenarios.

When evaluating the adequacy of TAIFEX's clearing and settlement fund, the average of the two clearing members that present the highest losses, estimated from a number of stress test scenarios, is used for determining the size of the clearing and settlement fund.

4. Description of the calculation procedures

(1) Estimate gains/losses on open interest given extreme but possible price changes.

- (2) A trading account presents risks of default if the sum of losses for the trading account and the account's initial margin is negative.
- (3) A clearing member's possible losses are equal to the sum of estimated trading account defaults.
- (4) The amount for the potential default given a rise in price is calculated as the average of the two clearing members that are likely to suffer the greatest losses.
- (5) The amount for the potential default given a fall in price is calculated as the average of the two clearing members that are likely to suffer the greatest losses.
- (6) Take the higher between losses given a rise and fall in price to estimate the clearing and settlement fund.

**Key Consideration 7:** *An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.*

**Allocation of credit loss**

According to TAIFEX's Apportionment Procedures for Managing Default by Clearing Members, In case a clearing member fails to perform its clearing and settlement obligation, the futures clearing house shall first apply the defaulting clearing member's clearing margin to cover the default. If that is insufficient, it shall apply the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, the other clearing members' contributions to the clearing and settlement fund, and amounts to be borne by the other clearing members in proportions determined by the clearing house, as stipulated in Paragraph 1, Article 49 of the Futures Trading Act.

If the outstanding obligation of a defaulting clearing member cannot be satisfied by the appropriations set forth and in the various sources of reserve funds as the defaulting clearing member's clearing margin, the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, and the other clearing members' contributions to the clearing and settlement fund provided for in Paragraph 1, Article 49 of the Futures Trading Law, the residual balance shall be apportioned among the non-defaulting clearing members as follows:

- (1) For 50 percent of the additional clearing and settlement funds to be deposited, the amount each clearing member shall deposit shall be determined by the ratio of the cleared volume of the given clearing member to the total cleared volume of all clearing members for the most recent year.
- (2) For the remaining 50 percent, the amount each clearing member shall deposit shall be determined by the ratio of the average daily open positions of the given clearing member to the average daily open positions of all clearing members for the most recent year.

According to Subparagraph 5, Paragraph 1, Article 105 of TAIFEX's Operating Rules, the cap on the apportioned levies referred to in the preceding paragraph shall be determined as follows: when a single clearing member defaults during the cooling-off period (the period of 20 trading days beginning from the date on which a default by a single clearing member occurs), the cap shall be 150% of other clearing members' respective required contributions to the clearing and settlement fund; when multiple clearing members default during the cooling-off period, the cap shall be 300% of other clearing members' respective required contributions to the clearing and settlement fund. Any shortfall after the jointly apportioned levies on other clearing members shall be appropriated from the TAIFEX.

All clearing members are required to pay their share of the losses according to the procedures and timeframe notified by TAIFEX in writing. Clearing members who refuse to follow procedures or pay their share of the loss may have clearing and settlement services suspended or terminated by TAIFEX.

**Reimbursement of financial resource**

According to Article 110 of TAIFEX's Operating Rules, clearing members are required to reimburse the clearing and settlement fund for any amounts withdrawn under Paragraph 1, Article 49 of the Futures Trading Act and Article 109 of TAIFEX's Operating Rules, within the period of time specified by TAIFEX.

According to TAIFEX's Apportionment Procedures for Managing Default by Clearing Members, the amount recovered by the Exchange from the defaulting clearing member shall be indemnified in the following order, after deducting all expenses:

1. Amount paid out by the clearing members in compliance with these Procedures.
2. Amount drawn from the Exchange's compensation reserve fund.
3. Amount drawn from the non-defaulting clearing members' shares to the clearing and settlement fund.

## **Principle 5 : Collateral**

An FMI that requires collateral to manage its or its participant's credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.*

### **Acquisition of low-risk collaterals approved by the competent authority**

Use of securities in lieu of cash margin is governed by TAIFEX's "Guidelines for Futures Commission Merchants and Clearing Members Conducting Operations in Relation to the pledging of securities as Margin Collateral." The types of securities that can be placed as margin, and the maximum percentage acceptable for each type of security relative to the total, are determined by TAIFEX and announced once approved by the competent authority. Currently, TAIFEX only allows securities that are held by sizable investors or those that exhibit relatively lesser risk to be placed as margins. Shares, for example, are allowed only if they meet the internationally accepted "blue chip" criteria.

TAIFEX has publicly announced to accept the following securities as margin:

1. Underlying assets of any stock futures and options traded through TAIFEX, any constituent stocks of the FTSE TWSE Taiwan 50 Index, and beneficial certificates of Yuanta/P-shares Taiwan Top 50 ETF.
2. Book-entry central government bonds.
3. Foreign currency-denominated international bonds traded on the GTSM according to Article 3 of its Rules Governing Management of Foreign Currency Denominated International Bonds.

**Key Consideration 2:** *An FMI should establish prudent valuation*

*practices and develop haircuts that are regularly tested and take into account stressed market conditions.*

### **Method of verification**

Margins placed in the form of securities are valued every day at the current market price; their equivalent margin values are determined at the lower of traders' open positions and the discounted value.

Securities that TAIFEX accepts as margin are entirely traded on stock exchanges and the money market. Their market prices are determined by the rules of the respective markets.

### **Haircutting practices**

Given the price risks associated with securities, most exchanges and clearing institutions around the world apply haircuts on securities that have been placed as margins, in order to mitigate the effect of price fluctuations and ensure that futures contracts are adequately covered by margins at all times. Haircuts for acceptable collaterals have been clearly disclosed in TAIFEX's Methods and Standards for Receipt of Clearing Margins.

**Key Consideration 3:** *In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.*

### **Stable and conservative collateral haircut**

Currently, securities that TAIFEX accepts as margins are limited only to book-entry central government bonds, approved stocks and international bonds. Their haircuts are determined on the following grounds:

#### 1. Book-entry central government bonds

According to foreign stock exchanges and clearing institutions, the haircut for government bonds (typically government bonds with 5-10 year maturity or longer) ranges between 0-30%. Due to the fact that government bonds are less prone to cyclical, credit and liquidity risks, TAIFEX has set its haircut at 5% for government bonds as do the five stock exchanges presented for comparison. This haircut is applied to the market price or theoretical price of the valued security as at the

preceding day to determine margin coverage.

## 2. Stocks

According to foreign stock exchanges and clearing houses, the haircut for stocks ranges between 0-50%. Since most of the world's major stock exchanges have set their haircuts at 30%, and given the fact that the local stock market caps single-day gain/loss at 10%, TAIFEX has also set its haircut at 30% for stocks placed as margin. In addition, the local stock market has been relatively stable in recent years, and only very few stocks exhibited consecutive losses at the maximum limit. This haircut covers the spot market for 3 days of consecutive loss at the maximum limit, which is considered adequate for majority of stress scenarios.

## 3. International bonds

According to foreign stock exchanges and clearing institutions, the haircut for foreign bonds ranges between 2-15%. Since most of the world's major stock exchanges have set the haircut at 10%, TAIFEX also announces its haircut at 10% for international bonds placed as margin.

**Key Consideration 4:** *An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.*

### **Avoidance of concentration risk**

Most foreign stock exchanges and clearing institutions have set limits on how much one type of security can be placed as a margin for the purpose of risk diversification. TAIFEX has taken a more conservative approach with regards to international bonds due to the instrument's relatively low liquidity, by stating that no more than 20% of a particular issue of international bonds can be placed as margin. If any subsequent repayments are made to the bonds, the 20% maximum shall apply to the remaining principal. For stocks, the level of concentration is capped at 10% as this percentage is commonly used by domestic and foreign stock exchanges and clearing institutions to govern the trade volume of a particular stock relative to the number of outstanding stocks issued. No concentration limit is imposed on government bonds given the relative low risks of this security.



**Key Consideration 5:** *An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.*

TAIFEX currently does not accept cross-border collateral.

**Key Consideration 6:** *An FMI should use a collateral management system that is well-designed and operationally flexible.*

### **Collateral management system design**

To protect traders' interests, TAIFEX requires any use of futures traders' securities as margins for open positions of others to be consented to using separate agreements with third parties, similar to what has been done for collateral in stock margin trading. This requires prior arrangements between futures traders and their futures commission merchants. If the trader does not agree to this third-party arrangement, the trader simply needs to place securities under the TAIFEX's margin account (categorized by futures commission merchants with separate ledgers kept specifically for the account) to secure the trader's own positions (referred to as the one-stage process). If the trader agrees to this third-party arrangement, the trader needs to place securities with a futures commission merchant that is also a depository member before using the placed securities to secure a third party's positions. Securities used for this purpose are further transferred into the margin account of the other trader maintained with TAIFEX (referred to as the two-stage process).

### **Flexibility**

Depending on whether the trader has made third-party arrangements with their futures commission merchants, traders' securities that have been placed as margin are maintained either in the futures commission merchant's account or in TAIFEX's margin account:

1. Where the trader does not agree to use securities to secure other traders' positions:
  - (1) Stocks and international bonds: The trader can place securities into TAIFEX's margin account, which is categorized according to futures commission merchants and managed with a separate set of ledgers, using the TDCC system. Balances maintained in this

account can be used to secure the trader's positions.

- (2) Government bonds: The futures trader is required to open a government bond account in a settlement bank to facilitate transfers of government bonds.
2. Where the trader agrees to use securities to secure other traders' positions:
- (1) The trader shall place securities into the futures commission merchant's margin account (with separate ledger maintained by the futures commission merchant) using the TDCC system, and have the futures commission merchant transfer securities into TAIFEX's margin accounts created for various clearing members to secure members' positions (excluding positions held by traders who do not agree to the third party arrangement).
  - (2) The futures commission merchant must become a depository member before accepting traders' placement of stocks and international bonds, and apply for system networking for real-time display and control of the trader's security balance.
  - (3) The futures commission merchant must open a government bond account before accepting traders' placement of government bonds. This account enables real-time display and control of the trader's security balance.

## **Principle 6 : Margin**

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

### ***Summary Narrative***

**Key Consideration 1:** *A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.*

### **Margin collection method**

TAIFEX measures the adequacy of its clearing margins by observing the price volatility, procyclical effects and other possible factors of each listed instrument over a period of time, and sets them at an amount that covers two-day price change within a 99% level of confidence. The initial and maintenance margin requirements are further determined based on this amount. TAIFEX collects margins from clearing members using the Standard Portfolio Analysis of Risk (SPAN) approach. SPAN measures risk from a portfolio perspective; it utilizes a variety of parameters and models to estimate risk mitigation effects between different instruments, and therefore allows calculation of the margin amount needed to cover portfolio risks.

For more details on TAIFEX's margin methodology, please refer to "Taiwan Futures Exchange Corporation Margin Adjustment Policy" and "Taiwan Futures Exchange Corporation Notes on SPAN Parameters." TAIFEX currently provides each futures commission merchant with PC-SPAN software and details on the parameters used so that futures commission merchants may calculate portfolio risks on their own. In addition, futures commission merchants may also follow the "Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins" to proceed with their own risk management.

### **Credit exposure**

TAIFEX measures the adequacy of its clearing margins by observing price volatility, procyclical effects and other possible factors of each listed instrument over a period of time, and sets them at an amount that

covers two-day price change within a 99% level of confidence for the given instrument. To avoid the risk of setting margin requirements at levels too low to cover a sudden increase in risk following a period of excessively low price volatility, TAIFEX has imposed minimum risk factors for each instrument listed for trading, and included anti-procyclicality margin measures, so that the clearing margins are adequate to cover a certain level of risk volatility at all times.

### **Key practices**

TAIFEX currently collects margins in advance (pre-margin); clearing margins required for new positions exceeds the total amount of excess clearing margins (Subparagraph 4, Paragraph 1, Article 6 of Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions). In the event that a price change during trading hours gives rise to an inadequate margin being maintained by the clearing member, the clearing member must transfer fresh funds into TAIFEX's clearing margin account opened with the settlement bank within 1 hour after receiving a margin call from TAIFEX. If a clearing member is found to have maintained an inadequate margin after market close, TAIFEX will also issue a margin call, in which case the clearing member shall transfer fresh funds into TAIFEX's clearing margin account opened with the settlement bank before the end of banking hours (15:30) in the current day.

So far there have not been any incidents where a clearing member has failed to provide additional margins within the given time. However, if a clearing member were to miss the margin deadline, TAIFEX may impose a penalty according to Article 102 of its Operating Rules. If a clearing member defaults on settlement due to financial reasons, TAIFEX may dispose any open positions and margins held by the defaulted member according to Article 103 of its Operating Rules. In the event that a clearing member does not fulfill its settlement obligations, TAIFEX is vested under Article 49 of the Futures Trading Act to cover the loss using the defaulted member's clearing margin, the clearing and settlement fund, and TAIFEX's compensation reserve fund.

If a foreign institutional trader is unable to credit its margin account in time due to time differences, the futures commission merchant may treat

funds as received if the trader is able to produce a transmitted interbank message as proof of the transaction. As a result, no problems involving international time differences shall arise.

**Key Consideration 2 :** *A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.*

#### **Source of price information**

Because TAIFEX concurrently operates as a futures clearing institution, its margin system obtains price information entirely from TAIFEX's trading system. All price information is verified through proper procedures before it is transmitted through the trading system. TAIFEX's role as a CCP thus enables it to obtain timely and reliable price data.

If there is a need to compare the reliability and accuracy of pricing services offered by a third party, TAIFEX will compare its first-hand price information with the pricing provided by the third party.

#### **Price estimates**

Currently, margin levels for TAIFEX-listed instruments are calculated based on: actual deal price of the instrument, actual deal price of the underlying securities at TWSE or other securities exchange, and quoted price or theoretical price of the instrument in question. This price information adequately reflects changes in market conditions.

**Key Consideration 3:** *A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the subportfolio level or by product, the requirement must be met for the corresponding distributions*

*of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.*

### **Initial margin model**

TAIFEX uses a margin model to calculate the amount of clearing margins required. With the amount of required clearing margin derived, a ratio of 135% is then applied to determine the amount of initial margin. Clearing margin calculation = closing price of the underlying spot index × value per index point × risk coefficient.

The margin model adopts the simple moving average approach to calculate average returns ( $\mu_n$ ) and standard deviation ( $\sigma_n$ ) over the sample period. These results are used to estimate value at risk (VaR) for various sample groups, and to calculate the margin amount that is sufficient to cover two-day price volatility within a 99% level of confidence (single-tailed).

Margin model - the SMA approach assumes daily price changes to be normally distributed, while returns at various timings are independent and identically distributed. With regards to the sampled period, TAIFEX avoids bias on samples collected within a short timeframe, which could lead to frequent changes in margin requirements, or bias on samples collected within a long timeframe, as the required margin would not be able to reflect the current situation. Instead, TAIFEX takes a balanced approach of estimating margin requirements using 30-day, 60-day, 90-day, 180-day, and 2500-day average VaR or maximum VaR.

### **Closure and sample period**

TAIFEX adopts real-time marking to market during trading hours for immediate update on clearing members' margin adequacy. After market close, TAIFEX calculates concentration levels of each instrument and demands additional margins from members whose open positions are concentrated to a certain instrument type, and therefore mitigates

concentration risks. In the event where a clearing member undergoes bankruptcy, liquidation, business cessation or fails to fulfill settlement obligations, TAIFEX is authorized under Article 54 of the Futures Trading Act to transfer the member's account along with futures traders' accounts to another clearing member that had previously signed an obligation transfer agreement with the distressed member. If necessary, TAIFEX may also order to have the accounts transferred to another member with whom no such agreement has been signed. In the event where TAIFEX is required to close futures positions held by the defaulted clearing member, TAIFEX will close the member's outstanding positions as early as possible to minimize impact on the stability of the market.

