

**Achievement of Market-Friendly Initiatives and Results Program
(AMIR 2.0 Program)**

Funded By U.S. Agency for International Development

Audit of SDC Operations

Final Report

**Deliverable for Capital Markets Component, Task No. 628.2
Contract No. 278-C-00-02-00201-00**

June 2002

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Section 1 Executive Summary

1.01 Background

The Central Securities Depository in Jordan is the Securities Depository Center (SDC). Creation of the SDC was authorized in the Securities Law of 1997 and commenced operations in 1999. The SDC's prime operational responsibilities include, but are not limited to:

- Clearing and Settling Securities Trades
- Verifying and registering securities ownership positions
- Safekeeping Securities Positions

1.02 Scope of Work

As stated in the Scope of Work, the responsibility of the consultancy is to:

“...prepare a comprehensive report on the issues that the SDC and capital markets need to address for the SDC to initiate operations and achieve its goal of true and irrevocable DVP.”

1.03 Assessment Methodology

In order to assess the SDC's ability to initiate operations, sustain operations and achieve true and irrevocable DVP, current SDC operations were benchmarked against international best practices. As a result of this comparative exercise functional gaps in business, operational and legal procedures were identified. Based on the functional gaps identified recommendations were made to assist the SDC in reaching its functional responsibilities.

International best practices utilized in the benchmarking exercise are derived from the work of the International Organization of Securities Commissions' (IOSCO) Technical Committee and the Committee on Payment and Settlement Systems (CPSS) of the Group of 10. The most recent additions to the canon of international best practices were completed in November of 2001 and have been incorporated into the commonly recognized body of generally accepted global standards.

1.04 Report Structure

In order to facilitate the implementation of operational recommendations, this report is organized into:

- SDC Participant Issues
- SDC Operations Issues
- SDC Business Issues
- SDC Technical Issues
- SDC Share Authentication
- Actions Required – Jordan Securities Commission

- Actions Required – Amman Stock Exchange

1.05 SDC Participant Issues

There are five (5) recommendations related to SDC Participant that require implementation:

Issues	Recommendations
Agreements	<ul style="list-style-type: none"> <input type="checkbox"/> New and expanded Service Agreements to be drafted and executed between the SDC and SDC Participants. <input type="checkbox"/> Service Agreements are required between: <ul style="list-style-type: none"> • SDC & Market Intermediaries • SDC & Safekeeping Clients • SDC Participants and their clients • SDC & Issuers <input type="checkbox"/> Service Agreements to be based on sample Service Agreements obtained from Central Securities Depositories similar to the SDC in operational structure and services rendered.
Chart of Accounts	<ul style="list-style-type: none"> <input type="checkbox"/> Rules supporting the Segregation of Investor Assets to be formalized, documented & published. <input type="checkbox"/> Rules relating to Custodian Bank Depository Accounts to be formalized, documented & published. <input type="checkbox"/> SDC Bankruptcy/insolvency procedures to be formalized, documented & published. <input type="checkbox"/> Bankruptcy/insolvency terms, conditions & contingencies to be clarified in Securities Law.
Launch Procedures	<ul style="list-style-type: none"> <input type="checkbox"/> DVP Procedures to be clarified, documented & published. <input type="checkbox"/> Business training to be provided to SDC Participants. <input type="checkbox"/> Recommended Settlement Cycles to be: <ul style="list-style-type: none"> <input type="checkbox"/> DVP Launch Period – T+5 <input type="checkbox"/> Post-Launch Period – T+3

Issues	Recommendations
Re-licensing Brokers	<ul style="list-style-type: none"> <input type="checkbox"/> Re-licensing of Brokers to enhance market credibility and safety. <input type="checkbox"/> Re-licensing is also addressed in Actions Required-Jordan Securities Commission. <input type="checkbox"/> SDC Broker Participants to be involved in entire Re-licensing process.
SDC Eligibility	<ul style="list-style-type: none"> <input type="checkbox"/> Participant Eligibility in the SDC must support a credible market and encourage the broadest participation possible. <input type="checkbox"/> Participant Eligibility should address: <ul style="list-style-type: none"> <input type="checkbox"/> Financial capacity to meet market obligations, and <input type="checkbox"/> History of adherence to professional conduct standards

1.06 SDC Operations Issues

There are ten (10) recommendations related to SDC Operations that require implementation:

Issues	Recommendations
Management	<ul style="list-style-type: none"> <input type="checkbox"/> Appointment & installation of: <ul style="list-style-type: none"> <input type="checkbox"/> Chief Operations Officer (COO) <input type="checkbox"/> Chief Information Officer (CIO) <input type="checkbox"/> Chief Financial Officer (CFO) <input type="checkbox"/> Internal Auditor <input type="checkbox"/> Management Operations Manual to be formalized, documented & published.
Support Staff	<ul style="list-style-type: none"> <input type="checkbox"/> Support Staff to be organized under logical SDC Management structure: <ul style="list-style-type: none"> <input type="checkbox"/> COO <input type="checkbox"/> CIO <input type="checkbox"/> CFO <input type="checkbox"/> Internal Auditor <input type="checkbox"/> Internal Auditor & Legal Manager to have dual reporting responsibilities to CEO and Executive Committee of the Board. <input type="checkbox"/> Staff Operations Manual to be formalized, documented & published.

Records Security	<ul style="list-style-type: none"> <input type="checkbox"/> SDC Data Security Program to be: <ul style="list-style-type: none"> <input type="checkbox"/> Developed & Designed <input type="checkbox"/> Implemented & Enforced <input type="checkbox"/> Confidentiality Agreements required from: <ul style="list-style-type: none"> <input type="checkbox"/> Board Members <input type="checkbox"/> Management Personnel <input type="checkbox"/> Operations Personnel <input type="checkbox"/> Technical Personnel
Issues	Recommendations
Records Security <i>(continued)</i>	<ul style="list-style-type: none"> <input type="checkbox"/> Records access & modifications to be: <ul style="list-style-type: none"> <input type="checkbox"/> Restricted to Authorized Staff <input type="checkbox"/> Supported by an Audit Trail <input type="checkbox"/> Subject to independent random review <input type="checkbox"/> Review by SDC Management <input type="checkbox"/> IT Staff prohibited from modifying Operational Data. <input type="checkbox"/> Production & Development System to be segregated <input type="checkbox"/> All Records Security Procedures to be incorporated in SDC Operations Manual.
Settlement Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> Settlement Transaction Surveillance required for procedural compliance & Operational Risk Management <input type="checkbox"/> Regulatory Enforcement Referral procedures required. <input type="checkbox"/> Settlement Surveillance procedures to include SDC: <ul style="list-style-type: none"> <input type="checkbox"/> Imposition & collection of Violation Assessments. <input type="checkbox"/> Implementation of Asset Pledges
Securities Lending	<ul style="list-style-type: none"> <input type="checkbox"/> SDC to perform Securities Lending Feasibility Study. <input type="checkbox"/> Impact of legalized Covered Short Selling to be assessed. <input type="checkbox"/> Feasibility Study to be reviewed by Jordan Securities Commission (JSC). <input type="checkbox"/> Feasibility Study to be reviewed by Amman Stock Exchange (ASE) members.
Settlement Bank	<ul style="list-style-type: none"> <input type="checkbox"/> Settlement Bank Network (SBN) to be established. <input type="checkbox"/> SBN to facilitate movement of Cash Settlement Funds.

	<ul style="list-style-type: none"> <input type="checkbox"/> SBN Eligibility Requirements to be established & distributed to all potential SBN banks. <input type="checkbox"/> Solicitation of Eligibility Compliance Statements from potential SBN members. <input type="checkbox"/> SDC designation of SBN eligible members.
Registrar Services	<ul style="list-style-type: none"> <input type="checkbox"/> Registrar Services be established as SDC separate line of business. <input type="checkbox"/> Staffing Plan required to support Registrar Services. <input type="checkbox"/> Registrar Services operational procedures to be incorporated in SDC Operations Manual.

Issues	Recommendations
Settlement Guarantee Fund (SGF)	<ul style="list-style-type: none"> <input type="checkbox"/> SGF to be administered by the SDC <input type="checkbox"/> Current ASE Fund to be transferred to SDC (JSC Action Required). <input type="checkbox"/> SDC to create practical administrative structure & procedures for SGF. <input type="checkbox"/> SGF operations to commence by end of 4th Quarter 2002. <input type="checkbox"/> SGF administrative structure & operational procedures to be incorporated in SDC Operations Manual
Delivery versus Payment (DVP) Implementation	<ul style="list-style-type: none"> <input type="checkbox"/> DVP Launch requires: <ul style="list-style-type: none"> <input type="checkbox"/> Test Scripts, Schedule & Evaluation <input type="checkbox"/> Participant preparation/training <input type="checkbox"/> SBN Testing & Sign-Off <input type="checkbox"/> Designation of Fall-Back Date required <input type="checkbox"/> IT Audit required to certify system's fitness & reliability.
OTC Market Transactions	<ul style="list-style-type: none"> <input type="checkbox"/> SDC to perform OTC Transaction Study <input type="checkbox"/> OTC Transaction Study to include SDC inclusion or exclusion recommendations <input type="checkbox"/> OTC Transaction Study to be presented to JSC for review & decision.

1.07 SDC Business Issues

There are five (5) recommendations related to SDC Business Issues that require implementation:

Issues	Recommendations
By-Laws Revisions	<ul style="list-style-type: none"> <input type="checkbox"/> Revisions, deletions & enhancements to SDC By-Laws required to initiate and sustain Clearing & Settlement Services to be submitted to the JSC for review, comment & approval. <input type="checkbox"/> JSC to review and approve amended SDC By-Laws.
OTC Market	<ul style="list-style-type: none"> <input type="checkbox"/> Practicality of Clearing & Settling OTC transactions through SDC be considered (see <i>SDC Operations Issues</i>). <input type="checkbox"/> As, and if, required construct: <ul style="list-style-type: none"> <input type="checkbox"/> Business Case for OTC business <input type="checkbox"/> Resource Requirements <input type="checkbox"/> OTC Rules, Regulations & Procedures <input type="checkbox"/> Integration Plan for OTC Processing <input type="checkbox"/> As, and if, required incorporate OTC Processing in SDC Operations Manual.

Issues	Recommendations
Shareholder Services	<ul style="list-style-type: none"> <input type="checkbox"/> SDC establish a Shareholder Services Unit <input type="checkbox"/> Business Case for providing or not providing Dividend Disbursing Agent (DDA) Services be considered.. <input type="checkbox"/> As, and if, required an Implementation Plan for DDA Services to be constructed.
Settlement Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> IT Requirements Assessment to be performed for Settlement Surveillance. <input type="checkbox"/> Implementation Plan required. <input type="checkbox"/> Settlement Surveillance procedures to be incorporated into SDC Operations Manual.
Structure & Governance	<ul style="list-style-type: none"> <input type="checkbox"/> SDC to perform OTC Transaction Study <input type="checkbox"/> OTC Transaction Study to include SDC inclusion or exclusion recommendations <input type="checkbox"/> OTC Transaction Study to be presented to JSC for review & decision.

1.08 SDC Technical Issues

There are four (4) recommendations related to SDC Technical Issues that require implementation:

Issues	Recommendations
Access Security	<ul style="list-style-type: none"> <input type="checkbox"/> Appropriate levels of Authorized Access are required to be established. <input type="checkbox"/> All systems access to be supported by Audit Trails. <input type="checkbox"/> Access Security Audit Trails to be periodically reviewed on a random basis. <input type="checkbox"/> All access and access attempts to Shareholder Records to be audited. <input type="checkbox"/> Access Security Procedures to be incorporated in SDC Operations Manual.
Data Harmonization	<ul style="list-style-type: none"> <input type="checkbox"/> SDC System Database & EFA Equator Database to be synchronized. <input type="checkbox"/> Synchronization/reconciliation procedures to be established. <input type="checkbox"/> Synchronization/reconciliation procedures to be incorporated in SDC Disaster Recover Plan. <input type="checkbox"/> Synchronization/reconciliation procedures to be incorporated in SDC Operations Manual.

Issues	Recommendations
Procedures	<ul style="list-style-type: none"> <input type="checkbox"/> Written procedures required for: <ul style="list-style-type: none"> <input type="checkbox"/> Systems Operations <input type="checkbox"/> Systems Maintenance <input type="checkbox"/> Systems Development <input type="checkbox"/> Systems Development required to be revenue-driven and/or service-driven. <input type="checkbox"/> All Systems Procedures to be incorporated into the SDC Operations Manual.
Software/IT Audit	<ul style="list-style-type: none"> <input type="checkbox"/> Audit required to establish performance fitness & completeness. <input type="checkbox"/> Segregation of Production System & Development/Test System required.

1.09 SDC Share Authentication

The SDC procedures involved in the Share Authentication process were reviewed in order to establish the credibility of the Depository's Authenticated Security Positions. The review constituted a critical component in assessing the SDC's ability to provide credible Clearing & Settlement services and the practicality of the SDC proceeding with its three-stage plan for irrevocable DVP.

The review was conducted in two stages: (a) Authentication Procedures review and (b) Authenticated Shareholder Positions review.

The results of both reviews determined that the SDC Authentication Procedures:

- establish a commendable degree of accuracy and completeness for individual shareholder ownership positions held at the SDC.
- provide a commendable degree of accuracy and completeness for Issuer Shareholder Books maintained by the SDC.
- strongly supports the Depository's migration to irrevocable DVP.
- mitigate buy-side principal risk and as such vests the securities markets with a high level of credibility.

The review of Authentication Procedures Authenticated Shareholder Records evidences the fact that the SDC has established a solid foundation for its Clearing and Settlement Services and supports a decision to proceed with providing comprehensive Clearing and Settlement Services.

However, it is recommended that the SDC divide its initial efforts in two parts:

- (a) Pilot Program consisting of Clearing and Settlement Services for one or two mid-sized sized companies. Mid-sized companies are defined to be companies with:
 - between 15,000 and 25,000 Registered Shareholders
 - a reasonable number of executed trades per day
 - a positive SDC/Issuer working relationship
- (b) Active Issues Program consisting of the fifty (50) most actively traded Issues. Although this group of issues represents only 29% of the total number of Exchange-listed issues, 92% of trades executed in these issues are executed by investors who are authenticated in the SDC.

1.10 Actions Required – Jordan Securities Commission (JSC)

The SDC Clearing and Settlement Services Assessment conducted in this phase of the project evidences the fact that depository is well prepared to offer and sustain a high

level of Clearing and Settlement Services that are in reasonable compliance with generally accepted global standards.

However, the assessment has identified a number of actions required of non-SDC entities that are prerequisites to the SDC’s implementation of its phased Clearing & Settlement Services plan. This section addresses actions required by the Jordan Securities Commission (JSC) in order for the SDC to proceed with its Clearing and Settlement Services Program. The actions required are specific to the phases of the SDC’s Implementation Plan. Details related to the actions required are included in appropriate sections of this report with a brief outline included in this section, below.

