Supplementary Report on Issues Beyond the SDDS

**Suggestions for
Improving the Data Base of the
Indian Financial Sectors**

The Advisory Group on Data Dissemination

Suggestions for Improving the Data Base of the Indian Financial Sectors

Introduction

Two accompanying notes under this section dilate on issues concerning the data base of the financial system. Though these issues were outside its terms of reference, the Group was advised to deal with them in the context of the recommendations to be presented before the National Statistical Commission (Chairman: Dr. C. Rangarajan). The Group was given for perusal the draft recommendations prepared earlier in that context. The Group was expected to supplement the draft recommendations. Accordingly, the following two notes were prepared by the Group for incorporating them into the final recommendations:

1. Financial and External Sector Statistics: A Few Suggestions.
2. Information Infrastructure in India in the Area of the Financial Markets.

The first note presents suggestions for improvement in monetary and banking data, NBFC statistics, data on the Indian capital market and the government securities market and those on the external sector. Data on the Indian capital market are truly weak. Data on capital issues and capital raised as well as those on public response are available only partially. Likewise, statistics on commercial bond issues and their terms are not fully available from official sources. In respect of the external sector, amongst the suggestions are for the construction of more representative REERs and NEERs and detailed dissemination of FDI inflows by sectors.

In the second note on equity, bonds and currency markets, a series of suggestions have been made such as, the use of international standard code for identifying securities , that is, the ISIN, the mandatory requirement by every exchange to produce intra-day evolution of prices and liquidity, the RBI to strengthen information availability on the bonds markets through a few specific steps and in respect of the currency market, a centralised trade-reporting facility to be set up, information on open–high–low–close–trades–volumes to be released on a daily basis, and intra-day time-series of prices using time-stamps on trades to be facilitated.

Financial and External Sector Statistics:
A Few Suggestions

No.	Nature of Data	Current Status	Proposed Change	Time-frame	Institution to Implement
			I Monetary Data		
1	CRR and SLR series for the system as a whole and for commercial and cooperative banks separately.	Statutory returns submitted by scheduled commercial banks in Form A and Form VIII for monitoring CRR and SLR compliances, respectively, are presently not aggregated for the system as a whole or for scheduled commercial banks and scheduled cooperative banks. Nor are the corresponding base net DTL figures compiled and published.	The following data are of immense use in monetary and macro-economic analyses: (i) Data on required cash reserves and required liquidity reserves; (ii) actual cash reserves and actual liquidity amounts; (iii) excess (or deficient) cash reserves and liquidity investments; (iv) corresponding net DTL amounts; and (v) the ratios of required , actual, and excess CRR and SLR. Today in the absence of these data, research is done within the RBI and by outside scholars with the help of surrogate data. Bank-wise data obtained by the RBI on a fortnightly basis should be tabulated for the system as a whole and published regularly, presenting five sets of statistics indicated above, separately for (a) the monetary system as a whole; (b) for scheduled commercial banks, and (c) for schedule cooperative banks. These are required to be presented separately for CRR and SLR.	Within the next two years	RBI

2	Centre-wise data on cheque clearances	The RBI's monthly Bulletin combines inter-bank cheque clearances with customer cheque clearances in metropolitan and other important centres, thus reducing the analytical utility of the centre-wise cheque clearances data.	Inter-bank cheques may be excluded from the regular data series but presented within brackets in each of the data blocks.	Within a year	RBI [As these suggestions can be implemented within the RBI, these may not constitute a part of recommendations for the National Statistical Commission]
			II Data on Scheduled Commercial Banks		
3	Different dimensions of Basic Statistical Returns (BSR)	Indian BSR has been a unique, most sophisticated, and analytically most useful, system of banking statistics in world banking . Within the system, there is scope for some expansion in the analytical contents of its tabulations	(i) The suggestions given here involve presentation of some details. (ii) Apart from special tabulations, it is suggested that sample surveys undertaken under the BSR system, in particular on (a) ownership of bank deficits, and (b) debits to deposits, should be supported by information on their statistical credibility such as standard errors.	Within the next two years	RBI
			III Non-Banking Financial Companies (NBFCs)		
4	Census of Finance Companies on a Decennial Basis	Today information on the varied NBFCs not registered with the RBI is scanty, but it is known that the "informal" financial market is sizeable and it plays a significant role in financing the real sectors. At least once in ten years,	(i) It is proposed that a decennial Census of NBFCs, all types, be undertaken. It may be combined with statistically designed sample studies on informal segments such as registered money-lenders. (ii) The proposed Census of NBFCs should cover (a) normal non-banking financial companies and specialised NBFCs such as equipment leasing, hire-	Within the next three years	RBI may award the survey to some major research organisation such as the NCAER exposed to field surveys, or

