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Review of Current Clearing and Settlement Operations of the All Ukrainian Securities Depository with Recommendations



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**Current Clearing and Settlement Operations
of the All Ukrainian Securities Depository**

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Acronyms and Abbreviations in This Report

AUSD All Ukrainian Stock Depository

AUST Association of Ukrainian Stock Traders

CCP central counterparty clearing

CDS Canadian Clearing and Depositories Services, Inc.

CDSX The derivatives clearing subsidiary of CDS

CMP Capital Markets Project

CSD a central securities depository

CTA Consolidated Tape Association

Depository A clearing, settlement, and depository facility

Depository Law Law of Ukraine on the National Depository System and Special Features of Electronic Circulation of Securities in Ukraine (effective as of January 6, 1998)

DVP delivery versus payment

EFP exchange for product

FOP (Sometimes the acronym is written FoP) free of payment

FSR financial services regulator

FX foreign [currency] exchange

GOU Government of Ukraine

MFS Interregional Stock Union Joint Stock Company

1999 MOU Memorandum of Understanding on the Development of a Securities Industry Owned Clearing Depository

LAN local area network

MOU Parties Signatories of the 1999 MOU (USAID, the World Bank and the GOU)

NBU National Bank of Ukraine

NDU National Depository of Ukraine

OPRA the Options Price Reporting Authority

OTC over the counter

PARD Professional Association of Registrars and Depositories

Parties The buyer and seller of an equity or derivatives position

PFTS PFTS Exchange, Ukraine's most active securities exchange

PSMP professional stock market participants

REPO Repurchase Agreement sometimes called a Sale and Repurchase Agreement

SIAC Securities Industry Automation Corporation

SOW scope of work [in my contract with USAID]

SSD State Securities Depository of the National Bank of Ukraine

SSMSC Securities and Stock Market State Commission

STP straight through processing

SWIFT Society for Worldwide Interbank Financial Telecommunication

T+3 Trade (date) plus three days, the standard settlement period for securities

T+1 Trade (date) plus one day, the standard settlement period for derivatives

UAH Symbol for Ukrainian currency the grivna

UAIB Ukrainian Association of Investment Businesses

USAID United States Agency for International Development

UX Ukrainian Exchange, Ukraine's second most active securities exchange

WAN wide area network

World Bank International Bank for Reconstruction and Development

EXECUTIVE SUMMARY

In essence clearing of securities and derivatives transactions involves reconciling such terms as the identity of the buyer and of the seller, date and time, quantity, price, and settlement date, recording of the parties obligations in their respective clearing accounts and reporting the position information back to the parties. Settlement is the carrying out of the parties' respective obligations in the transaction for payment and delivery. In the majority of cases, these steps are accomplished through the facilities of a clearinghouse, and if safekeeping and servicing of the instruments cleared is required, this is accomplished by a Depository or custodian, which can be a part of the clearinghouse or a separate entity. But typically, in developed markets all of these services are provided by a single consolidated clearinghouse.

The dominant securities clearing and settlement depository in Ukraine is the AUSD, which conducts over 99% of such business and all of such business for issuers of exchange-listed equities. I believe that the AUSD facility and systems are quite adequate to the clearing and settlement needs of the Ukrainian securities exchanges based upon the way trading is currently conducted. The AUSD is organized like other clearing and settlement depositories, and the staffing is sufficient and properly trained and motivated to execute the services provided. I have made a few recommendations regarding the current systems, staffing procedures, and recordkeeping, but observed nothing that I considered to be a material deficiency in the context of current Ukrainian trading and transfer practices.

The larger problem is that securities trading in Ukraine is largely invisible, because so little of it is conducted on exchanges. This means that exchange markets are illiquid, do not serve proper economic functions of price discovery, risk transference, and contributing the raising of capital for creating and expanding Ukrainian enterprises. The solution is to build exchanges that support fair, orderly, and transparent trading and to expand the role of clearing and settlement depositories to accommodate full central counterparty clearing. Until and unless this is done, Ukrainian markets will continue to be the least active in the region and certainly not reach their potential to benefit Ukraine development. This study addresses the clearing half of this endeavor.

INTRODUCTION

Considering the short time since 1991 when Ukraine declared its independence, the Nation has made substantial progress in establishing its capital markets. To support central and sub-sovereign (municipal) government financing, enterprise privatization, and private and non-private pension systems, Ukraine has established institutions for issuance, transfer, custody, and trading of equities, debt instruments, and other categories of securities. In addition, Ukrainian exchanges have developed initiatives, largely unsuccessful to date, to establish derivatives markets, especially in currencies (“FX”). Properly functioning capital markets require an efficient, secure, and transparent clearing, settlement, and custody facility (a “Depository”). The following materials recount the background of Ukrainian Depository development, provide a description and analysis of the Nation’s principal Depository, AUSD, and set forth my recommended improvements and enhancements of the Depository’s capabilities. In addition, I recommend improvements in the legal and regulatory environment that will be necessary to implement these undertakings fully.

1. BACKGROUND

The way forward for establishment of a Ukrainian Depository began with the enactment of a legal framework in 1998. It is clear based on published materials, which I have reviewed, that the effort to resolve such issues as government versus private ownership and operation, the appropriateness of a single unified Depository versus separate entities, and relative management representation among different market constituencies has been protracted, at times acrimonious, and politically charged. And given the critical role of a Depository in the capital markets system, the stakes are extremely high to “get it right”. The following background discussion describes the status quo and how Ukraine got to where it is today.

1.1 Principal Activities of a Depository

There are numerous excellent texts dedicated to describing the purposes and operations of depositories and clearinghouses.¹ I will make no effort here to provide an extensive discussion of these subjects, but in the interest of making this Report sufficiently self-contained to be of value to readers who lack grounding in the area, I include the following broad, admittedly superficial, descriptions.

Clearing and Settlement—In the context of securities and derivatives markets, clearing is in essence the process of reconciling a transaction’s terms, recording the obligations created by the transaction in the clearing participants’ respective accounts, and reporting the verified activity back to the parties. In that same context settlement is the meeting of the parties’ respective payment, delivery, or exercise rights and obligations under the terms of the transaction.

Clearinghouse—This is an organization that conducts clearing and settlement (as described in the preceding paragraph) for its participants or members. Thus, in a very rudimentary

¹ See e.g., After the Trade Is Made: Processing Securities Transactions, Revised Third Edition 2006, by David M Weiss; Clearing Settlement and Custody, 2002 by David Loader. The Loader book is for equities and is dated, but he has more recent material for derivatives.

example, a buyer and seller (the “Parties”) of 100 shares of a stock report, either for themselves or through a clearing participant intermediary, the terms of the trade to their clearinghouse. Terms would include the identity of the buyer and of the seller, date and time, quantity, price, and settlement date. If the submissions agree, they are recorded as obligations in the clearing accounts of the Parties and reported back to them by the clearinghouse (“cleared”). At the time the Parties are required to fulfill their obligations (to “settle” the trade) payment and delivery will be made, recorded, and reported back to the Parties through the clearinghouse facility.

Depository—A depository is a facility to manage deposits, withdrawals and transfers of securities as well as account for, safekeep, and service them. The services for safekept securities are to track all corporate actions that impact beneficial owners. Examples include collecting and crediting cash dividends; informing beneficial owners of redemptions of bonds, adjusting positions for stock splits and dividends, recording corporate name changes and reorganizations; timely notification regarding exercise of rights or warrants, and distribution of proxy and other shareholder materials.

Custodian—A custodian performs essentially the same services as a depository. The distinctions, if any, probably relate to scale and that historically trust and custody services were performed in more of a one-on-one relationship with an entity like a bank trust department. Also, a custodian is ordinarily associated with maintaining and servicing physical securities. In Ukraine, hundreds of custodians were established to keep and service physical securities relating to the massive privatization as the Country was transformed into a free market economy. The great majority of Ukrainian depositories were set up prior to establishment of the infra-structure to service book entry positions, and most are quite small and thinly capitalized.

Registrar—A registrar is a person or organization that maintains a name and address registry of the nominal owners of securities and a record of their respective positions.

Real World Practice—In actual practice a modern Depository can perform all of the functions described above. As will be discussed below, the AUSD does so for a portion of its issuer customers, but works through custodians for the majority of such customers.

1.2 The Legal Framework for the AUSD in Ukraine

Depositories are established and governed by their respective foundation documents and rules which must be in accord with their legal basis. Four laws provide the principal legal basis for depositories in Ukraine. First, the Law of Ukraine on Business Associations (effective 10/01/1991). Second, the Law of Ukraine on the National Depository System and Special Features of Electronic Circulation of Securities in Ukraine (effective as of January 6, 1998) (the “Depository Law”). Third, the Law of Ukraine on State Regulation of Securities Markets in Ukraine (effective November 26, 1996). Fourth, the Law of Ukraine on Securities and the Stock Market (effective May 12, 2006).