ACTIONS REQUIRED - DEFINITIONS

Action	Definition
Tightly Coupling	Bilateral communications linkage of the ASE Trading System and the SDC Clearing & Settlement System to support Order Validation & other Risk Management Services.
SDC Settlement Guarantee Fund	SDC administered fund used to support the continuity of the Settlement process by providing funds to cover security short positions and cash short positions. Fund is supported by SDC mandated participant contributions.

ACTIONS REQUIRED - DEFINITIONS

Action	Definition
SDC By-Laws Amendments Phase I, Phase II & Phase III	Amendments to SDC By-Laws required to support the effective provisioning of Clearing & Settlement Services during each implementation phase.
ASE Fund Movement to SDC Settlement Guarantee Fund	Systemic Risk in the marketplace is concentrated in the Settlement Process. Funds to support Settlement continuity should be administered by the entity that is responsible for providing Settlement Services.
SDC Net Cap Levels	Membership in a Central Securities Depository and/or Clearing House is a

	privilege not a right. For the financial safety of the securities markets not every licensed brokerage firm should be afforded direct membership. Membership should be granted to those brokerage firms who possess the capital necessary to consistently meet their market obligations.
Broker Re-Licensing	Current licensing procedures are not comprehensive enough to segregate market participants according to the services provided. Many services currently being provided to investors are not covered by licensing procedures.
OTC Settlement	Securities trades are currently executed away from the public market on an Over-the-Counter (OTC) basis. It is advisable for market transparency to include these trades in the normal settlement process.
Securities Lending	Generally accepted global standards recommend adoption of a depository-managed Securities Borrowing & Lending Program to help cover short positions and increase market liquidity.

PHASE I – JSC ACTIONS REQUIRED

Issues	Recommendations
Tightly Coupling of ASE & SDC Systems	<input type="checkbox"/> Decision to proceed or not proceed with the Tightly Coupling of ASE and SDC systems to be reached & announced by May 30, 2002.
SDC Settlement Guarantee Fund	<input type="checkbox"/> Approval of an SDC Settlement Guarantee Fund by May 30, 2002 <input type="checkbox"/> Approval for movement of current ASE Fund assets to the SDC operated Settlement Guarantee Fund by May 30, 2002
SDC Amended By-Laws for	<input type="checkbox"/> Approval of SDC By-Laws Amendments

Clearing & Settlement Phase I	for Phase I Clearing & Settlement by June 16, 2002.
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PHASE II – JSC ACTIONS REQUIRED

Issues	Recommendations
Security Law Amendments	<input type="checkbox"/> Work to commence on drafting SDC-related amendments to the Security Law no later than May 20, 2002
SDC Settlement Guarantee Funding	<input type="checkbox"/> Funds in current ASE Fund moved to SDC Settlement Guarantee Fund by May 30, 2002.
SDC Participant Net Cap Requirements	<input type="checkbox"/> Review & approval of Net Cap Requirement for SDC Direct Participants by July 30, 2002.
Broker Re-Licensing	<input type="checkbox"/> Criteria for Broker Re-Licensing to be issued by August 15, 2002
OTC Trade Settlement	<input type="checkbox"/> Decision on settlement of OTC Trades through the SDC by August 27, 2002.
Securities Lending	<input type="checkbox"/> Decision to allow or prohibit SDC Securities Lending Program by August 27, 2002.
SDC Amended By-Laws for Clearing & Settlement Phase II	<input type="checkbox"/> Approval of SDC By-Laws Amendments for Phase II of Clearing & Settlement Phase II by September 20, 2002.

PHASE III – JSC ACTIONS REQUIRED

Issues	Recommendations
SDC Amended By-Laws for Clearing & Settlement Phase III	<input type="checkbox"/> Approval of SDC By-Laws Amendments for Phase III by December 30, 2002.
Contributions to the SDC Settlement Guarantee Fund received	<input type="checkbox"/> ASE Funds & SDC Participants' Mandated Contributions deposited to SDC Settlement Guarantee Fund Account at SDC designated bank.

1.11 Actions Required – Amman Stock Exchange (ASE)

As previously mentioned, the SDC is well prepared to offer and sustain a high level of Clearing and Settlement Services that are in reasonable compliance with generally accepted global standards but the SDC requires that action be taken by other market entities before the SDC can proceed.

There are actions required on the part of the ASE as prerequisites for the SDC's implementation of its Clearing & Settlement program. A brief summary of these actions is provided, below.

PHASE I – ASE ACTIONS REQUIRED

Issues	Recommendations
Tightly Coupling of ASE & SDC Systems	<input type="checkbox"/> Decision to proceed or not proceed with the Tightly Coupling of ASE and SDC systems to be reached & announced by May 30, 2002.
Order Validation	<input type="checkbox"/> Decision to implement Order Validation processing between the Tightly-Coupled ASE & SDC systems my May 30, 2002
SDC Settlement Guarantee Fund	<input type="checkbox"/> Agreement on movement of current ASE Fund assets to the SDC operated Settlement Guarantee Fund by May 30, 2002

Section 2 Assessment Methodology

2.01 Benchmark Organizations

In order to assess the SDC's ability to initiate operations, sustain operations and achieve true and irrevocable DVP, current SDC operations were benchmarked against international best practices.

International best practices for Central Securities Depositories (CSDs) and Settlement Systems have been established as the result of work performed by several international organizations recognized globally to be experts in the field.

The benchmarks utilized in this operational assessment are the result of a joint effort between the International Organization of Securities Commissions (IOSCO), the Committee on Payment and Settlement Systems (CPSS) of the Central Banks of the Group of Ten Countries and the Bank for International Settlements. A brief summary of both of the organizations is included, below.

International Organization of Securities Commissions (IOSCO)

IOSCO is an organization of 100 national securities regulatory agencies who have adopted as their collective goals:

- The protection of investors;
- Ensuring that markets are fair, efficient and transparent;
- The reduction of systemic risk.

The organization has adopted, as one of its primary regulatory principals, the goal that the system for clearing and settlement of securities transactions should be subject to regulatory oversight, and designed to ensure that it is fair, effective and efficient and that it reduces systemic risk.

The Bank for International Settlements (BIS)

BIS is the world's oldest international financial institution that is the principal center for international central bank cooperation. The BIS was established in 1930 and was originally established to deal with the issue of the reparation payments imposed on Germany by the Treaty of Versailles.

The BIS conducts research contributing to monetary and financial stability, collects and publishes statistical material on international finance and, through committees of national experts, formulates recommendations to the financial community aimed at strengthening the international financial system.

Committee on Payment and Settlement Systems (CPSS) of Group of 10

The Group of Ten comprises 11 industrial countries (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States) and facilitates consultation and cooperation on economic, monetary and financial matters. The Finance Ministers and Central Bank Governors of the Group of Ten usually meet twice a year in conjunction with the spring and autumn meetings of the Interim Committee of the International Monetary Fund.

Various committees and working parties of the Group of Ten are also convened as needed to analyze issues of common interest to member countries. Countries from outside the G-10 sometimes also participate in the work. The Group of Ten has issued reports on the macroeconomic and financial implications of aging populations, electronic money and the resolution of sovereign liquidity crises. These reports, as well as communiqués of the Group of Ten, can be obtained from the Bank for International Settlements, the International Monetary Fund and the Organization for Economic Co-operation and Development.

2.02 Benchmarks

The worldwide collapse of equity prices in October 1987 heightened the awareness of central banks to the potential for disturbances in settlements of securities transactions to spread to payment systems and to financial markets generally. Since then, central banks in the Group of Ten countries have been working with market participants and securities industry supervisors to strengthen settlement arrangements. In particular, most of the G-10 central banks have been actively involved in efforts to implement the Group of Thirty's recommendations for strengthening and harmonizing settlement arrangements for corporate securities as well as in efforts to strengthen settlement arrangements for government securities.

The benchmarks used in the SDC assessment originated in the Bank for International Settlements work with the G-10 which began in earnest in 1989 and continued to develop until refined to the level of the benchmarks produced by the Technical Committee of IOSCO and the CPSS in November of 2001.

In December 1999 the CPSS and the Technical Committee of IOSCO created a Task Force on Securities Settlement Systems. The Task Force was comprised of 28 central bankers and securities regulators from 18 countries and regions and the European Union. The Task Force's mandate called for it to promote the implementation by Securities Settlement Systems of measures that enhance international financial stability, reduce risks, increase efficiency and provide adequate safeguards for investors by developing recommendations for the design, operation and oversight of such systems. The recommendations were to identify minimum standards that systems should meet and were intended to cover the settlement of both domestic and cross-border trades through individual settlement systems and links between those systems.

The measurements devised for the SDC Clearing and Settlement Operational Assessment are in the form of 19 benchmarks that are grouped according to marketplace risk.

The marketplace risks and associated benchmarks are:

Risk Category	Benchmark
Legal Risk	<input type="checkbox"/> Legal Framework
Pre-Settlement Risk	<input type="checkbox"/> Trade Confirmation <input type="checkbox"/> Settlement Cycle <input type="checkbox"/> Central Counterparties (CCPs) <input type="checkbox"/> Securities Lending
Settlement Risk	<input type="checkbox"/> Central Securities Depository (CSD) <input type="checkbox"/> Delivery versus Payment (DVP) <input type="checkbox"/> Finality of Settlement <input type="checkbox"/> Failure to Settle <input type="checkbox"/> Cash Settlement Assets
Operational Risk	<input type="checkbox"/> Operational Reliability
Custody Risk	<input type="checkbox"/> Protection of Customers' Securities
Miscellaneous Risk	<input type="checkbox"/> Organization Governance <input type="checkbox"/> Organization Access <input type="checkbox"/> Organization Efficiency <input type="checkbox"/> Communications Procedures & Standards <input type="checkbox"/> Organization Transparency <input type="checkbox"/> Regulation & Oversight <input type="checkbox"/> Cross-Border Linkages

2.03 Legal Framework – Global Standards

Recommended Standards

- Securities settlement systems should have a well founded, clear and transparent legal basis in the relevant jurisdiction.**
- Laws, regulations, rules and procedures, and contractual provisions governing the operation of a Securities Settlement System be clearly stated, understandable, internally coherent and unambiguous.**

The reliable, orderly and predictable operation of an Securities Settlement System depends on the laws, rules and procedures that support the holding, transfer, pledging and lending of securities and related payments. Acceptable operation of a Securities Settlement System equally depends on and how the laws, rules and procedures work in practice, that is, whether system operators, participants and their customers can enforce their rights.

If the legal framework in a country is inadequate or its application uncertain, it can give rise to credit or liquidity risks for system participants and their customers or to systemic risks for financial markets as a whole.

The legal framework governing the operation of a Settlement System usually includes general laws, such as property and bankruptcy laws, and may include laws specifically related to the operation of the system. In some jurisdictions, the general laws governing property rights and bankruptcy may not apply to, or may contain special provisions related to, the settlement of securities transactions.

Laws applicable to Securities Settlement may be expanded by specific regulation or other administrative acts.

Other important aspects of the legal framework are the rules and procedures of the various parts of the system, many of which represent contracts between the operator of the Settlement System and the participants in the system. The overall legal framework defines the relationships, rights and interests of the Settlement System operator, the system's participants and their customers and the manner in which and time at which rights and obligations arise through the operation of the system.

It is strongly recommended that the laws, regulations, rules and procedures, and contractual provisions governing the operation of a Securities Settlement System be clearly stated, understandable, internally coherent and unambiguous. They also should be public and accessible to system participants.

Key aspects of the settlement process that the legal framework should support include:

- Enforceability of transactions
- Protection of customer assets
- immobilisation or dematerialization of securities
- netting arrangements
- securities lending & Repurchase Agreements
- Finality of settlement
- Delivery versus Payment processing methodologies
- Default Rules
- Liquidation of assets pledged or transferred as collateral

It is recommended that rules and contracts related to the operation of a Securities Settlement System should be enforceable in the event of the insolvency of a system participant. Effective operations also require that the system have a high degree of certainty regarding its rights and interests in the securities and other assets held within the system, including its rights to use collateral, to transfer property interests, and to make and to receive payments.

The claims of a Securities Settlement System or the system's participants against collateral posted by a participant with the Securities Settlement System, should, in all events have priority over the claims of such participant's non-system creditors.

Direct system participants, intervening intermediaries, and their respective customers should have a high degree of certainty regarding the rights and interests they hold through the system, notwithstanding the insolvency of a user, a participant or a component of a Securities Settlement System such as a CSD, CCP or Settlement Bank.

2.04 Legal Framework – SDC Environment

The SDC and the Securities Settlement System have a well-founded basis in the Securities Law No. 23 for the year 1997. However, the Securities Law itself, in comparison to generally accepted global standards, does not serve as a clear and transparent legal basis in the relevant jurisdiction.

In comparison to securities markets in Europe and the Americas the legal framework related to the SDC in Jordan is vague. The current Security Law does not contain the specifics necessary to create an acceptable level of confidence in the safety and reliability of the SDC. A preliminary review of the current law produced a list of 122 securities markets terms that, according to international best practice recommendations should be defined in the law. The absence of clear definitions for these terms creates ambiguity and uncertainty as to the roles, responsibilities and operational scope of the SDC and its participants. An illustrative list of depository-related terms missing from the current Securities Law is included in this report as Appendix A – Securities Market Definitions Required.

Recommendations

- Work to commence on drafting SDC-related amendments to the Security Law no later than May 20, 2002.**

It is strongly recommended that the current Securities Law of Jordan be amended. Amendment of the current Securities Law is required in order to provide the highest level of practical assurance that the laws, regulations, rules and procedures, and contractual provisions governing the operation of the Securities Settlement System in Jordan are clearly stated, understandable, internally coherent and unambiguous.

Although a considerable amount of time and effort has been devoted in multiple endeavors to amend the Securities Law, at present the process appears to be diffuse and ineffective. It is strongly recommended that a concerted and focused effort be undertaken to amend the current Securities Law as soon as possible. The amendments process should be directed towards aligning the legal structure of the securities markets in Jordan with generally accepted global best practice.

2.05 Trade Confirmation - Global Standards

Recommended Standards

- Trade Confirmation between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0).**

□ Trade Confirmations for indirect market participants, when required, should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

A preliminary step in settling a securities trade is to ensure that the buyer and the seller agree on the terms of the transaction, a process referred to as Trade Confirmation.

In most markets a direct market participant such as a broker/dealer acts as an intermediary in executing trades on behalf of others who are commonly referred to as indirect market participants. In such circumstances, Trade Confirmation most often occurs in two separate ways:

- (1) Confirmation of the terms of the trade between direct participants
- (2) Confirmation of the intended terms between each direct participant and the indirect participant for whom the direct participant is acting. This step is sometimes referred to as Trade Affirmation.

In both of these steps agreement on trade details should occur as soon as possible so that errors and discrepancies can be discovered early in the settlement process. Early detection helps to avoid errors in recording trades, which can lead to increased market risk and credit risk.

The trend in most global markets is for the process of Trade Confirmation issuance to be automated and as a result many markets have in place systems for the automatic comparison of trades between direct market participants. In many markets, the use of electronic trading systems obviates the need for direct market participants to match the terms of the trade. Automated matching systems are also being proposed and implemented for trade confirmation between direct market participants and indirect market participants.