When sampling data for the margin model, TAIFEX avoids basing its calculations solely on samples collected within a short timeframe, which could lead to frequent changes in margin requirements, or solely on samples collected within a long timeframe, as the required margin would not be able to reflect the current situation. Instead, TAIFEX takes a balanced approach of estimating margin requirements using 30-day, 60-day, 90-day, 180-day, and 2500-day average VaR or maximum VaR. When analyzing margin requirements for newly listed instruments, TAIFEX bases its calculations on price data of the underlying assets two years before listing.

#### **Cyclicality and wrong way risk**

To avoid the creation of risk by reducing margins to excessively low levels due to lessened price volatility, resulting in margins being set too low to cover a sudden increase in risk, TAIFEX has imposed minimum risk factors for each instrument listed for trading and the look-back period of ten years as a more conservative approach towards calculating clearing margins. Based on the estimated margin requirements, TAIFEX sets an initial margin level and a maintenance margin level as a double security to prevent sudden price changes that may give rise to inadequate equity in traders' accounts to cover market risks. Furthermore, the extent of gains and losses is capped for every type of instrument to limit downside risks during periods of irrational market behavior.

**Key Consideration 4:** *A CCP should mark participant positions to*

*market and collect margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.*

Multiples for TAIFEX's three current margin levels are: initial margin: maintenance margin: clearing margin = 1.35: 1.035: 1. After marking to market, clearing members that have account equity lower than the required clearing margin will be margin called and are required to place additional margins within the given time. After marking to market, traders that have account equity lower than the maintenance margin level will be called by the futures commission merchant and will be required to increase margin account balances to the initial margin level within the given time.

According to "Taiwan Futures Exchange Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," clearing members that receive margin calls from TAIFEX during trading hours are required to deposit at least the requested amount of cash into TAIFEX's clearing margin account opened with the settlement bank within 1 hour. If a clearing member is found to have maintained an inadequate margin after TAIFEX closes the market, the clearing member would be required to transfer fresh funds into TAIFEX's clearing margin account before the end of banking hours (15:30) on the current day. If a clearing member were to miss the margin deadline, TAIFEX may impose a penalty according to Article 102 of its Operating Rules. If a clearing member defaults on settlement due to financial reasons, TAIFEX may dispose any open positions and margins held by the defaulted member according to Article 103 of its Operating Rules.

**Key Consideration 5:** *In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonized overall risk-management systems.*



### **Margin estimation for portfolios**

TAIFEX adopts the SPAN system to calculate margins that each clearing member is required to maintain on open positions. In addition, traders' portfolios are assessed on an account-by-account basis to determine the maximum VaR of the following trading day, which lead to calculations of traders' margin requirements. The SPAN system also takes into account the risk mitigation effect across different products when calculating margin requirements. For example: A long position in one index futures and a short position in another index futures may have margin requirements reduced by up to 50%, leaving room to accommodate possible changes in correlation between the two instruments.

With regards to cross-margining, TAIFEX currently collects margins only on instruments traded over TAIFEX, and does not take into account margins that traders have placed for positions held with other CCPs.

### **Cross-margining**

The SPAN system that TAIFEX has adopted was developed by CME. This system is implemented in many foreign stock exchanges. CME notifies every exchange that adopts the SPAN system whenever there is a change to the calculation, thereby ensuring the integrity of this system.

When calculating margin requirements using SPAN, TAIFEX recognizes risk mitigation only for index instruments within the same portfolio. Furthermore, TAIFEX has adopted a more conservative approach by reducing margin requirements by up to 50% to accommodate possible changes in correlation. With regards to PSR (Price Scan Range), TAIFEX has imposed minimum values on the price risk factor to prevent margin requirements from dropping to excessively low levels over a period of low volatility, and therefore ensure adequate margin coverage to accommodate sudden changes in volatility.

### **Methodology**

TAIFEX currently does not have a cross-margining system.

**Key Consideration 6:** *A CCP should analyse and monitor its model*

*performance and overall margin coverage by conducting rigorous daily backtesting – and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model’s coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.*

### **Back testing and sensitivity analysis**

TAIFEX assesses risk coverage of its margin model using the penetration test. The penetration test begins by applying a multiplier to clearing margins collected by TAIFEX to derive the initial margin; this initial margin is then compared to actual gains and losses incurred on positions outstanding at the same time. If actual gains and losses exceed the initial margin, the margin would be considered to have been penetrated. Based on empirical analysis of the historical data on actively traded index instruments, the penetration ratio was found to have been maintained below 1%, which conformed with the goal of covering two-day price changes within a 99% level of confidence.

When the model does not perform as expected, TAIFEX will revise its model and use historical data to back-test margin requirements derived from various model configurations.

### **Performance of margin model**

TAIFEX monitors model performance by regularly reviewing its minimum price risk coefficient, and anti-procyclicality margin measures, in order to prevent margin requirements from dropping to excessively low levels over a period of low volatility, and therefore ensure adequate margin coverage to accommodate sudden changes in volatility.

In terms of sensitivity analysis, TAIFEX analyzes penetration rates under different margin multiples. The penetration test analyzes not only the daily price volatility, but also whether the current margin level is adequate to cover price changes from the current day high to the current

day low, as well as during periods of extreme movements. Furthermore, TAIFEX reviews and adjusts margin requirements quarterly for stock-related instruments to cover price volatility of the underlying stock.

**Simple moving average approach**

This model assumes daily price changes to be normally distributed, but in practice prices tend to exhibit a fat-tail distribution, therefore a disadvantage of this margin model is that its assumption does not conform with how returns are distributed in reality.

Currently, all regularly analyzed results are approved according to internal procedures or reported to the competent authority.

**Key Consideration 7:** *A CCP should regularly review and validate its margin system.*

TAIFEX regularly assesses the appropriateness of its existing margin structure and the adequacy of its minimum price risk factor. In addition, TAIFEX also conducts daily reviews on whether the current margin requirement adequately covers the volatility of index futures; stock-related futures are reviewed on a quarterly basis. Meanwhile, TAIFEX also monitors SPAN parameters on a daily basis to determine whether adjustments are needed.

TAIFEX's margin methodology and parameters have been outlined in the Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins. Any major changes are subject to review by the Clearing Committee and the board of directors, and the approval of the Financial Supervisory Commission before announcement to the public.

## **Principle 7 : Liquidity risk**

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.*

### **TAIFEX's liquidity risk management framework**

TAIFEX's liquidity risk is mainly attributable to the risk of clearing members defaulting, causing a shortfall in short-term liquidity.

The goal of TAIFEX's liquidity management practice is to maintain adequate level of cash and cash equivalents to ensure that clearance and settlement activities are carried out properly. TAIFEX has imposed haircuts on all securities pledged as margin collateral, while at the same time making sure that such securities are adequately liquid. Agreements have been signed with settlement banks to acquire short-term credit limits, giving TAIFEX adequate financial flexibility.

TAIFEX has developed a management framework for measuring and monitoring liquidity risks. Functionality of this framework is explained below:

#### **1. Pre-margin system**

According to TAIFEX's "Trading Rules " for various instruments, futures commission merchants are required to collect cash margins in advance (pre-margin) before accepting traders' instructions; in addition, traders are required to maintain their margin balances above the initial and maintenance margin levels stipulated by TAIFEX. Since margins are collected in full prior to each transaction, TAIFEX

is able to minimize risk of liquidity shortfall should a clearing member default on its obligations.

TAIFEX's instruments are mostly denominated in NTD, and cash margins are also placed in NTD. For futures that are denominated in foreign currencies, traders may arrange with their futures commission merchants to place cash margins in NTD and have the futures commission merchant or TAIFEX perform currency exchange on their behalf. This gives TAIFEX the ability to realize gains and losses of contracts denominated in any currency, and hence is not prone to currency liquidity risks.

2. Futures commission merchants are only allowed to place customers' margin deposits in the form of highly liquid assets, namely demand deposits, time deposits and book-entry central government bonds

According to Article 6 of the Directions Concerning the Utilization and Management of Customer Margin Accounts by Futures Commission Merchants enforced by Financial Supervisory Commission R.O.C. (Taiwan), a futures commission merchant shall place deposits received from customer margin accounts in the form of demand deposits, unless the futures commission merchant has agreed otherwise with the customer to allow placement of time deposits. In addition, time deposits and demand deposits need to be allocated in a manner that allows adequate liquidity, and futures commission merchants have the responsibility to assign dedicated personnel to monitor the liquidity and security of the allocation.

Pursuant to Letter No. Financial-Supervisory-Securities-Futures-1040016866 issued by the Financial Supervisory Commission (FSC) on February 19, 2016, futures commission merchants are now allowed to place NTD deposits received from customer margin accounts in the form of book-entry central government bonds, subject to a maximum of 50% and only under the condition that the margin had been placed for the trading of domestic futures.

3. Mandatory contributions to the Clearing and Settlement fund by TAIFEX clearing members

According to the Futures Trading Act and TAIFEX's Operating Rules, every clearing member is required to contribute a certain sum to the Clearing and Settlement fund to participate in TAIFEX's futures clearance and settlement service. TAIFEX allocates the Clearing and Settlement fund in the following ways in accordance

with Regulations Governing Futures Clearing Houses: (1) Bank deposit; (2) Purchase of treasury bills and government bonds (capped at 50% of clearing and settlement fund balance); and (3) Other uses approved by FSC.

TAIFEX calculates and reviews the adequacy of its Clearing and Settlement fund at least once a year based on the market size. All findings are reported to and acknowledged by the competent authority. The adequacy of the Clearing and Settlement fund is assessed using stress tests; the size of the Clearing and Settlement fund must be able to cover the average of the two clearing members that present the highest losses under stress scenarios.

In the event that a clearing member defaults and the member's margin balance is inadequate to cover the amount of the default, TAIFEX is entitled under Article 49 of the Futures Trading Act to utilize the following resources of reserve funds as the defaulting clearing member's clearing margin, the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, the other clearing members' contributions to the clearing and settlement fund, and amounts to be borne by the other clearing members in proportions determined by the clearing house.

#### 4. TAIFEX's short-term credit agreement with the settlement bank

In Letter No. (87)-Taiwan-Finance-Securities-VII-28830 issued by Securities and Futures Commission, Ministry of Finance on April 15, 1998, TAIFEX was advised to obtain as much credit limit from its settlement banks as possible to cover risks of the entire futures market in the event of an emergency.

TAIFEX has made short-term credit arrangements with multiple settlement banks; its current credit limit amounts to approximately NT\$6.6 billion.

If a clearing member encounters an emergency event such as a default, and the amount of the default could not be fully covered using the defaulting member's clearing margin, TAIFEX is authorized under Article 49 of the Futures Trading Act to utilize various resources at its disposal to cover the amount of default of the defaulting member.

To avoid market-wide liquidity risk being caused by a delay in fund transfer or process during an emergency event, TAIFEX may

draw working capital from short-term credit limits according to Article 6 of the "Futures Clearing Service Fund Transfer Agreement" it has signed with settlement banks. These credit limits are unsecured and short-term (overdraft) in nature, renewable after 1 year. Interests are charged at the prime lending rates of the respective settlement banks. These credit limits may also be drawn in other currencies for margin of foreign currency-denominated instruments (e.g. USD, CNY, JPY etc.).

According to Article 49 of the Futures Trading Act, the amount drawn shall be used to cover the amount of default of the defaulting member. The sum of principals borrowed plus interest is then repaid to the settlement bank according to the terms of the credit agreement. A bank needs to possess sufficient capacity to be able to serve as a settlement bank of TAIFEX. TAIFEX monitors reserve ratios, returns on net worth, asset turnover rates, and revenue growth rates of its settlement banks on a regular basis; in addition, settlement banks' credit ratings are also reviewed quarterly to ensure the security of customers' funds.

In summary, TAIFEX faces liquidity risk mainly due to the default of its clearing members. TAIFEX has liquid resources including clearing margins, clearing and settlement funds, compensation reserve fund, and short-term credit from settlement banks at its disposal to meet liquidity risks. The size of liquid resources is sufficient to cover the two clearing members that suffer the highest losses. The above liquid resources are mostly placed in the form of demand deposits and time deposits, offering high liquidity that assures financial security and stability of the entire market. In addition, TAIFEX has implemented robust management practices on the use of liquid resources and prevention of liquidity risks.

**Key Consideration 2:** *An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.*

**Ascertaining, measuring and monitoring settlement activities and cash flow**

TAIFEX monitors clearing members' margins every day and in real time

to make sure that they are not prone to liquidity risks. TAIFEX adopts the practice of trial-calculating gains and losses using actual or hypothetical prices at certain trading hours and whenever the market exhibits high volatility, and monitoring adequacy of members' margin accounts in real-time. Members who have actual margin balance falling below the required balance will be immediately margin called during trading hours.

Clearing members that receive margin call via TAIFEX's computer system during trading hours are required to notify the settlement bank within one hour and deposit cash margins no lesser than the amount advised into TAIFEX's clearing margin account.

According to Paragraph 2, Note 7 of the "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," clearing members whose margin balances fall below the required level (for proprietary and customers' positions) after trading hours are required to place additional margins before the given due time.

**Key Consideration 3:** *A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.*

[Not applicable to CCP]

**Key Consideration 4:** *A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the*



*largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme, but plausible market conditions.*

### **Adequacy of liquid resources**

1. TAIFEX maintains adequate liquid resources for several currencies:

- (1) TAIFEX's instruments are mostly denominated in NTD, while cash margins are also placed in NTD. For futures denominated in foreign currencies, TAIFEX requires clearing margins to be placed in the foreign currency at the time the trade instruction is accepted by futures commission merchant or clearing member. However, if wire transfer cannot be completed in time to meet the foreign currency margin call, a clearing member may place the margin using NTD or another foreign currency accepted by TAIFEX, and have TAIFEX perform currency exchange on the member's behalf. Traders may enter into agreements with their futures commission merchants to place margins in NTD, and have the futures commission merchant or TAIFEX perform currency exchange on their behalf. As a result, TAIFEX has the ability to realize gains and losses of contracts denominated in any currency. There are no concerns regarding the adequacy of liquid resources in any currency, and hence TAIFEX is not prone to currency liquidity risk.
- (2) TAIFEX has made short-term unsecured credit arrangements with multiple settlement banks. For the purpose of supporting trading of CNY exchange rate futures, TAIFEX is permitted under Letter No. Taiwan-Central-FX-V-1040022531 issued by the Central Bank on June 18, 2015 to borrow CNY currency from domestic banking units (DBU). As a result of this announcement, credit limits granted by settlement banks can now be used to draw CNY funds in addition to USD funds.

2. TAIFEX collects clearing margins from clearing members based on total outstanding contracts:

TAIFEX requires trade margins to be placed in advance (pre-margin system). With the exception of special portfolio positions and spread positions, TAIFEX calculates the required amount of clearing margins on a market-wide basis. Positions of different trade accounts cannot be offset against each other except for proprietary futures traders. In other words, margin requirement is calculated by TAIFEX based on outstanding positions held in all accounts of the same clearing member.