		we ought to get an idea about the size of the informal credit market and about the nature of its sources and uses of funds.	purchase, investment companies, loan companies, nidhis and chit funds; (b) residuary non-banking companies; and (c) housing finance companies. (iii) The Census study should also cover deposit acceptance activities of manufacturing and other non-banking non-financial companies (listing of all companies with focus on deposit acceptance). (iv) Considering the serious kinks that have appeared in the figures of public deposits of NBFCs, the RBI may make an attempt to clear up the data for recent years. For instance, figures of fresh public deposits of NBFCs for household saving estimation have fluctuated thus: 1995-96 - Rs 13, 198 crore 1996-97 - Rs 25, 980 crore 1997-98 - Rs 7, 775 crore 1998-99 - Rs 15,376 crore (v) The definition of "public deposits" used for the NBFCs' data system should be in accordance with primary deposit data used for financial saving estimation of the household sector by the RBI and the CSO. There are fresh mobilisations resorted to by NBFCs and other companies in the form of deposits from their existing shareholders and directors, which should constitute a part of "public deposits".		the NSSO if they are inclined to under-take with the RBI's financial support.
			IV Analytical Studies in the Field of Money and Finance		
5	All India Debt and Investment Survey (AIDIS)	AIDIS was designed as the only source of generating, albeit periodically,	The RBI may be requested to accept greater involvement in the AIDIS surveys and to offer matching samples in the future. This would be extremely useful	At the time of under-taking the 2001-	RBI and NSSO

		nationwide data on composition of assets, savings and indebtedness of rural and urban households. The CSO has been using AIDIS data for estimating some aspects of household saving in physical assets. But, the reliability of the AIDIS results is increasingly being questioned, primarily because of the narrow sampling size. For the 1971-72 survey, there were three sets of samples - central, state and RBI. The 1981-82 survey was based on only the pooled data of central and state samples as the RBI withdrew its matching sample. It was narrower still in the 1991-92 survey as it was based only on central sample. States were short of funds and the RBI again did not offer the matching sample.	for strengthening the AIDIS data.	2002 AIDIS survey	
6	Financial balance sheet of the economy (i.e., estimates of stock of	Corresponding to the stock of capital in the economy, we require estimates of the stock of financial assets.	As an adjunct to its flow of accounts, the RBI may compile time-series of stocks of financial assets in the Indian economy on an annual basis.	Within the next two years	RBI

	financial assets)	Some work in this respect was done earlier by RBI officials (V.V. Divadia, T.R. Venkatachalam and Deepak Mohanty. See Indian Journal of Income and Wealth, July 1994), but we require these data for analytical purposes on a regular basis.			
			V The Indian Capital Market		
7	To make a clear Distinction between equity capital issues and equity capital raised, as also to conduct a comprehensive annual survey on public response to capital issues.	In the present set of data published by the RBI or the SEBI, there is a mix-up as between equity capital issues and equity capital raised/mobilised. Many ordinary share capital issues (or floatations) do not result in full mobilitsation; many spill over into the next month or quarter or year. Historically, the RBI was clearly making a distinction between equity capital issues and equity capital raised ; it was also undertaking a survey of public response to capital issues along with data on different costs of capital issues. No organisation appears to undertake studies	(a) The SEBI may collate separate data on capital raised, if necessary, by prescribing and canvassing a separate schedule with the companies which have made equity capital issues. (b) The above schedule should seek data on (i) firm allotments to institutional and other investors and (ii) public subscriptions (total) along with (iii) data on underwriting as well as (iv) the cost of capital issues. (c) Simultaneously, the SEBI should undertake a comprehensive survey (as the RBI has been doing in the recent past) on public response equity capital issues – size-wise, occupation group-wise, region-wise, etc. etc.	Within the next two years	SEBI