2.06 Trade Confirmation – SDC Environment

Recommendations

□ SDC should consider the viability of issuing Trade Affirmations for Custodial Participants in the creation of its Strategic Business Plan.

The ASE Trading System obviates the need for trade matching and the issuance of Trade Confirmations for direct market participants. However, the issuance of Trade Affirmations will be required in order to meet the needs of international clients of Jordanian Custodian Bank.

The provisioning of Trade Affirmations, although important to the overall business of the securities markets, should not be a high priority undertaking for the SDC.

2.07 Settlement Cycles - Global Standards

Recommended Standards

- Rolling settlement should be adopted in all securities markets.**
- Final settlement should occur no later than T+3.**
- The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.**

In a rolling settlement cycle trades settle a given number of days after the trade has been executed rather than at the end of a specific trading period commonly known as an Account Period. The use of Rolling Settlement limits the number of outstanding trades and reduces aggregate market exposure. The longer the period from trade execution to settlement, the greater the risk that:

- one of the parties to the trade may become insolvent or default on the trade
- a larger number of trades will be unsettled
- the prices of securities will move away from the original contract prices
- the cost of replacing securities involved unsettled contracts will increase.

In 1989, the Group of 30 (G30) recommended that final settlement of cash transactions should occur on T+3 or three business days after the trade has been executed. However, the G30 recognised that to realistically minimise counterparty risk and market exposure associated with securities transactions, same day settlement or T+0 is the final goal.

2.08 Settlement Cycles – SDC Environment

Recommendations

- SDC should carefully assess and test the practicality of implementing and sustaining a T+3 Settlement Cycle.**
- In the event there is evidence indicating that T+3 can not be sustained, then the SDC should initiate settlement on a T+5 basis and move to T+3 as soon as is practical.**
- The SDC should establish a Settlement Bank Network to support the timely and dependable movement of cash settlement funds.**

Results of the Clearing and Settlement Operational Assessment strongly indicate that the SDC is capable of implementing and sustaining a T+3 Settlement Cycle.

The decision to proceed with a T+3 Settlement Cycle is dependent on the operations suitability and dependability of the SDC's Settlement Bank Network (SBN). In most

developing and transition securities markets the ability of a CSD to support the securities component of the settlement process on a T+3 basis is not a major problem. Problems in sustaining a T+3 Settlement Cycle are usually connected with the cash component of the settlement process and are directly related to the capacity of a country's Money Transfer System. The problems normally encountered relate to the inability of the Money Transfer System to consistently move funds between the accounts of Net Buyers and Net Sellers in a time frame that supports final settlement on T+3.

It is recommended that prior to officially announcing and implementing a T+3 Settlement Cycle the SDC carefully assess the ability to consistently effect securities settlement and cash settlement within the timeframes required by T+3.

If there are any doubts as to the ability of the SDC to sustain a T+3 Settlement Cycle then the SDC is required to fall back on a T+5 Settlement Cycle until such time as the impediments to effectively maintaining a T+3 Settlement Cycle are resolved.

The damage caused by rushing to implement T+3 and subsequently being forced to revert to a T+5 Settlement Cycle would be disastrous for the development of the Jordanian Capital Markets.

2.09 Settlement Cycles – SDC Settlement Bank Network

At present the SDC is not permitted to maintain cash accounts for its participants. Due to this limitation it will be necessary for the SDC to rely on a series of individual Banks to act as a Settlement Bank Network (SBN). The responsibility of the SBN will be to transfer funds, at the direction of authorized SDC personnel, between accounts of Net Buyers and Net Sellers within the timeframes require by a T+3 Settlement Cycle.

In order to implement the SBN it is recommended that the SDC:

- establish business requirements for the movement of cash settlement funds.
- establish qualification requirements for SBN membership
- solicit applications for SBN membership from the banking community
- select a number of banks as qualified SBN members
- test and implement an operational SBN

2.10 Central Counterparties (CCPs) – Global Standards

Recommended Standards

- The benefits and costs of a CCP should be evaluated**

□ If introduced, a CCP should rigorously control the risks it assumes.

A central counterparty (CCP) interposes itself between trade counterparties, becoming the buyer to every seller and the seller to every buyer. Thus, from the point of view of market participants credit risk with the CCP is substituted for credit risk with other participants.

The adoption of a CCP role by a CSD is another mechanism, in addition to shortening settlement cycles, for reducing counterparty credit risks. It is especially effective for reducing risk *vis-à-vis* active market participants who often buy and sell the same security for settlement on the same date. In addition to these risk reduction benefits, there is a growing demand for CCP arrangements due to the increasing use of anonymous electronic trading systems, where orders are matched according to the rules of the system and participants cannot always manage their credit risks bilaterally through their choice of counterparty.

International standard setting organizations fully realize that a CCP structure is not appropriate for use in all markets. Establishing a CCP is expensive, especially in establishing the kind of robust risk management system that a CCP must have to mitigate its overall risk.

Individual markets should assess carefully the balance of the benefits and costs of a CCP. Such a balance will depend on factors such as the volume and value of transactions, trading patterns among counterparties, and the opportunity costs associated with settlement liquidity. A growing number of markets have determined that the benefits of implementing a CCP structure outweigh the costs.

It is mandatory that a CSD assuming a CCP role have sound risk management because the CCP assumes responsibility for risk management and reallocates risk among its participants through its policies and procedures. As a result, if a CCP does not perform risk management well, the CCP could actually increase risk to market participants. The ability of CCP-based system as a whole to withstand the default of individual participants depends crucially on the risk management procedures of the CCP and its access to resources to absorb financial losses. The failure of a CCP would almost certainly have serious systemic consequences, especially where multiple markets are served by one CCP.

A CCP's ability to monitor and control the credit, liquidity, legal and operational risks it incurs and to absorb losses is essential to the sound functioning of the markets it serves. A CCP must be able to withstand severe shocks, including defaults by one or more of its participants, and its financial support arrangements must be evaluated in this context.

2.11 Central Counterparty Structure – SDC Environment

Recommendations

- A present and for the foreseeable future, the SDC should not assume a CCP role.**
- The SDC to publish & widely disseminate information on the Post-Trade Risk Management Programs for the Jordan Capital Markets.**

Considering the development stage of the Jordanian capital markets, the weaknesses in the current Securities Law and the considerable amount operational responsibility being assumed by the SDC, it is recommended that the SDC not assume a CCP role at the present time.

The level of potential financial exposure to the SDC in assuming a CCP role would not be balanced by the benefits of assuming such a role.

Additionally, the realistic probability of Order Validation as a result of the tightly coupling of the ASE Trading System and the SDC Settlement System will provide the capital markets with a very high level of effective Risk Management. The implementation of Order Validation along with the availability of the SDC's Guarantee Settlement Fund will provide a level of market safety that would preclude any serious consideration of the SDC taking on the additional potential risk of a CCP.

In order to obtain the maximum benefits provided investors under the SDC Risk Management Program it is recommended that the SDC:

- Publish & widely disseminate investor-oriented information on the SDC Risk Management Program.
- The SDC incorporate its Risk Management Program into a professional presentation on Post-Trade Services in the Jordan Capital Markets.
- Information on the SDC Risk Management Program be incorporated into an overall promotional CD for distribution.

2.12 Securities Lending – Global Standards

Recommended Standards

- Securities Lending and Borrowing & Repurchase Agreements should be encouraged as a method for expediting the settlement of securities transactions.**
- Barriers that inhibit the practice of lending securities for this purpose should be removed.**

The presence of liquid Securities Lending markets, including markets for Repurchase Agreements, generally improve the functioning of securities markets by allowing sellers ready access to securities needed to settle transactions where those securities are not held in inventory. The availability of such services in the marketplace also offers an efficient means of financing securities portfolios and supporting participants' trading strategies.

The existence a liquid market for Securities Lending reduces the risks of failed settlements because market participants with an obligation to deliver securities that they have failed to receive and do not hold in inventory can borrow these securities and complete delivery. Securities Lending markets also enable market participants to cover transactions that have already failed, thereby remedying the failure sooner.

It is recommended that liquid securities lending markets be encouraged, subject to appropriate limits on their use for purposes prohibited by regulation or law. Borrowing to support short sales is illegal in some circumstances in some markets. However, in jurisdictions that restrict securities lending because of public policy concerns, authorities should consider permitting lending to reduce settlement failures. Impediments to the development and functioning of securities lending markets should, as far as possible, be removed.

There are other impediments that can arise as a result of tax or accounting policies, from legal restrictions on lending, from an inadequate legal underpinning for securities lending or from ambiguities about the treatment of such transactions in a bankruptcy. One of the most significant barriers the development of a liquid Securities Lending market may be related to the taxation of securities lending transactions. A tax authority's granting of tax neutrality to the underlying transaction and the elimination of certain transaction taxes have, in many markets, served to increase activity. Accounting standards also have an influence on the securities lending market, particularly with respect to whether, and under what conditions, collateral must be reflected on the balance sheet. Authorities in some jurisdictions restrict the types or amounts of securities that may be loaned, the types of counterparties that may lend securities, or the permissible types of collateral. Uncertainty about the legal status of transactions, such as their treatment in insolvency situations, also inhibits the development of a liquid Securities Lending market. The legal and regulatory structure of Securities Lending must be clear so that all parties involved understand their rights and obligations.

Although Securities Lending can be a useful tool, it presents risk to both the borrower and the lender. The securities lent or the collateral may not be returned when needed, because of counterparty default, operational failure or legal challenge. The securities involved in the lending transaction would then need to be acquired in the market, perhaps at an increased cost. Counterparties to securities loans must be required to employ appropriate risk management policies, including conducting credit evaluations, collateralizing exposures, insuring full collateralization values via daily mark-to-market valuation employing master legal agreements.

2.13 Securities Lending – SDC Environment

Recommendations

- **The SDC should perform a comprehensive study of the feasibility of Securities Lending in the Jordan capital markets and present the resultant report to the JSC for review and comment**

In the current Jordan capital markets short selling is not permitted. As with many other transition markets the aversion to short selling is based largely on the historic negative effects of “naked” or uncovered short selling.

In executing a “naked” short sale a market participant is consciously selling shares that the participant does not own. The participant’s expectation is that such share positions can be covered by purchasing an identical amount of shares, at a lower price, within the same trading session. Problems arise when the participant can not execute the offsetting purchase at a favorable price. In such cases the short sale is not covered and the trade will not settle.

In markets where short selling is permitted on a regulated basis, short sales may be executed if, and only if, shares are borrowed to covered the sale. The ability to borrow shares is premised on the market having a liquid Securities Lending program to support such activity. In requiring “covered” short sales, as opposed to “naked” short sales, the continuity of settlement in the marketplace is protected. The borrowing of shares to cover a sale insures that the short sale will settle and the market participant has the responsibility to repay the borrowed shares to the lender at whatever cost may be incurred. In the event the anticipated decline in share price does not occur, the short position is still covered and the executing participant must absorb the loss involved with repaying the securities loan, separate and apart from the market trading activity.

The trading strategy of participants who sell short is based on the participants belief that shares sold short on T+0 will decline in value either later in the T+0 trading session or very shortly thereafter. Assuming an appreciable and immediate decline in market value, a participant selling short hopes to subsequently purchase the shares at a lower price to replace the shares borrowed to cover the short position. The short selling participant plans on the fact that the value of shares sold short will be appreciable higher than the value of shares purchased at a lower price to repay the securities loan. In order to make a profit on a short sale the basic conditions, below, must hold true.

10,000 shares of ABC Corp. sold short at \$10 per share = \$100,000
(Cost of borrowing 10,000 shares of ABC Corp. for 2 days = \$
(10,000 shares of ABC Corp. purchased at \$9.00 per share = \$
<hr/>
Transaction profit = \$ 9,800

Although the profit in this simple example appears to be large, such a profit can be realized only if the price of the shares involved decline appreciably in a short period of time. If the market turns against the short seller and the price of the shares involved increase the loss would be significant.

2.14 Repurchase Agreements – SDC Environment

Recommendation

The SDC in conjunction with the ASE should assess the practicality of introducing Repurchase Agreements to the Jordan capital markets.

The SDC should address the issues of providing Clearing & Settlement Services to support the trading of Repurchase Agreements in its Strategic Business Plan.

In markets where short selling is not permitted and Securities Lending programs are not operational, Repurchase Agreements are often utilized as a Securities Lending replacement mechanism.

There are two common definitions applied to Repurchase Agreement transactions:

Repurchase Agreement (Repo): a contract with a counterparty to sell and subsequently repurchase securities at a specified date and price.

Reverse Repurchase Agreement (Reverse Repo): a contract with a counterparty to buy and subsequently resell securities at a specified date and price. The mirror image of a Repo.

Repurchase Agreements, commonly called Repos, are securities lending transactions in which one party agrees to sell securities to another against the transfer of funds, with a simultaneous agreement to repurchase the same or equivalent securities at a specific price at a later date.

Parties borrowing securities are often referred to as buyers, while parties lending securities are referred to as sellers. While market participants may execute Repo transactions to obtain control of specific securities, Repos are also often structured as secured cash loans, with the Repo buyer receiving securities as collateral to protect it against the cash borrower's default.

In a typical Repo transaction the transfer of the interest in securities from the Repo seller to the Repo buyer might be characterized as an outright sale or as the creation of a security interest. Repo transactions are typically structured such that all of the seller's interest in the purchased securities passes to the buyer and that nothing precludes the buyer from selling, transferring, pledging or hypothecating the purchased securities.

In cash-driven Repo deals, margin is often provided to the lender of money by pricing securities transferred as collateral at market value minus a “haircut. The initial sale price is therefore less than the market value of the securities. Conversely, in securities-driven deals, the lender of securities will typically receive margin by pricing securities higher than their market value.

The operational mechanics of the Repo market can be quite complex. Additionally, there are many issues related to taxation, bankruptcy, general principles of law and regulatory regimes that must be addressed in assessing the suitability of establishing a Repo market.

It is recommended that the SDC undertake a study of Repo transactions and establish a comprehensive Business Case for the creation, or non-creation of a Repo market in Jordan. It is further recommended that the Repo Market Business Case be presented by the SDC to the JSC for review and comment.

Based on the results of the Business Case and the comments of the JCS the SDC should proceed accordingly.

2.15 Central Securities Depositories (CSDs) – Global Standards

Recommended Standards

- Securities should be immobilized or dematerialized and transferred by book-entry in CSDs to the greatest extent possible.**

The Beneficial Owners of securities may hold their securities in many different ways. In some markets, physical securities circulate and beneficial owners may keep securities in their possession, although beneficial owners typically employ a custodian to hold their securities in order to reduce risks and safekeeping costs.

The costs and risks associated with owning and trading securities can be reduced considerably through the immobilization of physical securities, which involves concentrating the location of physical securities in a central depository, or CSD. Immobilization can be generally defined as:

The placement of physical certificates for securities and financial instruments in a Central Securities Depository so that subsequent transfers of ownership can be made via electronic book-entry, that is, by debits from and credits to security holders' accounts at the depository.