The SOW in my contract with USAID requires that I review Ukrainian laws governing depositories and financial instruments trading and provide an analysis and recommendations regarding needed revisions and enhancements of such provisions. Those recommendations appear in context with my recommendations regarding improvement of clearing and settlement at AUSD.

1.3 Current Status of Ukrainian Depositories

Three depositories operate in the Ukrainian market. Ukraine's primary depository is the AUSD, which provides clearing and settlement and depository services for equities, corporate bonds, municipal bonds, investment and saving certificates and certificates of Fund of Real Estate Operations. In addition the State Securities Depository of the National Bank of Ukraine ("SSD") settles money market instruments and government debt. And finally, the National Depository of Ukraine ("NDU"), like AUSD, is able to provide clearing and settlement services for equities, municipal bonds, investment and saving certificates and certificates of Fund of Real Estate Operation. To date, however, NDU, which has only been a licensed depository since September 2006, remains a much smaller institution than AUSD and serves a relatively small number of the Ukrainian issuers.²

1.4 Developments that Led to Establishment of the AUSD

On January 25, 1999, soon after Ukraine adopted the Depository Law, the International Bank for Reconstruction and Development (the "World Bank"), the Government of Ukraine ("GOU"), and USAID (the "MOU Parties") entered into a Memorandum of Understanding on the Development of a Securities Industry Owned Clearing Depository" (the "1999 MOU").³ The agreement among other things established three broad objectives:

1. "[B]uilding a securities industry-owned Clearing Depository" capable of serving all licensed securities markets (stock exchanges, trading and information systems) and serving all appropriate market participants (issuers, registrars, custodians, broker-dealers and licensed securities markets);
2. effecting the voluntary merging, in the shortest period of time, of all existing or planned Ukrainian depositories into a single, centralized clearing depository, predominantly privately owned and operated by securities market participants; [and]
3. developing a strategic development plan for Ukraine's securities market infrastructure to rationalize and optimize its scarce resources."

The 1999 MOU was highly significant because it established the principle of largely private depository ownership, created a framework for establishing a depository that would evolve to service the developing markets in Ukraine and set forth with specificity the contributions to be made by each signatory.⁴ In short order, the objectives of the MOU, especially the first

² A few comparisons based upon the respective 2008 annual reports of NDU and MFS (which as discussed in Subsection 1.4 below, has now merged its business with that of AUSD) illustrate the difference. As of January 1, 2009 MFS, provided depository services for 8,590 issues of securities with a nominal value of UAH 307 billion; NDU serviced 117 issues valued at UAH 17.9 billion. MFS had 3,062 depository clients compared with 113 at NDU. By volume, NDU handles less than 1% of Ukrainian depository business and serves no issuer listed on a Ukrainian securities exchange.

³ A summary of the 1999 MOU is attached to this Report as Appendix F.

⁴ In addition to the World Bank and USAID, the parties representing the GOU were the Deputy Prime Minister, the Governor of the National Bank of Ukraine ("NBU"), and the Chairman of the SSMSC.

and second, were largely realized as the Interregional Securities Union Joint Stock Company (“MFS”) rapidly emerged as the sole central securities depository in Ukraine.

The MOU Parties stated in the 1999 MOU that while there was no objection to the establishment of a national depository (state owned and managed) by the GOU, it was agreed that the entity would have no commercial functions and would engage in only three activities: codification, standardization and international relations. While standardization and codification are certainly critical in a modern capital market system, the functions are ordinarily provided for by a regulatory framework and then accomplished through industry associations or self regulatory organizations.⁵

The record does not indicate why the MOU Parties did not object to a national depository for the three limited purposes mentioned above, but a contributing factor must surely have been that Ukraine had not yet developed the requisite private sector infrastructure to use the industry association or SRO approach. Thus, on December 18, 1998, the NBU and the SSMSC signed the Agreement on Establishing the National Depository of Ukraine (the “NDU”), for the limited functions agreed to in the 1999 MOU.

In 2005 and 2006 the GOU under recently elected President Victor Yushchenko abrogated the 1999 MOU, and proceeded to expand dramatically the NDU mandate by granting it the authority to operate as a clearing and settlement securities depository.⁶ The stated objective was that the NDU would “be controlled by the State and independent of the influence of financial and industrial groups and professional participants of the stock market.” Broadly speaking, the rationale was that participation of such parties created conflicts of interest and could lead to abuse of inside information about issuers. In practice, nothing could be farther from reality, as self-interest by industry participants insures that such abuse will not be tolerated, and I know of no substantial clearing organization in the world that is state owned and operated.

To exercise its expanded role, the NDU required additional capital, which came from state funds and through the sale of shares to private owners.⁷ All industry organizations and major industry firms opposed expanding the role of NDU, and it has not gained the trust of market participants. This is evidenced by the fact that its market share of the Depository business is extremely small and includes no exchange-listed issues.⁸

⁵ Such functions would include standardized recordkeeping requirements for clearing firms, custodians and registrars and assignment of unique identification numbers for all domestic issues of securities.

⁶ These developments are meticulously recounted in the study entitled Ukraine’s Securities Depository System: Risk and Recommendations, dated May 19, 2006, by Harry Cartner (That study is available in the document Library of the Capital Markets Project). Ironically Mr. Yushchenko was Director of the NBU in 1999 and was a signatory of the 1999 MOU on the Bank’s behalf.

⁷ The NDU Chief Executive Officer appointed by the Yushchenko government and who, himself, invested in NDU, was the husband of the new President’s Chief of the Presidential Secretariat.

⁸ See Footnote 2, above.

Soon after the NDU was licensed as a Depository, its Chief Executive Officer commenced various legal and political actions in an effort to merge with or acquire MFS. In addition to these external pressures, MFS at the same time experienced internal conflicts over representation among its various industry constituencies as well as strong opposition to being merged into a largely GOU-owned entity. On May 5, 2008, 22 of Ukraine's largest financial institutions established the All-Ukrainian Securities Depository Private Joint Stock Company (AUSD) to remedy these conflicts and to serve as a clearing and settlement depository for Ukrainian companies and trading systems. And on October 12, 2009, AUSD acquired MFS, and the newly formed entity took over the MFS depository business, systems, and personnel as of that date.

1.5 Conclusion

The necessary legal and regulatory framework to permit establishment and governance of depositories is in place in Ukraine. And under that system, the financial community has established the dominant clearing and settlement facility, AUSD. In the following section, I set forth the results of my review of AUSD and provide certain recommendations regarding its operation.

2. MY REVIEW OF AUSD CLEARING AND SETTLEMENT OPERATIONS

Over a period of several days I conducted interviews with senior staff and managers from all AUSD departments and divisions. In addition to the interviews, I have reviewed extensive documentation provided by AUSD and obtained from a number of other sources. The following sections briefly set forth my findings, but I will begin with an overview of Depository organization and operation.

2.1 Overview of AUSD Organization

The current AUSD staffing level is 77, and in response to its growing transaction volumes and customer base the Depository has immediate plans to expand staff to 99. The AUSD organization is largely structured along generally accepted industry lines.⁹ Principal divisions are Operations, Clearing, Customer Service, IT, Audit and Inspections (Internal Audit) and Administrative. Principal departments are Legal and Security. As was the case in my background sections, I have included the following brief descriptions of these departments and divisions to achieve a sufficiently self-contained report to be of utility to readers who lack grounding in the area.

2.2 The Customer Service Division

The AUSD Customer Service Division is the gateway or front end of the Depository. Custodians apply for trading accounts through the Division, and this involves the usual verifications of submissions and preparation of data for recordation. What is not done is any sort of background or financial check of applicants. AUSD takes the position that all SSMSC-registered custodians are eligible to be participants, and feels that this policy does not create risk for the Depository because no securities moves are made unless the position is in place and the payment side has been confirmed by the NBU or, if the transaction is

⁹ The current AUSD organization chart is attached as a source document in Appendix A

between non-Ukrainians, by the parties themselves or their respective intermediaries. I disagree and think that, at a minimum, there is reputational risk for the Depository with respect to the makeup of its clearing participants. Accordingly, I recommend that AUSD institute background checking for all applicants in accordance with published international best practice standards.

In addition to trading account applications, the Customer Service Division receives applications to establish accounts of issuers of dematerialized securities.¹⁰ The issuer opens an account by submission of a State Registration Certificate and a global certificate representing all authorized shares of the company, as well as all required Depository documentation. Upon verification and quality assurance, the information is transmitted to the Operations Division for processing and maintenance.

