

# International Custody & Fund Administration

**CSD review**

## Central Securities Depositories

**The drive to reduce risk exposure in the clearing and settlement process has seen Central Securities Depositories (CSDs) taking on the physical custody of stock – or, increasingly, the book-entry record-keeping of dematerialised securities – with agent banks holding accounts with their national CSD and carrying out reconciliation functions with it. A recently completed research paper by London-based custody consultants Thomas Murray throws new light on what investors and custodians can, and should, expect from CSDs around the world**

**D**ETERMINED to dispense with the movement of certificates within the clearing and settlement process so as to aid risk reduction, the Group of Thirty (G30) in 1989 published a report – *Clearance and Settlement Systems in the World's Securities Markets* – which provided a crucial impetus for the development of Central Securities Depositories (CSDs).

The report highlighted the diversity and uneven quality of local settlement systems around the world and described the costs and the risks created by the inefficiencies in domestic settlement markets – risks that were cruelly exposed by the October 1987 crash of the UK stockmarket, when many market participants were unable to settle paper-based transactions.

Nine recommendations designed to improve quality and standardise the working practices of local clearance and settlement systems were made in the G30 report. The third of these recommendations related specifically to CSDs, proposing that by 1992:

“...each country should have an effective and fully developed Central Securities Depository, organised and managed to encourage the broadest possible industry participation (directly and indirectly).”



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	Operational CSDs		By Operational Type		
	Countries		Equities	Fixed Income	Money Market
	Countries	CSDs			
Africa	7	3	2	3	0
Asia Pacific	15	20	15	12	3
C&E Europe	13	14	10	8	9
Western Europe	18	26	17	23	15
Middle East	8	6	6	4	3
North America	2	5	3	4	4
South America	21	17	12	13	19
Total	91	91	65	67	65

**Table 1: Operational CSDs covered in the Thomas Murray CSD Research**

Clearly this recommendation did not fall on deaf ears – since the report’s publication, the number of CSD organisations around the world has almost tripled, from 32 to 91 (see Figure 1).

Thomas Murray’s research paper covers 91 different operational CSD organisations in 84 countries (see Table 1). In 22 countries, single CSDs currently handle the three main instrument types – equities, fixed interest and money market instruments – while in the remaining 62 countries, separate CSDs can deal with only one or two of these instrument types, although some are planning to cover all instrument types in the future.

Thomas Murray’s research has identified a further 21 planned CSDs which should be operational within the next few years. Most new CSDs are being developed in individual countries; a few – specifically those in emerging markets within Central America, the

Caribbean and the West African French franc zone – are exploring the possibility of developing regional depositories serving issuers and investors.

That said, despite the progress towards meeting the G30 recommendation, a number of local securities markets which are open to investment do not have operational CSDs. Overall, 65 per cent of the approximately 98 markets open to investment are served by operational CSDs, Thomas Murray found (see Table 2).

“Central Securities Depositories are rapidly emerging as an integral part of the global securities marketplace. Much has been done by domestic markets to improve the efficiencies and reduce the risks of investment through the creation of local CSDs,” says Thomas Murray director Derek Duggan.

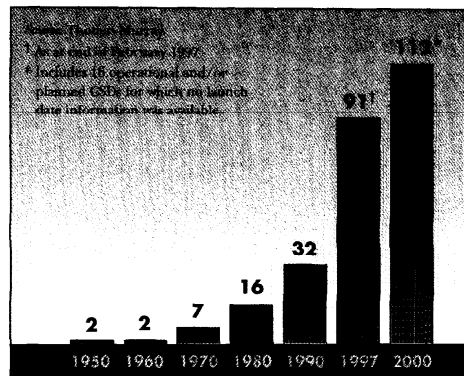
However, Duggan goes on to stress that there is no such thing as a “typical” CSD: “The investment community should not underestimate the complexities of the subject,” he says.

“This diversity of CSDs is apparent in their varying functionality; in their different ownership and membership profiles; in the different types and level of guarantee provided to users; and in terms of whether or not their usage is compulsory.

“Additionally, some governments are keen to promote their local CSDs with little regard to the overall cost this will add to securities market participants.”

These differing characteristics create some very real asset safety and operational concerns, claims Duggan.

“Global investors who cannot expect their custodial banks to take full responsibility for the safety and performance of CSDs must consider the risks of using CSDs as part of their primary analysis of global investment,” he says.



**Figure 1: Growth in the number of CSD organisations**

Region (Sample in brackets)	Equities		Fixed Income		Money Market	
	Operational	Planned	Operational	Planned	Operational	Planned
	Africa (11)	18%	45%	27%	27%	0%
Asia Pacific (18)	89%	6%	56%	22%	22%	28%
C&E Europe (14)	79%	14%	64%	29%	57%	21%
Western Europe (19)	89%	5%	84%	11%	68%	5%
Middle East (9)	67%	22%	44%	22%	33%	11%
North America (2)	100%	0%	100%	0%	100%	0%
South America (2)	0%	0%	0%	0%	0%	0%

**Table 2: Markets with operational CSDs**

THE BANK for International Settlements defines a Central Securities Depository as: “...a facility for holding securities which enables securities transactions to be processed by book-entry. Physical securities may be immobilised by the depository or securities may be dematerialised (i.e. so that they exist only as electronic records)” (BIS, December 1993).

