

**INDIAN BORROWING ON  
INTERNATIONAL CAPITAL MARKETS IN THE EIGHTIES**

by

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# INDIAN BORROWING ON INTERNATIONAL CAPITAL MARKETS IN THE EIGHTIES

## I. Introduction

This paper reports the results of an effort to collect loan-specific details on Indian external commercial borrowing starting 1980.<sup>1</sup> Official data on these borrowings, are confidential and not accessible to academic researchers. What is presented here has therefore been assembled from Euromoney, supplemented by other sources. While information on amount borrowed was available in all but a few cases, that on rates and on clauses bearing on rates, such as whether the loan was tax-spared, is very incomplete. Missing altogether is information on other elements of the costs of these loans such as front-end and agency fees, and commitment fees in arrangements with deferred drawdown or underwriting provisions, which are typically not reported in tombstones or by the borrowing organisations. An exercise that began with the objective of trying to understand cross-loan variations in terms had therefore necessarily to stop at compilation, and not proceed towards formal analysis. At the existing level of noise, the data can at best provide a base from which to motivate the issues.

Section II offers a profile of borrowing in the eighties with hopefully not too wide a margin of error, and section III mean margins on floating rate loans. Sections IV to VII

investigate each of the other four principal types of borrowing engaged in by Indian organisations. Section VIII concludes the paper. The data are provided in full in appendix tables A1 to A5.

## II. A Profile of Borrowing in the Eighties

Indian organisations borrowed through the full range of forms available on international capital markets in the eighties - floating/fixed rate loans, floating/fixed rate bonds, and note issuance facilities (NIFs) - a total of 217 approaches over the ten years 1980-89, of which information on amount borrowed is available for 214. These yield a consolidated aggregate of \$ 15.5 billion borrowed (table 1). This aggregate is less than the total of \$ 16.9 billion reported by the Economic Survey for approvals over the same period, which might be thought an acceptable discrepancy since the government figures include lines of institutional export credit from organisations like the German KfW or Swedish SEB, not included in the data here assembled. However, a year by year comparison of the two is less reassuring; until 1985, approvals far exceeded actuals as here assembled, and in 1986 and all subsequent years, actuals far exceeded approvals (see table 1). These discrepancies remain unresolved,<sup>2</sup> and are far too big to be ascribed to any differences that might arise on account of approvals relating to the financial rather than the calendar year, or on account of differences in currency rates used to convert loans not denominated in US dollars into dollar equivalents.

Table 1: Indian External Commercial Borrowings (\$10<sup>6</sup>)

Year	Floating rate loans	Fixed rate loans	Fixed rate bonds*	Floating rate notes (FRNs)**	Note Issuance Facilities (NIFs)**	Total	Total Approvals	
							Year	Total
1980	96.0 (4)	-	-	30.0 (1)	-	126.0 (5)	1980/81	1312.595
1981	999.2 (6)	28.0 (1)	-	65.0 (2)	-	1092.2 (9)	1981/82	1342.551
1982	398.7 (8)	613.8 (3)	-	30.0 (1)	-	1042.5 (11)	1982/83	2096.007
1983	739.2 (12)	-	151.5 (1)	-	-	890.7 (13)	1983/84	1050.290
1984	291.1 (9)	57.3 (3)	82.9 (4)	-	150.0 (3)	581.3 (19)	1984/85	1603.163
1985	131.2 (6)	61.0 (2)	45.1 (2)	150.0 (1)	220.0 (4)	607.3 (15)	1985/86	1389.456
1986	948.1 (11)	541.2 (9)	433.5 (16)	125.0 (1)	285.0+ (8)	2332.8+ (45)	1986/87	1092.503
1987	1147.9 (15)	884.9 (20)	394.7 (4)	110.0 (3)	450.0 (7)	2987.5 (49)	1987/88	2046.892
1988	1364.1 (13)	920.4 (8)	698.5 (6)	55.0 (2)	300.0+ (4)	3338.0+ (31)	1988/89	2978.870
1989	1085.8 (7)	523.1 (8)	395.0 (3)	200.0 (1)	300.0 (1)	2503.9 (20)	1989/90	2029.988
Total	7201.3 (91)	3629.7 (54)	2201.2 (36)	765.0 (12)	1705.0+ (27)	15502.2 (217)*		16942.315
1986-89	4545.9 (46)	2869.6 (45)	1921.7+ (29)	490.0 (7)	1335.0+ (20)	11162.2 (147)		8148.253

Source: Last column from Economic Survey 1989-90, p.128. All other figures are assembled from Euromoney, supplemented by annual reports of borrowing organisations, and an EXIM listing covering 1987, 1988 and 1989, and exclude lines of institutional credit from organisations such as the World Bank or KFW in Germany, which are included in the Economic Survey aggregates. There were two loans with a mix of commercial and institutional tranches; only the commercial tranches of these are included in the aggregates reported here. Loans taken by foreign branches of Indian banks have been excluded.