After the account is opened traders (for themselves or as intermediaries) submit all over the counter (“OTC”) and direct principal to principal transaction instructions through the Customer Services Division.¹¹ Upon verification, if the instructions involve a trade, they are transmitted to the Clearing Division to be compared (*See*, discussion of clearing in the Background Section above..). If the transaction involves no trade, but requires only a transfer of a position from one account to another, the instructions are transmitted to the Operations Division, which upon verification of the existence of the position to be moved, accomplishes and records the transfer.

2.2 The Operations Division

The Operations Division opens and maintains accounts of custodians, traders and issuers. In the case of dematerialized issues, the Division accomplishes all the services described in the Subsection 1.1 above under the description of a Depository. Thus, the Division records and reports all corporate actions to beneficial owners, makes necessary transfers for Free of Payment (“FOP”) movements of positions from one account to another, and makes necessary transfers to settle trades reported from the exchanges via the Clearing Department. As will be discussed below, Ukrainian markets are highly fragmented with multiple registrars, and as a result there appears to be significant risk, called Asset Servicing Risk, that the Depository does not receive timely notification of all corporate actions from issuers. This has been a continuing issue for developing markets, and the most appropriate way to manage this risk is by SSMSC regulation. I will discuss this in my recommendations section.

2.3 The Clearing Division

The Clearing Division receives notice of transactions from an exchange, the OTC market, or the trader (principal to principal) market. Exchange trades are noticed electronically and other trades and transfer instructions are submitted (either in paper form or electronically)

¹⁰ Dematerialized securities can only be held in book entry (electronic) form. By October 2010, all Ukrainian issues (except for those of very small companies) must be dematerialized, and when implemented, this requirement will be of enormous benefit to Ukrainian markets. It should be mentioned, however, that there is currently no provision in Ukrainian law to enforce the new dematerialization requirement.

¹¹ As will be discussed in Subsection 2.3 below, exchange transactions are reported electronically, directly to the Clearing Division.

and transmitted through the Member Services Division. In the case of an electronic notice, the buyer and seller also submit notice of the transaction. The Clearing Division compares the trades, and if they match, sends instructions to the Operations Department to execute settlement (as described in the Background Section above) and to the NBU to transfer funds from the buyer to the seller. When the Clearing Department receives confirmation of the money movement, it will transfer the positions.¹²

There are two striking characteristics of these clearing transactions. The first, is that AUSD (and for that matter all other Ukrainian depositories) accomplishes only the securities moves, and the cash transfer takes place outside its system. If the transaction involves only Ukrainian counterparts, the cash transfer is accomplished through the Depository's special account at NBU. If the transaction involves a foreign counterparty, the cash transfer is accomplished through a private arrangement outside of Ukraine, and the transaction is ordinarily settled in Euros or U.S. Dollars.

Settlements like these without the cash side are called Free of Payment ("FOP") transfers. Transaction fees for FOP transfers are high because they require a significant level of manual intervention, and for this reason, they are almost unheard of in developed markets.¹³ The standard clearing arrangement is called central counterparty clearing ("CCP"), with both delivery and payment taking place in the clearing accounts, and I will discuss this topic in my recommendations section below.

The second striking characteristic of these transactions is the trade submission and return reporting cycle. The Depository has clearing arrangements with all ten of Ukraine's securities exchanges, but only two exchanges are very active, the Ukrainian Exchange ("UX") and the PFTS Exchange ("PFTS"). AUSD normally receives trade submissions four times per day from UX and, twice a day from PFTS. This means that the parties have market risk (from a default) between the time of the trade and when it is reported. I will also discuss and explain this issue at greater length in my recommendation section. On the plus side, the Depository provides account updating on a real time basis as soon as the transaction is cleared. The issue, however, is that necessary settlement confirmations can, and often do, involve lengthy delays. I will also explain the implications of this and suggested processing solutions in my recommendation section.

2.4 The IT Division and Security Department

Briefly, the AUSD Information Technology Division ("IT") develops and maintains Depository software and hardware. The Division does the same for internal and external communications—Local Area Network ("LAN") and Wide Area Network ("WAN"). For purposes of this study, the focus of my IT review is Depository software, which is proprietary and has been developed internally. The software has very limited functionality and requires a great deal of manual input. In addition, there are multiple input front ends that consolidate upward. This is quite adequate given current volumes, but a fully integrated

¹² I have attached a chart as Appendix G that portrays in very basic form, exchange transactions, reporting, clearance and settlement.

¹³ They are occasionally employed to close derivative contracts in what is called an exchange for product ("EFP"). Because of high transaction costs, this is not a rational strategy unless the underlying market derivatives or cash market is disorderly (meaning in the vernacular, "spreads are out of whack"), a condition which is rare and usually a cause of regulatory concern.

system, that is more automated, and that has significantly enhanced functionality will be required to service the Ukrainian markets if significant growth is experienced.

The Security Department is charged with system backup and business interruption and resumption planning and execution. I reviewed these areas and discussed them with the Department head, and I believe, with two exceptions, that essential elements are provided for, including power interruption, hardware backup, testing of business resumption plans, and physical premises. My two principal concerns, are the need for offsite backup of data and a geographically distinct operations facility for use in the case of a major disruption at the AUSD premises.

At the time of my field interviews, AUSD was completing construction of and preparing to occupy the second of its new buildings, which is separate from, but adjacent to the currently occupied facility. My concerns are to be partially addressed when AUSD occupies the second building, because a duplicate backup data center will be established “next door”. This step, however, does not cover the possibility that operations at the entire site become untenable, and I recommend that AUSD immediately institute offsite storage of duplicate data files, and as volumes increase such backup should be done on a real time basis.

The center of a modern clearing firm is an IT system with sufficient hardware capacity, an efficient software system, capable personnel, and a dependable disaster recovery program. For if such a firm is to remain in business, it must have the capability to record all necessary clearance and settlement information; capture and maintain customer records; produce required reports, statements and reconciliations, and generate reliable data for regulatory reporting and compliance. AUSD appears to have sufficient capabilities in these areas to serve existing markets, but will need to expand its IT capability to meet future growth and service requirements.

2.5 Legal, Regulatory and Audit Areas

The Legal Department handles general corporate legal issues, corporate governance issues, and regulatory matters. Other than continuing NDU litigation, AUSD has no outstanding legal issues. AUSD’s principal regulator, the SSMSC conducts periodic oversight examinations of the Depository, and based upon information provided by the Legal Department, there appear to be no open items from the most recent review. The Inspections Department (internal audit) reviews all areas of enterprise risk on a regular basis, and the chief internal auditor indicated that no material unaddressed issues exist.

There is one subject in the legal area that appears to create exposure for the AUSD, and it involves the current status of Ukrainian insolvency law. The matter can be resolved only through GOU action, and I will discuss the issues and recommend solutions in Section 5.9 below.

2.6 Conclusion

The staffing level at 77 is adequate for current volume levels and recruiting and training are conducted in a professional manner with emphasis on cross-training and promotion from within. The major operating divisions, Customer Service, Operations, and Clearing appear to be competently staffed and serve the organization’s requirements at current volume levels. Similarly, the Depository’s proprietary, self-developed software, while of limited functionality, is currently adequate. This limited functionality, means that a great amount of

manual intervention and input are needed, which makes it necessary for AUSD to maintain a very large staff to support relatively small transaction levels. As the markets develop, it will be necessary for the Depository to employ systems with greater capability to reduce or eliminate most manual input intensive operations and enable fewer staff to accomplish more. System security needs to be enhanced by the immediate institution of an off site backup program located remotely from AUSD's present site.

3. USING FOREIGN CORRESPONDENT DEPOSITORIES

Currently, AUSD has no financial correspondent arrangements with foreign depositories. Its current "correspondent" arrangements are little more than information and instruction transfers, and despite claims to the contrary on its website, the same is true for NDU. For example, both organizations state that they have SWIFT message capability. That is true, but there is currently no financial necessity to use the capability, and they do not. Accordingly, foreign participants in Ukrainian markets must make separate arrangements to pay or collect for their respective trades. As I will explain in more detail below this situation increases settlement risk, impacts liquidity, and limits the scope of foreign participation. If AUSD begins to adapt the Depository's existing infrastructure in accordance with my recommendations below, financial and operational correspondent arrangements can be established readily. It is my opinion that with these building blocks in place, Ukrainian market activity could develop quickly, and that development would make investment in Ukraine much more attractive to potential foreign partners. Without these elements, I believe that the Ukrainian markets will continue to be among the least active in the region and not play the critical role in domestic financial development that they otherwise could.