3. Yearly review of the size of the clearing and settlement fund:

TAIFEX reviews the size of its clearing and settlement fund at least once a year based on market size.

The adequacy of the clearing and settlement fund is assessed using stress tests; the size of the clearing and settlement fund must be able to cover the average of the two clearing members that present the highest losses under stress scenarios. Furthermore, in an attempt to increase clearance capacity and better guarantee delivery of futures contracts, TAIFEX made a NT\$500-million one-time provision for the compensation reserve fund in 2016, which increased total reserves to NT\$1.5 billion and offered better assurance to the market's security and stability.

If a liquidity gap arises, clearing members will be required to make additional contributions to the clearing and settlement fund according to the following ratios specified in TAIFEX's "Regulations Governing Clearing Member Deposits to the Clearing and Settlement Fund Following Clearing and Settlement Operations:"

- (1) 50% of total additional contribution to the clearing and settlement fund will be shared proportionally according to the number of contracts each member has cleared in the most recent year.
- (2) The remaining 50% will be shared proportionally according to the average open position that each member has maintained in the most recent year relative to the market's average position.

**Risk profile and systemic importance in multiple jurisdictions**

TAIFEX's clearing service only covers futures traded within domestic borders, and does not involve multiple jurisdictions.

**Key Consideration 5:** *For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transaction with) the relevant central bank. All such resources should be available when needed.*

**Size and composition of qualifying liquid resources**

TAIFEX's qualifying liquid resources consist mainly of the following:

1. Clearing margins contributed by clearing members
2. Securities pledged as margin collateral by clearing members
3. Clearing members' contribution to the clearing and settlement fund
4. The compensation reserve fund of TAIFEX
5. TAIFEX's short-term unsecured credit agreements with settlement banks

**Availability and coverage of qualifying liquid resources**

TAIFEX's liquid resources are mostly placed in the form of demand and time deposits. Time deposits may be terminated at any time to fund TAIFEX's demand deposit account if needed. For this reason, TAIFEX does not have difficulties liquidating its liquid resources, and given the fact that all TAIFEX margins are placed in NTD, there are no concerns regarding currency conversion.

If a clearing member encounters an emergency event such as a default, and the amount of the default could not be fully covered using the defaulting member's clearing margin, TAIFEX is authorized under Article 49 of the Futures Trading Act to utilize various resources at its disposal to cover the amount of default of the defaulting member.

To avoid market-wide liquidity risk being caused by a delay in fund transfer or process during an emergency event, TAIFEX may engage settlement banks in short-term unsecured borrowing arrangements and draw from the credit limit that offers the quickest disbursement or the best interest rate to meet short-term funding needs.

TAIFEX's short-term unsecured borrowing arrangements with settlement banks may also be drawn in other currencies for margin of foreign currency-denominated instruments (e.g. USD, CNY, JPY etc.).

**Key Consideration 6:** *An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as part of its liquidity plan.*

#### **Size and composition of supplemental liquid resources**

If liquidity shortage remains even after all qualifying liquid resources such as clearing margin, clearing and settlement fund and compensation reserve fund have been used up, TAIFEX may proceed to utilize the following supplemental liquid resources. The availability of qualifying liquid resources plus supplemental liquid resources should be sufficient to meet TAIFEX's liquidity needs. TAIFEX's supplemental liquid resources consist of the following:

1. In the event that a clearing member defaults and the amount of default cannot be fully covered using resources of reserve funds as the defaulting clearing member's clearing margin, the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, and the other clearing members' contributions to the clearing and settlement fund described in Paragraph 1, Article 49 of the Futures Trading Act, TAIFEX may request other futures clearing members to share the

- loss at prescribed percentages.
2. TAIFEX shareholders' equity.

**Availability of supplemental liquid resources**

According to TAIFEX's Responsibility Breakdown and Procedures for Handling Default by Clearing Members, in the event that a clearing member fails to fulfill settlement obligations and the amount of default cannot be covered after exhausting available resources of reserve funds as the defaulting clearing member's clearing margin, the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, and the other clearing members' contributions to the clearing and settlement fund described in Paragraph 1, Article 49 of the Futures Trading Act, other clearing members shall be instructed to share the loss according to the percentages mentioned below:

1. 50% of the remaining losses will be shared proportionally according to the number of contracts each member has cleared in the six months prior to the date of the default incident.
2. The other 50% of the remaining losses will be shared proportionally according to the average outstanding position each member has maintained in the 30 business days prior to the date of the default incident, relative to the total position.

According to Subparagraph 5, Paragraph 1, Article 105 of TAIFEX's Operating Rules, the cap on the apportioned levies referred to in the preceding paragraph shall be determined as follows: when a single clearing member defaults during the cooling-off period (the period of 20 trading days beginning from the date on which a default by a single clearing member occurs), the cap shall be 150% of other clearing members' respective required contributions to the clearing and settlement fund; when multiple clearing members default during the cooling-off period, the cap shall be 300% of other clearing members' respective required contributions to the clearing and settlement fund. Any shortfall after the jointly apportioned levies on other clearing members shall be appropriated from the TAIFEX.

All clearing members are required to pay their share of the losses according to the procedures and timeframe notified by TAIFEX in

writing. Members who refuse to follow procedures or pay their share of the loss may have clearing and settlement services suspended or terminated by TAIFEX.

**Key Consideration 7:** *An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.*

#### **Use of liquidity providers**

1. TAIFEX's liquidity providers are mainly the settlement banks. TAIFEX has made short-term unsecured credit arrangements with multiple settlement banks; its current credit limit amounts to approximately NT\$6.6 billion.
2. All settlement banks are chosen through a selection process, where meetings are held to evaluate financial capacity, IT processes, relevant experience, and credit standing of each candidate. Only those that pass assessment can be appointed as settlement banks for TAIFEX.
3. All TAIFEX settlement banks are participants of the Central Bank's "Foreign Currency Clearance Platform," which enables them to deliver "same-day, full-sum wire transfer" that greatly reduces funding time, cost and risks.

#### **Reliability of liquidity providers**

TAIFEX's settlement banks consist entirely of credit worthy, sizable banking institutions from Taiwan and abroad. TAIFEX is able to utilize at any time its demand and time deposits placed at settlement banks, and may draw at any time from the unsecured short-term credit facilities that settlement banks have granted to TAIFEX. These short-term credit facilities are renewed on a yearly basis.

**Key Consideration 8:** *An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.*

TAIFEX's payments and settlements are entirely completed by clearing members and settlement banks without involving the Central Bank.

**Key Consideration 9:** *An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressure in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.*

**Stress test program**

TAIFEX assesses the required balance of the clearing and settlement fund on a quarterly basis. These assessments are consolidated into an annual report that is subsequently reported to the competent authority. Adjustments to the clearing and settlement fund are allocated among clearing members according to their share of the trading activity.

Meanwhile, TAIFEX also takes the initiative to assess potential default risks of open futures positions based on current trading activities and price fluctuations, thereby making sure that potential risks are

adequately covered by the clearing and settlement fund.

### **Uses of stress test result**

Calculations are based on total open positions in the market, and prices are stressed to estimate the possible amount of a default. The scenario (price gain or price fall) that produces the higher average of two top-losing clearing members is then used to estimate the required amount of clearing and settlement fund. Additional contributions to the clearing and settlement fund are shared among all clearing members at the percentages described below:

1. 50% of total additional contributions to the clearing and settlement fund will be shared proportionally according to the number of contracts each member has cleared in the most recent year.
2. The remaining 50% will be shared proportionally according to the average open position that each member has maintained in the most recent year relative to the market's average position.

### **Review and validation**

TAIFEX assesses the required balance of the clearing and settlement fund on a quarterly basis. These assessments are consolidated into an annual report that is subsequently acknowledged by the chief executive and reported to the competent authority. Capital management meetings and Clearing Committee meetings are held on a monthly basis to discuss the use of funds. TAIFEX maintains good lines of communication with industry participants, and holds regular discussions with clearing members regarding TAIFEX's clearing services. All establishment and amendment of regulations is communicated to industry participants and enacted with their support.

**Key Consideration 10:** *An FMI should establish explicit rules and procedures that enable the FMI to effect sameday and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a*



*stress event so that it can continue to operate in a safe and sound manner.*

### **Same-day settlement**

TAIFEX's Operating Rules clearly outline the means of handling clearing members' defaults. It also has an emergency response manual that lays out procedures in the event that a clearing member fails to fulfill its settlement obligations to TAIFEX, to an extent capable of disrupting the futures market as a whole. If a clearing member fails to fulfill its settlement obligations, TAIFEX is vested under Article 49 of the Futures Trading Act to cover the shortfall using liquid resources.

TAIFEX's margins, clearing and settlement fund and liquid resources are placed in the form of highly liquid assets such as cash and central government bonds. These assets can be settled and paid on the same day as the withdrawal.

### **Replenishment of liquidity resources**

The amount of clearing and settlement funds that have been used up may be reimbursed according to TAIFEX's "Regulations Governing Clearing Member Deposits to the Clearing and Settlement Fund Following Clearing and Settlement Operations." The amount of compensation reserve fund that has been used up may be reimbursed by making further provisions. According to Article 49, Paragraph 3 of the Futures Trading Act, claims can be made against the defaulting clearing member to cover any drawing made on non-defaulting members' contributions to the clearing and settlement fund, as well as compensation reserve fund of TAIFEX and losses shared proportionally by other clearing members.

TAIFEX maintains good lines of communication with industry participants, and holds regular discussions with clearing members regarding TAIFEX's clearing services. Establishment and amendment of all regulations are communicated to industry participants and enacted with their support. Participants are also regularly briefed on TAIFEX's clearing services operations and related planning.

## **Principle 8 : Settlement finality**

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI's rules and procedures should clearly define the point at which settlement is final.*

### **Point of settlement finality**

TAIFEX's Operating Rules, Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members, and other policies have laid out detailed procedures for margin placement, margin call, and final settlement etc. that futures commission merchants and clearing members must follow.

The final settlement date for all instruments traded over TAIFEX, including index futures and options, stock futures and options, 10-year government bond futures, gold futures and options, and NTD-denominated gold futures, shall proceed as stated in the trading rules of the respective product contract.

**Key Consideration 2:** *An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.*

### **Final settlement on the value date**

Currently, 10-year government bond futures are settled via physical delivery. NTD-denominated gold futures and gold options can either be settled in cash or using gold inventory according to the "Taiwan Futures Exchange Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members" and "Taipei Exchange Rules on Registration and Trading of Gold Inventory." Other instruments such as index futures, stock futures, stock options, exchange rate futures and exchange rate options are all settled in cash. All settlement procedures (including banking entries) must be completed

within the specified timeframe on the final settlement date without exception.

### **Intraday or real-time final settlement**

Currently, the only instrument that requires physical delivery is 10-year government bond futures. According to its trading rules, the settlement date is the 2nd business day after the final trading day. If the futures seller is unable to deliver the bonds on the settlement date, exceptions can be made to allow the seller to settle in cash based on the last settlement price.

NTD-denominated gold futures and gold options can either be settled in cash or using gold inventory according to "Taiwan Futures Exchange Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members" and "Taipei Exchange Rules on Registration and Trading of Gold Inventory."

With the exception of 10-year government bond futures, which are settled on day T + 2, all other instruments traded over TAIFEX such as index futures, stock futures and options have the final settlement date set as the same day as the final clearing date. All settlement procedures including bank entries must be completed before the end of operating hours on the final clearing date without exception.

**Key Consideration 3:** *An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.*

### **Clearing/settlement time and rules**

TAIFEX performs settlement at maturity in accordance with the Futures Trading Act, Regulations Governing Futures Clearing Houses, Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members, and terms of the settlement agreements it has signed with clearing members.

Settlement times and processes for various instruments traded over TAIFEX have been stated in their respective trading rules and published on TAIFEX's website.

With the exception of options where traders have the right to forgo exercise, all other instruments will be cleared on the final settlement date; at which time, TAIFEX will settle all outstanding positions and ensure all applicable procedures are complied with. Traders who exhibit any of the following are considered to have defaulting, for which the futures commission merchant has an obligation to report to TAIFEX:

1. The futures buyer is unable to pay settlement proceeds.
2. The futures seller is unable to perform bonds delivery, and is unable to make cash settlement in accordance with regulations.

## **Principle 9 : Money settlements**

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.*

### **Applicability of money settlements via the central bank**

The Central Bank of Taiwan performs clearing services for the following:

1. Check clearance.
2. Check clearance proceeds payable/receivable.
3. Net proceeds payable/receivable from electronic payment or securities clearance.

Its counterparties include that of check clearing houses, electronic payment clearing houses, and securities clearing houses. The term "securities" in a securities clearing house includes bills, bonds, equity stocks etc. Since TAIFEX does not meet any of the clearance services mentioned above, TAIFEX currently does not involve the central bank for settlement.

**Key Consideration 2:** *If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.*

### **Liquidity risk o settlement assets**

TAIFEX engages a total of nine settlement banks for cash settlement. A bank needs to possess sufficient capacity to be able to serve as a settlement bank of TAIFEX. TAIFEX monitors reserve ratios, returns on net worth, asset turnover rates, and revenue growth rates of its settlement banks on a regular basis; in addition, settlement banks' credit ratings are also reviewed during quarterly capital management meetings to ensure

the security of customers' funds.

In terms of physical delivery, 10-year government bonds are currently the most liquid asset in the bond market, which is why TAIFEX has allowed futures trading on 10-year government bonds. Settlement of 10-year government bond futures is performed by the four local banks with the largest settlement volumes of government bonds.

**Key Consideration 3:** *If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.*

#### **Reliability of the settlement bank**

TAIFEX's settlement banks consist entirely of state-owned and private commercial banks with the upper-most credit ratings and asset size in the nation. The criteria for a settlement bank includes:

1. Primary indicators: Financial eligibility and credit status
2. Secondary indicators:
  - Overdue loan ratio below 7%; having obtained consent from two or more clearing members to serve as a settlement bank; and with 55 or more branches in operation.
  - Competitive in terms of pricing, and being able to offer TAIFEX more favorable deposit and loan rates, higher credit limits, and lower fees on margin transfers.

After being selected as a settlement bank, the bank will also be reviewed on its performance towards the end of May each year, according to the criteria mentioned below:

1. Deposit reserve ratio.
2. Return on net worth.
3. Total asset turnover.
4. Revenue growth rate.

5. The following indicators also need to be taken into consideration if the bank is a subsidiary of a financial holding company:

- (1) Net worth per share must not fall below face value, and shareholders' equity must not fall below paid-up capital.
- (2) Debt-to-equity ratio and net worth ratio.

TAIFEX has opened settlement accounts at four banks specifically for the purpose of settling 10-year government bond futures.

Credit ratings of TAIFEX's settlement banks are reviewed on a quarterly basis. TAIFEX also assesses deposit balances, loan portfolios, and deposit-to-load ratios of its settlement banks on a monthly basis to ensure risk diversification, and uses a variety of measures to monitor compliance.

TAIFEX places margins in all nine of its settlement banks to achieve risk diversification. Margins are placed entirely in cash at settlement banks for high liquidity. Should one of its settlement banks encounter a credit risk or liquidity risk event, TAIFEX is able to quickly transfer cash margins to other settlement banks. Even if a settlement bank causes losses to TAIFEX due to any risk events or errors, TAIFEX can still make a proportional claim from Central Deposit Insurance Corp. Furthermore, TAIFEX reviews the credit ratings of its settlement banks on a quarterly basis, and follows the resolution made by its capital management team that no more than 35% of total clearing margins can be placed in any single settlement bank.