		and surveys on (a) capital raised; (b) details of public response to equity capital issues; and (c) cost of capital raised from the market.			
8	Data on bond issues and bond amounts raised	The same confusion as above is seen in the data put out on commercial bond issues. No distinction is made between bond issues and bond amounts actually raised. Even in the case of private placement of bonds, the actual mobilization turns out to be different in a period from the issues initially proposed to be raised.The actual mobilisation during a period is from out of the past issues and the present ones.	In the case of debt issues too, the SEBI may collate comprehensive data on (a) bond issues divided as between public issues and private placements, (b) actual mobilisation of funds through bonds. As suggested in the existing draft Report (page 22), details consisting of classification by instruments, issuer profile, investors, maturity, interest rates and other terms and credit rating quality, may be provided.	Within two years	SEBI
9	Divergence Indices of Equity Prices	It is known that the Indian stock exchanges are not fully competitive and equity price quotations differ as between the NSE and the BSE rather Quite noticeably on a daily basis. While the divergence in the prices of individual scrips is known, there is no measure of the divergence	Such Divergence Indices may be constructed by the SEBI adopting the following method: (i) Construct an index of equity prices of the Sensex scrips using the NSE quotations; (ii) Likewise construct an index for the S&P CNX Nifty scrips using the BSE quotations. (iii) Express the new indices as percentage ratios of the base indices. The indices would at once bring out the extent of arbitraging opportunities that exist after taking into	Within a year	SEBI

		in a groups of scrips, though such a measure would be analytically useful, for it would present the extent of arbitraging that is potentially possible as between the two markets.	account the cost differences in operating in two exchanges.		
			VI Government Securities Market		
10	SGL data on Central government securities	The daily press handout on SGL data, when aggregated on a Weekly basis, do not agree with the data on weekly transactions published in the Weekly Supplement to the RBI Bulletin. It is possible that the PDO does not cover all the entries in the SGL press handout. Today the difference is about 25 per cent and not 2 per cent as it is presumed.	It may be ensured that all transactions through the SGL may at least be covered in the daily press handouts.	Within two years	RBI
11	Trustee securities issued by local bodies	Today we don't have an annual and periodical picture of trustee securities issued by municipalities and other local bodies. This is a growing segment of the debt market in India	Regular data may be compiled on this growing and, in a way dynamic, segment of the debt market in India. Issue amounts, coupon rates and other terms may be published at least once a year, preferably in the RBI Annual Report.	Within two years	RBI
12	Residual maturity of government securities	Data published in the Annual Report of the RBI on the repayment schedule for	It is suggested that an appropriate table presenting residual maturity at least by original coupon rates may be presented in respect of both	Within two years	RBI

		market loans of central and state governments, is too bland to be sufficient for analytical purposes.	central and state government securities on an annual basis.		
			VII Money Market		
13	Primary issues of CDs and CP	The RBI's Weekly Supplement presents data on primary issues of CDs and CP but the range of rates of interest presented is too wide to be of any analytical use.	It is suggested that CDs and CP data be presented against much narrower interest rate bands (and also, a weighted average of interest rates on a fortnightly basis)	---	---
14	Foreign exchange balances of commercial and cooperative banks	Banks' holdings of foreign assets have gone up rather sizeably in recent years. Weekly Supplement to the RBI Bulletin does not contain these data directly.	Data on banks' foreign exchange balances may be published in the Weekly Supplement to the RBI Bulletin as on entry in the table on "Money Stock".[It is presumed that once the RBI Survey, Banking Survey and Monetary Survey data are firmed up, their results would appear in the Weekly Supplement to the RBI Bulletin]	Within a year	RBI
15	Exchange rate quotations for the close of a day	Today, the RBI publishes its Reference Rate for the US dollar, and based on middle rates of the cross-currency quotes at 12 noon, it also publishes rupee rates for major currencies. The Reference Rate is also based on 12 noon rates of a few select banks in Mumbai. But, for analytical purposes and also for book closing purposes, a local closing rupee rate for each	While the RBI may continue to give the 12 noon Reference Rate on its screen for guiding the market, the publication of the rupee rate in the Weekly Supplement, the monthly RBI Bulletin, and in other publications of the RBI may be the similarly derived closing quotation for each day. If using the closing quotations for booking the daily transactions in the RBI's own books is inconvenient, it may continue to use the 12 noon Reference Rate specifically for that purpose, but nevertheless publish the closing quotations (In which case the Reference Rate may not have to be even published).	Within a year	RBI