4. Comparison with French Structure used in Canada

Ukrainian Depository rules and GOU regulations follow the pre-European Union French model.¹⁴ The one other clearing entity of which I am aware that was originally based on the French model is the Canadian Depository for Securities ("CDS"), but Canada and the CDS have so refined and developed the model that it bears scant resemblance to the original. A subset of my deliverables in my SOW was to review the depository and clearing rules to evaluate the manner in which they have been adapted to accommodate modern clearing, including derivatives trading. I have done so, and this section describes my findings and conclusions.

On the securities side, CDS has completely modified the French model to accommodate, CCP, straight through processing, establishment of a guaranty fund, central transaction reporting, omnibus clearing accounts, and full cross border correspondent clearing and settlement arrangements (Each of these topics is defined and discussed in my recommendation sections below.). Thus a CDS participant can clear and settle directly with the world's other leading clearing firms like the Depository Trust and Clearing Corporation in New York and Euroclear UK and Ireland. In addition CDS has established CDSX that is a state of the art derivatives clearinghouse, with all of the aspects mentioned above. From this information, it is apparent that Ukraine can readily look to that model to revamp its own

¹⁴ France, of course, no longer follows the French model, because it is now governed by the European Union's Market in Financial Instruments Directive ("MiFID")

clearing rules to accommodate world class equities and derivatives clearance and settlement, including full fiduciary cross-border correspondent arrangements.

I compared the AUSD clearance and settlement procedures to CDS, and believe they continue to be parallel on the clearing and settlement depository side. The glaring difference is that there is no financial settlement. Rather, as discussed above, AUSD utilizes a special settlement account at the NBU for money settlement, and foreign money settlements are almost always accomplished offshore between the parties, either in Euros or U.S. Dollars. Until clearing participants, both domestic and foreign, are able to accomplish financial settlements through a Ukrainian depository, it seems unlikely that domestic markets will achieve their potential in terms of volumes and economic utility or that Ukrainian Depositories will accomplish vital cross-border correspondent clearing arrangements. My recommendations, below, are intended to provide the roadmap to follow for Ukrainian markets to reach such goals.

5. My Recommendations

Ukraine possesses huge untapped potential benefit from its securities markets. The central bank, clearing and settlement depository, exchanges, and financial services community already comprise the infrastructure necessary to sustain significant initial and secondary markets. And yet, several essential ingredients are conspicuously absent. In the succeeding Recommendation Sections, I will suggest a series of steps (a roadmap) that will improve the clearing and settlement capabilities in ways that will support domestic markets and permit Ukraine to realize this vast potential. I will begin with a brief description of benefits Ukraine can expect to gain by making the improvements I recommend.

5.1 Liquid, Transparent, Efficient Markets are Critical

Although AUSD serves existing Ukrainian markets quite well, the markets, themselves, are woefully deficient in filling urgently needed economic purposes. Initial offerings of securities are almost always done on a pre-arranged basis with non-public pricing. As a result, the exchange markets have virtually no role in the vital capital raising function, and entrepreneurs wishing to establish or expand mid-sized to larger enterprises are basically excluded from foreign and domestic public funding sources. In addition, markets for secondary trading are highly fragmented and inefficient. The vast majority of such trading takes place in over the counter or principal to principal trading, and related price and volume data go unpublished. This means that reported volumes are so low that the vital price discovery function is absent and valuation of positions is difficult. The inability to price holdings and the absence of active liquid markets to establish or liquidate positions makes investment in Ukrainian enterprises less attractive.

In spite of these structural market deficiencies, yearly trading volume growth suggests that interest in Ukrainian investment is increasing and that phenomenon seems bound to continue. Securities should comprise a component of investment portfolios as public and private pension programs are modernized. In addition foreign interest in Ukrainian investments is clearly on the rise, and volume growth (based upon published statistics) indicates that domestic use of the markets is intensifying as well. These developments coupled with the need for vital price discovery and capital raising functions increase pressure on domestic markets to provide platforms to support growing investment demands.

Unfortunately, deep, liquid, transparent markets cannot be achieved without modification of the way market transactions are cleared and settled in Ukraine. This situation creates a chicken or the egg question. Ukrainian markets cannot reach their full potential without enhanced clearing services and current volumes do not justify the capital cost necessary to create the clearing infrastructure necessary to enable them to do so. In my experience, this is where appropriate government regulation plays a beneficial role. Through its oversight role, the government can require the industry to take measures that encourage and support growth. The results will benefit all sectors. In the succeeding sections, I am going to describe the private initiatives that are required, and where appropriate suggest needed improvements in regulations to help facilitate the process.

5.2 Central Reporting of All Trades in Listed Securities

Currently, transactions in Ukrainian securities are largely invisible. Recent Ministry of Finance figures estimate that 98% of the approximately 32,000 Ukrainian issues are not traded on exchanges, and 90% of transactions in exchange listed securities take place off exchange. This means that only two tenths of one percent of trading is reported. Further, there is no means of consolidating reporting of transactions in the same securities on different markets. Thus, with so little activity being published, the markets contribute hardly anything to the price discovery function that is so vital to the valuation of positions. And with such small exchange volumes, these markets have no liquidity, which means they cannot provide access to capital for initial placements and secondary acquisitions and liquidations.

The first step in improving exchange volumes, which will improve liquidity and the economic functioning of the markets is to make their trading visible to all participants on an equal basis. The way to do this is for the SSMSC to adopt regulations requiring all activity in exchange-traded securities (which includes all of the larger, Ukrainian “blue chip” issues) to be made public, and the way this will be done is via a consolidated electronic reporting. The industry refers to this arrangement as a consolidated tape, although it has been a very long time since a tape was involved in transaction reporting.

5.2.1 Near Term Temporary Solution

Implementing consolidated exchange and OTC transaction reporting will take time, but one currently available source for transaction data is AUSD. This is the case, because all exchange-traded equities whether traded on an exchange, by traders, or in the OTC market, are settled and cleared through AUSD. The AUSD data could form the basis for consolidated transaction reporting, and the industry would have to work out the cost recovery and fee structure. Based upon current clearing procedures, reporting would not be timely by international standards, but this would be a rudimentary start.

5.2.2 Procedures/Mechanisms--Consolidated Reporting

The procedure for developing consolidated reporting will involve a number of steps and phases. First, if experience is any indicator, such a project will not get off the ground until the SSMSC adopts regulations requiring the implementation of such reporting, prescribing a specific deadline for its accomplishment, and establishing automatic sanctions for failure to achieve the required objective. Ideally, prior to adopting such regulations, SSMSC will seek

to develop industry consensus regarding the best organization to bring about and administer the reporting system once it is in place. The choice is either government or private operation, and given that choice, I should expect that the industry would opt for non-government involvement in operations.

Assuming this to be the case, the industry would need to establish a managing board as well as an operational authority. The best models for this are the U.S. Options Price Reporting Authority (“OPRA”) for all exchange listed options and the Securities Industry Automation Corporation (“SIAC”) for most listed and OTC securities. It should be noted that there will be two types of consolidated reporting, trade and quote; essentially two separate “tapes”. Entities that must be represented on the managing board are all data producers and all categories of end users. Data producers are the exchanges and any OTC markets for trading or quoting prices.¹⁵ Data users are exchanges and OTC markets as well as intermediaries and private data distributors such as the print media, Reuters and Bloomberg.¹⁶

The mechanisms for a consolidated reporting system would consist of a network for gathering the data, consolidating it, and then publishing it for users. Existing software solutions are available to provide this mechanism, and I have observed that while the collection network may of necessity be proprietary, the distribution platform can be internet-based. Technical steps to establish consolidated reporting are too voluminous for the body of this report, but, for those with a deeper interest in this topic, I have attached as Appendix G an enumeration of the major steps involved.¹⁷

5.3 Straight through Processing

Processing of transactions and transfer instructions through AUSD currently requires much manual intervention. Again, this is acceptable with existing volumes, but would not support greatly increased activity. I recommend that AUSD focus on acquiring management and systems to minimize manual input. The best practice in developed equities and derivatives markets is called straight through processing (“STP”).

With fully implemented STP systems transactions or transfer instructions are submitted by the parties and flow through to settlement with no manual intervention. The only situations requiring staff attention are ones that create an exception report, and in the current systems, such occurrences are very rare. Indeed, the trend is toward automated markets in which trades are “locked in” when executed. I highlight the value of locked in trades in Section 5.7 below.

¹⁵ This report is not about Ukrainian exchanges, but based upon my work on the Depository materials, I am convinced that part of the lack of liquidity in these markets is due to an excessive number of exchanges and OTC trading vehicles. It would be extremely helpful to analyze all exchange markets in Ukraine to assess capabilities, viability, and utility with a view to applying the findings, among other things, to a consolidated reporting project

¹⁶ In addition to the consolidated reporting benefits for the markets, it should be mentioned that proceeds from the sale of market data are one of the three largest revenue producers for exchanges.