**Key Consideration 4:** *If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.*

**Reliability of settlement process**

According to TAIFEX's policies, every settlement process must be completed within 1 hour, and cash margins can be transferred only into prescribed accounts. So far there has never been an incident of default by any settlement bank.

**Key Consideration 5:** *An FMI's legal agreements with any settlement banks should state clearly when transfers on the books of individual*

*settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.*

**Legal agreements between TAIFEX and settlement banks**

Below are terms of the Futures Clearing Service Fund Transfer Agreement that TAIFEX has signed with its settlement banks:

1. The settlement bank shall process book-entry transfers of clearing margins according to the clearing margin transfer statement and relevant computer data produced by TAIFEX. The settlement banks shall assigned dedicated departments and personnel to process book-entry transfer and manage communication with TAIFEX.
2. If a clearing member or customer has insufficient balance in its clearing margin account to execute the abovementioned book-entry transfer, the settlement bank shall collect all remaining balance in the account first and make continuous efforts to debit the account until the amount in question is collected in full.
3. When TAIFEX has insufficient balance in its clearing margin account, the settlement bank shall extend credit to TAIFEX according to the credit agreement.
4. The settlement bank must produce computer files containing the outcome of its book-entry transfers within the prescribed deadline on the deal date. If the settlement bank does not complete transactions within the specified time but fails to notify TAIFEX of the delay, the settlement bank would still be deemed to have completed TAIFEX's book-entry transfer instructions.
5. Any outcome of book-entry transfer and any electronic media presented by the settlement containing details of amounts received shall be construed as irrevocable commitments to pay TAIFEX.
6. The settlement bank shall be held responsible for any overdrawn amount, duplicate debit or dispute that are due to errors committed by the settlement bank. Similarly, TAIFEX and clearing members shall be held responsible for any overdrawn amount, duplicate debit or dispute caused by errors contained in TAIFEX's statements or computer files.
7. The settlement bank shall perform margin account services and



book-entry transfer services for the benefit of TAIFEX outside normal banking hours.

The settlement bank's clearing margin book entry transfer agreements with various clearing members shall contain the following terms; TAIFEX must be notified in writing of any agreement that does not contain the following terms:

1. The clearing member shall authorize the settlement bank to collect funds from the member's or customers' clearing margin accounts when instructed to do so by TAIFEX.
2. If the clearing member has insufficient balance in its clearing margin account to make a payment, the settlement bank shall collect all the remaining balance in the account and make continuous efforts to debit the account until the amount in question is collected in full.
3. In the event that the clearing member fails to fulfill its clearance or settlement obligations to the domestic futures market, the settlement bank shall dispose of the fund balance in the clearing margin account as instructed by TAIFEX.
4. Balances maintained in customers' clearing margin accounts that the clearing member has opened under the settlement bank may be drawn only by way of fund transfer.
5. The clearing member agrees for the settlement bank to provide account information to TAIFEX upon request.

## **Principle 10 : Physical deliveries**

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.*

### **Notes on physical delivery**

1. Currently, 10-year government bond futures are the only instrument traded on TAIFEX that requires physical delivery. For NTD-denominated gold futures and gold options, traders have the choice to convert into TPEX gold deposits upon maturity.
2. The only bonds that can be physically delivered for 10-year government bond futures are book-entry central government bond issued by the government of The Republic of China that have 8 years and 6 months to 10 years until maturity, pay interest once a year, make bullet repayment at maturity, and were initially issued with a 10-year tenor (or incrementally issued on top of a 10-year government bond). TAIFEX has clearly outlined in its "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members" the settlement procedures, buyer's obligation to deliver settlement proceeds, seller's obligation to deliver bonds, and actions to be performed by TAIFEX, futures commission merchants and clearing members, which include:
  - (1) Opening of book-entry central government bond settlement accounts for clearing members
  - (2) Calculation of matured position
  - (3) Book-entry transfer of bonds delivered by the seller and regulatory reporting (to be performed by futures commission merchants and clearing members)
  - (4) Delivery of buyer's settlement proceeds (to be performed by futures commission merchants and clearing members)
  - (5) Reporting of bonds receivable by the buyer (to be performed by futures commission merchants and clearing members)

- (6) Issuance of proof of seller's capability to deliver book-entry bonds, and the required regulatory reporting (to be performed by futures commission merchants and clearing members)
  - (7) Issuance of proof of buyer's capability to deliver settlement proceeds (to be performed by futures commission merchants and clearing members)
  - (8) Allocation of bonds receivable and calculation of settlement proceeds
  - (9) Collection/payment of settlement proceeds
  - (10) Book-entry transfer of bonds receivable by the buyer
  - (11) Resolution for insufficient bond holding
  - (12) Reporting of trader's default (to be performed by futures commission merchants)
3. With regards to the physical delivery and conversion of NTD-denominated gold futures or gold options into TPEX gold inventory, TAIFEX has clearly outlined in its "Rules on Conversion of NTD-denominated Gold Futures and Gold Options to TPEX Gold Inventory at Maturity" the settlement procedures, buyer's obligation to deliver settlement proceeds, seller's obligation to deliver gold, and actions to be performed by TAIFEX, futures commission merchants and clearing members, which include:
- (1) Process trader's request to convert matured futures or options into gold inventory (to be performed by futures commission merchants and clearing members)
  - (2) Reporting trader's conversion of matured futures or options into gold inventory (to be performed by futures commission merchants and clearing members)
  - (3) Allocation of inventory and calculation of settlement proceeds at maturity
  - (4) Collection/payment of proceeds
  - (5) Book-entry transfer of gold receivable by the buyer
4. The abovementioned "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members" and "Rules on Conversion of NTD-denominated Gold Futures and Gold Options to TPEX Gold Inventory at Maturity" have both been published on TAIFEX's website for easy access and compliance by market participants.

**Key Consideration 2** : *An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.*

**Storage and settlement risks and costs associated with physically delivered goods**

1. For 10-year government bond futures, deliverable bonds are stored according to the terms of TAIFEX's "Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members," where each clearing member is first required to open a book-entry government bond settlement account at the settlement bank specified by TAIFEX. This account information is provided to TAIFEX to facilitate book-entry transfer of government bonds. During settlement, TAIFEX will notify the settlement bank to make book-entry transfer of the delivered bond from TAIFEX's settlement account to the buyer's account. Since both storage and delivery of bonds are carried out by settlement banks of certain credit rating, there should be no concerns regarding identification, supervision and management of settlement risks and costs.
2. Gold inventory converted from NTD-denominated gold futures or gold options is stored according to TAIFEX's "Rules on Conversion of NTD-denominated Gold Futures and Gold Options to TPEX Gold Inventory at Maturity," using TAIFEX's special account opened with TDCC. During settlement, TAIFEX would notify TDCC to perform a book-entry transfer of gold balance from its account into the buyer's account as advised by the clearing member. This practice enables sound identification, supervision and management of settlement risks and costs.
3. Fees and costs payable by clearing members for participating in the settlement and clearance service have been outlined in "Taiwan Futures Clearing Service Fee Schedule."

## **Principle 11 : Central securities depositories**

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risk associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilized or dematerialized form for their transfer by book entry.

### ***Summary Narrative***

**Key Consideration 1:** *A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorised creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.*

### **Safeguarding the rights of securities issuers and holders**

[This principle is not applicable to CCP]

### **Prevention of the unauthorized creation or deletion of securities**

[This principle is not applicable to CCP]

### **Periodic reconciliation of securities issues**

[This principle is not applicable to CCP]

**Key Consideration 2:** *A CSD should prohibit overdrafts and debit balances in securities accounts.*

[This principle is not applicable to CCP]

**Key Consideration 3:** *A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities.*

[This principle is not applicable to CCP]

**Key Consideration 4:** *A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal*

*framework.*

[This principle is not applicable to CCP]

**Key Consideration 5:** *A CSD should employ a robust system that ensures segregation between the CSD's own assets and the securities of its participants and segregation among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant's customers on the participant's books and facilitate the transfer of customer holdings.*

[This principle is not applicable to CCP]

**Key Consideration 6:** *A CSD should identify, measure, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these risks.*

[This principle is not applicable to CCP]

**Principle 12 : Exchange-of-value securities systems**

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transaction), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

***Summary Narrative***

**Key Consideration 1:** *An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.*

TAIFEX currently does not adopt exchange-of-value settlement, as settlement obligations of existing TAIFEX instruments are not linked to any other obligations.

### **Principle 13 : Participant-default rules and procedures**

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

#### ***Summary Narrative***

**Key Consideration 1:** *An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following default.*

#### **Participant-default rules and procedures**

Chapter 12 of TAIFEX's Operating Rules outlines the method of which clearing member's default is handled. According to Article 101 of the Operating Rules, where any of the following circumstances exists in respect of a clearing member, TAIFEX shall consider that clearing member in default:

1. Failure to pay the clearing margin within the deadline specified by regulations;
2. Failure to fulfill settlement obligations within the specified time period;
3. Violation of provisions of the clearing and settlement contract.

Where a clearing member is in default under any of the circumstances enumerated in the preceding paragraph, then TAIFEX, in addition to handling the matter under the provisions of this Chapter, may make any additional necessary disposition against the clearing member pursuant to the provisions of the clearing and settlement contract.

According to Article 103 of the Operating Rules, where a clearing member is in default due to financial factors, TAIFEX may take the following measures:

1. Suspend the defaulting clearing member's clearing and settlement operations and report the matter in writing to the Competent Authority.
2. Notify all clearing members and futures commission merchants through TAIFEX's online information system.



3. Check the defaulting clearing member's clearing margin balance, bank account balance, operating bond, clearing and settlement fund, and other assets and immediately pursue protective measures in respect of the obligatory rights.
4. Dispose of the defaulting clearing member's positions and margin funds.
5. Conduct an audit of the defaulting clearing member and an investigation and analysis of the incident.

According to Article 104 of TAIFEX's Operating Rules, where a clearing member is in default due to financial factors, TAIFEX may dispose of positions and margin in that clearing member's account by the following means:

1. Halt all trading between the defaulting clearing member and its mandating futures commission merchant; provided, this restriction shall not apply to trading for the purpose of liquidating existing positions;
2. Freeze or transfer funds and securities in the defaulting clearing member's clearing margin account;
3. Pursuant to the provisions of Article 54 of the Futures Trading Act, open a default handling account with a clearing member that has engaged in a succession agreement with the defaulting clearing member and liquidate proprietary positions held by the defaulting clearing member and the defaulting futures commission merchant;
4. A futures commission merchant that has engaged in a succession agreement with the defaulting futures commission merchant shall, at the instructions of TAIFEX, liquidate open positions of the defaulting customer.

A defaulting futures commission merchant shall submit itemized trading statements for all of its customers to the succeeding futures commission merchant. In the event the defaulting futures commission merchant refuses to hand over the itemized trading statement, TAIFEX may liquidate all customer positions of the defaulting futures commission merchant.

Non-defaulting customers of the defaulting clearing member and

defaulting futures commission merchant shall, according to the provisions of paragraph 1, subparagraph 1 of this Article, liquidate their positions or apply to have their positions transferred to another futures commission merchant. Where a customer fails to do so within 5 days, the succeeding futures commission merchant may liquidate all open positions in that customer's account.

A non-defaulting mandating futures commission merchant shall select another clearing member and enter into an agreement mandating that clearing member to handle clearing and settlement, and shall not resume trading until after notifying TAIFEX of the execution of the agreement.

#### **Procedures for clearing member's default**

TAIFEX has implemented a set of "Clearing Member Default Resolution Procedures" that calls for the following actions if a clearing member defaults:

1. Conduct special audit; the scope of audit shall cover:
  - (1) Reason for the breach of settlement obligation.
  - (2) Positions and margin balances held by clearing member's futures commission merchant and futures traders.
  - (3) Clearing member's financial position.
  - (4) Whether the person-in-charge or any employee has violated law.
2. Take count of assets owned by the clearing member and take legal actions immediately to secure debts
3. Report the default case to the competent authority
4. Announce the default case to the market
5. Arrange a default resolution meeting
6. Verify actions to be taken by the defaulted clearing member and the succeeding clearing member
7. Utilize the clearing and settlement fund
8. Stop the defaulted clearing member from taking further positions
9. Terminate clearing and settlement services to the defaulted member
10. Report findings of the default case to the competent authority

#### **Use of financial resources and the utilization procedure**

According to Article 49 of the Futures Trading Act, Article 105 of TAIFEX's Operating Rules and TAIFEX's Apportionment Procedures for Managing Default by Clearing Members, in case a clearing member

fails to perform its clearing and settlement obligation, the futures clearing house shall first apply the defaulting clearing member's clearing margin to cover the default. If that is insufficient, it shall apply the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, the other clearing members' contributions to the clearing and settlement fund, and amounts to be borne by the other clearing members in proportions determined by the clearing house.

If the outstanding obligation of a defaulting clearing member cannot be satisfied by the appropriations set forth and in the various sources of reserve funds as the defaulting clearing member's clearing margin, the defaulting member's contribution to the clearing and settlement fund, the compensation reserve fund of the futures clearing house, and the other clearing members' contributions to the clearing and settlement fund provided for in Paragraph 1, Article 49 of the Futures Trading Law, the residual balance shall be apportioned among the non-defaulting clearing members as follows:

- (1) Fifty percent of the residual balance is based on a member's cleared volume in the six-month period before the defaulting day as a percentage of the total cleared volume of all non-defaulting clearing members.
- (2) The other fifty-percent is based on a member's average daily open positions over the previous 30 trading days as a percentage of the average daily open positions of all non-defaulting clearing members.

According to Subparagraph 5, Paragraph 1, Article 105 of TAIFEX's Operating Rules, the cap on the apportioned levies referred to in the preceding paragraph shall be determined as follows: when a single clearing member defaults during the cooling-off period (the period of 20 trading days beginning from the date on which a default by a single clearing member occurs), the cap shall be 150% of other clearing members' respective required contributions to the clearing and settlement fund; when multiple clearing members default during the cooling-off period, the cap shall be 300% of other clearing members' respective required contributions to the clearing and settlement fund. Any shortfall after the jointly apportioned levies on other clearing

members shall be appropriated from the TAIFEX.

Members who refuse to follow procedures or pay their share of the loss may have clearing and settlement services suspended or terminated by TAIFEX.

**Key Consideration 2:** *An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.*

### **Preventive measures and resolution procedures**

TAIFEX organizes emergency drills from time to time to ensure that clearing members remain able to fulfill settlement obligations to TAIFEX should any futures commission merchant default.

#### 1. Preventive measures

- (1) The Trading Department is responsible for handling incidents of out-trades and settlement defaults reported by futures commission merchants. Out-trades and defaults that exceed a certain level are reported in writing to the Intermediaries Compliance and Service Department, whereas defaults of extremely large amounts are referred to the Surveillance Department for inter-market reporting. In which case, an "Inter-market Information Exchange Form" would have to be completed according to the inter-market reporting guidebook and acknowledged by the accountable manager before it is forwarded to the Surveillance Department.
- (2) Based on clearing members' financial and business strength, the Intermediaries Compliance and Service Department assesses clearing members' business risks using a variety of risk indicators. Clearing members that trigger an alert in one of the risk indicators may be subjected to on-site audit depending on severity.
- (3) During trade hours, the Clearing Department performs real-time monitoring of clearing members' margin maintenance ratios and margin requirements given the size of orders placed. The department may call clearing members for additional margin if necessary, and performs stress tests every day after the market closes to assess risk levels. The focus of the stress test is to

evaluate each clearing member's value at risk in the following business day.