		working day for the US dollar and the major currencies, would be useful. FEDAI indicative rates do not serve this purpose.			
16	Hawala rate for the rupee as quoted in Dubai.	Though the hawala rate for the rupee is widely known, we find it difficult to get a consistent series even though its movements are useful for policy analysis. Khaliz Times from Dubai publishes it every day.	In the current dispensation of transparency, a reproduction of the known data on the hawala rate should be useful. It would be a method of alerting various public agencies about the behaviour of the unofficial price for the rupee (We accept that this is a heroic suggestion and the authorities may not find it easy to implement the same.	Within the next one year	RBI
17	NEER and REER	At present, the RBI publishes only two sets of indices: 5-country and 36-country NEERs and REERs. Also, the 36-country NEERs and REERs have an invariant and unusually old weighting diagram (1985=100) [As per the data put out, the five top countries accounted for an average of 37 per cent of the country's total export-import trade from 1992-93 to 1996-97, while the 36-countries represented 65 to 70 per cent of total trade during 1975 and 1991].	In our considered view this piece of information will not be harmful to a healthy pursuit of public policies. (i) The weighting diagram may be brought forward in respect of the 36-country index to a more recent period. (may be to 1993-94 which is the base for many an economic statistics and which is said to have also enjoyed a reasonable equilibrium in the Indian forex market). (ii) An intermediate index covering exchange rates and bilateral weights of about 15 representative countries from the viewpoint of India's bilateral trade, with a moving weighting diagram, may be constructed. (iii) It is possible for the RBI to establish a direct link, through the SDDS, with the country sites concerned to get the required information on (a) the bilateral countries' exchange rates against a	Within a year	RBI

			defined numeraire (SDR in the present case), and (b) those countries' consumer price index numbers. With the SDDS in place, it should be possible to work out the NEERs and REERs much more quickly than in the past. It need not necessarily be 15-countries. We may hope to cover about two-thirds of the country's total foreign trade today and hit upon a number of countries which satisfy that requirement.		
18	Currency-wise invoicing pattern	The RBI was conducting sporadic studies on currency-wise pattern of (a) exports and imports, and (b)invisibles. Though analytically and for policy purposes, such data are found to be very useful, they have become few and far between.	It is suggested that the analysis of the available data on currency wise pattern of export and import trade separately and also those on invisibles, may be undertaken more regularly - at least once in two years.	Within two years	RBI
19	Sub categori-sation of invisible transactions	Though the IMF Manual classifies non-merchandise current account transactions (credits and debits) into as many as 21 categories and even though the IMF obtains from the reporting countries and publishes in its BoP Yearbook (supplemented by its own estimates) fairly disaggregated data on a number of countries, Indian	Apart from the conversion of import c.i.f. into imports f.o.b. as required by the IMF; there is scope for, further disaggregation of the invisibles data. Attempts may be made to disaggregate the "invisibles" data instead of accepting the status quo. It is, for instance, possible for disaggregating "investment income" into five sub-categories even within the available data: **Item No. in the IMF's BoP Yearbook** 11 & 12 Reinvested earnings		

		BoP statistics have been presenting now for many years the "invisibles" account under only eight heads.	on direct investment 13 & 14 Other direct investment income (distributed earnings) 15 & 16 Other investment income of resident official, including inter-official (interest income, etc.) 17 & 18 Other investment income of foreign official, excluding inter-official (Foreign official interest income paid received) 19 & 20 Other investment income (private to private). (Dividends on portfolio investment in equities, etc.) (This is just an example. For details, see EPW, November 13-20, 1993)		
20	Data on FDI inflows by projects and sectors	Secretariat of Industrial Approvals (Ministry of Industry) publishes in their SIA Newsletter (monthly) census list of FDI approvals with brief details on individual proposals (about 10,000 by now) and some consolidated data on actual inflows.	RBI may attempt publishing similar data on the progress achieved in actual inflow of FDI and technical collaborations, along with 'individual project profiles' - at least for major ones.	Within the next two years	RBI
21	Studies on foreign financial and technical collaborations in Indian Industry	This quenquennium survey, begun in the early 1960s, generally brought out studied information on the following: (i) extent of foreign equity participation, (ii) profitability and dividend remittances of	With a quantum jump in the number of FDI projects and foreign collaboration agreements even with 100 per cent foreign equity participation, the need for such surveys which provide an insight into the working of foreign investment projects has been reinforced. The scope and coverage of such studies may also be carefully redesigned separately for foreign-	Within the next two years	RBI