In addition to the safekeeping of securities and book-entry settlements, the Thomas Murray research paper covers 52 related services and functions which may be provided by CSDs, including matching, clearing, stock lending and cash payments.

Typically, the local market CSD and clearing agency are the same entity, though occasionally they may be separate entities, as is the case in the US. The majority of CSDs provide a basic securities accounts system for participants and rely on banking entities to provide the necessary credit facilities.

In setting the criteria for inclusion, Thomas Murray adopted a slightly broader definition of CSDs to include organisations which provide centralised securities clearing and settlement functions, alongside safekeeping facilities.



**CSD review**

**Investor access to CSDs**

The most common form of access to CSDs is via a local custodian bank – 89 per cent in the case of domestic investors, 80 per cent for foreign investors.

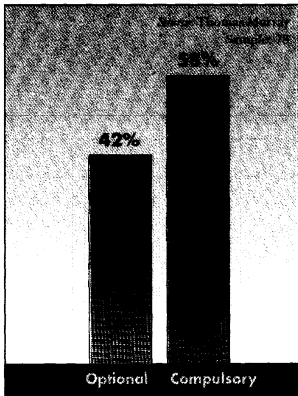
“Selecting the best method of access may be determined by the functionality contained within each local CSD,” says Thomas Murray. “Even if local membership rules permit direct investor access it may well not be cost effective, so it could be beneficial to access the CSD via a local agent who is already a member.”

Direct access to foreign investors is possible for 24 per cent of CSDs, including RITS (Australia), NZCSD (New Zealand), CSDL (Lithuania), SNCDD (Romania), Takasbank (Turkey), CVV (Venezuela), VP (Denmark), FCSD (Finland) and VPS (Norway).

Domestic market investors can access their local market CSD directly in 36 per cent of cases.

**Investor Access to CSDs**  
Multiple answers allowed

	Domestic sample 55	Foreign sample 54
Direct	36%	24%
Via local custodian	89%	80%
Client of a foreign nominee	20%	29%
Via CSD	49%	41%
Other	2%	17%



**Is the use of CSDs compulsory?**

The decision to use a local CSD will invariably be determined by local market practice. “If the use of a CSD is optional, then very careful consideration must be given to the benefits and shortfalls of its use; conversely, where use is compulsory, due consideration must be given to the best means of accessing the CSD,” states Thomas Murray.

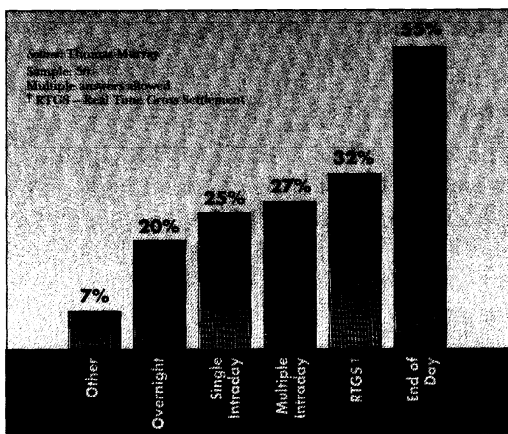
Out of the existing operational depositories, in 58 per cent of cases their use is compulsory while in 42 per cent it is optional. Countries where use of depositories is optional for equities include Argentina, Bulgaria, Chile, Colombia, Costa Rica, Denmark, Estonia, Finland, Guatemala, India, Japan, Korea, Lebanon, the Netherlands, New Zealand, Panama, Romania and Venezuela.

**Number of CSDs that are immobilised/dematerialised**

Overall 38 per cent of CSDs have eliminated the need for physical documents to represent the ownership of securities. A total of 33 per cent of CSDs remain immobilised – physical securities are deposited and retained in a CSD so that transactions may be effected by book-entry rather than physical movement. A further 13 per cent currently hold securities in a mix of immobilised and dematerialised form.

**Immobilised/Dematerialised Securities**

	All immobilised		All dematerialised		Mixed	
	Yes	Planned	Yes	Planned	Yes	Planned
Equities (53)	36%	4%	34%	9%	17%	0%
Fixed Income (55)	37%	5%	38%	9%	11%	0%
Money Markets (39)	23%	5%	44%	15%	13%	0%
Overall	33%	5%	38%	13%	13%	0%



**Processing cycles**

End of day processing is the most common processing cycle adopted (55 per cent of CSDs). As for Real Time Gross Settlement (RTGS), 32 per cent claim to operate on this basis. In addition, 27 per cent of CSDs operate a multiple intraday processing cycle, 25 per cent a single intraday cycle and 20 per cent operate overnight.

A number of CSDs and national payment systems are currently implementing, or considering implementing, multiple processing cycles or evolving to real-time processing.