- (4) Every day after the market closes, the Surveillance Department will invite the Clearing Department, the Trading Department and the Intermediaries Compliance and Service Department into a "Inter-department Meeting" to review current day's top losing traders list, next day's market-wide traders VaR estimate, clearing members' risk analysis, non-clearing members' ANC ratio, and whether futures commission merchants have reported any trader with a negative equity. These meetings are also used to resolve actions that are deemed necessary for effective management of market risks.

## 2. Basis of operations and procedures

### (1) Basis of operations

- A. Taiwan Futures Exchange Corporation Regulations Governing Market Trading Surveillance.
- B. Risk Alert Rules for Futures Commission Merchants and Clearing Members.
- C. Taiwan Futures Exchange Corporation Rules for Auditing Futures Commission Merchants and Clearing Members.
- D. Taiwan Futures Exchange Corporation Regulations Governing Procedures for Special Audits and Provision of Guidance to Futures Commission Merchants and Clearing Members.
- E. TAIFEX Operating Rules, Chapter 12 - Disposition of Defaults by Clearing Members.
- F. Apportionment Procedures for Managing Default by Clearing Members.
- G. Taiwan Futures Exchange Corporation Procedures for Suspension or Termination of a Futures Commission Merchant and Clearing Member.

### (2) Procedures

- A. If any clearing member fails to fulfill settlement obligations to TAIFEX to the extent that may disrupt the entire futures market, a command center that consists of managers from Trading Department, Clearing Department, Surveillance Department, Intermediaries Compliance and Service Department, System Development Department, Computer Operation Department, Administration Department, and

Business Development Department will be assembled to resolve the issue. In which case, the head of the Clearing Department will serve as the convener of the command center, while meetings are hosted by the Chairman or the CEO.

- B. The Clearing Department will suspend all clearance and settlement services to the defaulted clearing member, and report the incident to the competent authority in writing.
- C. If the incident requires use of the clearing and settlement fund, the Clearing Department is responsible for approval of clearing and settlement fund use.
- D. The Trading Department will suspend all transaction activities of the clearing member and the futures commission merchants it serves, except for trade orders issued to close outstanding positions.
- E. The Clearing Department then makes an announcement to the market on the incident.
- F. The Clearing Department notifies the competent authority, clearing members, futures commission merchants and information providers in writing about the business suspension that the defaulted clearing member is undergoing.
- G. The Clearing Department and other relevant departments will dispatch personnel to guide the defaulted clearing member through closure of proprietary and customer positions, and transfer of customer positions to the succeeding clearing member.
- H. The Clearing Department and other relevant departments will dispatch personnel to freeze or transfer clearing margins held by the defaulted clearing member.
- I. To secure TAIFEX's debt entitlements, the Administration Department will prepare adequate collateral and accompany the Business Development Department to a court of law to apply for provisional seizure of securities, time deposits, real estate, bank deposits, safety deposit boxes and any valuable property of the defaulted clearing member.
- J. The Intermediaries Compliance and Service Department will notify the Securities and Futures Investors Protection Center to assist in protecting traders' interests.

**Key Consideration 3:** *An FMI should publicly disclose key aspects of its default rules and procedures.*

**Market disclosure**

TAIFEX has specified in Chapter 12 of its Operating Rules detailed procedures for resolving clearing members' default, including: definition of clearing members' default, available actions, methods for disposing positions and margins held in clearing members' accounts, and available defensive resources. These details have been announced on TAIFEX's website as a means of disclosure to all market participants.

**Key Consideration 4:** *An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.*

**Rehearsal of emergency response and procedures**

TAIFEX holds regular and unscheduled drills on a number of emergency scenarios each year to test and improve the effectiveness of its responsive measures. When a clearing member fails to fulfill its settlement obligations to TAIFEX to an extent capable of disrupting the futures market as a whole, TAIFEX will assemble a default action team comprising of department heads to resolve the incident. Meanwhile, the Clearing Department will suspend all clearance and settlement services to the defaulted clearing member, and notify the competent authority in writing. The Trading Department then suspends all trading activities of the defaulted clearing member and any futures commission merchants it serves. Also, the Clearing Department will make a public announcement and notify the competent authority, clearing members, futures commission merchants and information providers in writing about the business suspension that the defaulted clearing member is undergoing.

## **Principle 14 : Segregation and portability**

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

### ***Summary Narrative***

**Key Consideration 1:** *A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.*

### **Protecting customers from participants' (clearing members') default**

1. To protect futures customers' interests, the Futures Trading Act specifies that customers' margins must be deposited separately from TAIFEX and futures commission merchants' assets. Creditors of a futures commission merchant or designated institution shall not file an attachment suit or claim any rights on the said segregated customer margin/premium accounts unless otherwise provided for in this Act.
2. As a means of enhancing management over customers' margin accounts, the competent authority has established a set of Guidelines on Use of Customers' Margin Accounts for Futures Commission Merchants that require all futures commission merchants to deposit futures customers' margins and premiums into separate accounts opened at designated financial institutions. In addition, the agreement of customers' margin accounts shall be reported to the competent authority for recordation.
3. TAIFEX may, in case a member is bankrupt, dissolved, suspended for business or defaulted upon its clearing and settlement obligation, transfer such member's account and the related accounts of futures traders to another member who has executed a succession agreement with the defaulting member. Where it is deemed necessary, TAIFEX may appoint a non-contractual member as transferee to assume the liability and responsibility of the defaulting member.



### **Protecting customers from default of the participant (clearing member) and fellow customers**

To protect futures customers' interests, the Futures Trading Act specifies that customers' margins must be deposited separately from TAIFEX and futures commission merchants' assets. The Futures Trading Act also requires customers' assets to be deposited separately from each other.

#### **Legal basis**

1. According to Article 70 of Futures Trading Act, a futures commission merchant shall open an exclusive customer margin/premium account in a banking institution designated by the competent authority, and shall deposit its futures customers' margins or premiums into such an exclusive account. The said account shall be segregated from the account of the futures commission merchant's own assets.
2. According to Article 51 of the Futures Trading Act, the clearing margin collected by TAIFEX shall be deposited separately from its own assets. The creditors of a futures clearing house, the financial institution holding the clearing margins, or clearing members, unless otherwise provided by the Futures Trading Act, shall not attach or claim any rights on such clearing margins. A futures clearing house shall separately deal with the clearing margins between proprietary and brokerage accounts that it collects from its clearing members..
3. According to Article 54 of the Futures Trading Act, TAIFEX may, in case a member is bankrupt, dissolved, suspended for business or defaulted upon its clearing and settlement obligation, transfer such member's account and the related accounts of futures traders to another member who has executed a succession agreement with the defaulting member. Where it is deemed necessary, TAIFEX may appoint a non-contractual member as transferee to assume the liability and responsibility of the defaulting member.

**Key Consideration 2:** *A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.*

### **Guidelines on separate account treatment**

According to the Futures Trading Act, TAIFEX shall separately deal with the clearing margins between proprietary and brokerage accounts that it collects from its clearing members. In practice, TAIFEX has implemented Operating Rules that require clearing members shall set up segregated "Proprietary Clearing Margin Accounts" and "Customer Clearing Margin Accounts" with a settlement bank through which all proprietary and customer margin transfers with the TAIFEX shall be carried out. In addition, futures commission merchants are required to open "Customer Margin Accounts" in a financial institution designated by the clearing member for margin payment and collection purposes. Futures commission merchants that engage in proprietary futures trading are also required to open a "Proprietary Margin Account" in a financial institution designated by the clearing member.

### **Account structure that enables it to readily identify positions of a participant's (clearing member's) customers and to segregate related collateral**

TAIFEX has employed an account structure that enables it to readily identify positions of a participant's (clearing member's) customers and to segregate related collateral; a description of this framework is provided below:

1. Current regulations require futures commission merchants shall set up an itemized account record for each customer, including direct (individual) customer accounts and omnibus customer accounts, and on a daily basis shall calculate the balance of cash and securities on deposit in each customer's margin account and changes of the actual marginable value of securities and prepare an itemized statement for each customers' margin account, and furthermore shall report the owner equity balance and the total equity value in the principal's Customer Margin Account to the TAIFEX.

When a futures commission merchant accepts futures trading brokerage orders, the payments shall be made through the customer's margin account. All withdrawals shall be made through bank transfer, and a detailed and accurate record and receipt shall be prepared as proof of payment.

The futures customer shall transfer the securities deposited as margin that a futures commission merchant receives or delivers

during futures trading into the TAIFEX's segregated margin account. However, where the futures customer agrees that the futures commission merchant or clearing member may utilize the securities to offset the margin required for the positions carried by the clearing member, the futures customer shall transfer the securities into the futures commission merchant's segregated margin account..

2. When performing futures clearance and settlement services, TAIFEX prepares an Itemized Table for each trading account so as to effectively confirm positions composition of futures trading in direct (individual) customer accounts or in omnibus customer accounts. In terms of margin management, although clearing members' margin levels are monitored based on total positions held by each clearing member, TAIFEX still maintains an itemized account record for each futures customer, including direct (individual) customer accounts and omnibus customer accounts, and on a daily basis calculate the balance of securities on deposit in each customer's margin account and changes of the actual marginable value of securities.

In summary, TAIFEX has the capability to quickly identify positions and margins of a participant's (clearing member's) customers in direct (individual) customer accounts or in omnibus customer accounts and to segregate related collateral.

**Key Consideration 3:** *A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.*

**Rules on account transfer**

Both the competent authority and TAIFEX have implemented rules and procedures to protect traders from adverse impacts such as bankrupt, dissolved, suspended for business, or defaulted upon its clearing and settlement obligation of futures commission merchants. TAIFEX is empowered by law to transfer customers' accounts to another functioning futures commission merchant as below:

1. According to Article 54 of the Futures Trading Act, a futures clearing house may, in case a member is bankrupt, dissolved, suspended for business or defaulted upon its clearing and settlement obligation,

transfer such member's account and the related accounts of futures traders to another member who has executed a succession agreement with the defaulting member. Where it is deemed necessary, TAIFEX may appoint a non-contractual member as transferee to assume the liability and responsibility of the defaulting member. A clearing house may impose a monetary penalty, void the membership, or take other necessary measures upon a member who refuses to accept the succession as referred to in the preceding Paragraph.

2. Article 75 of the Futures Trading Act also states that, the competent authority may, in case a futures commission merchant is bankrupt, dissolved, suspended, or is required by acts or regulations to cease to accept trading orders from futures traders, order it to transfer the relevant accounts of its futures traders to another futures commission merchant with whom it has a succession agreement. The futures commission merchant, unless with justified reason and approved by the competent authority, shall within two business days of receiving the transfer order from the competent authority, transfer the balance of the segregated customer margin/premium account and statements of the futures traders to the designated futures commission merchants.
3. Where a clearing member is in default due to financial factors, according to Article 103 of TAIFEX's Operating Rules, TAIFEX may take the following measures:
  - (1) Suspend the defaulting clearing member's clearing and settlement operations and report the matter in writing to the Competent Authority.
  - (2) Notify all clearing members and futures commission merchants through the TAIFEX's online information system.
  - (3) Check the defaulting clearing member's clearing margin balance, bank account balance, operating bond, clearing and settlement fund, and other assets and immediately pursue protective measures in respect of the obligatory rights.
  - (4) Dispose of the defaulting clearing member's positions and margin funds.
  - (5) Conduct an audit of the defaulting clearing member and an investigation and analysis of the incident.

According to Paragraph 1, Article 104 of TAIFEX's Operating Rules, TAIFEX may dispose of positions and margin in that clearing member's account by the following means:

- (1) Halt all trading between the defaulting clearing member and its mandating futures commission merchant; provided, this restriction shall not apply to trading for the purpose of liquidating existing positions.
- (2) Freeze or transfer funds and securities in the defaulting clearing member's clearing margin account.
- (3) Pursuant to the provisions of Article 54 of the Futures Trading Act, open a default handling account with a clearing member that has engaged in a succession agreement with the defaulting clearing member and liquidate proprietary positions held by the defaulting clearing member and the defaulting futures commission merchant.
- (4) A futures commission merchant that has engaged in a succession agreement with the defaulting futures commission merchant shall, at the instructions of the TAIFEX, liquidate open positions of the defaulting customer.

And, according to Paragraph 3, Article 104 of TAIFEX's Operating Rules, Non-defaulting customers of the defaulting clearing member and defaulting futures commission merchant shall liquidate their positions or apply to have their positions transferred to another futures commission merchant. Where a customer fails to do so within 5 days, the succeeding futures commission merchant may liquidate all open positions in that customer's account. A non-defaulting mandating futures commission merchant shall select another clearing member and enter into an agreement mandating that clearing member to handle clearing and settlement, and shall not resume trading until after notifying the TAIFEX of the execution of the agreement.

**Key Consideration 4:** *A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.*

**Disclosure of separate account treatment**

The procedures and regulations that TAIFEX and futures commission merchants follow when handling traders' cash/security margins have been published on TAIFEX's website for public access, such as the segregation and portability of a clearing member's customers' positions, disposing of positions and margin in the defaulting clearing member's clearing margin account, the creditors of a futures clearing house, the financial institution holding the clearing margins, or clearing members, shall not attach or claim any rights on such clearing margins, etc.

**Disclosure regarding traders' protection**

Measures adopted by TAIFEX and futures commission merchants to protect traders' margins, and response measures taken to address various situations that may impact traders' interests, are published on TAIFEX's website for public access.

## **Principle 15 : General business risk**

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.*

### **Supervision and governance of general business risks**

TAIFEX has a robust management and control system in place to identify, monitor and manage general business risks. Its internal control policies have been designed to coordinate the board of directors, the management and employees into accomplishing the following goals with reasonable assurance:

1. Sound and efficient operations.
2. Reliable financial reporting.
3. Regulatory compliance.

Operations mentioned above are measurable using indicators such as profitability, performance targets and asset security. TAIFEX has also identified risk factors that are relevant to its operations, and adopted processes to assess likely impact should any risk materialize. Results of such assessments are helpful towards designing, revising and executing necessary controls to mitigate risks. In case of any emergency situation, TAIFEX will continue operations according to its emergency measures to ensure the financial stability of the futures market.

1. Financial risks: Before the 10th calendar day of each month, TAIFEX is required to submit to the competent authority its financial

statements for the previous month, and report budget execution on a quarterly basis to allow the competent authority to better monitor TAIFEX's income and expenses. TAIFEX complies with the competent authority's instructions and makes provision for special reserves from after-tax earnings on a yearly basis to reimburse previous losses or to provide additional share capital.

2. Risk of malfunction to the trading/clearing system: According to Article 10 of TAIFEX's Operating Rules, futures commission merchants and their principals shall not request compensation when normal operations are obstructed by interrupted transmissions or malfunctions of trading information and facilities provided by the TAIFEX.
3. Business risks involving loss of profit or capital due to inappropriate strategies or decisions, negative reputation, and fraud: TAIFEX reviews its internal control systems once a year. Processes that are considered outdated or impractical will be revised to ensure effective management of risks associated with clearance, settlement, margins, and general business activities.