		three types of companies involved in foreign participation: (a) subsidiaries; (b) minority participation; and (c)technical collaboration groups; (Branches became extinct under the FERA 1973 except in a few areas) (iii) foreign currency loans outstanding and interest remittances on such loans; (iv) production and value added performance of such companies; (v) capital expenditure and volume of imports and exports; and (vi) regulatory features of FDI/collaboration agreements. There has been some deterioration in the response to the survey. The RBI conducted the fifth survey in the series covering the period 1981-82 to 1985-86. The fifth survey was designed on the same lines as the earlier surveys and covered all Indian public and private limited companies	controlled rupee companies, 100 per cent foreign companies and branches of foreign companies. In the changed context, considerable intellectual thinking may have to go into the design of this survey. The RBI may, therefore, appoint a group of independent academicians as consultants to design the scope and coverage of the survey and speed up the implementation of the foreign collaboration studies.		

		having (i) foreign company capital participation as on March 31, 1986 and (ii) foreign technical collaboration agreements in force on April 1, 1981, or thereafter, provided these agreements were approved by the Government by March 31, 1986. The response to the fifth survey was not upto the expectations and hence its results were not published in the form of a Report; instead an article based on the results of the survey was published in August 1995 issue of the RBI Bulletin. Recognising the importance of the study, the RBI said: "it has been decided to publish this study as an article in view of the interest shown in academic circles by researchers from both within and outside the country".			

Information Infrastructure in India in the Area of the Financial Markets

In this note, we summarise the state of information availability, and gaps in information disclosure, in the equity, bond, and currency markets with reference to both spot and derivatives.

Exchange-traded Products

The basic information at a daily frequency that emanates from exchanges is of satisfactory quality. For a typical product, the following information is available from exchanges:

- Open price
- High price
- Closing price
- Low price
- Number of shares
- Number of trades
- Value of trades
- Number of securities traded.

There are two important areas where improvement is needed: (a) The files produced by exchanges should consistently show the international standard code for identifying securities, i.e. the ISIN, and (b) The "open interest" should be disclosed alongside the above information.

In recent years, intra-day data has come to prominence in the financial sector. Intra-day data is relevant for piecing together events intra-day. Recent events on the equity market have highlighted the importance of being able to reconstruct the evolution of prices and liquidity, intra-day, for the purpose of better understanding and regulating the market. Further, intra-day data has become central to a variety of sophisticated research and analysis. For example, intra-day data is a central tool for forecasting volatilities and correlations which are used in risk management.

When it comes to intra-day data, the picture in India is much more gloomy. The only consistent framework for information dissemination for intra-day data is by the National Stock Exchange (NSE). NSE produces an intra-day time-series of prices. The data released by NSE shows a sequence of observations, one per trade, with (a) timestamp (b) price and (c) quantity.

The international standard for intra-day information disclosure is the "TAQ" dataset. TAQ stands for "trades and quotes". It consists of the following elements:

- Timestamp
- The best five prices and quantities available at these prices, for both buy and sell orders
- The last traded price
- Last traded quantity
- Total quantity traded so far today.

The TAQ dataset shows the intra-day evolution of prices and liquidity. For every traded product, every time any of these five elements changes, a fresh record is generated in the TAQ dataset. This data is the starting point of research and analysis using high frequency financial data. This data is prominently absent from India's financial landscape today. We recommend that every exchange should be required to produce this dataset every day.

TAQ data should become available for all exchange-traded products: shares, bonds, commodities and derivatives.

The Difficulties with Timestamps

A major problem with time-stamped data obtained from various exchanges is the discrepancies of exchange clocks and inconsistencies of starting and closing times. Hence, every exchange should be required to produce the following information every day:

- The time of day (according to the exchange) when trading commenced
- The time of day (according to Indian Standard Time) when trading commenced. The error in this should be guaranteed by the exchange to be smaller than one second[1].
- The time of day (according to the exchange) when trading stopped.

The first two fields would allow a user of the data to correct for mistakes in the clock of the exchange.