Immobilization or dematerialization of securities and their electronic transfer by book-entry transactions within a CSD, such as the SDC in Jordan, significantly reduces the total costs associated with securities settlements and custody. By centralizing the operations associated with custody and transfer within a single entity, costs are reduced through economies of scale. In addition, efficiency gains are achievable through automation, which reduces the errors and delays inherent in manual processing.

By reducing costs and improving the speed and efficiency of settlement, book-entry settlement also supports the development of Securities Lending markets, including markets for Repurchase Agreements and other economically equivalent transactions. These activities, in turn, enhance the liquidity of securities markets and facilitate the use of securities collateral to manage counterparty risks, thereby increasing the efficiency of trading and settlement.

The immobilisation or dematerialization of securities also reduces or eliminates certain risks inherently associated with the physical securities certificates such as the destruction, loss or theft of certificates. The transfer of securities by book-entry is a mandatory precondition for the shortening of the Securities Settlement Cycle, which in turn reduces replacement cost risks. Book-entry transfer also facilitates Delivery versus Payment settlement, thereby eliminating principal risks.

In consideration of both safety and efficiency, securities should be immobilized or dematerialised in a CSD to the greatest extent possible. In practice, retail investors may not be prepared to give up their certificates. However, it is not necessary to achieve complete immobilization to realize the benefits of a CSD. In most markets it is sufficient that the most active market participants immobilize their holdings with less active investors that insist on holding certificates bearing the costs of their decision.

2.16 Central Securities Depositories (CSDs) – SDC Environment

Recommendations

The SDC should proceed with the implementation of its Clearing & Settlement Services with the ultimate goal of irrevocable DVP.

The SDC should formulate a Strategic Business Plan covering future operations and enhancements/additions to existing Depository Services.

As a result of conducting the operational assessment detailed in this report, it can be stated that the SDC has established a strong business operations base from which to launch Clearing & Settlement Services. The three (3) stage approach to the eventual implementation of irrevocable DVP Settlement on a T+3 Settlement Cycle is eminently doable, practical and is in reasonable compliance with generally accepted global standards.

Overall, the current operations of the SDC are in reasonable compliance with generally accepted global standards. The areas of limited compliance or non-compliance are capable of being repaired and are being addressed. At present there are no serious impediments to the SDC establishing, in the near future, Clearing and Settlement Services that on a par with top-tier transition markets and emerging markets.

However, as also cited in this report, there are dependencies in the form of actions required by entities external to the SDC which directly impact the ability of the SDC to proceed with its plans and the advisability of doing so. Details relating to these dependencies are contained in the appropriate sections of this report.

2.17 Delivery versus Payment (DVP) – Global Standards

Recommended Standard

- CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves Delivery versus Payment (DVP).**

Settlement of securities transactions on a DVP basis ensures that Principal Risk is eliminated, i.e. there is no risk that securities could be delivered but payment not received, or vice versa. DVP Settlement reduces, but does not eliminate, the risk that the failure of a CSD participant could result in systemic disruptions. Systemic disruptions are still possible because the failure of a participant could produce substantial liquidity pressures or high replacement costs. Achievement of DVP by the CSD also enables participants in a CSD the ability to offer their customers DVP.

It is possible to implement DVP settlement in multiple ways. Three different models can be differentiated and each varies according to whether the securities and/or funds transfers are settled on a gross (trade by trade) basis or on a net basis, and in terms of the timing of the finality of transfers. Finality may be real time throughout the day, intraday at multiple times during the day, or at the end of the day. Whichever approach is taken, what is essential is that the technical, legal and contractual framework ensures that each transfer of securities is final if and only if the corresponding transfer of funds is final.

In actuality DVP Settlement does not require the simultaneous final transfers of funds and securities. In many markets when a CSD does not itself provide cash accounts for settlement, it first blocks the underlying securities in the account of the seller or his custodian. Subsequent to blocking the seller's position the CSD requests a Settlement Bank, or Settlement Banks if a network of banks is used, to transfer funds from the buyer to the seller. Securities are delivered to the buyer or his custodian if and only if the CSD receives confirmation of the requested funds movement from the Settlement Bank or Settlement Banks.

When such arrangements are utilized blocked securities must not be subject to a claim by a third parties such as other creditors, tax authorities or even the CSD itself, in case such a claim would give rise to Principal Risk.

2.18 Delivery versus Payment (DVP) – SDC Environment

Recommendation

- The SDC should proceed with the implementation of its three-stage approach to the implementation of irrevocable DVP.**

As previously stated, the SDC has established a sound operational and technical base from which irrevocable DVP may be implemented. The three-stage approach adopted by the SDC constitutes a logical and prudent implementation methodology that has the highest possible chance of success.

The SDC decision to invest the time and resources to cleanse shareholder ownership records as the basis of Phase I DVP implementation has established a strong and highly credible base from which to proceed.

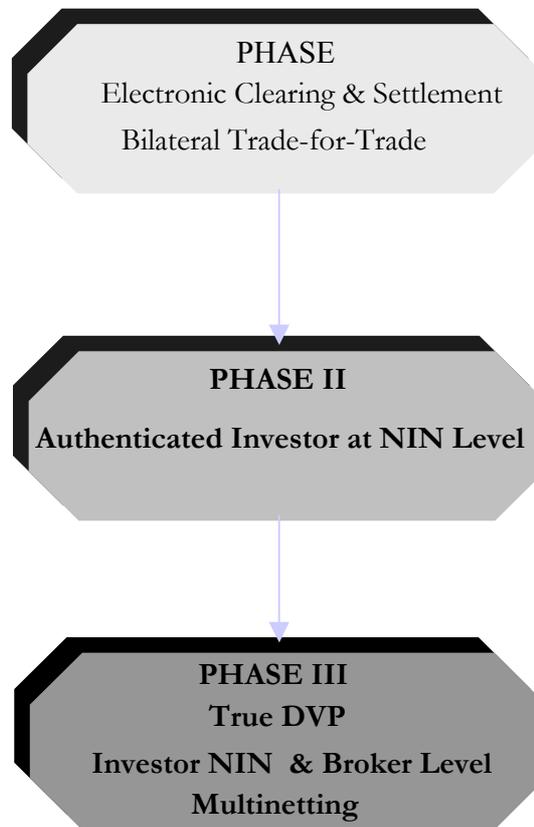
The three stages of DVP implementation are illustrated in the graphics, below:

- STAGES OF DVP IMPLEMENTATION
- DVP IMPLEMENTATION REQUIREMENTS

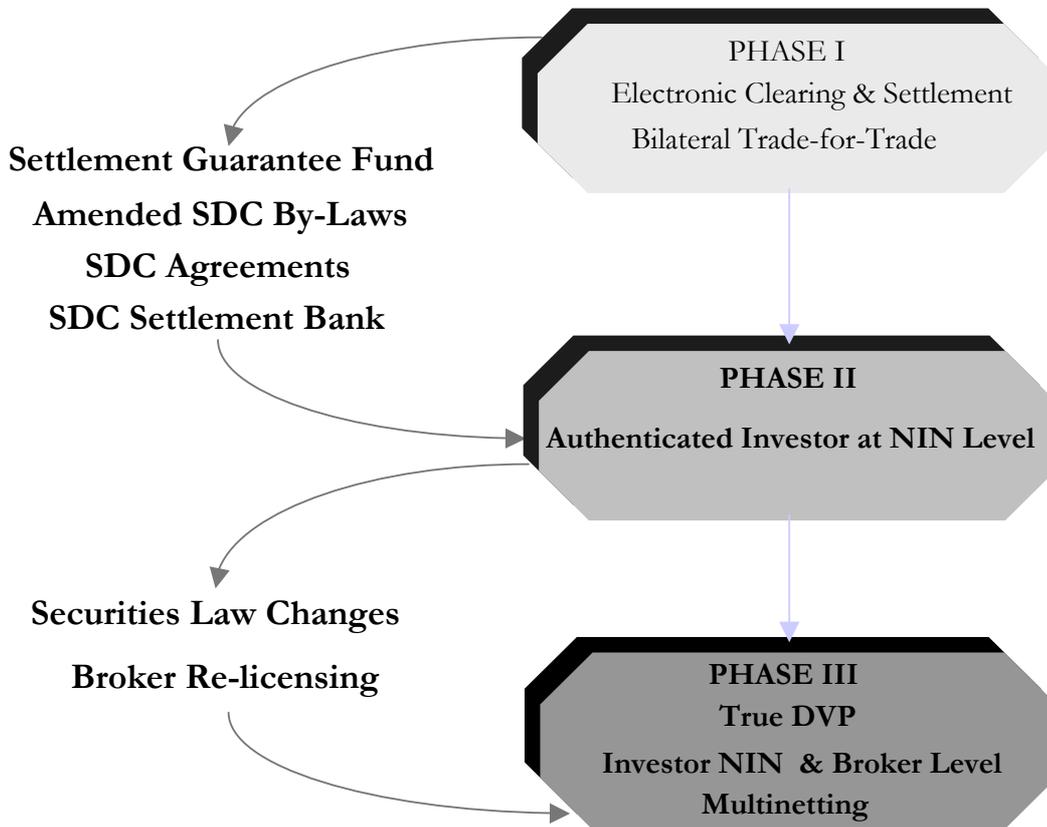
In viewing these basic charts it is important to note that the actual implementation process and the dependencies and requirements involved are significantly more complex than illustrated. Additionally, the implementation plan as currently configured is subject to modification dependent on the extent to which dependent requirements are delivered and put into practice.

The Clearing & Settlement Operational Assessment has not identified any actual or potential impediments that would prevent the implementation of irrevocable DVP.

STAGES OF DVP IMPLEMENTATION



DVP IMPLEMENTATION REQUIREMENTS



2.19 Finality of Settlement – Global Standards

Recommended Standards

- Final settlement should occur no later than the end of the settlement day.**
- Intraday or real-time finality should be provided where necessary to reduce risks.**

Settlement finality and the timing scheme involved should be defined clearly to all the participants for both Free of Payment transfers and Delivery versus Payment transfers. The completion of final transfers by the end of the day is essential. Deferral of settlement to the next business day can substantially increase the potential for participant settlement failures to create systemic disturbances, in part because in most markets regulatory authorities tend to close insolvent institutions between business days. It is important to note that end-of-day net settlements may entail significant liquidity risks, unless risk controls to address participant defaults are highly active and effective.

In many markets the central banks' monetary policy operations must be settled at a designated time within the day. Additionally, when a payment system requires credit extensions to be collateralized, it may be crucial for the smooth functioning of the payment system that this collateral be transferable with real-time or intraday finality.

2.20 Finality of Settlement – SDC Environment

Recommendations

- The SDC should maintain end-of-day finality of settlement.**
- The SDC should actively support the Tightly Coupling of the Clearing & Settlement System with the ASE trading System and Order Validation.**

The SDC's Finality of Settlement is provided on an end-of-day basis and it is recommended that this schedule be maintained. The end-of-day schedule is operating successfully and with the anticipated implementation of Order Validation as a result of Tightly Coupling, the resultant level of Risk Management will preclude going to an intra-day or real time finality schedule.

In the future, with the addition of new trading products and the expansion of the SDC's Clearing & Settlement Services may require revisiting the viability of an intra-day or real time finality of settlement schedule.

2.21 Failure to Settle Risk Controls – Global Standards

Recommended Standards

- CSDs should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle.

- . The most reliable set of controls is a combination of collateral requirements and limits.

Failures to settle can impose credit losses and liquidity pressures on a CSD or on a CSD's participants. If the losses and liquidity pressures exceed the financial resources of those expected to bear them, further failures to settle can result and the system as a whole may fail to achieve timely settlement. If so, both the securities markets and the domestic payment system may be disrupted.

The failure of a large participant to settle may create disruptions in any settlement system. The potential for disruption is especially large in net settlement systems that attempt to address such settlement failures by unwinding transfers involving failing participant. The unwinding process is usually attempted by deleting some or all of the provisional securities and funds transfers involving the failing participant and then recalculating the settlement obligations of other participants. Unwinding a net position has the effect of imposing liquidity pressures and associated replacement costs on participants that had delivered securities to, or received securities from, the participant that failed to settle. In the case where all such transfers must be deleted and if the unwinding occurs at a time when money markets and securities lending markets are illiquid, such as at or near the end of the day, the remaining participants could be confronted with shortfalls of funds or securities that would be extremely difficult to cover.

CSD Risk Controls, at a minimum, should enable the system to complete settlement following a failure to settle by the participant with the single largest payment obligation. Such failures may not occur in isolation, however, and systems should, wherever possible, be able to survive additional failures.

In determining the precise level of comfort to implement, each system will need to balance carefully the additional costs to participants of greater certainty of settlement against the probability and potential impact of multiple settlement failures. To achieve the chosen comfort level a CSD can use a variety of Risk Controls. The appropriate choice of controls depends on several factors, including the systemic importance of the settlement system, the volume and value of settlements, and the effect of the controls on the efficiency of the system.

The most reliable approach to controlling potential losses and liquidity pressures from participants' failures to settle is a combination of collateral requirements and limits.

To control potential credit exposures in this approach, any credit extensions on the funds or securities sides are fully collateralized. To ensure that credit exposures are, in fact, fully collateralized, the CSD applies haircuts to collateral values that reflect the price volatility of the collateral. Also as part of this approach, legally binding arrangements are in place to allow collateral to be sold or pledged promptly.

2.22 Failure to Settle Risk Controls – SDC Environment

Recommendations

SDC to establish a Settlement Guarantee Fund (SGF).

SDC not establish and implement Settlement Limits.

The SDC is planning to establish a Settlement Guarantee Fund (SGF). The SGF will be funded by mandatory, participant contributions based on each participant's *pro rata* share of the SDC's total daily settlement value.

In a case where a participant can not meet a securities settlement obligation (a Sale Fail) the SDC will debit the SGF and purchase the securities necessary to cover the short position in the open market. This process will allow settlement to proceed and protects the continuity of the overall settlement process. The SGF will be replenished as a result of the SDC requiring the participant who caused the original Sale Fail to repay the moneys used by the SDC to purchase the necessary securities in the open market. The participant causing the Sale Fail also is subject to a substantial fine and subsequent monitoring of future transactions.

It is not recommended that the SDC implement Settlement Limits. The imposition of Settlement Limits has a tendency to reduce activity in the marketplace and in many cases place an unfair business constraint on market participants. It is also quite possible that the ASE may implement Trading Limits as part of its Risk Management Program. The imposition of limits, of any kind, intended to mitigate risk are best implemented in the securities markets front end, i.e. the trading venue. Exchange-based Trading Limits are designed to prevent transactions from occurring in the first place and as such do not require any post-execution unwinding. The imposition of Settlement Limits on the other hand poses a difficult problem of enforcing risk mitigation after a legally binding transaction has taken place. The unwinding process required to enforce Settlement Limits could be cause more risk than the imposition was intended to mitigate. In simple terms, the procedures required to enforce Settlement Limits are not worth the disruption caused.