**Key Consideration 2:** *An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery of orderly wind-down, as appropriate, of its critical operations and services if such action is taken.*

**Sufficient liquidity net assets**

TAIFEX has maintained shareholders' equity (including common capital, statutory reserves, special reserves and unappropriated earnings) at a level that far exceeds the capital requirements imposed by the competent authority. It has liquidity net assets that sufficiently cover more than six months of operating expenses, and most of the liquidity net assets are held in highly liquid form such as cash, cash equivalents, and time deposits with more than 3 months tenor (representing more than 90% of liquidity net assets). In the event of a loss, these assets can be utilized in time to sustain TAIFEX's operation and service. TAIFEX



also has a Clearing Committee in place to review members' financial positions, business activities, uses of clearing margins, and contributions and uses of the clearing and settlement fund on a monthly basis.

**Key Consideration 3:** *An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.*

#### **Recovery or resolution plan**

TAIFEX is an exchange that concurrently operates as a clearing house. It was established with the approval of the competent authority. TAIFEX's primary mission is to facilitate the sound development of the futures market and to maintain the orderly transaction of the market in the best public interest and fairness of the market. Given the fact that TAIFEX is the only one of its kind in Taiwan (R.O.C.), its establishment and dismissal are highly regulated by the competent authority. Decisions such as: change in capital, transfer of entire or major businesses or assets, and merger/dissolution may proceed only with the approval of the competent authority. It has been stated in TAIFEX's Articles of Incorporation, that the Company is required to report to the competent authority immediately of the following occurrences:

1. Suspension of trading activities of the centralized futures market for more than one business day and resumption of trading activities thereafter.
2. Termination of business activity following prolonged cessation.
3. Any establishment, amendment, or termination of futures market usage contract or contract for clearing and settlement of futures trading between the Company and a futures commission merchant or clearing member.

Furthermore, as a response to market changes and crises, TAIFEX has "Emergency response manual" and "Business continuity plan" in place to guide various activities such as reporting of significant events or

occurrences, repair of information system, activation of backup system, and system recovery. Both "Emergency response manual" and "Business continuity plan" are revised and rehearsed on a regular basis.

### **Resources**

1. Financial: TAIFEX has liquidity net assets that amount to more than 6 months of current operating expenses.
2. TAIFEX has set aside the compensation reserve fund to meet its maximum liability in the event that a clearing member fails to fulfill clearing and settlement obligations.

In addition, TAIFEX's capital is entirely issued in ordinary shares, and is not required to hold equity under international risk-based capital standards. Issuance of higher risk capital such as bonds is subject to the competent authority's approval.

**Key Consideration 4:** *Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.*

### **High-quality liquidity net assets**

More than 90% of TAIFEX's current assets are held in the form of time deposits with more than 3 months tenor, while the remainder is kept in the form of cash and cash equivalents. All of which are high-quality and highly liquid assets that TAIFEX may utilize to meet current and expected operating expenses under various scenarios, including adverse market conditions.

Banks in which the above assets are held are required to satisfy TAIFEX's financial criteria and credit rating standards on an ongoing basis (see Principle 16 - "Custody and investment risks").

**Key Consideration 5:** *An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.*

**Share capital**

TAIFEX has maintained shareholders' equity well above the requirements imposed by the competent authority. For this reason, TAIFEX currently has no need to plan for capital increase for situation where shareholders' equity falls below share capital. Furthermore, TAIFEX reports its financial status and major business activities to the board of directors on a monthly basis to give the board timely insights into TAIFEX's operations.

**Capital increase procedures**

Any plan to increase capital would need to be passed by TAIFEX's board of directors and shareholders, and would require the approval of the competent authority.

## **Principle 16 : Custody and investment risks**

An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.*

### **Supervision and management of custodians**

To ensure they are protected to the fullest, TAIFEX places its own assets and the assets of clearing members in the custody of institutions where effective accounting practices, custodian procedures and internal controls have been soundly implemented.

Financial institutions which TAIFEX borrows from and deposits funds into must comply with the following financial criteria and credit rating requirements set by TAIFEX:

1. Banks and bills financing companies that hold custody, make use or guarantee the Company's proprietary capital must maintain credit rating above a certain level.
2. Securities investment trust companies with which proprietary capital is utilized must satisfy the two standards below:
  - (1) Ranking among the top 50% of all investment trust companies in terms of the size of domestic non-private equity funds managed.
  - (2) The total size of managed funds must amount to NT\$20 billion or more.

TAIFEX holds quarterly capital management meetings to select counterparties and to diversify funds at various financial institutions. Use of capital in the upcoming week is planned one week in advance to ensure sound execution. All banks that TAIFEX deals with are supervised by the Banking Bureau, and are covered under the central deposit insurance scheme. All settlement banks are required to

implement internal controls, internal audits, accounting controls, operating procedures, levels of approval authorities and any other systems demanded by TAIFEX or the competent authority as part of their business policies.

**Key Consideration 2:** *An FMI should have prompt access to its assets and the assets provided by participants, when required.*

#### **Safety and immediacy of funding**

TAIFEX's Operating Rules and capital guidelines impose stringent requirements on the financial health, credit status, overdue loan ratios, reserve ratios, returns on net worth, total asset turnover and revenue growth rates for all financial institutions it deals with. TAIFEX requires clearing margins to be deposited only in the form of demand deposit or time deposit at a settlement bank, therefore funds are immediately accessible should any market participant default.

**Key Consideration 3:** *An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.*

#### **Management of asset exposure**

TAIFEX monitors the financial position of its settlement banks on an ongoing basis. Credit rating of each settlement bank is reviewed on a quarterly basis, while the performance of financial institutions, guarantors and funds that it involves with are also subject to review. TAIFEX follows the resolutions made by its capital management team that no more than 35% of total clearing margins can be placed in any single settlement bank.

**Key Consideration 4:** *An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.*

#### **Investment policy**

Regulations Governing Futures Clearing Houses and TAIFEX's capital

guidelines have introduced clear policies on how TAIFEX may utilize, invest and manage its proprietary capital, and clearing margins and the clearing and settlement funds contributed by clearing members. Details of these policies have been fully disclosed.

TAIFEX may allocate available capital in the form of time deposits, NCD, treasury bills, guaranteed short-term notes, government bonds, bank debentures, domestic bond funds, domestic money market funds, domestic equity funds, domestic exchange-traded funds, domestic index funds, and domestic balanced funds. All of which are subject to prior planning and analysis, as well as approval from board of directors and the competent authority before execution.

Futures clearing members' contributions to the clearing and settlement fund can only be allocated in the form of bank deposits, treasury bills, government bonds, and other uses approved by FSC. Clearing margins can only be held in the form of time deposit in omnibus deposit accounts opened with settlement banks.

Financial institutions which TAIFEX borrows from and deposits funds into must comply with the financial criteria and credit rating requirements set by TAIFEX.

#### **Risk characteristics of invested assets**

TAIFEX has a "capital management team" in place that pays constant attention to changes in the economic and financial environment. The team projects and plans weekly capital utilization based on interest rate, exchange rate or share price changes.

It convenes quarterly capital meetings to review capital allocation by instrument category, investment horizon, counterparty financial institution and fund holding position before planning for next month's allocation. TAIFEX chooses its counterparties based on the amount of investment limits assigned and utilized, and diversifies capital allocation where possible to minimize risks.

As a result, all investments of TAIFEX capital are carefully planned to achieve safety, quality income and high liquidity, and are therefore less susceptible to adverse price impacts. In addition, given the fact that

clearing margins and the clearing and settlement fund are deposited in the form of deposits at institutions with strong financial background and credit rating, there is virtually no liquidity risk.

## **Principle 17 : Operational risk**

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.*

### **Identification of operational risks**

Sources of operational risks may include failure in TAIFEX's internal operations and systems, human error, and external events. Internal factors are mostly management-related, such as organizational strategies and goals, internal communication, supervision and review, employee quality and discipline etc. All associated risks can be identified through measures such as annual business planning, audits, and employee performance appraisal. Given the status of current operations, occurrence of abovementioned events is relatively low. In terms of impacts from external factors such as natural disasters and external parties, TAIFEX has an emergency response manual in place that outlines responses for various situations including fire, earthquake, theft, bank crisis, member's default, data transmission error, and malfunction of carrier's network.

### **Operational risk management**

TAIFEX has robust internal control practices, ISO procedures, self-examination and risk assessment systems in place. In an attempt to reduce operational risks, TAIFEX has established clearing and settlement guidelines in its Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members to



guide procedures such as: deposit and withdrawal of margin, margin call, settlement at expiration, foreign exchange settlement agent services for margin, settlement service billing, position management, contract adjustment, and process timing. TAIFEX has implemented standardized workflows as part of its internal ISO procedures, thereby ensuring the stability of its business operations. To ensure consistent quality in daily operations, TAIFEX has outlined in its "Documentation Procedures" a set of standardized guidelines to control how documents are prepared, reviewed, approved, implemented, amended, updated, distributed, abolished and followed.

### **Policies, procedures and controls**

TAIFEX is responsible for overseeing the development and risks of the market, which is why it has implemented risk control and security surveillance systems, and conducts regular inspections to make sure that every procedure is properly managed. With regards to the human resources policy, TAIFEX's ISO procedures have implemented standardized processes such as: employment agreements, employee training manuals, resignation procedures, and disciplinary policy to minimize the risks associated with staff transfer and attrition. With regards to fraud prevention, TAIFEX has purchased loyalty insurance for employees involved with cash disbursement, financial management, procurement and market surveillance, and implemented a "Gift Purchase and Distribution Management Procedure" to guide its procurement processes.

### **Supervision and reporting**

The goals, procedures and control points of each major operation have been outlined in TAIFEX's "Internal Control System" and "Internal Audit Implementation Rules." These documents can be used to evaluate the completeness and appropriateness of the Company's existing controls, and effectively reduce risk of operations. TAIFEX's internal control system and internal audit practices are revised on a yearly basis to accommodate changes in the internal/external environment, new regulations and new business strategies, and are implemented with board of directors' approval. To ensure effective execution of internal control, each department is required to conduct monthly self-assessments according to the Internal Self-assessment Guidelines,

and adjust current practices to conform with new operational and regulatory requirements. Detailed reports of these exercises are presented to the Internal Audit Office for review on a monthly basis. The Internal Audit Office carries out internal audits according to the yearly audit plan. All audit reports are presented to the board of directors for review on a quarterly basis and filed with the competent authority. Overall execution is considered satisfactory.

**Key Consideration 2:** *An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.*

#### **Roles, responsibilities and framework**

TAIFEX has an Internal Audit Office established directly under the board of directors. The office is responsible for planning and executing audits on the Company's business activities and annual targets. The office prepares a Declaration of Internal Control to explain effectiveness, efficiency and compliance of current operations and management practices, and presents it to the board of directors and the competent authority on a regular basis.

#### **Review, audit and testing**

TAIFEX's internal control system and internal audit practices are revised on a yearly basis to accommodate changes in the internal/external environment, new regulations and new business strategies, and are implemented with board of directors' approval. To ensure effective execution of internal control, each department is required to conduct monthly self-assessments according to the Internal Self-assessment Guidelines, and adjust current practices to conform with new operational and regulatory requirements. TAIFEX conducts monthly and quarterly reviews, which are verified by the Internal Audit Office. TAIFEX's Clearing Department has obtained "ISO 9001" certification for its operations. The department performs half-yearly internal assessments for compliance with ISO standards, while an external reviewer (BSI) has also been engaged to ensure continual certification of "ISO 9001."

**Key Consideration 3:** *An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.*

**Main goals**

TAIFEX's risk management policy has been established for the purpose of developing robust and comprehensive risk management framework and procedures throughout the Company that would support the stability and security of the clearing system. TAIFEX has a Quality Management and Review Committee that determines and implements annual quality targets for the upcoming year. Care has been taken to ensure that the quality targets are measurable and consistent with the Company's quality policies.

**Policy principles**

TAIFEX employs a team of professional and experienced personnel to develop a clearing system that promotes fair, just and open trading. It also implements standard operating procedures to ensure that all processes are completed properly, modifies outdated procedures when needed and implements continuous improvements, protective and corrective measures in the event of quality incidents. At the same time, TAIFEX strives to deliver better services and excellence by introducing new products and clearing systems that meet trader needs more closely.

**Key Consideration 4:** *An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.*

**Expansion of system capacity**

1. Trading and clearing are the two main computer systems used in TAIFEX's futures services. The TAIFEX Electronic Trading System (TAIFEX ETS) is in-house developed and maintained, whereas the clearing system is outsourced to Taiwan Depository & Clearing Corporation (TDCC). The trading and clearing systems are connected via network for data transmission. Futures commission merchants and securities firms that are licensed to perform futures services will connect themselves to TAIFEX and TDCC to create their own front/back-office systems. The following concerns have been taken

into consideration when designing hardware and software for computer systems:

(1) Trading system: TAIFEX hosts a central server that connects to all users. Each futures commission merchant is given the freedom to develop their own terminals using TCP/IP protocol. After in-house development of electronic trading system TAIFEX has been monitoring capacity utilization using a variety of indicators to ensure that there are adequate resources to meet extreme situations and future growth and to provide a basis for future hardware expansion. Data such as TWSE historical trade volumes and deal percentages are also taken under consideration.

(2) Clearing system: Securities firms that concurrently engage in futures services may simply install an additional multiprotocol switch to their existing TDCC lease line to be able to connect with the TDCC server and futures clearing server, and thereby saving the cost of leasing an additional line. Ever since TAIFEX outsourced its clearing system to TDCC, the clearing system has undergone several capacity expansions and performance upgrades to accommodate increases in business volume and the introduction of new services, and the expanded capacity of the trading system. Constant adjustments are being made to improve the quality and performance of test environment for trading and clearing systems.

2. TAIFEX continues to gather information relating to the technology, structure and hardware used by exchanges worldwide, and has adopted three indicators to monitor utilization of system resources:

(1) Alert: Usage of resources above the alert level will trigger enhanced monitoring and a series of appropriate measures such as activation of backup capacity or adjustment of system structure, so that resource utilization can be reduced to a safe level (below the alert level) before it becomes critical. In other words, when available system resources have dropped to the alert level, system administrators will begin analyzing the patterns that gave rise to the increased use of resources and make adjustments accordingly. Once adjustments have been made, resource utilization will be continuously monitored until it falls back to within a safe level.

(2) Warning: Usage of resources above the warning level will trigger

emergency measures such as activation of backup capacity or adjustment of system structure, so that resource utilization can be reduced to a safe level (below the alert level) before it becomes critical.

- (3) Critical: The critical level represents a state where, if no drastic restrictions are placed on the use of resources, the system will be unable to operate once trading activity peaks, causing market disruption. System resource utilization is calculated as the sum of utilization of the operating system and the application system.

**Key Consideration 5:** *An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.*

#### **Hardware security**

1. To protect the information assets of TAIFEX from damage, whether due to internal or external negligence, intentional or accidental actions, TAIFEX has established an Information Security Policy that serves as the fundamental guideline in its information security measures. This policy provides employees with appropriate guidance, and also signifies the executive management's commitment to information security.
2. By conducting appropriate risk assessment, TAIFEX is able to analyze potential risks associated with its information assets, and mitigate such risks to acceptable levels with appropriate controls. At the same time, employees are instructed to comply with intellectual property rights regulations, the Personal Information Protection Act and terms and conditions agreed with customers while performing their duties.
3. The following describes the scope of the Information Security Policy; management guidelines and implementation plans are developed based on this policy by various departments, and are assessed on a regular basis:
  - (1) Personnel: Applies to TAIFEX's permanent and contract staff, and any contractor or third party that makes use of TAIFEX's information resources.
  - (2) Application system: The policy covers the following information systems used within TAIFEX: trading system, monitoring

system, website, firewall/IDS, media reporting system, post-market information system, knowledge management system, domain name server, e-mail system, real-time quotation system, real-time quotation server, office automation system, backup order entry system, and other relevant information systems.