¹⁷ I recommend that those with an even more particular interest in this topic refer to the 175 page Consolidated Tape Association (“CTA”) plan, composite as of January 1, 2010 submitted to the Securities and Exchange Commission Pursuant to Rule 11Aa3-1 under the Securities Exchange Act of 1934 and the like plan for the Consolidated Quotation system submitted pursuant to Rule 11Ac1-1 under the same Act. These documents are available for electronic download at <http://www.nyxdata.com/cta>.

5.4 Central Counterparty Clearing

Trades between clearing members (or anyone who clears through a clearing member) are said to be “novated” when a clearinghouse accepts them.¹⁸ This means that the clearinghouse assumes the seller’s obligations to the buyer and buyer’s obligations to the seller. Thus, the clearinghouse becomes the counterparty for each side of the trade, and the buyer and seller are no longer directly obligated to each other. Each has obligations to settle the trade through the clearinghouse, but the clearinghouse must complete and settle the trade even if one of the parties defaults. This arrangement, which is in universal use in developed markets, is called central counterparty clearing (“CCP”).

5.4.1 Funding and Financing a CCP Clearinghouse

To a point, clearinghouse funding and financing is similar to that for any other type of company. Capital is raised from the owners either as joint venture contributors or as share purchasers. As the clearing firm develops, additional needed capital is generated through operations or borrowing. All pretty standard. The different funding and financing requirements relate to the activities of participants. The added requirements are necessary to insure that a participant meet its obligations in foreseeable market environments and to protect the clearinghouse if a participant fails to do so and defaults on its obligation. In the Risk Management Subsection below I will describe measures that must be funded and financed and others that do not, and in the next Section I will describe the technique for funding and financing default protection through the guaranty fund.

5.4.2 Risk Management

Normal clearinghouse risk is managed by requiring members to post a clearing deposit, margining, position limits, and other risk mitigation measures. Increasingly, risks of larger transactions are mitigated through delivery versus payment (“DVP”) as discussed in Section 5.10 below. Sizing the clearing deposit is based on a combination of the participant’s capital, its transaction activity (especially as it relates to overall volumes), and the size of its cleared positions. Establishment, monitoring, and keeping current the clearing deposit size and philosophy is increasingly a clearinghouse staff function with the approval of the managing board, and I recommend that this be the approach for AUSD.

Margining for securities is based first upon any legal requirement, such as the minimum margin requirements of the FED in the U.S. Next will be any additional requirements imposed by the clearinghouse, such as increasing margin in relation to the size of positions at a given participant and their size relative to the market. Finally, the clearinghouse may impose specific margin requirements upon issues based upon volatility or other factors and may impose specific intraday margining on a participant based upon the trend in the firm’s equity position in a given market situation. Again, these functions and activities will

¹⁸ Exchange clearing and settlement arrangements vary. Some exchanges utilize a separate corporate affiliate or subsidiary; others have a clearing division or department of the exchange staff. In addition, a clearing entity can serve one or, as is the case in Ukraine, can serve more than one exchange or it can clear all transactions of a specific type in a specific jurisdiction.

normally be established and maintained as a staff activity, and I recommend that AUSD follow this practice.

Other non-financing risk management procedures will include measures like participant position limits relative to capital, size of positions and changing market conditions. Again, this is now ordinarily a staff function.

In addition the clearinghouse will generally maintain a guaranty fund contributed by participants or established utilizing its own capital to pay losses should a member fail to meet its financial obligations and default. In a sense this is default management funding and financing, and I will describe guaranty funds in more detail in the following Section.

5.5 The Guaranty Fund

Clearing member defaults are extremely rare, but they do occur, which means that managing the clearinghouse default exposure is critical in CCP. Thus, in addition to the risk mitigation measures described in Subsection 5.4.2, above, the clearinghouse will generally maintain a guaranty fund to cover its losses in completing and settling positions of a defaulting member.

5.5.1 General Principles

From a historical perspective, the guaranty fund is a critical and highly effective component of the clearinghouse risk management program. Such a fund ordinarily consists of required contributions made by clearing members, additions by the clearing firm, and in certain instances, assessments. In addition to the guaranty fund, clearinghouses increasingly seek financial guaranties from private providers for some portion of their default exposure. The amount of the guaranty fund and the relative sizes of its components will vary depending upon the rules and policies of the clearinghouse.

Clearly, AUSD must establish a guaranty fund if it evolves to CCP. I have little doubt that its owners and clearing participants can well afford such a fund, and if history is any indication, the industry will readily support creation of the fund. There are many reasons for this. First, all major clearinghouses have a guaranty fund, and the establishment of a fund will signal AUSD's soundness and stature as an institution. This would help attract market activity that would add to depth and liquidity, thereby creating favorable business opportunities for participants. Second, the fund protects the clearinghouse, which means that participants' transactions and positions are protected. And finally, the contributions will be relatively small for participants.

5.5.2 Implementation Procedures, Problems, Challenges

Implementation procedures are straightforward. With Board approval, the legal staff will draft necessary rules and obtain regulatory approval. Model language is readily available in published rules of existing clearinghouses. Timing will be an issue. The debate will center on whether to implement a fund or await CCP. My recommendation is to establish a fund now, but at a level that is modest enough to avoid resistance, but one that participants recognize will need to be increased when moving to CCP. This will have several benefits under the current system. First, it will further distinguish AUSD from other Depositories in Ukraine. Second, the process of doing so will advance the goal of CCP and mean that many issues will not have to be revisited as the Depository evolves. Third, the step will enhance

AUSD's stature in the international community. Finally, I believe it will advance the much needed process of winnowing out less well capitalized participants.

After the timing hurdle is crossed, the biggest challenge will be obtaining consensus over the contribution formula. Such formulas are normally based upon some combination of a fixed minimum amount, a participant's capital, trading volume, or value of positions. My recommendation is to establish the fund by the simplest approach, a fairly modest fixed amount per participant, and then modify the formula to accommodate larger needs with CCP.

Obviously, determining the appropriate fund size will be a challenge. Initially, I recommend an arbitrary figure (making no effort to justify the number on the basis of quantitative risk analysis or credit issues.) that is not large enough to create resistance. As the Depository moves toward CCP, the size of the guaranty fund will have to be determined based upon risk management metrics in whatever systems package that AUSD selects.

A related issue will be who retains the income earned by the principle in the fund. Probably in the case of AUSD, the earnings should be retained to increase the size of the fund.¹⁹

Another issue will be over whether "irrevocable" letters of credit can be used in lieu of actual cash. My own opinion is that there is no such thing, and that this absolutely must be avoided.

5.6 T+3 Settlement

The current world standard settlement period is trade date plus three days ("T+3") for securities and T+1 for derivatives. The Depository current settles in one day unless the parties specify a different period, which can put off settlement for weeks or even avoided on instructions from the parties. With CCP, the clearinghouse will need to adopt the world standard settlement periods.

¹⁹ See also, the related issue discussed in Section 5.4 of appropriate levels of clearinghouse capital in above and below the fund and considerations related to income of a not for profit entity.

5.7 The Need for Locked in Trades

Under current practices, transactions can take anywhere from one day to many weeks to settle. The parties can issue instructions to the clearinghouse in this regard, and if they choose can cancel the trade. This means that the Depository can serve as a quasi forwards (derivatives) market. It can also give the parties an opportunity to enter into prearranged or fictitious trades for the purpose of influencing the markets, and once the desired impact has been achieved, simply cancel them²⁰. In my research, I noted that the SSMSC has recently commenced an improper trading case, which appears to involve this type of practice.

With the implementation of STP and CCP, trades will be locked in and these negative aspects of the current markets will be eliminated. This means that absent a very exceptional situation arising under exchange rules, a party can only unwind a position by trading out of it. In the meantime, however, I recommend that both the SSMSC and the Depository implement provisions aimed at curtailing the current, loose settlement practices.

5.8 Asset Servicing Risk

As described in Section 2.2., AUSD services to issuers includes managing and reporting corporate actions, but the fragmented nature of the market with multiple registrars exposes AUSD, and the other Ukrainian depositories to the risk of not receiving timely reports from issuers. My recommendation is for SSMSC adopt regulations that require issuers to notify their custodian of all corporate actions, via an electronic file that can be utilized to notify beneficial owners of securities of the issuer.

5.9 Insolvency Issues

A new insolvency law is pending in Ukraine, and there are several issues that must be address either in this law or in the depository law. With CCP, the law must be crystal clear that AUSD has the unfettered authority to liquidate assets of a defaulting participant whether held as part of the guaranty fund, as a clearing deposit, or as margin. These assets must not be made subject to a liquidation proceeding. In addition, the law should be clear that in the case of a custodian participant not meeting its obligations, AUSD can take all measures necessary to protect itself from loss. These would include transfer of positions to a solvent custodian, charging for its services, and seeking repayment from the insolvent custodian.