2.23 Cash Settlement Assets – Global Standards

Recommended Standards

- Assets used to settle the ultimate payment obligations arising from securities transactions should carry little or no credit or liquidity risk.**

- Steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.**

Settlement of payment obligations associated with securities transactions vary across market participants and CSDs. In some cases a market participant has a direct relationship with the CSD and with a cash settlement agent where the ultimate cash settlement occurs. In other cases a market participant has a direct relationship with the CSD but has no direct relationship with a cash settlement agent. Instead the market participant uses one of several settlement banks to settle its payment obligations. The settlement banks ultimately settle the cash leg by transferring balances held with the cash settlement agent. These transfers are made through an interbank payment system, typically a Central Bank payment system. The use of a payment system for this purpose would generally make it systemically important. Therefore, the payment system used for such interbank transfers should adhere to the Core Principles for Systemically Important Payment Systems (*Core Principles for Systemically Important Payment Systems*, BIS, 2001)

Markets where a single currency system prevails, some CSDs use the Central Bank as cash settlement agent, which eliminates the risk of its failure. Use of the central bank of issue as the single settlement agent may not, however, always be practicable due to the fact that many CSD members may not have access to accounts with the Central Bank. In a multi-currency system, the use of a Central Bank can be especially difficult. Even if remote access to Central Bank accounts by CSD members is possible, the hours of operation of the relevant Central Banks' payment systems may not overlap with those of the CSD settling in their currencies.

In marketplaces where a private bank, or a number of private banks, is used as the cash settlement agent, steps must be taken to protect CSD members from potential losses and liquidity pressures that would arise from the failure of one or more of the settlement agent banks.

A alternative used in many markets to provide the necessary protection is for a CSD to organise itself as a limited purpose bank and become the settlement agent by offering cash accounts to its members.

In order to limit the risk of default, the functions of a CSD as a limited purpose bank must be clearly defined and the CSD is required to:

- institute reliable controls on its credit exposures to members

- be strongly capitalised or supported by effective loss-sharing mechanisms or reliable third-party credit support arrangements
- strictly limit any non-settlement activities and associated risks.

Failure of a settlement bank may also give rise to systemic disturbances. CSD must be aware of the fact that the fewer the settlement banks, the greater the proportion of payments that will be effected through transfers of balances at these banks rather than transfers of balances at the settlement agent. It is therefore important that settlement banks are properly regulated institutions with the legal and technical capacity to provide effective service. If use of only a few settlement banks produces a significant concentration of exposures, those exposures should be monitored and the financial condition of the settlement banks evaluated, either by the operator of the CSD or by regulators and overseers.

Regardless of the payments arrangements employed, market participants should be able to retransfer the proceeds of securities settlements as soon as possible, at a minimum on the same day, and ideally intraday, so as to limit their liquidity risk and any credit risks associated with the assets used.

2.24 Cash Settlement Assets – SDC Environment

Recommendations

SDC establish a Settlement Bank Network (SBN)

SDC establish an effective monitoring & asset management system for funds in the SBN.

The SDC is in the early stages of establishing a Settlement Bank Network (SBN) The SBN will allow SDC participants to maintain a Cash Settlement Account at an SBN member bank. The transfer of funds between Net Buyers and Net Sellers will be effected by SDC authorized personnel through the SBN network.

The SDC has established a target date of June 20, 2002 for the distribution of a SBN Qualifications Packet. The packet is an RFP-like document and commercial banks receiving a copy will be invited to participate in the SBN qualification process.

Commercial banks receiving the packet will be asked to respond to a series of questions related to the bank's capability to meet the SDC's Cash Settlement business requirements, as stated in the packet. Responses to the packet when returned to the SDC by a predetermined submission deadline will be evaluated and between three (3) and six (6) banks will be selected as qualified members of the SBN.

Subsequent to qualification and selection negotiations will be held between the SDC and individual SBN member banks to execute a business contract covering SBN services. It is necessary for the implementation of DVP Phase III that the SDC SBN be in place, tested and operable.

2.25 Operational Reliability – Global Standards

Recommended Standards

- Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls and procedures
- Systems should be reliable and secure, and have adequate, scalable capacity.
- Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process

As a general rule Operational Risk is the risk that deficiencies in information systems or internal controls, human errors or management failures will result in unexpected losses. As Clearing and Settlement Systems become increasingly dependent on information systems, the reliability of these systems is a key element in operational risk. The importance of Operational Risk lies in its capacity to impede the effectiveness of measures adopted to address other risks in the settlement process and to cause participants to incur unforeseen losses, which, if sizeable, could have systemic risk implications.

Operational Risk can arise from:

- inadequate control of systems and processes
- inadequate management such as a lack of expertise, poor supervision or training and/or inadequate resources
- inadequate identification or understanding of risk and the controls and procedures needed to limit and manage risk
- inadequate resources devoted to Operational Risk Control compliance

In order that Operational Risk be minimized, CSDs as operators of Clearing and Settlement Systems should identify sources of operational risk, whether arising from the arrangements of the operator itself or from those of its participants, and establish clear policies and procedures to address those risks.

There should be adequate management controls and sufficient qualified personnel to ensure that procedures are implemented accordingly. Risks, operational policies and

procedures, and systems should be reviewed periodically especially after modifications have been made to the system. Information systems should also be subject to periodic independent audit, and the conducting of external audits should be seriously considered.

2.26 Operational Reliability– SDC Environment

Recommendations

- SDC Risk Controls be incorporated in the SDC Operations Manual.**

The SDC IT systems have been in development for some time and benefit considerably from the advisory support and management consultancy provided by the AMIR Project. The operational and support process and procedures currently in place are definitely compliant with generally accepted global standards and in many cases exceed global standards.

There is a very large amount of detail supporting the systems environment currently operating at the SDC. From an operational perspective the only recommendation to be made is that the SDC document all of the procedures related to systems operation and maintenance. The collected and codified documentation should also be incorporated into the SDC Operations Manual.

2.27 Protection of Customers Securities – Global Standards

Recommended Standards

- Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities**
- It is essential that customers' securities be protected against the claims of a custodian's creditors.**

The protection of customer securities comes under the category of Custody Risk. Custody Risk can be defined as the risk of a loss on securities held in custody occasioned by a custodian's or sub-custodian's insolvency, negligence, misuse of assets, fraud, poor administration, inadequate record keeping, or failure to protect a customer's interests in securities. A failure to protect a customer's interest in securities held is related to monitoring a customer's entitlement in voting rights and Corporate Action-related entitlements.

Although traditionally Custody Risk applied mostly to bank custodians, in most modern securities markets CSDs also hold and administer securities on behalf of their direct participants, and thus present custody risk. Custody Risk on the part of a CSD is most

applicable in Jordan since the SDC does hold securities in a safekeeping capacity down to the level of Beneficial Owner for all market participants.

Global standards require that a customer's securities be immune from claims made by third-party creditors of the customer's custodian. Although the ideal is not realized in all circumstances, when the entities through which securities are held are performing their responsibilities effectively, the likelihood of a successful legal claim made on a customer's securities by a third-party creditor is minimized.

The most common procedure used to protect customer securities from third-party claims is segregation. It is required that customer securities, although held through a custodian, be clearly identified and segregated to the greatest extent possible so as to clearly differentiate the ownership of a customer's securities from securities owned by the customer's custodian.

2.28 Protection of Customer Securities– SDC Environment

Recommendation

- SDC to document Chart of Account holding schemes & incorporate holding schemes in the SDC Operations Manual.**

The SDC's ownership account structure, or Chart of Accounts, accommodates the safekeeping of securities down to the Beneficial Owner level. The capacity to maintain safekeeping accounts at the level of Beneficial Owner provides the maximum amount of protection of customer securities against third-party claims.

The Operational Assessment has evidenced that fact that exposure of customer assets to third-party claims in case of default is practically nil.

Section 3 SDC Participant Issues

This section presents SDC issues, identified in the assessment, as they impact SDC participants. Some of the issue topics are repeated in other sections of the report from an SDC operational perspective, an SDC business perspective and from an SDC Technical perspective.

3.01 Agreements

Recommendations

- The SDC establish a Contractual Chain in the marketplace by mandating business service agreements between:**
 - SDC and Depository Participants**
 - SDC and Safekeeping Services Clients**
 - Depository Participants and their clients**
 - Depository and members of Settlement Bank Network**
 - SDC and the ASE**

- The SDC obtain sample marketplace contracts from Peer Depositories and adapt those contracts for use in the Jordan marketplace.**

The creation of a Contractual Chain in the marketplace binds all market participants who participate in any way with the Depository in a business network wherein each participant's roles and responsibilities are clearly defined and understandable.

In creating a Contractual Chain the SDC is materially increasing the level of business transparency in the marketplace and significantly reducing the amount of actual and potential confusion. A marketplace in which all of the participants roles and obligations are clearly defined and enforceable via legal contracts, removes uncertainty and increases investor confidence.

3.02 Chart of Accounts

Recommendations

- The SDC should insure the safety of shareholder securities holdings by segregating account holdings and preventing the co-mingling of assets.**
- Amendments to the Securities Law should include transaction securities protection against liens and default proceedings.**
- SDC By-Laws to include transaction protection in case of contraparty default/bankruptcy.**

A SCD's Chart of Accounts should be constructed to afford the maximum level of protection to the assets of the account holder. It is important that market intermediaries such as securities brokers and dealers and Custodian Banks be prevented from unauthorized access to and use of customer assets.

In Jordan the SDC has a responsibility to insure that individual securities holders' assets are held separate and apart from the assets of any third-party who represents the individual securities holder. Under no circumstances should the assets of an individual securities holder be mixed or co-mingled with any other account. The co-mingling of assets is dangerous and can lead to the unauthorized, improper and illegal use of securities holder assets.

In cases where an individual securities holders are doing business through a Custodian Bank or a securities broker proper care should be exercised to insure that asset movements are duly authorized by the rightful owner.

The SDC has implemented a Chart of Accounts Structure that is safe and provides a high level of protection to Beneficial Owners. Additionally, the SDC Chart of Accounts is reasonable compatible with generally accepted global standards.

However, the SDC must exercise caution in the future as new securities products, settlement procedures and new types of investors appear in the marketplace. It is recommended that all such events in the marketplace be submitted by the SDC to opinion of counsel in order to insure that the highest levels of securities holder asset protection are maintained.

3.03 Delivery versus Payment (DVP) Procedures

Recommendations

- The SDC should create participant-oriented DVP procedures and instructions.**

Although the concept of DVP has been known in the Jordan securities marketplace for some time, it is required that the SDC create and distribute a participant-oriented implementation plan. In order to insure the orderly operations of the settlement process, it is required that all participants in the process clearly understand the mechanics of the process, i.e. how it works, and their individual roles and responsibilities within the process.

In each of the DVP implementation stages it is recommended that the SDC take steps to inform and train depository participants and to take all reasonable steps to insure that each participant has a working knowledge of the process mechanics.

Participants that do not fully understand each of DVP settlement implementation stages constitute a source of potential disruption to the settlement process.

Although the SDC can not guarantee each participant's level of understanding, the SDC can disseminate information and conduct abbreviated training/familiarization sessions on each DVP stage.

3.04 Broker Re-licensing

Recommendations

- The JSC should amend criteria for professional licensing of brokerage firms.**
- The SDC should establish a Net Capitalization Requirement for Direct Participation in the depository.**
- The SDC consider establishing a two-tier membership structure consisting of:**
 - Direct Participants satisfying Net Cap Requirement**

□ Indirect Participants not satisfying the NET Cap Requirement and accessing services through a Direct Participant

In order to support the broadest level of participation in the securities marketplace, generally accepted global standards recommend that access to Clearing and Settlement Services be open to a many participants as possible.

Broad access to CSDs and other providers of services critical to the clearance and settlement process encourages competition among users and promotes efficient, low-cost clearing and settlement.

However, in order to effectively manage the risks associated with settlement it is also required that participants have the technical, business and risk management expertise, necessary legal powers and adequate financial resources so that their activities do not generate unacceptable risk for the CSD or for other users and their customers.

In the Jordan capital markets it is the responsibility of the SDC to strike a workable balance between the requirement for broad access and the requirement for the prudent management of settlement risk.

It is recommended that the SDC establish a Net Capitalisation Requirement (Net Cap) that is reasonable for the Jordan Capital Market. Market participants meeting the Net Cap requirement will qualify for direct access to the SDC's Clearing and Settlement Services.

It is also recommended that the SDC support indirect access to its Clearing and Settlement Services. Indirect access will be provided to those market participants who do not meet the SDC Net Cap by designating such entities as Indirect Participants. Indirect Participants will be required to establish a Correspondent Relationship with an entity that has met the SDC Net Cap and is a Direct Participant. Direct Participants entering into a Correspondent Relationship with an Indirect Participant will be responsible for guaranteeing all of the obligations of the Indirect Participant. It is the responsibility of the Direct Participant to fully

Section 4 SDC Operations Issues

This section presents SDC issues, identified in the assessment, as they impact SDC Operations. Some of the issue topics are repeated in other sections of the report from an SDC Participants' perspective, an SDC business perspective and from an SDC Technical perspective

4.01 Management

Recommendations

- The SDC appoint key management personnel as soon as possible including but not limited to:**

- Chief Operations Officer (COO)
- Chief Information Officer (CIO)
- Internal Auditor

- The SDC document all operational and technical procedures and incorporate the documentation in a comprehensive Operations Manual.**

In the Jordan capital markets the SDC is the sole provider of Clearing and Settlement Services and as such the SDC's performance is a critical determinant of the safety and efficiency of the national capital markets, which is a matter of public as well as private interest. It is absolutely critical that a sole-provider institution such as the SDC be supported by the strongest level of professional management.

Presently the SDC is operating without a COO, a CIO or an Internal Auditor. It is strongly recommended that the SDC recruit, appoint and install qualified individuals to fill these positions as soon as possible.

It is fully realized that procuring the services of the number of qualified professionals required is a difficult task and that suitably qualified individuals may not be available in Jordan.

It is also fully realized that qualified individuals currently residing outside of Jordan or the immediate region, may not wish to relocate. However, the realities of the situation do not obviate the critical need for fill the SDC's management gaps.