(3) Hardware: mainframes, workstations, servers and personal computers of all kinds.

(4) Network and facilities: local area networks within TAIFEX's offices and server rooms, and connections to the Internet or leased data lines of designated units as well as related network equipment.

### **Information security**

1. To protect the information assets of TAIFEX from damage, whether due to internal or external negligence, intentional or accidental actions, TAIFEX has established an Information Security Policy that serves as the fundamental guideline in its information security measures. This policy provides employees with appropriate guidance, and also signifies the executive management's commitment to information security.
2. The Information Security Policy embodies all measures that have been taken to ensure business continuity, reduce losses and increase investment returns. At TAIFEX, information security concerns all personnel, processes and equipment that involve information, such as computers, system users and operating procedures.
3. The Information Security Policy has the following features:
  - (1) Confidentiality: Ensuring that only authorized personnel may access information, and that information is not leaked to the outside when being processed, transmitted or stored.
  - (2) Integrity: Ensuring that information and system configurations are protected against malicious tampering that may compromise data and system integrity while data is being transmitted, stored or processed.
  - (3) Availability: Ensuring that information is available to authorized users when needed.
4. TAIFEX has assembled an Information Security Panel that comprises an Information Security Management Review Committee, an

Information Risk Prevention Team, an Information Security Execution Team, and an Information Security Audit Team to support its Information Security Policy. This panel is headed by Supervising Vice Presidents of the System Development Department and the Computer Operations Department, whose duties include developing, coordinating and supervising information security plans. At the same time, the System Development Department has been assigned to oversee all information security-related issues. The Information Security Panel consists of members assigned from each department. Its members list is updated regularly to reflect personnel changes.

**Key Consideration 6:** *An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.*

#### **Objectives of the business continuity plan**

TAIFEX has implemented preventive measures and response procedures to react to any possible emergencies that could disrupt the futures market or TAIFEX's operations. These protocols help minimize damages should a disaster occur, and therefore ensure the security of the trading and clearing process.

#### **Design of business continuity plan**

TAIFEX has implemented a Business Continuity Plan (BCP) based on the existing "Information Security Management Directions for the Executive Yuan and its Subordinate Agencies " and "ISO27001" to guide its Business Continuity Management (BCM). The BCP serves to prevent disruption of key business activities, and incorporates a comprehensive set of response and recovery procedures to minimize disruption and damages in the event of natural disaster, accident, malfunction or malicious conduct. The BCP is subject to practice drill and testing on a yearly basis to ensure that it continues to

be effective, and that all personnel involved are familiar with their roles and procedures.

- Scope of emergency/incident

1. Market-wide incidents:

Major natural disasters, accidents, settlement defaults, merchant defaults, trading or clearing system malfunctions, intranet virus infection, and communication disruptions that affect the entire futures market and TAIFEX.

2. Department-specific emergencies/incidents:

- (1) Business emergencies and incidents.

- (2) Financial emergencies and incidents.

- (3) Hardware/software emergencies and incidents.

- Scope of daily preventive measures

1. Compile a comprehensive list of emergency situations that the company is likely to encounter, prepare an Emergency Response Manual that addresses the identified situations and disseminate it to all employees through every possible means.

2. Enhance internal defenses; outline areas of responsibility for each department; raise employees' awareness and responsiveness to emergency situations.

3. Establish an emergency reporting system that enables communications with internal and external parties.

4. Familiarize employees with situations that they are likely to encounter within their respective departments; backup critical files on a timely basis to ensure rapid recovery in the event of an emergency.

5. Develop habits of backing up data.

6. Maintain a secondary system with capacity sufficient to support the market even under extreme scenarios.

7. Develop systematic practices that allow a convener to hold crisis handling meetings and coordinate inter-department support in times of need.

8. Continually disclose material information pertaining to the local market.

9. Maintain contacts with and direct attention to other markets and exchanges around the world.



10. Perform regular and unscheduled practice drills to test and improve effectiveness of existing response measures.
- Response procedures in case of emergencies/incidents
    1. Respond in a calm manner; the department head shall actively contact with and ensure employees' safety.
    2. Without compromising personal safety, staff should carry important business files if instructed to evacuate.
    3. Reporting and handling procedures:
      - (1) Staff are required to assess the situation, follow the procedures set out in TAIFEX's Business Continuity Plan, and report to the department head. An Emergency Response Report should also be filled out.
      - (2) If the situation deteriorates to the point where procedures outlined in the Business Continuity Plan are no longer considered adequate or appropriate, the department head may inform the crisis handling meeting convener to hold a meeting to decide a suitable response.
      - (3) The convener of the crisis handling meeting notifies TAIFEX's spokesperson to issue statements to the media.
      - (4) The manager, deputy manager and all relevant staff will be put on standby to respond to situations as needed.
      - (5) In situations where a department encounters a major, exceptional event, or if the company is warned by the media or investors of a risk concern sufficient to cause extreme market volatility, the related department will assess the extent of the likely impact and report to upper management immediately, while at the same time preparing press releases for the spokesperson and notifying the competent authority if deemed necessary.
  - Post-incident operations
    1. Once the situation is resolved, all departments will gather to discuss and record all relevant facts and actions into an Emergency Response Log, to be circulated along with the Emergency Response Report to the Chairman.
    2. Based on the discussions, further amendments are made to TAIFEX's Business Continuity Plan for guidance in the event of

future occurrences.

TAIFEX's Business Continuity Plan has identified several "Inter-market Reporting Contacts" with which TAIFEX may exchange documents such as Inter-market Information Exchange Form, Inter-market Information Reporting Form, Confidential Information Inquiry Form, and Confidential Information Progress Form. Furthermore, TAIFEX has a Domestic Public Relations Process that guides dissemination of press releases to media contacts.

### **Secondary site**

TAIFEX operates a secondary site capable of providing real-time backup of trading and clearing systems, and next-day backup of the surveillance system. In the event that the primary system encounters a total malfunction due to natural disaster or force majeure, the secondary site is able to restore trading activities in the market within 1 hour.

If an emergency occurs, the affected department will accompany the Computer Operations Department to determine the scope of impact and to decide whether to recover the primary system or to activate the secondary site.

### **Review and testing**

TAIFEX's business continuity management is guided by its Business Continuity Plan. Execution of this plan is rehearsed annually on a regular and unscheduled basis to serve as guidance for future improvements. Incidents are reviewed and discussed once the state of emergency has been rescinded. The results of these discussions provide the basis for future amendments to the Business Continuity Plan.

**Key Consideration 7:** *An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.*

### **Risks to the FMI's own operations**

In order to support the electronic trading system employed by the domestic futures market, TAIFEX has commissioned the Taiwan

Depository and Clearing Corporation (TDCC) to develop and maintain its clearing system. Clearing operations between TAIFEX and the clearing members are completed via closed private network to ensure the highest level of security and efficiency. TDCC also defines futures commission merchants' (clearing members') transmission interfaces and the communication protocols for transmitting data with TAIFEX, including the clearing server specifications, the interface functionality, the format of messages transmitted etc. These specifications provide futures commission merchants (clearing members) with the fundamental guidelines for developing their computer systems.

#### **Risks posed to other FMIs**

Currently, TAIFEX is the only futures clearing house in the domestic futures market, and the Clearing Department only performs clearing services for products traded over TAIFEX. It is not involved in any cross-border clearance or mutual offset arrangement, and nor is it interdependent with another FMI. TAIFEX has a robust set of internal control practices, ISO procedures, "Emergency Response manual," and "Business Continuity Plan" that covers an extensive range of operational risk events and helps the Company respond to market changes and crises. As a result, the Company's clearing operations are considered adequately managed and present no risk to other FMIs.

## **Principle 18 : Access and participation requirements**

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.*

### **Participation criteria and requirements**

All direct and indirect participants of TAIFEX are required to comply with the Futures Trading Act, Regulations Governing Futures Commission Merchants, and TAIFEX's Operating Rules and Criteria for Clearing Membership. Rules concerning the eligibility of futures commission merchants and clearing members have been disclosed on TAIFEX's website.

The eligibility criteria mentioned above have been established in a fair and open manner based on rational risk assessments. By ensuring consistent financial strength, business performance and risk management capacity across participants, TAIFEX is able to maintain top efficiency in its clearing operations and optimal risk management capacity, and thereby provide services to direct and indirect participants in a fair, open manner.

**Key Consideration 2:** *An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavor to set requirements that have the least restrictive impact on access that circumstances permit.*

### **Justification and rationale of participation criteria**

TAIFEX offers three types of clearing memberships: Individual Clearing Member, General Clearing Member, and Special Clearing Member. Financial requirements and scope of business for all three memberships

have been specified in TAIFEX's Criteria for Clearing Membership; an abstract of the criteria is presented below:

#### 1. Individual Clearing Member

(1) Scope of Business: This membership status is for futures commission merchants who wish only to clear and settle their proprietary trades and transactions brokered to their own customers.

#### (2) Financial criteria:

A. Requires minimum paid-in capital of NTD200 million. Institutions that concurrently operate as futures commission merchants are required to provide designated operating funds of at least NTD80 million for the business.

#### B. Financial structure:

a. Owner's equity  $\div$  paid-in capital  $\geq$  80%

b. i. For dedicated futures commission merchants with paid-in capital or designated operating funds equal to or above NTD200 million: adjusted net capital  $\div$  total client margins required for outstanding positions  $\geq$  20%

ii. For concurrent futures commission merchants with designated operating funds of at least NTD100 million but less than NTD200 million: adjusted net capital  $\div$  total client margins required for outstanding positions  $\geq$  25%

iii. For concurrent futures commission merchants with designated operating funds less than NTD100 million: Adjusted net capital  $\div$  total client margins required for outstanding positions  $\geq$  30%, and must have obtained irrevocable line of credit dedicated for margin clearing purposes for at least NTD60 million from the settlement bank.

c. Current assets  $\div$  current liabilities  $\geq$  100%. TAIFEX may require additional clearing margins if  $120\% >$  current assets  $\div$  current liabilities  $\geq$  100%.

d. (Total liabilities - futures traders' equity)  $\div$  owner's equity  $\leq$  80%

e. Obtain a credit rating report within two years.

#### 2. General Clearing Member

(1) Scope of Business: This membership status allows a futures commission merchant to clear and settle its proprietary trades,

transactions of its brokerage customers, and transactions of other futures commission merchants.

(2) Financial criteria:

A. Minimum paid-in capital or designated operating funds of NTD400 million are required for this membership status.

B. Financial structure:

- a. Owner's equity  $\div$  paid-in capital  $\geq$  80%
- b. adjusted net capital  $\div$  total client margins required for outstanding positions  $\geq$  20%
- c. Current assets  $\div$  current liabilities  $\geq$  100%
- d. (Total liabilities - futures traders' equity)  $\leq$  owner's equity

3. Special Clearing Member

(1) Scope of Business: This membership status applies to financial institutions that are not futures commission merchants but have been specially permitted by the competent authority to perform futures settlement for futures commission merchants.

(2) Financial criteria:

A. Minimum designated operating funds of NTD400 million need to be dedicated for the service.

B. Financial structure:

- a. Owner's equity  $\div$  paid-in capital  $\geq$  100%
- b. adjusted net capital  $\div$  total client margins required for outstanding positions  $\geq$  20%
- c. Current assets  $\div$  current liabilities  $\geq$  100%
- d. (Total liabilities - futures traders' equity)  $\leq$  owner's equity

**Minimum restrictions on market participation**

The purpose of this classification system is to have financially sound futures commission merchants serving as key barriers against market risks. A clearing member's role not only includes clearing transactions for futures commission merchants, but also helping them control risks. Their existence produces a multi-layered risk framework that enables risk sharing.

**Disclosure of criteria**

The participation criteria has been announced to the public, thereby giving all existing and potential clearing members full knowledge of the

criteria. The participation criteria is revised as needed to conform with the current regulatory requirements and market conditions.

**Key Consideration 3:** *An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.*

### **Compliance monitoring**

TAIFEX has implemented alert indicators to monitor clearing members' financial and business health. Monthly financial statements prepared by futures commission merchants and clearing members are under regular review, and are scrutinized specifically for any potential breaches of the alert indicators. Grades are assigned according to how participants score under each indicator, and those with low scores are subjected to special investigation.

### **Suspension and orderly exit**

1. According to Article 103 of TAIFEX's Operating Rules, TAIFEX may take the following actions if a clearing member defaults due to financial reasons:
  - (1) Suspend the defaulting clearing member's clearing and settlement operations and report the matter in writing to the Competent Authority.
  - (2) Notify all clearing members and futures commission merchants through the TAIFEX's online information system.
  - (3) Check the defaulting clearing member's clearing margin balance, bank account balance, operating bond, clearing and settlement fund, and other assets and immediately pursue protective measures in respect of the obligatory rights.
  - (4) Dispose of the defaulting clearing member's positions and margin funds.
  - (5) Conduct an audit of the defaulting clearing member and an investigation and analysis of the incident.
2. According to Article 10 of TAIFEX's "Criteria for Clearing Membership," if any of the following circumstances exists with respect to a clearing member, TAIFEX may terminate its clearing

membership, and handle the matter pursuant to Article 54 of the Futures Trading Act:

- (1) A relevant authority has cancelled the clearing member's company registration or dissolved the clearing member.
- (2) The competent authority has issued a disposition canceling the clearing member's operations permit.
- (3) The clearing member has been pronounced bankrupt by a final court ruling.
- (4) The clearing member fails to perform clearing and settlement obligations.
- (5) The clearing member violates a law or regulation or continues to fail to comply following imposition of an administrative disposition by the competent authority based on a law or regulation.
- (6) The clearing member violates the Articles of Incorporation or Operating Rules of this Corporation, the Guidelines for the Consignment Contract, or other rules or regulations, where the circumstances are serious.
- (7) The clearing member's clearing or settlement practices violate good faith and integrity in a manner sufficient to harm others.
- (8) The clearing member is unable to maintain compliance with this Corporation's clearing member criteria and, following an inquiry by this Corporation and the setting of a deadline for improvement, the clearing member fails to implement improvements or continues to fall short of criteria after implementing improvements.



## **Principle 19 : Tiered participation arrangements**

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements

### ***Summary Narrative***

**Key Consideration 1:** *An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.*

### **Tiered participation arrangements**

TAIFEX participant levels can be distinguished thus:

1. Direct participants: Clearing members.
2. Indirect participants: Futures commission merchants, futures introducing brokers, and futures traders.

TAIFEX adopts an account structure that requires disclosure on the traders' end, which gives TAIFEX full knowledge of indirect participants' account information, positions, and margin levels.

Under the "Futures Commission Merchant Traders Equity Reporting System," futures commission merchants are required to report every trader's margin equity amount, total equity value and balance of deposits in customer's margin account to TAIFEX on a daily basis. This practice provides effective protection over customers' margin accounts equity and prevents risk of misuse of customers' margins.