5.10 Delivery Versus Payment

As mentioned above, DVP can be used as a significant risk mitigant. The procedure involves virtually simultaneous payment and delivery, and is particularly crucial for entities like pension funds that have a fiduciary obligation to avoid placing the fund assets at risk to other entities. AUSD and NDU currently make available a technique, which they call DVP, to settle trades after confirmation of payment is received by the Depository. This involves numerous manual steps and is decidedly not DVP as the markets generally understand the procedure. As AUSD progresses to CCP and conducts both the financial and delivery aspects of a settlement, I recommend that the Depository develop DVP as used by developed markets.

²⁰ This practice, alluding to the archaic method of reporting trades, is referred to as “painting the tape”.

5.11 The Build or Buy Question

As discussed in Section 2.4 above, If AUSD is to develop the needed service enhancements set forth above, it will be necessary for the Depository to increase the functionality, integration, and automation of its software. The question will arise as to whether it is better to develop the programs internally, as AUSD has always done, or purchase an existing package. The clear answer is that the Depository must purchase requisite programs. This will insure that current best practices are put in place and enable the firm to take advantage of all upgrades and advances in existing packages.

5.12 Conclusion

If Ukrainian markets are to serve the economic purposes that are provided in developed markets in other parts of the world, they must be served by expanded clearing and settlement capabilities. The AUSD is uniquely positioned to undertake these steps. It has the trust and support of all major financial institutions in Ukraine. Its ownership lists indicates that it can raise the necessary capital. And it has the staff and facilities to support the effort. The principal transformation should be to full central counterparty clearing, and the ten other areas discussed above will as a practical matter fall into place around this undertaking.

6. GENERAL CONCLUSION

Trading in Ukrainian-issued securities is largely invisible, because almost all transactions are done away from the exchange markets. As a result the markets are illiquid and serve no useful price discovery, risk transference, and capital raising role. This makes ownership of Ukrainian securities less attractive to domestic and foreign investors, and deprives the nation of enormous potential benefits from deep, liquid, transparent markets.

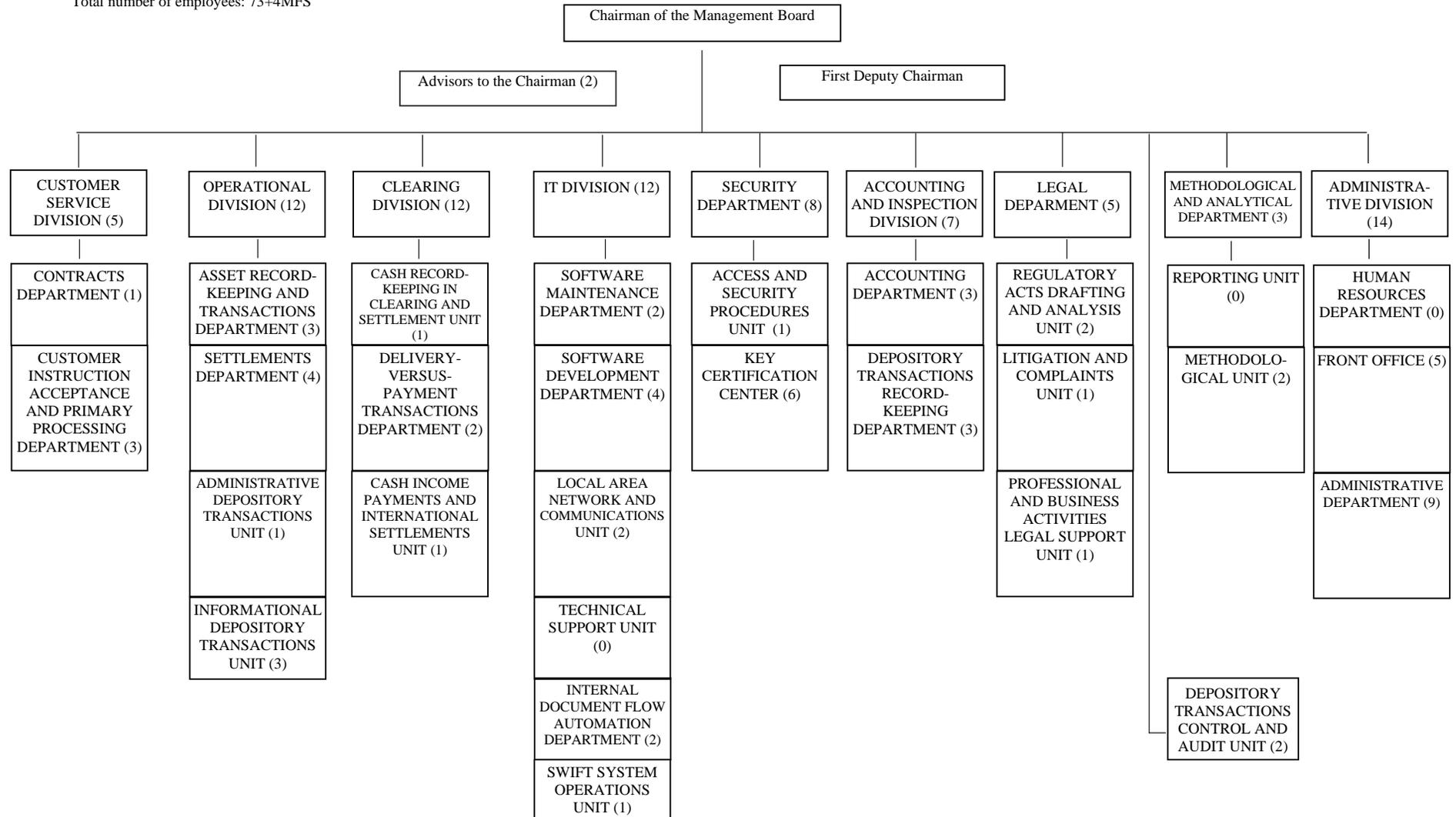
The two types of institutions that must be reformed to remedy the situation are the exchanges and the clearing entities. In this study, I have provided an overview of the clearing side of this endeavor. First, I described the functions of clearinghouses in general. I next reviewed AUSD operations and set forth my recommendations regarding needed changes in the Depository's operations. Then, as my SOW required, I reviewed the foreign correspondent arrangements as they currently exist in Ukraine and evaluated the characteristics of the central Canadian depository, because, like Ukraine, it operates under the French model. Based upon the review of Canada's structure, I believe it can provide an excellent model for expanding Ukraine's. In Section 5 of my study, I provided a description of the areas that AUSD must address in order to become a world class depository with full central counterparty clearing. While this is being done, it will also be necessary to consolidate exchange trading and advance rules and regulations to make activity in Ukrainian securities fair, orderly, and transparent. With these matters accomplished, I expect that domestic markets will achieve tremendous growth and make foreign investment in Ukraine much more attractive.

Appendix A: AUSD Source Documents

AUSD Organization Chart as of December 11, 2009.

Organizational Chart of the All-Ukrainian Securities Depository

Total number of employees: 73+4MFS



List of AUSD's shareholders as of December 11, 2009

#	Shareholder	Shares owned	% in the authorized capital
1	Privatbank	6630	4.3305
2	Business-Invest	3630	2.3710
3	Prominvestbank	660	0.4311
4	State Savings Bank	6630	4.3305
5	PUMB-Bank	4430	2.8935
6	SEB Bank	3330	2.1750
7	Brokbusinessbank	660	0.4311
8	Credit Dnipro Bank	330	0.2155
9	Legbank	165	0.1078
10	Megabank	330	0.2155
11	Rodovid Bank	3330	2.1750
12	Santanna	3000	1.9595
13	Vseukrajinskiy Akzionerniy Bank	330	0.2155
14	Pivdencombank	330	0.2155
15	Ukrsotsbank	5830	3.8080
16	Ukrainian Interbank Currency Exchange	3330	2.1750
17	Raiffaisen Bank Aval	3330	2.1750
18	Pivdenniy Bank	3330	2.1750
19	The National Bank of Ukraine	35000	22.8609
20	Ukreximbank	6300	4.1150
21	Dicom	165	0.1078
22	TEKT	330	0.2155
23	Ukrainian Innovative Bank	165	0.1078
24	Ukrsibbank	3990	2.6061
25	BIG Energia	330	0.2155
26	Goodwill-brok	330	0.2155
27	Rosan-securities	220	0.1437
28	Fondoviy B.A.N.K.	330	0.2155
29	Integral Bank	330	0.2155
30	Bank of Cyprus	330	0.2155
31	The National Depository of Ukraine	165	0.1078
32	Obriy Kapital	165	0.1078
33	Zentr Systemnih Doslidgen	165	0.1078
34	Volksbank	330	0.2155
35	Imeksbank	330	0.2155
36	UkrBiznesBank	330	0.2155
37	VTB Bank	330	0.2155
38	PFTS	6575	4.2946
39	ING Bank of Ukraine	3330	2.1750
40	UniCreditBank	330	0.2155
41	Kalion Bank Ukraina	330	0.2155
42	Plus Bank	165	0.1078