Notes: Figures in parentheses indicate number of loans.

\* The total number of loans is less than the sum of loans by type because of three loans with a mix of fixed/floating tranches. The breakdown by type is pre-swap, i.e. borrowing as initially accessed.

+ Information on amount borrowed was not available in respect of three NIFs.

\*\* Figures reported are the face value of the issue; NIFs are issued in the form of fully-discounted short-term notes.

Of the 217 approaches to international capital markets, there were 91 loans at floating rates, and 54 at fixed rates,<sup>3</sup> where three were common to both with mixed fixed/floating tranches; the remaining 75 were through the securitised forms of bonds at fixed or floating rates, or NIFs. The classification by type is pre-swap, ie as initially accessed; since data on swaps were very incomplete, no attempt has been made to construct the post-swap composition.<sup>4</sup> The aggregates for each form are consolidated across 'Euro' and 'foreign' categories, although most of the floating component may be assumed to fall in the first category, and most of the fixed rate loans and bonds in the second.<sup>5</sup>

Three-quarters of all external borrowing in the eighties was contracted in the period 1986-89. Both in terms of number of approaches and amount borrowed, 1986 marked a sharp departure from the pace of borrowing in the preceding years, but the contrast was especially marked in fixed rate borrowing. While 46 of the 91 floating rate loans were taken in the four years 1986-89, the corresponding figures for fixed rate loans/bonds are 74 out of 90. Activity in NIFs also started only in the middle of the decade, but this is not surprising since the form came into existence only about that time.

Figures on size of loan and maturity by type are presented in table 2. While the mean size of floating rate loans is the largest, at \$ 78.9 million, the median size at \$ 35 million is not, indicating a more skewed distribution with a few large loans pulling up the floating rate mean. These larger loans were taken

Table 2: Size and Maturity of Loans by Type

	Floating rate loans	Fixed rate loans	Fixed rate bonds	Floating rate notes (FRNs)	Note Issuance Facilities (NIFs)	Total
Size (\$10)						
Range	4.2-680	4.1-575	20.3-325	25-200	20-300	4.1-680
Median	35.0	50.0	25.0	30.0	40.0	35.0
Mean						
1980-89	79.1	67.2	61.1	63.8	69.8	71.4
1986-89	98.8	63.8	66.3	70.0	78.5	75.9
(No. loans size not known)					(3)	(3)
Maturity (yrs.)*						
Range	3-15	5-20	5-10	3-12	2-10	2-20
Median	10	10	7		5	10
(No. loans mat. not known)	(7)	(7)	(18)	(2)	(8)	(42)

Source and notes: See notes to table 1.

\* This is the nominal reported duration of the loan; the mean duration would be lower in all cases without bullet payback, but information on start of payback was much more incomplete than that on nominal duration.

for the most part after 1986; the mean size of floating rate loans in the 1986-89 period approaches \$ 100 million.

Because information on maturity was not available in respect of as many as 42 loans, table 2 presents median rather than mean maturities by class of loan. The median maturity of floating and fixed rate loans is the same at 10 years, although the upper end of the range for fixed rate loans is higher because of the long maturity Japanese yen loans obtained in the later years of the decade. Both the maturity range and the median maturity are lower for the securitised forms.

Aggregating across all forms, the median size of Indian borrowing on international capital markets in the eighties was \$ 35 million, with a median duration to final maturity of 10 years (see notes to table 2).