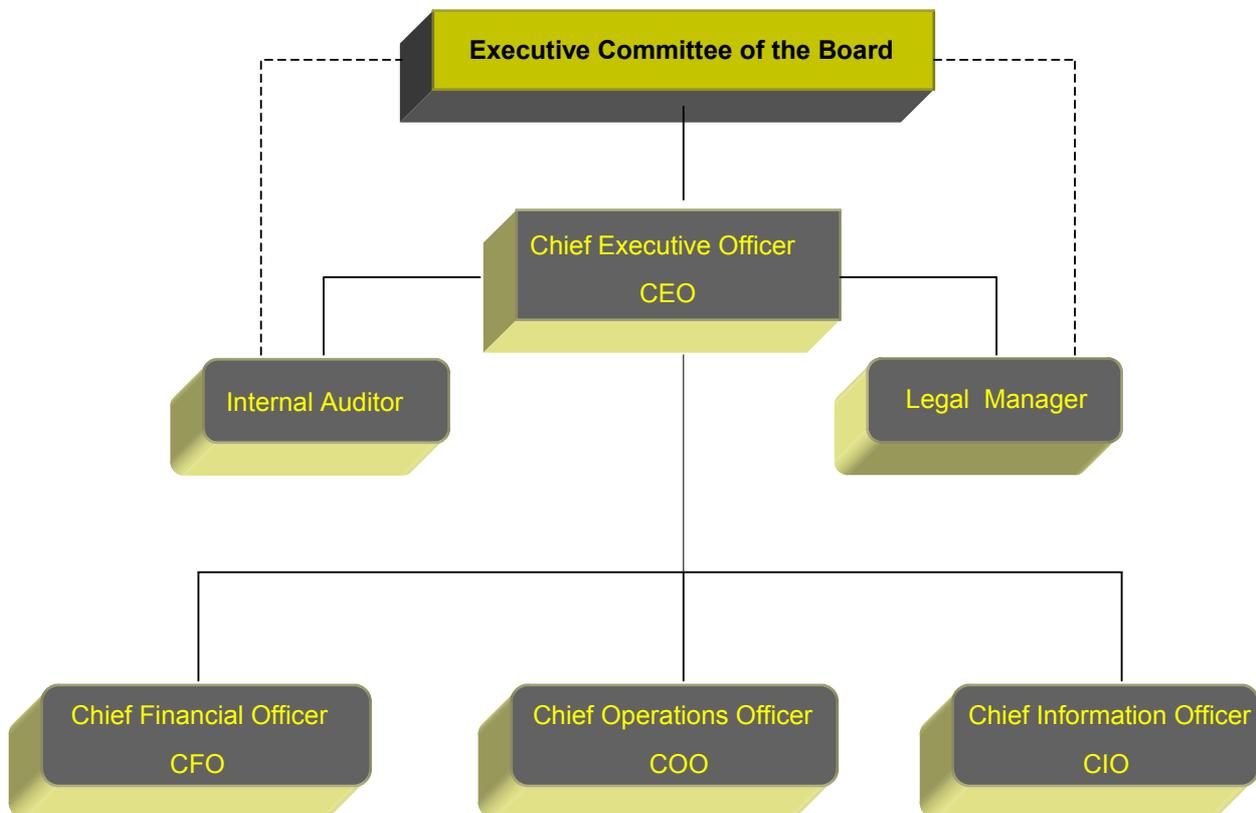
It is recommended that in the absence of procuring the services of qualified individuals on a full time basis, the SDC contract the services of professional consultants on a short-term basis to fill the immediate management needs. During the period of the short-term consultancy it is required that the SDC identify suitable candidates for the management positions from within the organization or within Jordan. The candidates chosen will be identified as having the capacity to transition into the appropriate management positions and will be fully supported by the professional consultants until such time as the individuals selected are deemed capable of performing the duties required.

It is critical for the orderly and credible conduct of business that the SDC make a decision and not procrastinate in the hope of obtaining suitable candidates at some time in the distant future.

Activity in the Jordan capital markets will increase dramatically in the near future and it is absolutely critical that the SDC have its management team in place to cope with this activity in an orderly manner. Failure to act decisively and in a timely manner will place post-trade processing and the capital markets at dire operational risk.

A simple, high-level outline of a recommended management structure is provided, below.

SDC MANAGEMENT STRUCTURE



4.02 Records Security

Recommendations

- The SDC design, test & implement a Records Security Program**
- The SDC incorporate the Records Security Program into the Operations Manual.**

The accuracy and completeness of shareholder records and shareholder securities account balances are critical to the orderly operations of the capital market. Records that are incomplete or otherwise inaccurate also seriously impact liquidity in the marketplace. A sell order where the seller's ownership rights are not clear or legally suspect can not be executed and as such interferes with the seller's access to the sale funds and with the potential buyer's acquisition of the shares.

In both of these situations liquidity in the marketplace is effected due to the diminished capacity of buyer and seller to transact additional or carry forward business.

As has been evidenced in several emerging markets in Eastern Europe, a lack of accuracy in shareholder records can create chaos in the securities marketplace and in some instances cause the trading of securities to cease altogether. It has also been historically true that potential investors will avoid securities markets where the assurance of acquiring clear and unencumbered title to shares purchased in the marketplace is in any way problematic.

The SDC has performed very well in accepting and cleansing Shareholder Registers form issuers. The operational mechanics employed during the SDC's "mini-DVP" process were based on sound business practices and were very effective in establishing the accuracy and legality of shareholder ownership. Overall, the results of the authentication process as reviewed in this assessment were compliant with generally accepted global standards and in many cases exceeded those standards. The current credibility level of authenticated shareholder positions in the Jordan capital markets is extremely high.

In order to capitalize on the work performed to date and to insure the continuity of the highest levels of reliability, it is recommended that the SDC formalize all of the procedures utilized during the "mini DVP" program into a Records Security Program. It is also recommended that all employees of the SDC, including senior management and Board members, execute Confidentiality Agreements.

In order to preserve the current level of records security it is also recommended that additions, deletions and enhancements to shareholder records be:

- restricted to authorized staff
- supported by an Audit Trail
- subjected to random, independent audit
- subjected to random inspection by SDC management

In the course of Clearing & Settlement Operational Assessment it was discovered that IT personnel were permitted to modify production data records. It is strongly recommended that this practice be prohibited. It is also recommended that the SDC Development System be strictly segregated from the SDV Production System.

4.03 SDC Settlement Guarantee Fund (SGF)

Recommendations

The SDC establish a Settlement Guarantee Fund.

The SGF be supported by participant collateral contributions.

Funds currently resident in the ASE Fund be moved to the SDC Fund.

In order to mitigate overall risk in the securities marketplace and to increase investor confidence it is mandatory that the continuity of the market's settlement process not be disrupted by the failure of one or more participants to meet their settlement obligations. Once market participants execute a securities contract the participants should have the highest assurance possible that on payment of their cash they will receive their securities and that on delivery of securities they will receive cash. A securities market that does not provide support such an environment will soon be out of business. The most fundamental principal in all securities markets is the reasonable expectation that there will be an exchange of equal value, i.e. cash for securities, as the result of a securities trade.

There is little value in trading securities if sellers experience difficulty in receiving cash and buyers experience difficulty in receiving securities. In such situations investors will very quickly find a more efficient and cost-effective method of obtaining a reasonable return on their assets.

In order to reduce the number executed trades that fail to settle, CSDs utilize a variety of Risk Management tools. The most commonly used tool is the establishment of a Settlement Guarantee Fund (SGF). In situations where a depository participant can not, for whatever reasons, meet their cash or securities settlement obligations funds are taken from the SGF to directly cover the short cash position or to purchase securities in the open market to cover a short securities position. The use of the SGF prevents the occurrence of a single cash or security fail from rippling through the market and causing a domino-like systemic failure. The use of funds from the SGF to cover short positions allows settlement transactions to continue without interruption.

Recommendations relating to the size and composition of a SGF were initially established due to concerns of the Bank for international Settlements related to the Interbank Netting Schemes of the central Banks of the Group of Ten Countries. An initial concern was the exposure of these systems in Foreign Exchange (FX) trading and especially cross-border FX trading. Recommendations and minimum requirements were made in November 1990 in the *BIS Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* which came to be known as the Lamfalussy Report after the chairman of the committee, M.A. Lamfalussy.

The initial minimum recommendation in the report was stated as:

“Multilateral netting systems should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single net-debit position.”

The committee recognized that all netting systems should establish settlement and fail-to-settle procedures that would ensure the timely completion of daily settlements. In establishing the 1990 minimum requirements the committee suggested that as a minimum condition in the event of a failure to pay by the participant with the largest single net-debit position, the netting provider or central counterparty and the participants should be able to ensure the satisfaction of the remaining participants' direct and contingent

settlement obligations for that settlement day. It was recommended that the best way to accomplish this was through the permanent availability of specifically-identified credit and liquidity resources.

In the years following the publication of the Lamfalussy Report the principles contained in the original report were gradually expanded to include all settlement systems including those systems responsible for the settlement of securities transactions. As a result of the original Lamfalussy Rule has evolved into several versions of minimum requirements, one of which has been applied to the current Jordan securities market to determine the funding requirements of an SDC administered SGF.

Considering the number of active professional participants operating in the Jordan securities markets, participants' financial condition, the availability of capital and the liquidity of the overall market a version of the Lamfalussy Rule was created. According to the derived requirement the amount of liquid collateral required to be in the SDC's SGF was determined to be equal to the aggregate value of the average daily settlement obligations of the SDC's three (3) largest participants for one (1) Settlement Cycle. Based on an analysis of market activity from October 2001 through April 2002, the amount required to fund the SGF was equal to 5.8 million JD.

Subsequent to establishing the funding level, individual SDC participant funding contributions were determined based on each SDC participant's average daily settlement obligation over the market period of October 2001 through April 2002. Funding contributions ranged from a high of almost 600,000 JD to a low of just over 27,000 JD.

At present the ASE maintains a "market" fund for the benefit of Exchange members to assist individual Exchange members through periods of temporary financial stress. The ASE Fund currently contains approximately 600,000 JD in Exchange member mandatory contributions.

The idea of having a fund to support market participants is common in many markets. However, in the Jordan marketplace the fund is in the wrong location to be applied for the wrong reason. The value of the funds application is not to support the reputation and credibility of the Exchange but to support the overall credibility of the securities markets and the continuity and safety of the settlement process.

It is recommended that:

- the SDC establish a Settlement Guarantee Fund (SGF)
- Moneys currently in the ASE Exchange Fund be transferred to the SDC SGF.

4.04 Tightly-Coupling

Recommendation

- Tightly-coupling of the ASE Trading System and the SDC Clearing & Settlement System proceed without delay.**

The possibility of interfacing or tightly-coupling the Trading System of the ASE and the Clearing & Settlement System of the SDC has been under discussion for some time. There are material benefits for implementing such a connection the most important of which would be the ability to validate securities Sell Order prior to display for execution. The implementation of Order Validation would significantly reduce if not eliminate the number of Sale Fails in the market.

A marked reduction in, or the elimination of Sale Fails would, in turn dramatically reduce the funding required for the SDC SGF. It is estimated that the reduction in funding would be on the order of tenfold. The immediate impact on market participants would be a reduction in the amount of funding and commensurate participant contributions required by the SGF from 5.8 million JD to 580,000 JD.

An ancillary benefit which is qualitative rather than quantitative would be a marked increase in the comfort level and confidence of the part of investors, especially foreign institutional investors. In a tightly-coupled environment investors would have the highest possible level of assurance that DVP Settlement would take place thus eliminating Principal Risk from the marketplace.

Tightly-coupling in conjunction with a prudently-managed SGF would establish the Jordan capital markets as one of the safest and most credible in the world and certainly the most attractive investor-friendly market in the Arab world.

It is strongly recommended that the tightly-coupling of the ASE Trading System and the SDC Clearing & Settlement System proceed without delay.

4.05 Settlement Surveillance

Recommendation

The SDC to implement a Settlement Surveillance Program.

The SDC to implement a Compliance Referral Program with the JSC.

A CSD is responsible in a large part for supporting the credibility of the securities markets. In order to insure that its rules and procedures are adhered to a CSD must review settlement transactions for compliance. Transactions not matching acceptable processing criteria should be reviewed and as required referred to the market regulatory for further action, including enforcement.

The protection afforded market participants as a result of CSD surveillance is extremely valuable in attracting and retaining investors to the securities markets. A CSD enjoys the unique role and reputation of an independent institution in the marketplace whose sole interest is the orderly and secure conduct of business.

It is strongly recommended that the SDC implement an active Settlement Surveillance Program and a Compliance Referral Program.

4.06 Securities Lending

Recommendation

- The SDC to prepare a Business Case for Securities Lending in the Jordan Capital Markets**
- The SDC to submit the Securities Lending Business Case to the JSC for review, comment and approval of next steps.**

Sections 2.10 and 2.11 of this report provide information on Securities Lending. The additional information provided in this section is related to the recommendation that the SDC issue a Business Case on Securities Lending in the Jordan Capital Markets. The purpose of the Business Case is to establish the positive and negative aspects associated with implementing Securities Lending in the Jordan Capital Markets.

In addressing the issue it is important to remember that the implementation of a Securities Lending Program automatically brings with it Short Selling. It is not possible for the administrator of a Securities Lending Program to distinguish between a transaction that is a true securities loan executed for the purpose of covering a short position or raising cash against securities collateral, or an intentional covered Short Sale. In markets where Short Sales are permitted this does not create a problem. In markets, such as Jordan, where Short Sales are not permitted it is definitely a problem.

Most transition and emerging markets that have seriously addressed the issue of Securities Lending have decided to adopt a tightly-regulated program of Securities Lending due to the fact that the positive benefits of increased liquidity, decreased Sale Fails and enhanced financing capabilities far outweigh the negative aspects of Short Selling abuses.

The SDC should adopt a neutral approach and in keeping with its position as an independent market institution, maintain an open approach to the construction of an unbiased Business Case.

4.07 Settlement Bank Network (SBN)

Recommendation

- The SDC to establish a Settlement Bank Network to process Cash Settlement Payments.**
- The SDC to create a Business Case for the Securities Depository as a Limited Banking Company.**

In the current Jordanian environment the SDC is not permitted to maintain cash accounts for participants and must rely on commercial banks to move funds in order to settle the cash portion of a securities trade. Reliance on a commercial bank or a number of commercial banks to effect cash settlement is normal in markets where the CSD is prohibited from providing cash accounts.

It is generally recommended that a CSD relying on the commercial banking sector for cash settlement services, choose more than one bank to act as its settlement bank. The recommendation is premised on general caution to be utilized in not maintaining all participants settlement funds in one institution.

It is recommended that the SDC establish a Settlement Bank Network (SBN), consisting of three (3) to six (6) commercial banks. SDC participants would be required to maintain settlement accounts at one and only one banking institution in the SBN. The account structure maintained by SDC participants at an SBN member bank should facilitate the tracking of funds used to settle securities transactions, especially agency/client transactions.

It is important for surveillance purposes that the SDC is capable of tracking funds used to settle transactions in order to identify the illegal use of client funds by a market intermediary.

In order to establish a SBN that meets the SDC's business requirements, it is recommended that the SDC qualify a number of commercial banking institutions as members of the SBN. It is recommended that banking institutions be qualified as SBN members by means of an RFP-type process. The qualification process would be conducted by creating SDC business requirements and incorporating those requirements in a Qualifications Packet to be distributed to commercial banks in Jordan. The Qualification Packet would contain general information relating to the SDC's Clearing & Settlement Services and request answers to a series of specific questions related to an institution's capacity to meet the SDC's business requirements.

Responses to the Qualification Packet's questions would be required to be submitted prior to a predetermined deadline and once submitted would be evaluated by the SDC.