### **TAIFEX is able to monitor major risks of tiered participation**

TAIFEX has been monitoring futures traders' and futures commission merchants' trade volume, open positions and concentration levels and fluctuations in accordance with "Regulations Governing Market Trading Surveillance," and has set position limits for futures traders, futures commission merchants and clearing members in accordance with "Rules Governing Surveillance of Market Positions." All above measures are for maintaining discipline and security within the market.

For effective control of business risk, futures commission merchants are

required to report to TAIFEX their adjusted net capital and the ratio of the adjusted net capital to the total amount of client margins required for the open positions of futures traders on a daily and monthly basis. In addition, TAIFEX monitors futures commission merchants' financial health on a daily and monthly basis, and has various alerts in place to highlight potential distress.

TAIFEX collects information on indirect participants for the purpose of carrying out clearance and surveillance activities under the Futures Trading Act and "Regulations Governing Futures Clearing Houses" that it has implemented under the Act. The collection of information is also a legal duty imposed by the Futures Trading Act.

**Key Consideration 2:** *An FMI should identify material dependencies between direct and Indirect Participants that might affect the FMI.*

**TAIFEX is able to identify interdependencies between direct and indirect participants**

Through the clearing system, TAIFEX is able to check traders' account status and positions maintained with futures commission merchants, and use this information to identify interdependency between clearing members, futures commission merchants and traders.

**Key Consideration 3:** *An FMI should identify Indirect Participants responsible for a significant proportion of transactions processed by the FMI and Indirect Participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.*

**TAIFEX is able to identify risks of indirect participants that have significant positions**

Using the clearance system, TAIFEX is able to check for any concentration of exposure each day, rank clearing members by the size of open positions they hold, the itemized table of futures trading positions, rank traders by open positions, generate a list of traders whose open positions and marked-to-market losses are of greater concern to the market and identify indirect participants that are prone to the impact.

Position limits have been imposed on futures traders, futures commission merchants and clearing members in accordance with "Rules Governing Surveillance of Market Positions" as part of the risk management practice.

TAIFEX performs daily monitoring to identify indirect participants that exhibit high trade volumes or values relative to direct participants. If any futures trader holds outstanding positions that exceed the prescribed limit, TAIFEX may take necessary actions according to "Rules Governing Surveillance of Market Positions" to maintain discipline and security within the market.

**Key Consideration 4:** *An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.*

**TAIFEX is able to monitor risks arising from tiered participation arrangement**

TAIFEX conducts daily monitoring of risks that arise from futures traders, futures commission merchants and clearing members, and calls regular surveillance/supervision meetings to discuss its findings. In addition, market surveillance reports are analyzed and reviewed collectively on a monthly basis to monitor risks arising from the tiered participation arrangement.

TAIFEX convenes daily "Inter-department Meetings" to discuss risks associated with participants of the tiered participation structure. If a futures commission merchant fails to improve risk management after being instructed to do so by TAIFEX, and has been considered to pose serious risks to market discipline during the inter-department meeting, the meeting participants may recommend the following actions against the futures commission merchant and implement them upon approval:

1. Increase clearing margins to the maintenance and initial margin levels for the clearing member.
2. Order to liquidate part or all of the trader's open positions.
3. Order futures commission merchants or clearing members to liquidate their positions or their customer's trading, in whole or in part.

4. Restrict the number of trades executed or positions held by futures traders.
5. Stop the futures commission merchant from transacting further except for orders that are placed to liquidate open positions.
6. Restrict the number of trading orders futures commission merchants may accept or positions they may hold.
7. Dispatch specialists to inspect the futures commission merchant's financial and business health, and follow up with further guidance.

**Principle 20 : FMI links**

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

***Summary Narrative***

**Key Consideration 1:** *Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.*

TAIFEX is the only futures clearing institution in Taiwan. It is not involved in cross-border clearance and hence does not depend on other FMIs and is not exposed to the risks of linked arrangements.

**Key Consideration 2:** *A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.*

**Legal basis for links**

TAIFEX may sign co-operative agreements with the foreign futures exchange in order to list New Taiwan Dollar denominated futures trading contracts on the foreign futures exchange (below, "international cooperative products"). This legal basis has been founded in Item 7, Article 6 of Regulations Governing Futures Exchanges and Item 7, Article 7 of Regulations Governing Futures Clearing Houses. Any signature or amendment to any such agreement is subject to the approval of the competent authority. The competent authority of the Republic of China has also announced separate policies to govern participants' rights and obligations, whereas the two exchanges have developed policies and rules to accommodate the collaborative arrangement, giving international cooperative products the complete legal framework in their respective jurisdictions.

**Key Consideration 3:** *Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with highquality*

*collateral and be subject to limits.*

[Not applicable to CCP]

**Key Consideration 4:** *Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.*

[Not applicable to CCP]

**Key Consideration 5:** *An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.*

[Not applicable to CCP]

**Key Consideration 6:** *An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.*

[Not applicable to CCP]

**Key Consideration 7:** *Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risk of the collective link arrangement.*

**Default of linked CCP**

TAIFEX does not have links with any other CCP, and hence does not identify or manage potential spill-over effects.

**Multi-party links (three or more CCPs)**

TAIFEX does not have multi-party links with other CCPs, and hence does not identify or manage potential spill-over effects.

**Key Consideration 8:** *Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.*

**Exposure and coverage of exposures**

TAIFEX is the only futures clearing institution in Taiwan. It does not engage in cross-border clearance or depend on other FMIs, and hence is not required to cover potential exposures of any linked CCP.

**Risk management**

TAIFEX does not make provision to any settlement fund that covers linked CCP defaults.

**Key Consideration 9:** *A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.*

[Not applicable to CCP]

**Principle 21 : Efficiency and effectiveness**

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

***Summary Narrative***

**Key Consideration 1:** *An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products clearing, settled, order recorded; and use of technology and procedures.*

**Methods of satisfying the needs of participants and the market**

TAIFEX's transaction, clearing and risk management practices have been developed thoroughly by the management to satisfy the market's needs. Furthermore, TAIFEX constantly obtains opinions from the market and participants to provide a basis for ongoing improvements.

TAIFEX has a Clearing Committee that assists TAIFEX in consultation and policy-making in ways that conform to the market's needs. TAIFEX's Clearing Department is dedicated to serving its clearing members. When developing new policies, the Clearing Department invites representatives from clearing members and Chinese National Futures Association to express opinions and ideas, so that the new policy can be better adjusted to meet the market's needs at launch.

TAIFEX conducts quarterly interviews with individual clearing members to understand the challenges they face when promoting businesses under the current clearance system; members' opinions are consolidated and reported to TAIFEX's management to provide directions for future amendments to the Company's system.

TAIFEX holds clearing member seminars each year, during which members are invited to express their opinions on perceived flaws of the current system and the types of improvements that could be made to the system to meet market needs.

**Key Consideration 2:** *An FMI should have clearly defined goals and*



*objectives that are measurable and achievable, such as in the areas of minimum services levels, risk-management expectations, and business priorities.*

### **Goal setting**

TAIFEX's corporate mandate is to invigorate futures trading while serving the real economy and enable the market to fulfill its hedging and price discovery functions. TAIFEX sets clear performance indicators each year to measure the performance of new products, new policies to improve the market trading momentum, maintain financial health, and enhance risk management practices. Regular meetings are held to review, track and ensure achievement of performance indicators.

TAIFEX's clearance service involves the clearance and settlement for futures trading and providing guarantee for performance of the futures contracts.

In addition to providing clearing members with better services, TAIFEX is also dedicated to expanding the scope of its clearance service and enhancing risk management framework for the stability and security of the market.

**Key Consideration 3:** *An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.*

### **Assessment of efficiency and effectiveness**

In addition to hosting annual clearing member seminars, TAIFEX's Clearing Department also visits clearing members on a quarterly basis to exchange opinions regarding TAIFEX's existing and upcoming systems and policies. This enables the Company to identify clearing members' needs and areas where improvements can be made. TAIFEX holds annual executive conferences for futures commission merchants. These conferences are hosted by TAIFEX CEO and provide an excellent opportunity to learn the challenges faced by futures commission merchants, which have proven to be very helpful in the reform of the clearance system.

**Principle 22 : Communication procedures and standards**

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

***Summary Narrative***

**Key Consideration 1:** *An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.*

**Communication procedures**

The futures trading system has been created within an exclusive network that is isolated from the Internet. This configuration was made to prevent improper access, use and leaks of users' information. All futures commission merchants that connect to the system need to have their source IP, socket port and password verified before placing orders.

The futures clearing system uses a four-in-one integrated network as its connection interface. VPN equipment between connected users and TDCC are used for encryption at the communication layer, which creates a private VPN environment that ensures the security of transmitted data.

**Communication standards**

The trading system uses the TCP/IP protocol and TMP, FIX4.2, and FIX4.4 formats to transmit data, whereas the clearing system uses TCP/IP among other international protocols for communication

**Principle 23 : Disclosure of rules, key procedures, and market data**

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be public disclosed.

***Summary Narrative***

**Key Consideration 1:** *An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.*

**Rules and procedures**

The orderly transaction of domestic futures trading is governed by the Futures Trading Act. TAIFEX is incorporated in accordance with the Futures Trading Act. It has established its own Operating Rules to provide governance over all aspects of the market including futures commission merchants, futures contracts, brokerage trading activities, proprietary trading activities, clearance and settlement, margins and premiums, position limits, clearing members' default rule, the clearing and settlement fund, exchange fees and clearing fees, market surveillance and emergency response measures.

**Disclosure**

TAIFEX discusses with futures commission merchants and clearing members and seeks the opinion of the Chinese National Futures Association before drawing up new regulations. Its regulations are implemented with the approval or acknowledgment of the competent authority. TAIFEX holds seminars as a means of communicating the rationale behind policy and to exchange opinions with futures commission merchants and clearing members, so that participants may develop a better understanding of regulations. Futures regulations may be accessed via TAIFEX's website.

TAIFEX either organizes seminars or encourages futures commission merchants to organize their own seminars to communicate with traders on the regulatory framework. Futures regulations have also been made

accessible via TAIFEX's website.

**Key Consideration 2:** *An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participant's rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.*

**Rights and obligations of participants**

TAIFEX's trading and clearance systems have been designed and are operated according to TAIFEX's Futures Market Usage Contract, Contract for Computer Connection to the Centralized Futures Exchange Market, Directions for Clearing and Settlement Operations by Mandated Clearing Members and other relevant rules. TAIFEX conveys the design concepts and operational aspects of its systems to futures commission merchants, clearing members and their information providers through means such as computer connections, seminars, conferences, and regulatory announcements.

Participant's rights and obligations are governed and disclosed in TAIFEX's Futures Market Usage Contract, Contract for Computer Connection to the Centralized Futures Exchange Market, Directions for Clearing and Settlement Operations by Mandated Clearing Members, Criteria for Clearing Membership and other relevant rules.

**Key Consideration 3:** *An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.*

**Education and awareness**

In order to provide clearing members with a better understanding of TAIFEX's regulations, procedures as well as their own rights and obligations, TAIFEX organizes regular clearing member seminars and Clearing Committee meetings, and conducts quarterly visits to the clearing members every year. Informational activities are also held where needed. Clearing members may clarify queries regarding laws or other issues via TAIFEX's website, mail box, or by contacting department staff.

**Key Consideration 4:** *An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.*

**Disclosure of service fee standards**

TAIFEX has disclosed on its website information such as exchange fees, clearing fees, settlement fees, position adjustment fees, position transfer fees etc. All service fees have been implemented with the approval of the competent authority; the same applies to any subsequent amendments. Changes in service fees are published on TAIFEX's website once they are approved by the competent authority. Informational activities may be arranged if necessary to convey changes to futures commission merchants and the public.

The type, rate and amount of all fees that TAIFEX charges to clearing members and futures commission merchants comply with Article 113 of TAIFEX's Operating Rules, Exchange Fee Standards, Clearing Service Fee Standards and other relevant rules.

**Key Consideration 5:** *An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.*

**Disclosure**

According to the CPSS-IOSCO, an FMI's disclosure framework should include details such as the FMI's name, the name of the competent authority, the record date, website address, contact method, summaries, the FMI's overall description (including organizational structure, market, services and key business figures), summary of discrepancies with the previous disclosure, detailed descriptions for each principle, and attachments where appropriate.

TAIFEX has made disclosures in accordance with the CPSS-IOSCO PFMI disclosure framework.

TAIFEX has disclosed on its website, both in Chinese and English,

information regarding the products it offers, market data, trading system, the clearing service, relevant rules, regulations and related statistics.

**Principle 24 : Disclosure of market data by trade repositories**

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

***Summary Narrative***

**Key Consideration 1:** *A TR should provide data in line with regulatory and industry expectations to relevant authorities and the public, respectively, that is comprehensive and at a level of detail sufficient to enhance market transparency and support other public policy objectives.*

[Not applicable to CCP]

**Key Consideration 2:** *A TR should have effective processes and procedures to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities.*

[Not applicable to CCP]

**Key Consideration 3:** *A TR should have robust information systems that provide accurate current and historical data. Data should be provided in a timely manner and in a format that permits it to be easily analysed.*

[Not applicable to CCP]

## **V. List of publicly available resources**

### **Legal Rules and Regulations**

1. Futures Trading Act
2. Standards Governing the Establishment of Futures Clearing Houses
3. Regulations Governing Futures Clearing Houses
4. Taiwan Futures Exchange Corporation Contract for Clearing and Settlement of Futures Trading
5. Taiwan Futures Exchange Corporation Articles of Incorporation
6. Criteria Governing Oversight of Futures Trading
7. Taiwan Futures Exchange Corporation Rules Governing Surveillance of Market Positions
8. Operating Rules of the Taiwan Futures Exchange Corporation
9. Taiwan Futures Exchange Corporation Methods and Standards for Receipt of Clearing Margins
10. Regulations Governing Futures Commission Merchants
11. Trading rules and contracts of various instruments traded over TAIFEX
12. Taiwan Futures Exchange Corporation Criteria for Clearing Membership
13. Taiwan Futures Exchange Operational Key Points of Clearing and Settlement for Futures Commission Merchants and Clearing Members
14. Taiwan Futures Exchange Corporation Regulations Governing Clearing Member Deposits to the Clearing and Settlement Fund Following Clearing and Settlement Operations
15. Taiwan Futures Exchange Corporation Guidelines for Futures Commission Merchants and Clearing Members Conducting Operations in Relation to the pledging of securities as Margin Collateral
16. Guidelines for Futures Trading by Overseas Chinese and Foreign Nationals
17. Taiwan Futures Exchange Corporation Rules for Auditing Futures Commission Merchants and Clearing Members
18. Taiwan Futures Exchange Corporation Regulations Governing Procedures for Special Audits and Provision of Guidance to Futures Commission Merchants and Clearing Members
19. Apportionment Procedures for Managing Default by Clearing



## Members

20. Taiwan Futures Exchange Corporation Procedures for Suspension or Termination of Futures Commission Merchant and Clearing Member Operations
21. Taiwan Futures Exchange Corporation Futures Market Usage Contract
22. Taiwan Futures Exchange Corporation Contract for Computer Connection to the Centralized Futures Exchange Market

## **Publications**

1. Taiwan Futures Exchange Corporation Annual Report
2. Taiwan Futures Bi-Monthly Journal
3. Journal of Futures and Options