43	Dongorbank	165	0.1078
44	TESSERA KAPITAL	165	0.1078
45	Morskiy Transportniy Bank	330	0.2155
46	Universal Bank	165	0.1078
47	Kyivska Rus Bank	330	0.2155
48	StirolHimInvest	330	0.2155
49	Kreditprombank	2530	1.6525
50	Ukrainska konzesiyna kompania	440	0.2874
51	Ukrainska depozitarna kompania	165	0.1078
52	Finansi i Kredit Bank	3330	2.1750
53	Piraeus Bank	330	0.2155
54	OTP Bank	3330	2.1750
55	Nadra Bank	3330	2.1750
56	Ukrainian exchange	3630	2.3710
57	RTS Stock exchange	165	0.1078
58	SWEDBANK	3000	1.9595
59	Altera Finans	330	0.2155
60	Slavutich-Kapital	2420	1.5807
61	Finoks	330	0.2155
62	Alfa-Bank	330	0.2155
63	Kinto	440	0.2874
64	Khreschatyk Bank	330	0.2155
65	Gambit	4130	2.6976
66	Forum Bank	3330	2.1750
67	Bearn	215	0.1404
68	Ukrgazbank	330	0.2155
69	Kapital-Standart	350	0.2286
70	Meridian	165	0.1078
71	Delta Bank	3000	1.9595
72	Renaissance Capital Ukraine	330	0.2155
73	Yevropeyskiy Bank	330	0.2155
74	Erste Bank	3000	1.9595
75	MEGAPOLIS KAPITAL	165	1.078
76	Altana Kapital	220	0.1437
77	Basis-Investment	165	0.1078
78	On-line Kapital	1320	0.8622
79	Finansoviy Alians	3165	2.0673

Appendix B: Other Documents Reviewed

1. Law of Ukraine on Securities and the Stock Market (effective 05/12/2006)
2. Law of Ukraine on the National Depository System and Special Features of Electronic Circulation of Securities in Ukraine (effective 01/06/1998)
3. Law of Ukraine on State Regulation of Securities Market in Ukraine (effective 11/26/1996)
4. Law of Ukraine on Business Associations (effective 10/01/1991)
5. Law of Ukraine on Restoring Debtor's Solvency or Declaring a Debtor Bankrupt (effective 4/14/1992, as amended through 1/11/07)
6. Decree of the President of Ukraine #1648/2005 'On the Resolutions of the Council for the National Security and Defense of Ukraine (signed 11/24/2005)
7. Decree of the President of Ukraine #280/2002 'On the Measures to Develop Corporate Governance in Joint Stock Companies (signed 03/21/2002)
8. Decree of the President of Ukraine #280/2002 'On the Measures to Develop Corporate Governance in Joint Stock Companies (signed 03/21/2002)
9. Decree of the Cabinet of Ministers of Ukraine 'On the Approval of the Action Plan to Implement General Guidelines of Ukraine Stock Market Development in 2006-2010 (dated 03/07/2006)
10. Decree of the Securities and Stock Market State Commission Resolution 1048 on Approving The Measures to Implement Principal Foundations of Prudential Oversight on the Stock Market (Dated 3/27/2007)
11. The Association of Global Custodians – Questionnaire (undated) prepared by MFS.

Appendix C: Persons Consulted and Interviewed

The Honorable Serhii Biriuk, Commissioner, SSMSC

Ms. Larisa Dovbysh, Head of Clearing Division, AUSD

Mr. Alexander Dovgart, Head of Security Department, AUSD

Mr. Olexiy Alanoliyovych Konstantinov, Chief, Information Technology Division, AUSD

Ms. Iryna Yuriyevna Kurochkina, Chief, Securities Traders Regulation Unit, SSMSC

Mr. Alexei Pyrkin Head of Legal Department, AUSD

Mr. Vasila Vasiliovych. Rogovyi, Chairman of the Supervisory Board, AUSD

Mr. Yariy Ivanovich Shapoval, First Deputy Chairman of the Management Board, AUSD

Mr. Mykola Pavlovych Shvetsov, Chairman of the Management Board, AUSD

Ms. Tamara Tsymbalyuk, Head of Operational Division, AUSD

Ms. Yulia Turchina Head of Customer Servicing Division, AUSD

Mr. Olexandr Virtorovych Syzonenko, Specialist Correspondent Clearing, AUSD

Ms. Nataliya Zakharova, Chief, Non-State Pension Funds Unit, SSMSC

Ms. Polina Zelinskaya, Head of Methodology and Analysis Department, AUSD

Appendix D: Significant Depository-Related Events

1. 1996—Verkhovna Rada adopts a Concept for the Development of the Capital Markets in Ukraine.
2. March 1997—Interregional Securities Union (MFS) is established as an open joint stock company by market participants in order to serve as a depository for Ukrainian companies and trading systems.
3. December 1997—The Law “On the National Depository System” is approved. The Law provides for the establishment of the National Depository of Ukraine (NDU).
4. 1999/2000—USAID provides technical assistance to MFS to strengthen its work as a fully functional, privately owned, clearing depository that can support the development of a capital market in Ukraine.
5. January 1999—Memorandum of Understanding among the Government of Ukraine, the World Bank, and the Government of the United States of America “On the Development of a Securities Industry-Owned Clearing Depository” is signed.
6. May 1999—The NDU is established as an open joint stock company with the State Securities and Stock Market Commission (SSMSC) controlling 86% of its shares, the National Bank of Ukraine holding 4.4%, and the remaining shares, 9.6% owned by 21 market participants, including 1 share owned by MFS. SSMSC Commissioner Viktor Ivchenko is appointed to head the NDU.
7. May 1999—Cabinet of Ministers Resolution is adopted, based on the recommendation of the SSMSC, to transfer management of the State’s 86% ownership in the NDU to the Ministry of Finance (43%) and NBU (43%).
8. June 1999—Presidential Decree “On the General Basis for the Operations of the National Depository System of Ukraine” is issued supporting the provisions of the MOU.
9. July 2001—Cabinet of Ministers adopts a resolution transferring NDU shares under the management of NBU (43%) to the Ministry of Finance resulting in the Ministry of Finance managing the State’s 86% ownership in the NDU.
10. December 2005—Cabinet of Ministers adopts a resolution to transfer management of State’s 86% ownership in the NDU back to the SSMSC as provided in the 1997 Law “On National Depository System.”
11. December 14 and 23, 2005—NDU holds a general meeting of shareholders that, among other issues, approves a decision to empower NDU to operate as a fully-functioning depository, including authority to clear and settle transactions on Ukrainian exchanges.
12. January 18, 2006—Cabinet of Ministers passes a resolution to terminate MOU with US Government and World Bank.
13. March 21, 2006—Presidential Decree issued on “Cancellation of Presidential Decree #703, dated June 22, 1999, “On General Principles of Operations of the National Depository of Ukraine” which implemented the MOU.

14. May 5, 2008--All-Ukrainian Securities Depository Open Joint Stock Company (AUSD) is established by 22 leading market participants in order to serve as a depository for Ukrainian companies and trading systems. December 11, 2009, the AUSD changed its legal form to Private Joint Stock Company to comply with the new Joint stock Company Law, so its full name is the All-Ukrainian Securities Depository Private Joint Stock Company.
15. October 12, 2009--AUSD completed its acquisition of MFS, with the newly formed entity taking over the MFS depository as of that date.

Appendix E: Summary of the 1999 MOU

In 1999, a Memorandum of Understanding was signed among the Government of Ukraine, the International Bank for Reconstruction and Development, and the Government of the United States of America, “On the Development of Securities Industry Owned Clearing Depository” (1999 MOU). Acting on behalf of the GOU, it was signed by Deputy Premier Serhiy Tyhypko, SSMSC Chair Oleh Mozgoviy, and National Bank of Ukraine Governor Viktor Yushchenko. Signed on January 25, 1999, it is valid through January 25, 2010. The stated objective was to cooperate in developing an open, competitive, well-regulated, private sector-based market for securities in Ukraine. It was further agreed that the signatories would assist Ukraine’s securities industry in:

- *building a securities industry-owned Clearing Depository (CD) capable of serving all licensed securities markets (stock exchanges, trading and information systems) and serving all appropriate market participants (issuers, registrars, custodians, broker-dealers and licensed securities markets);*
- *effecting the voluntary merging, in the shortest period of time, of all existing or planned Ukrainian depositories into a single, centralized clearing depository, predominantly privately owned and operated by securities market participants;*
- *developing a strategic development plan for Ukraine’s securities market infrastructure that will rationalize and optimize its scarce resources.*

The MOU further provided that, although the parties did not object to the establishment of a National Depository by the GOU, it was agreed that any such entity *would have no commercial functions whatsoever and would engage in only three functions: codification, standardization and international relations* within the effective period.