The dissemination of the Qualifications Packet and the objective valuation of responses received places the construction of the SBN plainly in the public domain and eliminates any perception of possible bias on the part of the SDC in qualifying commercial banks for membership in the SBN. In adhering to general RFP-type procedures the SDC will invest the creation of the SBN with a significant level of transparency, thus investing the SBN itself with a similar level of professionalism and transparency.

The start up of the SBN will be dependent on the conclusion of negotiations between the SDC and the commercial banks that have qualified as members of the SBN. The two basic graphs, below, provide a high-level concept of the SBN.

CHART A - SBN CHART OF ACCOUNTS

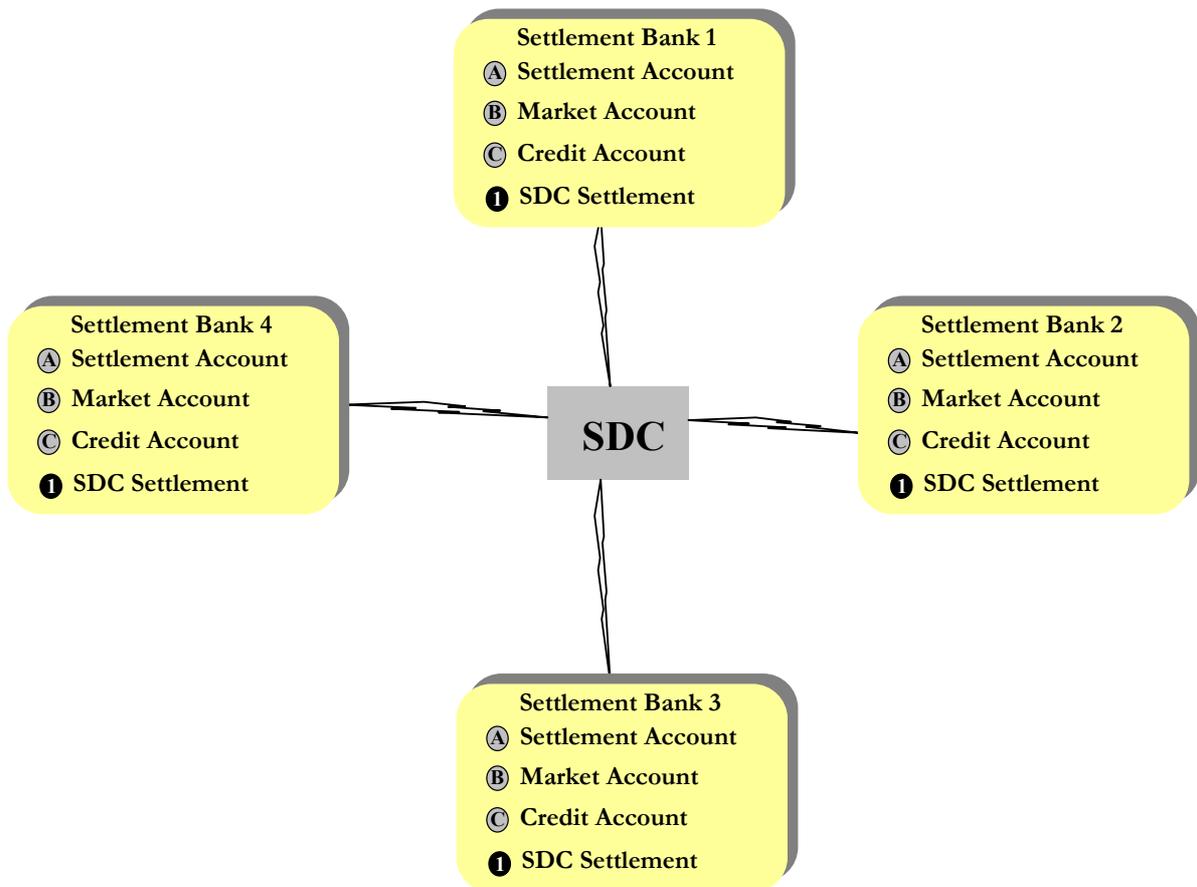
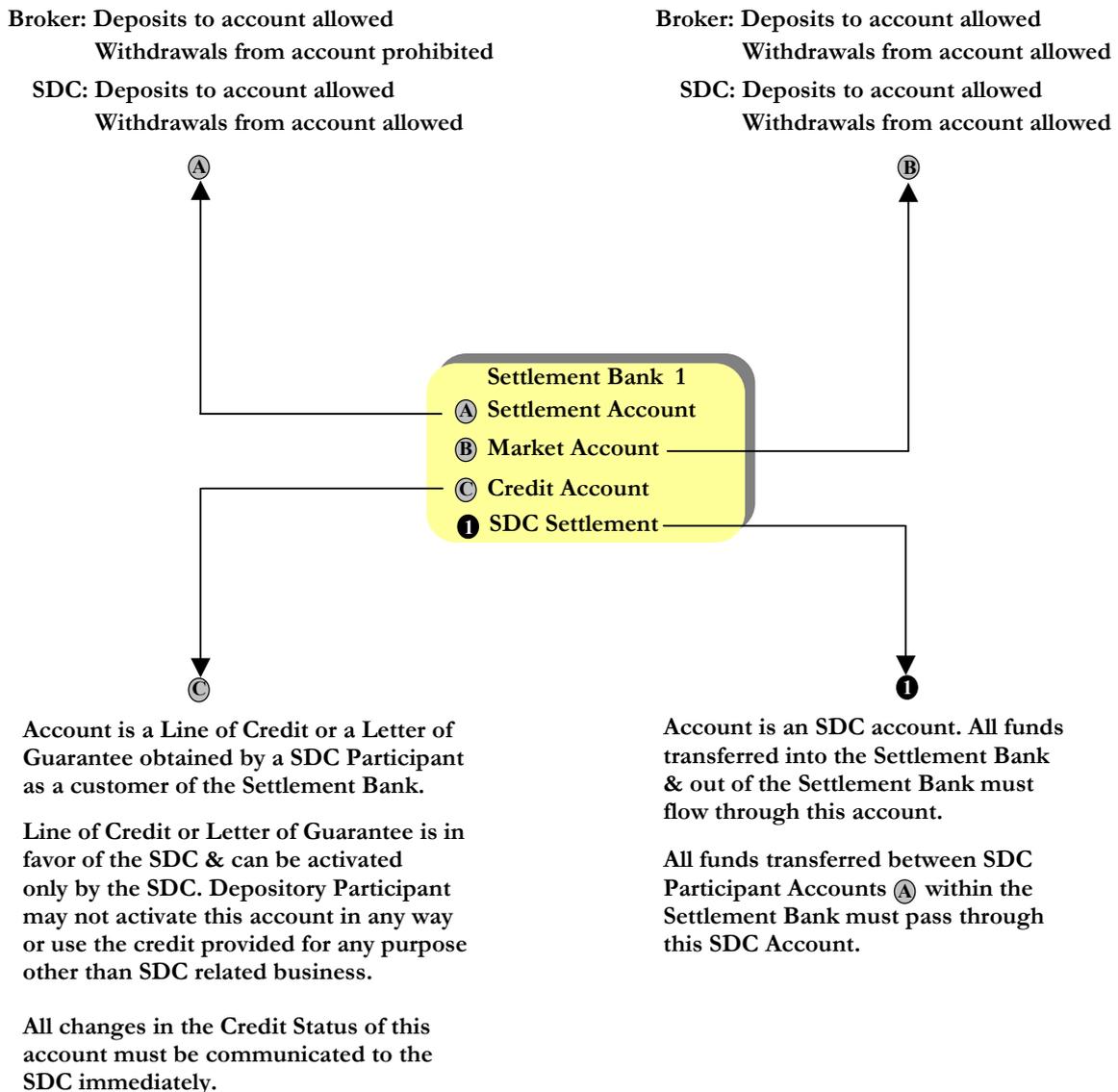


CHART B - SBN ACCOUNT ACCESS REQUIREMENTS



4.08 Registrar Services

Recommendation

- The SDC to establish all non-Clearance & Settlement services under a line of business titled Registrar Services.**

In markets where the CSD also provides Registrar Services, it has proved more manageable from an operations perspective to segregate all Registrar services operations from those operations functions related to Clearance & Settlement Services.

Registrar Services operations functions tend to be manually intensive and also tend to vary significantly in terms of processing activity. Although there can be planned sharing of staff resources to level traditional activity spikes, the performance of Registrar Services functions should always be secondary to the performance of provisioning of Clearance & Settlement Services.

In many transition and emerging markets the level of Clearing & Settlement Services have, in many cases, declined in order to provide seasonal or periodic staff support to Registrar Services. It is recommended that the SDC segregate staff resource and service provisioning priorities between Clearance & Settlement Services and Registrar Services.

The segregation of services is not a major point and is included in this report only as a caution to avoid any decline in the SDC's prime service objective.

4.09 Delivery versus Payment Implementation

Recommendation

- The SDC to proceed with its 3 Stage implementation of Delivery versus Payment.**

The SDC's 3 Stage DVP Implementation Plan provides a logical and operational sound methodology for the eventual provisioning of irrevocable DVP. The SDC management's plan with its staged approach supports a manageable approach to the implementation of the multiple and somewhat complex functionality necessary to support a complete suite of Clearance & Settlement Services.

The operational considerations for DVP implementation are primarily related to the coordination of business and technical requirements and assuring that one segment of the implementation does not outpace any other. Additionally, as mentioned previously in Section 4.01 it is critical that the SDC have in place key members of its management team supported, as required, by dedicated advisory support staff on a full-time basis.

It is important that every attempt be made to provide advisory services on a full-time basis in order to avoid inconsistent support levels and non-availability of advisory support at critical operational junctures. The implementation of DVP, although

accomplished in a phased approach is, never the less, a full time job. Management of the process, including advisory support provided must be provided on a full-time basis. Partial support will result in partial implementation.

In order to be effective the DVP launch must be carefully managed according to a comprehensive Implementation Schedule supported at each stage by appropriate:

- Test Scripts
- Testing Evaluations
- Operational Adjustment Follow Up Controls
- External Entity Interface Testing
- Critical Path Analysis
- Schedule Performance Checkpoints

It is recommended that prior to the launch of Phase 3 a complete IT Fitness & Operational Readiness Audit be conducted to assure that all operational and technical components are performing correctly.

4.10 OTC Transaction Settlement

Recommendations

- The SDC to create a Business Case for Depository Processing of OTC Transactions.**
- The SDC to present the Business Case for Depository Processing of OTC Transactions to the JSC for review, comment and recommended next steps.**

In order to increase the level of transaction processing transparency in the marketplace, it is recommended that the SDC consider providing Clearance & Settlement Services for OTC transactions executed on an off-market basis.

In some markets it does make operational sense to include OTC transactions in the CSD whereas in other markets operational and financial difficulties preclude the processing of OTC transactions through the CSD.

Considering the amount of operational work to be done by the SDC it would be wise to schedule the consideration of OTC processing after the implementation of DVP Stage 3.

Section 5 SDC Business Issues

This section presents SDC issues, identified in the assessment, as they impact SDC Business. Some of the issue topics are repeated in other sections of the report from an SDC Participants' perspective, an SDC Operations perspective and from an SDC Technical perspective

5.01 By-Laws Amendment

Recommendations

- The SDC amend its By-laws to include those rules and regulations necessary for the orderly conduct of business in Phase I of DVP Implementation.**

- The SDC continually assess the suitability of its By-Laws to effectively support its role as the sole provider of Clearing & Settlement Services and as necessary submit amendments to the JSC for review and approval.**

The By-Laws of the SDC are a very important component in the orderly management of the Depository. This situation is especially true in light of the need to amend the current Securities Law. The SDC By-laws also constitute a key component of the marketplace's Contractual Chain mentioned previously in this report.

In order to provide Clearing & Settlement Services in an orderly manner it is necessary for all Depository participants to have a clear and unambiguous understanding of their roles and responsibilities in the post-trading marketplace. It would be virtually impossible for the SDC to carry on business in an environment where performance requirements and responsibilities were ill-defined and the business role of the SDC as a primary service provider were vague. In most markets it is necessary to establish a uniformity of business and operational procedures so as to support market participants in their formulation and implementation of business strategies. In the absence of a clearly-defined and mutually agreed upon set of business rules, market participants would experience serious difficulties in conducting their business in a logical, orderly and effective manner.

The Financial Services sector of the capital markets and the securities market itself are extremely dynamic and are by economic necessity in a state of constant change. The SDC is required to support such a dynamic marketplace and is also required to insure that its operational and business rules and procedures are appropriate to the orderly conduct of business. It is necessary that the SDC continually assess the effectiveness and suitability of its By-Laws and as required amend the By-Laws to support a dynamic service environment.

5.02 OTC Market

Recommendations

- The SDC to assess the business practicality of providing Clearance & Settlement Services for OTC Transactions.**

As previously mentioned the inclusion of OTC Transactions in general marketplace processing is recommended as an enhancement to a market's transparency. However, what may be in the best interests of market transparency may not be in the best interest of the market's CSD.

It is recommended that the SDC assess the financial viability of providing Clearance & Settlement Services for OTC Transactions. In performing the assessment the SDC is required to balance the benefits of increased transparency in the marketplace with the costs of providing OTC Clearing & Settlement Services.

A key element in the assessment are the operational, business and technical costs of incorporating OTC Settlement into the existent suite of Clearing & Settlement Services. Depending on multiple factors the incorporation of OTC Transactions may in actuality be disruptive to the Clearance & Settlement of on-market transactions.

5.03 Registrar Services

Recommendations

- The SDC establish Registrar Services as a separate line of business.**

In order to effectively manage the delivery of Registrar Services at a reasonable cost, it is recommended that the SDC establish Registrar Services as a separate line of business. The segregation of Registrar Services from Clearing & Settlement Services would facilitate the implementation of appropriate Fee Schedules for both lines of business.

In a co-mingled operational environment where support service resources are not clearly identified it is difficult to determine the profitability of divergent lines of business and to design appropriate Fee Schedules. Additionally, in a co-mingled processing environment it is difficult to apply specific remedial action when overall profitability declines. The segregation of diverse lines of business allows enterprise management to localize budgetary problems and apply effective remedial action.

Although there can be cross use of resources between separate lines of business, the movement of resources across business lines must be carefully controlled and tracked. The fact that the SDC is structured as a not-for-profit institution does not absolve the SDC from the requirement to operate in a manner that is in line with prudent financial management. The SDC also has a responsibility to provide its participants with a high level of business service at a reasonable cost. If the SDC can not provide its services at a reasonable cost, investors will be forced to look for alternative markets where the cost of doing business, including the overhead cost of post-trade settlement services, does not negatively impact trading costs and profits. Investors will not participate in a securities market where a disproportionate part of their profits are consumed by high processing fees.

5.04 Settlement Surveillance

Recommendations

- The SDC determine the financial practicality of performing Settlement Surveillance.**

The effective performance of Settlement Surveillance enhances the credibility of a securities market. However, as with many other desirable services that can add value to the marketplace it is not always economically practical to provide such services. Although, a CSD may have the operational and technical capability to provide such services the cost to participants of providing such services make the proposition unattractive.