**CSD review**

Response	Percentage
Yes	29%
No	43%
Planned	26%

**Cross-border services**

Cross-border securities deposit and settlement services are offered by 29 per cent of CSDs. "Where CSDs have established direct or indirect participant linkages with other local market CSDs, this has nearly exclusively been done on a geographical proximity basis, such as in the planned links by a number of central/eastern European depositories within the next two years," says Thomas Murray. The graph on the right shows a breakdown of how cross-border services are provided.

Method	Percentage
Other	18%
Securities Companies	18%
Custodians in the CSD	53%
Own CSD Network	11%

**Communication with participants**

Proprietary communication and reporting systems for participants have been developed by 79 per cent of CSDs, with a further 9 per cent currently planning such a system. Of those which have a proprietary system, an average of 88 per cent of the eligible participants are connected to that system.

Response	Percentage
Yes	79%
No	12%
Planned	9%

**How trade information is supplied**

Of these proprietary systems, 71 per cent provide trade information updated on a real-time basis. "The opposite to real-time is where the information is updated on a batch basis, and a large number of database changes are held for execution at a pre-determined time, usually at the end of the day," says Thomas Murray.

Update Method	Percentage
Real-time	71%
Overnight	29%

**SWIFT membership and capabilities**

The SWIFT messaging format is increasingly being adopted by CSDs, with 25 per cent of CSDs already having SWIFT membership with another 22 per cent planning to become members in the future. Of the remaining 53 per cent that are not members, 22 per cent can send/receive messages in SWIFT formats.

Response	Percentage
Yes	25%
No	43%
Planned	22%

**CSD review**

Selected internal safety features	
<b>Insurance</b>	58 per cent of CSDs have insurance to cover the loss or theft of securities held in safe custody and damage from fire
<b>Compensation Fund</b>	40 per cent of CSDs have a compensation fund to cover losses which might take place during the business operation
<b>Participants Eligibility</b>	79 per cent of CSDs evaluate and monitor the financial status, securities and transactions of new and existing participants
<b>Internal Controls</b>	88 per cent of CSDs keep records of the conveyance, location and number of securities that are deposited or withdrawn in order to reconcile problems that may occur during service processing
<b>Vaults</b>	59 per cent of CSDs have vaults, the majority of which are secured by CCTV and are guarded full time
<b>Off-Site Back-up</b>	82 per cent of CSDs have office back-up facility for its EDP centre(s); 79 per cent have back-up power generators while UPS (Uninterrupted Power Supply) is in place in 96 per cent of cases
<b>Anti-Forgery</b>	Overall 72 per cent of CSDs have implemented anti-forgery measures, with 23 per cent implementing optical card readers, 21 per cent image scanners and 60 per cent storing information about lost, stolen or counterfeit securities
<b>Disaster Recovery</b>	93 per cent of CSDs have disaster recovery plans, including computer back-up and locations, support and recovery systems. Many of the plans ensure that every single component in the system (gateway, system, communication method) are replicated and operational
<b>Legal Safety Measures</b>	56 per cent of CSDs are legally required to compensate for the loss of missing deposited securities. In most cases the depository is responsible for the replacement and direct additional cost incurred by the client as a result of the loss
<b>Audits</b>	In addition to the many CSDs who have an internal auditing department, 91 per cent use external auditors to carry out at least an annual audit; 55 per cent allow third parties to audit their internal controls and procedures. In most cases third party audits are restricted to local market regulatory and supervisory bodies

**Internal Safety Features in effect amongst CSDs**

	Sample size	With programme
<b>Financial Safeguards</b>		
Insurance cover	57	58%
Compensation fund	57	40%
<b>Internal Safety Measures</b>		
Participants eligibility	47	79%
Internal controls	57	88%
<b>Safeguard Facilities</b>		
Vaults	58	59%
Off-site back-up	57	82%
Back-up power generator	57	79%
UPS†	56	96%
<b>Anti-Forgery Efforts</b>		
Optical card readers	47	23%
Image scanners	47	21%
Store information on lost, stolen and counterfeit securities	50	60%
<b>Disaster Recovery</b>		
Disaster recovery plans	54	93%
<b>Legal Safety Measures</b>		
Compensate for missing securities	48	56%
<b>Audit</b>		
External audit	57	91%
Third party audits	55	55%

**D**URING the course of its research, Thomas Murray asked each CSD what it considered to be the main issues facing its future role and development. Below is a league table showing the top five issues mentioned by CSDs. While a diverse range of issues, many of them localised, were raised, the table shows that many CSDs are fully aware of the increasing demands being made on them in terms of technological development, better international linkage and more 'added value' services.

**Operational CSDs:**

1. Dematerialisation of securities
2. Development of securities lending/borrowing services
3. Expansion of eligible securities/instruments
4. Improving cross-border settlement
5. Forging links with foreign/other CSDs

**CSDs in the process of being established:**

1. Encourage foreign investment
2. Increase market value/liquidity
3. Developing IT systems
4. Creating suitable legal frameworks for the CSD
5. Modifications to existing banking/securities market culture

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