### III. Floating Rate Loans

Mean margins by year in basis points obtained by Indian borrowers are presented in table 3, along with the lowest and highest margins in each year, and the borrower in each case. Many floating rate loans (see table A1) carry two margins in sequence rather than a single margin for the entire maturity of the loan, and/or multiple tranches (which though ordered are intended for simultaneous drawdown, and are not sequenced in time). With sequenced margins the initial margin is always lower; the higher subsequent margin is an insurance for the lender against a fall in the borrower's credit rating, but carries an inducement for



the borrower to prepay (information on this in table A1 is very incomplete, but it is certain that many more loans than reported were indeed prepaid).<sup>6</sup> Sequenced margins were the rule in the early years, but in later years are observed only for the large loans.

Of the 25 tranching loans, five carry fixed rate tranches, of which two are institutionally-financed; in all other cases, the tranches are at floating rates but are differentiated either by currency of borrowing or by currency options; or by benchmark; or by start of payback; or, as more usually in later years, by the tax-sparing clause. Where the differentiation is by terms rather than merely currency of borrowing, the first tranche in all but a few cases carries stiffer terms than subsequent tranches, eg. tranches not tax-spared, with higher margins, normally precede tax-spared tranches.

The procedure used for calculation of the means was as follows:

1. Weighting was done for loans with multiple margins by the duration of each margin, and across tranches and loans by quantum of loan.
2. Since fallback rates are not reported in all tax-spared cases (details in table 5), it is the tax-spared margins which have been used for the means calculated.
3. All loans regardless of currency of denomination were included if benchmarked on LIBOR or SIBOR;<sup>7</sup> even though the benchmark itself would vary by currency, the margin is a function of the creditworthiness of the borrower and should not in

Table 3: Floating Rate Loans: Margins over LIBOR (bp)

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Indian Borrowing						
Year	Lowest		Highest		Mean*	Wt. exclud. (%) <sup>e</sup>
	-----					
1980	47.50	IA	202.50	Indo-B Rayon	106.836	0.0
1981	43.75	ICICI	55.00	NALCO	52.626	7.7
1982	32.50	S.I.Shp.C	75.00	I.Stmshp.	38.764	1.1
1983	37.50(T)#	ICICI EXIM IDBI	145.00	PT.Untd.Tract.	57.015	35.4
1984	25.00(T)	ICICI	68.75	Enfield	44.793	0.0
1985	12.50(T)	IFCI ICICI	75.00	Orkay	28.918	0.0
1986	-12.50(T)	ITI	50.00	Reliance Bajaj	9.329	0.2
1987	0.00(T)	AI NALCO	45.00	NALCO	23.273	3.8
1988	0.00(T)	AI IPCL	45.00	AI	21.497	2.2
1989	0.00(T)	IA ONGC	28.75	Rasht Ispat	15.605	30.9

Source: Table A1.

Notes: (T) against the margin if the loan was tax-spared. All figures for margins are in basis points over LIBOR/SIBOR; no information was available in most cases on whether the benchmark was the 3-monthly or 6-monthly rate.

\* Weighted by quantum of loan.

\*\* LDCs other than OPEC.

© Observations were excluded either because of lack of information on margins, or because the benchmark was other than LIBOR.

# The IDBI loan was reported as tax-spared, but not the ICICI loan, and the EXIM loan only starting 1985, ie. after commencement of the loan.

principle vary by currency borrowed (and does not, for loans tranching in different currencies; see table A1). There were only two cases with benchmarks other than LIBOR/SIBOR, excluded along with observations incomplete in respect of margins (the weightage of excluded observations can be seen from table 3 to have been low except for 1983 and 1989).

4. The means cover only loans directly accessed at floating rates; post-swap means inclusive of loans swapped from fixed rates would be lower.

5. In most cases the maturity of the benchmark rate is not known. Margins with benchmarks of lower maturity are normally lower because of reduced risk (Sundaresan, 1991). In principle a shift in margins over time could arise because of a systematic (and for that reason, perhaps unlikely) shift in benchmark maturity.

The mean margin for India declined sharply from as much as 106.8 basis points in 1980 to a low of 9.3 in 1986, but the fall was broken by a rise of more than 18 bp in 1983. After 1986, the mean margin rose again, but declined slightly thereafter to end the decade at 15.6 bp. The range in each year between the highest and lowest margins is surprisingly wide: more than 100 bp in two years, and more than 40 bp in all other years except 1981 and 1989. The lowest margins were repeatedly accessed by the term-lending institutions and the two airlines, which were frequent borrowers in the eighties. But margins are by no means uniquely a function of the borrower: Air India got the lowest margin in 1987, but the highest in 1988; NALCO got loans in 1987 at both the highest and lowest margins of the year.<sup>8</sup> What is uniformly

true starting 1983 is that, regardless of borrowing organisation, the lowest margins were tax-spared.<sup>9</sup>

Since the time pattern of the mean margin could be a function among other factors of the mix of organisations borrowing in any year, table 4 shows margins by year obtained by each frequent borrower with four or more floating-rate loans in 1980-89. It can be seen that the decline in margins upto 1986, followed by a rise, was experienced by each organisation as well, although the 1983 rise was not uniformly experienced. Also, the initial decline after 1980 was not as steep.