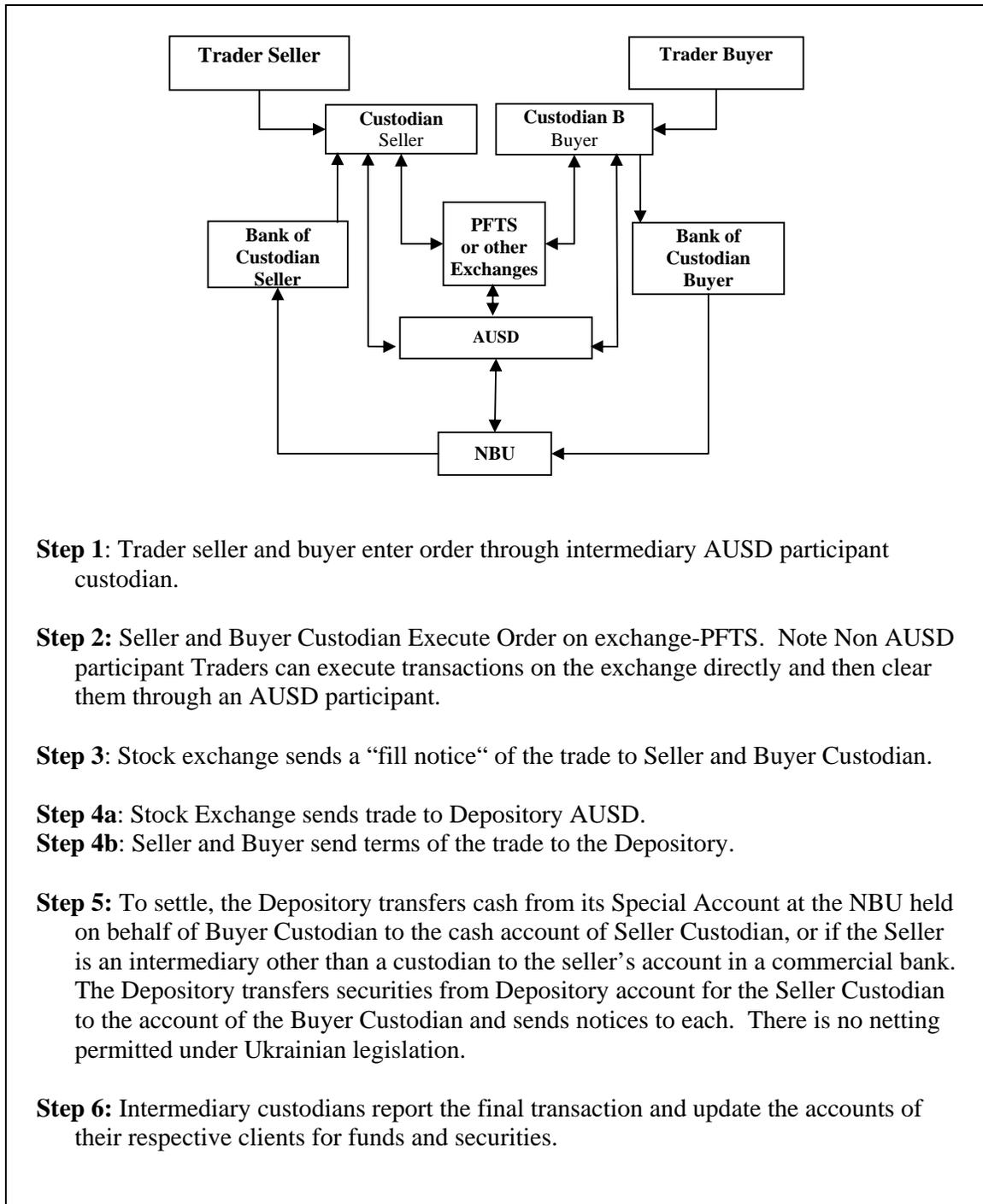
It was also understood that the cost of the economic restructuring and development of a securities market was beyond the individual financial and operational capabilities of the GOU, the donor institutions, or market participants. Thus, the donor institutions undertook to augment the resources of the private institutions to build a world-class depository system. The parties agreed to combine their resources to further develop the securities market in Ukraine and to accelerate the development of a market structure for securities in Ukraine.

To this end the parties to the MOU undertook the several obligations:

- *The GOU undertook to* (1) refrain from creating unequal conditions for market participants and institutions, (2) reject government ownership positions, especially controlling or blocking positions, in commercially-viable capital market institutions, (3) protect and promote the full rights of the private owners of capital market institutions to exercise their corporate rights. This, in particular, includes protection against imposing any structure set up by the Government or Rada, such as a National Depository with more than the three functions, upon private market participants, (4) refrain from (a) merging or amalgamating private-sector depositories with the National Depository or any other state-owned institution; (b) changing the legal and operational status of private sector depositories unless such depositories have their shareholders’ consent for such action, (5) rectify certain legislative and regulatory impediments to developing and implementing a functional CD in Ukraine, such as the lack of legal recognition of electronic documents and electronic signatures, requirements for dematerialized securities to be placed only in the depository, high taxes on capital gains and dividends, and so on.
- *The NBU undertook to* provide technical assistance to the CD specialists.
- *The SSMSC undertook to* develop the regulation of depository, clearance and settlement functions that support the objective of the MOU and in full cooperation with market participants and other parties to the MOU. It also undertook to implement provisions (3), (4) and (5) noted here.
- *USAID undertook to* (1) provide legal and technical expertise to facilitate the Market Structure Strategy Working Group and the establishment of the CD, (2) provide legal and technical training for all parties involved in setting up the CD including the GOU, NBU, SSMSC, and the securities industry, as well as limited ongoing support to the Ukrainian Broker-Dealer Association and Trading System (PFTS), (3) provide financial assistance and equipment to establish the CD, (4) help the SSMSC, in cooperation with the securities industry, to develop regulations and methodological standards on depository, clearance and settlement activities.
- *The World Bank undertook to* provide access to world best practice and know-how in areas relevant to the CD project and to seek additional commercial and donor sources for financing and technical assistance to the CD.

Appendix F: Flow Chart for AUD Trade Clearance

Clearing and Settlement of Exchange Transactions On AUD with Electronic Trade Data Submission



Appendix G: Detailed Procedures—Consolidated Reporting

Detail implementation procedures and mechanisms would be overly voluminous and technical for this Report, but the following materials are intended to set forth the major steps. For those with a particular interest in this topic, I recommend that you refer to the 175 page Consolidated Tape Association (“CTA”) plan, composite as of January 1, 2010 submitted to the Securities and Exchange Commission Pursuant to Rule 11Aa3-1 under the Securities Exchange Act of 1934 and the like plan for the Consolidated Quotation system submitted pursuant to Rule 11Ac1-1 under the same Act. These documents are available for electronic download at <http://www.nyxdata.com/cta>.

The consolidated price and quotation authority would be tasked with establishing and maintaining the following:

Data Specifications

1. Develop interface specifications for data generators
2. Develop input and output specifications for trade and quote data
3. Develop standardized terminology
4. Develop reporting format and technical specifications
5. Establish reporting deadlines (standard is within 90 seconds)
6. Develop protocol for measuring when reporting is late
7. Trading halt and suspension procedures
8. Develop procedures for gathering non-reported transactions
9. Develop end of the day summary for print and electronic media
10. Develop rules for use of output
11. 10 Develop standards for displaying output
12. Develop procedures for high volume periods (e.g., only report price changes)

System Integrity

1. Insure that system is robust through adequate business interruption and disaster recovery facilities and procedures.
2. Establish fault tolerant computer platform with built in redundancy
3. Establish access protocols and levels of access for different categories of users

Participant Provisions

1. Develop vendor agreements
2. Develop subscriber agreements
3. Develop fee structure
4. Establishing and amending charges
5. Develop procedures for data generating participant entry
6. Develop standards for access participants
7. Subscriber and participant termination and readmission
8. Hours of operation
9. Sharing of income and expenses
10. Allocation to participants and payment schedule
11. Recordkeeping and reporting

Instruments Eligible for Reporting

1. Determination of eligibility
2. Termination of approval and readmission for dissemination