A Recommendation for SEBI

The group felt that SEBI should perform the following coordinating and dissemination functions:

- Define standardised plain-text file formats for the two datasets to be released each day by each exchange (the end-of-day "bhav copy" and the intra-day TAQ data).
- Obtain this data from each exchange every day.
- Confirm that the files conform to standardised file formats.
- Make these files freely available for downloading over the Internet.

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1 All exchanges in India are computerized. The *Network Time Protocol* (NTP) is a freely available
international protocol through which it is easy for any computer in the country to know the exact
time, with an error of less than a millisecond.

Off-exchange Trades

Large parts of India's financial landscape continue to be characterized by non-transparent, bilaterally negotiated financial trades. The bond market and currency markets are examples of this.

RBI's information systems about the bond market have severe deficiencies as of today. The only information available about the bond-market on a same--day basis originates from NSE's wholesale debt market (WDM). NSE shows the price and quantity for all trades that are registered with NSE. These data have two severe flaws:

- All trades in the country are not reported on NSE, so NSE's data is only a sample.
- The trades are not time-stamped. Therefore it is not possible to reconstruct an intra-day price time-series using the NSE data. Recent events on the equity market have highlighted the importance of being able to reconstruct the evolution of prices and liquidity, intra-day, for the purpose of better understanding and regulating the

market. Such a regulatory capability does not exist on the bond or currency markets, owing to basic flaws in their design.

As of today, major institutional reforms are being debated, which will bring about profound improvements to the transparency of the bond market. These changes are interesting from an information infrastructure perspective, insofar as they will innately generate better data. For example, exchange-traded bonds will immediately generate the high quality information disclosure described above. However, until the bond market moves to an exchange-traded format, it would be useful for RBI to strengthen information availability on the bond market through three steps:

- Trade reporting on NSE should be mandatory and not optional.
- Trade reporting should take place with a delay of no worse than 30 seconds.
- Trade reports should be time-stamped.

These changes would make NSE WDM a genuine trade reporting facility which shows the intra-day evolution of prices. This is an information set which is simply absent with economic agents participating in the bond market today. The fixed income derivatives that are traded in India today (interest rate forwards and interest rate swaps) suffer from these same deficiencies. There is no trade reporting which takes place today. Trade reporting through NSE for these markets would improve the information system for these products.

The Corporate Bond Market

The weakest segment in the country in terms of information disclosure is the corporate bond market. The problems here start from the primary market, where comprehensive information about all corporate bonds is hard to obtain. The corporate bond market is largely a distributed dealer market, like the government bond market, but settlement is not centralised at one place (like RBI's SGL). This has the consequence that there is no centralised information source about trades on the corporate bond market.

Basic redesign of the market would obtain superior transparency. However, in the interim, the market should move towards mandatory trade reporting (as described above in the case of government bonds) so that comprehensive trade information becomes available, and the intra-day time-series of prices can be reconstructed using time-stamped trades data.

The Currency Market

The currency spot and derivatives markets suffer from the same deficiencies of the bond market: non-transparent trading without trade reporting or time-stamps. The bond market at least has NSE WDM, where roughly half the trades are reported on a same-day basis and RBI's SGL, where all trades are visible with a lag of a few days. In contrast, the currency market has a near-complete absence of release of financial data. It is interesting to contrast the sharply inferior state of information disclosure on the dollar-rupee forward market (a mature market where regulators and market participants have had over a decade at trying to improve their functioning) when compared with the fledgling index futures market (a market which is less than a year old).

This state of opacity is a serious flaw in India's financial system. All the policy proposals mentioned above for the bond market should be equally applied to the currency market: A centralised trade-reporting facility should be set up, information for open-high-low-close-trades-volumes should be released on a daily basis, and it should be possible to reconstruct the intra-day time-series of prices using time-stamps on trades.

Cost

The policy proposals presented in this note can all be implemented at very low costs. In the case of exchanges, the TAQ feed is already sent down to trading terminals. It is a simple matter to capture this information and make it available to the world at large. In the case of the bond market, the WDM system is already running. It is a near-zero cost to make it mandatory that all trades be reported to it, and that these trades be time-stamped. It is a simple matter to extend the WDM system to also do trade reporting for fixed income derivatives. In the case of the currency market, it is not hard to build a facility like WDM for the purpose of trade reporting.

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