It is recommended that the SDC determine the financial practicality of providing Settlement Surveillance. In making such a determination the SDC will be required to weigh the obvious positive benefits of providing surveillance with the actual cost of sustaining such a service.

The provisioning of Settlement Surveillance is critical to the credibility of a securities market and as such the decision to provide such a service or not to provide such a service should not be reduced to a purely profit or loss proposition. In many markets the CSD consciously provides Settlement Surveillance at a loss or on a subsidized basis with a subsidy provided by a regulatory agency.

In light of the fact that Settlement Surveillance is important to the overall regulation of the securities market, it is recommended that the decision to provide such a service be made in close cooperation with the JSC.

Section 6 SDC Technical Issues

This section presents SDC issues, identified in the assessment, as they impact SDC technical operations. Some of the issue topics are repeated in other sections of the report from an SDC Participants' perspective, an SDC Operations perspective and from an SDC Business perspective.

SDC Technical Issues are mentioned in this report briefly due to the fact that a significant body of professional and highly detailed information has been generated by the project's Technical Experts. The scope and professionalism of the technical reports issued invest the SDC's technical development and capabilities with the a very high degree of operational credibility.

6.01 Data Security

Recommendation

- The SDC formalize existent Data Security & Data Access procedures and incorporate these procedures in its Operations Manual**

The SDC IT Department has developed excellent Data Security and Data Access procedures. However, the procedures are not dispersed and are not codified.

It is recommended that the SDC formalize existent Data security and Data Access procedures and incorporate these procedures in the SDC Operations Manual. It is also recommended that the procedures include, but not be limited to:

- Specific Data Access Authorization Levels
- Audit Trails to track data modifications
- Random audits and inspections

6.02 Data Harmony

Recommendation

- The SDC design and implement procedures to harmonize data resident in independent databases.**

At present and until the implementation of DVP Phase 3, SDC Clearance & Settlement data and SDC Shareholder Registry data will reside on two separate databases. It is critical for the overall integrity of the SDC's Clearance & Settlement Services that both databases be synchronized to prevent any data disparity. Differences in the data bases especially in the Authenticated Shareholder segment will slow down the settlement process and require additional staff resources to correct data disparities.

Section 7 Actions Required – Jordan Securities Commission (JSC)

In order move forward with the implementation of full SDC Clearance & Settlement Services, there are actions required by capital market institutions other than the SDC. For the SDC, the actions required constitute external dependencies without which the SDC cannot proceed with the implementation of DVP or meet its responsibilities as a CSD.

7.01 Approval of SDC Amended By-Laws

Recommendation

- The JSC review and approve SDC amended By-Laws by June 16, 2002**

The importance of appropriate By-Laws to support the SDC's conduct of business has been mentioned throughout this report. It is patently obvious that the SDC cannot operate effectively or meet its service provision responsibilities without the support of effective and enforceable By-Laws, Rules and Procedures.

In order that the SDC may proceed with its business, especially the implementation of irrevocable DVP, it is strongly recommended that the JSC approve the SDC Phase 1 amended By-Laws by June 16, 2002.

The timely approval of the SDC's amended By-Laws is critical for the SDC to adhere to its implementation schedule. Delay in approving the amended By-Laws will cause the SDC's DVP Implementation Schedule to back up and consequently result in cost overruns and difficulties in procuring the timely delivery of hardware and

software components as well as finalizing the installation of the SDC's Management Team. Delay in approving the SDC amended By-Laws will also disrupt the inauguration of the SDC's Settlement Bank Network (SBN) which in turn will postpone the implementation of Cash Settlement Services.

It is important to note that approval of the SDC amended By-Laws is not an abstract regulatory exercise but a critical event on which the progress of the capital markets is dependent.

7.02 Decision of Tightly Coupling

Recommendation

- The JSC make a decision on the Tightly Coupling of the ASE Trading System & the SDC Clearance & Settlement System by May 30, 2002.**

The decision to tightly couple or not tightly couple the ASE Trading System and the SDC Clearance & Settlement System is extremely important to the direction in which the SDC will proceed with its plans and the pace at which those plans will be implemented. The decision also has a major financial impact on the SDC's participants regarding the amount of moneys to be contributed to support the SGF. Therefore it is strongly recommended that the JCS make a decision on Tightly Coupling as soon as is possible and preferably no later than May 30, 2002.

The SDC-related dependencies connected with Tightly Coupling include, but are not limited to:

- Clearing & Settlement Services Implementation
 - Phase I
 - Phase II
 - Phase III
- Settlement Guarantee Fund Structure
- Settlement Guarantee Fund Administration
- IT Design, Testing & Implementation Plan for Order Validation
- Structuring of the Settlement Bank Network

7.03 ASE Funds Movement

Recommendation

- The JSC make a decision on moving moneys held in the ASE Fund to the SDC for the SDC SGF by May 30, 2002.**

The decision to move funds currently held in the ASE Exchange Fund to the SDC for credit to the SDC's Settlement Guarantee Fund is required in order for the SDC to implement I key component of its Risk Management Program.

Each market participant has contributed funds to the ASE Exchange Fund. Once the SDC SGF is established each SDC participant will be required to contribute funds on a *pro rata* basis according to their settlement obligation activity. In order that current contributions to the ASE Exchange Fund be credited to each participant's contribution to the SDC SGF it is necessary to move the ASE funds to the jurisdiction of the SDC. Once the ASE Exchange Fund moneys are received by the SDC it will be possible for the SDC to calculate each participant's required contribution, match the contribution required against the participant's contribution to the ASE Exchange Fund and establish a net contribution position.

Each participant's net contribution position will be a plus or a minus amount relevant to the amount required for the SDC's SGF versus the amount resident in the ASE Exchange Fund.

It is urgent that the structure and funding of the SDC SGF be in place well in advance of the SDC's launch of Phase II of the Clearance & Settlement Services Program.

7.04 Securities Law Amendments

Recommendation

- The JSC commence review process for SDC-related Security Law amendments by May 20, 2002.**

Although the SDC will benefit from the JSC's approval of its Phase I By-Laws, there are still amendments to the Jordanian Securities Law required in order to fully support SDC operations.

As the Clearing & Settlement Operational Review progressed it became obvious rather early on in the process that there were gaps in the current Securities Laws that were creating actual and potential impediments to the full implementation of the SDC's Clearing & Settlement Services Program. A partial list of particulars that are either vague, ill-defined or missing in the current Securities Law include but are by no means limited to:

- ◆ SDC's Legal Standing
- ◆ SDC's Ownership
- ◆ Book-Entry Positions
- ◆ Clearing
- ◆ Depository Participation
- ◆ Delivery versus Payment
- ◆ Finality of Settlement
- ◆ Immobilization
- ◆ Irrevocable DVP
- ◆ Share Ownership Date
- ◆ Settlement
- ◆ Settlement Cycle
- ◆ Settlement Date
- ◆ Settlement Guarantee Fund
- ◆ Trade Contract

An effective rule of law is absolutely mandatory in creating a successful securities market. Participants in securities markets must have the highest levels of assurance that their assets are protected by the law and that transactions executed in the securities marketplace are legal, binding and irrevocable.

Generally accepted global standards recommend that the laws, rules and regulations effecting investors business in the securities marketplace be clear, concise and understandable. It is a long-standing axiom that investors do not trust what they do not understand and will withdraw from markets where they do not feel they have protection under the rule of law.

7.05 SDC Participant Net Cap Requirement

Recommendation

- **The JSC review & approve the SDC's Participant Net Cap Requirements by July 30, 2002**

In order to help establish credibility for the SDC and Clearing & Settlement Services it is required that the SDC establish participant eligibility requirements for membership in the SDC. As has been previously stated, membership in a CSD is a privilege not a right.

Since the SDC is responsible for the operational soundness and reliability of post-trading services, the SDC also has the right to protect the integrity of the marketplace by establishing minimum financial and ethical criteria required for Depository membership. There are market participants who may be qualified to execute securities trades but who are not eligible for full participation in a Depository. In establishing its participation

eligibility criteria the SDC must balance the benefits of broad access against the economic safety of the Clearance & Settlement process.

Once the SDC establishes its Net Cap Requirement as a primary eligibility requirement, the Net Cap must be reviewed and approved by the JSC. It is strongly recommended that the JSC review and approve the SDC's Net Cap Requirement not later than July 30, 2002.

7.06 Broker Re-Licensing

Recommendation

- The JSC issue Broker Re-Licensing Criteria by August 15, 2002.**

In order to help the Jordan capital markets achieve parity with regional and global markets, it is recommended that broker licensing procedures be re-structured. The restructuring of broker licensing criteria and the process of re-licensing brokers is required for the protection of investors in the marketplace and to assist the marketplace in achieving a reasonable level of compliance with generally accepted global standards.

Re-Licensing of Brokers will clarify the roles and responsibilities of participants in the securities marketplace and provide an increased level of protection and service for investors by insuring that brokers meet a minimum level of business competence.

The procedures required to re-license brokers are not simple and do require some time to implement. Due to the extended time required it is recommended that the JSC begin the process no later than August 15, 2002 by approving the criteria to be used in the broker re-licensing process.

**APPENDIX A
SECURITIES MARKET DEFINITIONS REQUIRED**

-1-

- Access
- Affiliated Person
- Affirmation
- Amman Stock Exchange
- Articles of Association
- Asset Ownership
- Authorized Shares Outstanding
- Bankruptcy
- Book Entry
- Broker
- Broker License
- Business Entity
- Cash Dividend
- Cash Settlement
- Central Counterparty
- Certificate of Registration
- Clearing
- Client Trading Number
- Commencement of Business Letter
- Communications Procedures
- Confirmation
- Corporate Action
- Court Order
- Cross-Border Transactions
- Custodian
- Custodian - Insolvency
- Custodian Bank - Authorized Signatures
- Delivery
- Delivery versus Payment
- Delivery versus Payment
- Dematerialization
- Dematerialization of Securities
- Depository Participant
- Director's Holdings
- Disaster Recovery
- Dividend Disbursing Agent

APPENDIX A
SECURITIES MARKET DEFINITIONS REQUIRED

-2-

- Enforceability of Transactions
- Fiduciary Transfer of Ownership
- Finality of Settlement - Definition
- Finality of Settlement - Timing
- Financial Broker
- Financial Broker - Authorized Signatures
- Foundation – Depository
- Governance
- Guarantee Fund - Definition
- Guarantee Fund - Operation
- Immobilization
- Institutional Investor
- Investor
- Issue Prospectus
- Issuer
- Issuer Authorized Signatures
- Jordan Securities Commission
- Legal Risk
- Lien
- Listing
- Master Agreement
- Memorandum of Incorporation
- National Identification Number (NIN)
- Netting
- Organized Securities Market
- Over the Counter Transaction
- Over-the Counter Securities Market (OTC)
- Participant Asset Protection
- Participants' Securities
- Participants Securities Claims
- Pledge
- Portfolio Manager
- Primary Securities Market
- Procedural Transparency
- Professional Participant
- Prospectus

APPENDIX A SECURITIES MARKET DEFINITIONS REQUIRED

-3-

- Register of the Owner of Securities
- Registered Securities
- Registrar
- Rolling Settlement
- SDC Authenticated Positions
- SDC Free Balance Position
- SDC Holdings Position
- SDC Membership
- SDC Membership Fees
- SDC Non-Authenticated Position
- SDC Right to Assess Fines & Penalties
- SDC Right To Charge Fees
- SDC Right to Collect Fees
- SDC Right to Collect Fines & Penalties
- SDC Tax Status
- SDC Transaction Fees
- Secondary Securities Market
- Securities Broker
- Securities Certificate
- Securities Clearing
- Securities Dealer
- Securities Depository
- Securities Depository Center
- Securities Depository Institutional Status
- Securities Identification Number
- Securities Lending
- Securities Lending - Restrictions
- Securities Order
- Securities Order Execution
- Securities Portfolio
- Securities Settlement
- Security Ownership Rights - Acquisition Date
- Security Ownership Rights - Transfer Date
- Settlement Bank
- Settlement Bank Network
- Settlement Cycle

**APPENDIX A
SECURITIES MARKET DEFINITIONS REQUIRED**

-4-

- Settlement Guarantee Fund
- Settlement Guarantee Fund Participation
- Settlement Regulation & Oversight
- Shareholder
- Shareholder Statement of Account
- Stock Dividend
- Stock Exchange
- Sub-Custodian - Definition
- Trading System
- Transfer Agent
- Transfer Deed
- Transparency - Laws, Regs. Etc.
- Transparency - Participant Information
- Underwriter

APPENDIX B

GUARANTEE SETTLEMENT FUND – PARTICIPANT CONTRIBUTIONS¹

Broker #	Average Daily Purchases	Average Daily Sales	Daily Trading Obligations	Broker's Market Weight	Broker's Contribution Model B
4	288,922.06	308,460.71	597,382.77	11.1501%	645,460.04
16	175,699.00	283,589.54	459,288.54	8.5726%	496,252.00
14	186,587.63	203,941.78	390,529.41	7.2892%	421,959.16
19	173,018.79	193,842.54	366,861.33	6.8475%	396,386.26
3	185,885.92	151,258.31	337,144.23	6.2928%	364,277.54
32	156,183.10	133,078.57	289,261.67	5.3991%	312,541.40
26	131,000.06	141,959.63	272,959.69	5.0948%	294,927.44
12	99,437.55	171,977.44	271,414.99	5.0660%	293,258.42
7	129,057.20	126,754.73	255,811.93	4.7747%	276,399.64
31	125,258.47	108,585.72	233,844.19	4.3647%	252,663.92
37	102,511.89	84,792.51	187,304.40	3.4960%	202,378.63
8	98,956.62	84,690.32	183,646.94	3.4278%	198,426.81
38	89,979.13	89,864.07	179,843.20	3.3568%	194,316.95
22	104,759.20	59,516.49	164,275.69	3.0662%	177,496.56
35	87,324.62	64,734.74	152,059.36	2.8382%	164,297.08
10	86,840.63	35,927.37	122,768.00	2.2915%	132,648.35
34	88,100.96	21,614.61	109,715.57	2.0478%	118,545.46
23	30,144.55	66,233.99	96,378.54	1.7989%	104,135.07
29	30,813.63	65,392.15	96,205.78	1.7957%	103,948.40
11	37,722.98	56,958.06	94,681.04	1.7672%	102,300.96
24	44,892.12	43,679.60	88,571.72	1.6532%	95,699.96
21	37,720.40	50,233.36	87,953.76	1.6417%	95,032.27
39	38,663.79	32,892.77	71,556.56	1.3356%	77,315.42
5	46,234.94	18,189.37	64,424.31	1.2025%	69,609.16
25	48,810.14	13,598.23	62,408.37	1.1649%	67,430.98
6	26,364.06	32,727.27	59,091.33	1.0656%	61,682.69
17	19,204.78	17,878.86	37,083.64	0.6922%	40,068.13
28	9,610.65	17,547.83	27,158.48	0.5069%	29,344.19
Totals			5,359,625.44	1.0000	5,788,802.88

¹All values in Jordan Dinars