There are very few reports in the literature of attempts to explain country spreads over time. Ahmed, 1989, uses quarterly data over the period 1975-83 to find factors explanatory of the time-path of spreads for Brazil, Mexico, Philippines and South Korea; and there is an earlier less formal attempt by Angelini et.al., 1979, for forty LDC borrowers using quarterly data for the period 1975-77. Ahmad finds that his dependent variable is explained to some extent by the ratio of total country exposure across all banks to GDP,<sup>10</sup> although not by the ratio of external reserves to imports. What is required ideally is a continuous variable that could serve as an independent measure by proxy of the market's perception of country risk. Formal rating by the established international credit rating organisations began for India only in the mid-eighties, and is in any case discontinuous.<sup>11</sup> The discount/premium on country funds like the India Fund might serve the purpose, although these are affected by assorted factors such as the degree of access for external

Table 4: Floating Rate Loans: Organization-Specific Margins Over LIBOR (bpi)

Year	ICICI	IDBI	IFCI	AI	ONGC	NALCO
1980	56.25 (2)	..	..	..	..	..
1981	43.75 (3)	..	..	..	46.43 (1)	55.00 (1)
1982	37.50 (1)	41.25 (1)	..	37.50 (1)	39.06 (2)	..
1983	37.50 (1)	37.50 (1)	..	..	50.00 (1)	..
1984	29.60 (2)	..	37.50 (1)	..	..	..
1985	12.50 (1)	26.56 (1)	12.50 (1)	..	..	..
1986	-6.25 (1)	6.25 (1)	2.50 (1)	2.50 (1)	11.58 (1)	..
1987	25.00 (1)	..	27.08 (1)	0.00 (1)	..	23.03 (4)
1988	..	..	25.00 (1)	19.29 (3)	21.25 (1)	..
1989	25.00 (1)	..	..	..	12.50 (2)	..
Total	28.53 (13)	28.12 (4)	23.81 (5)	18.79 (6)	25.11 (8)	39.13 (5)
Total borrowed (\$ ml)	460.44	120.00	337.40	633.00	1776.80	1350.00

Source: Table A1.

Notes: See notes to table 3.

The number of loans in each year is indicated in parentheses. All means are weighted by quantum of loan.

The only other organisation with four or more floating rate loans in the eighties was Indian Airlines. One of these loans was benchmarked on the U.S. Treasury rate, and information on margins was not available for one of the remaining three.

equity participation in domestic capital markets, which may be unrelated to market perceptions of risks in lending to the country. The problem of explaining spreads is further compounded by the fact that banks respond to risk also by limiting exposure (as experienced by India since 1990).<sup>12</sup>

Chart 1 plots the mean margin for India along with the OECD average across all non-OPEC LDCs,<sup>13</sup> and all borrowers. The OECD means exclude tax-spared loans altogether. The option of excluding these loans for India as well so as to yield a comparable mean would further reduce an already incomplete data base, and the other option of calculating the mean with fallback rates was not available because of incomplete information on fallback. As presently computed with tax-spared margins, comparability is affected only starting 1983 when the first instance of tax-sparing was reported for India. Paradoxically, it is starting 1983 that there is a noticeable congruence in direction between the mean for India and that across all LDCs. Prior to that, before any reported instances of tax-sparing to render comparison in terms of absolutes invalid, Indian margins declined sharply starting 1980 at a time when the LDC margin was rising. The mean for India in 1980, at 106.8 bp, was actually higher than the all-LDC mean by about 15 bp; this widened to a difference of more than 75 bp in favour of India in 1982. But in 1983 there was a sudden rise of nearly 19 bp in the Indian mean, the biggest rise in a single year and a rise for which no justification seems possible in terms of enhanced country risk that year.

CHART 1: MEAN MARGINS

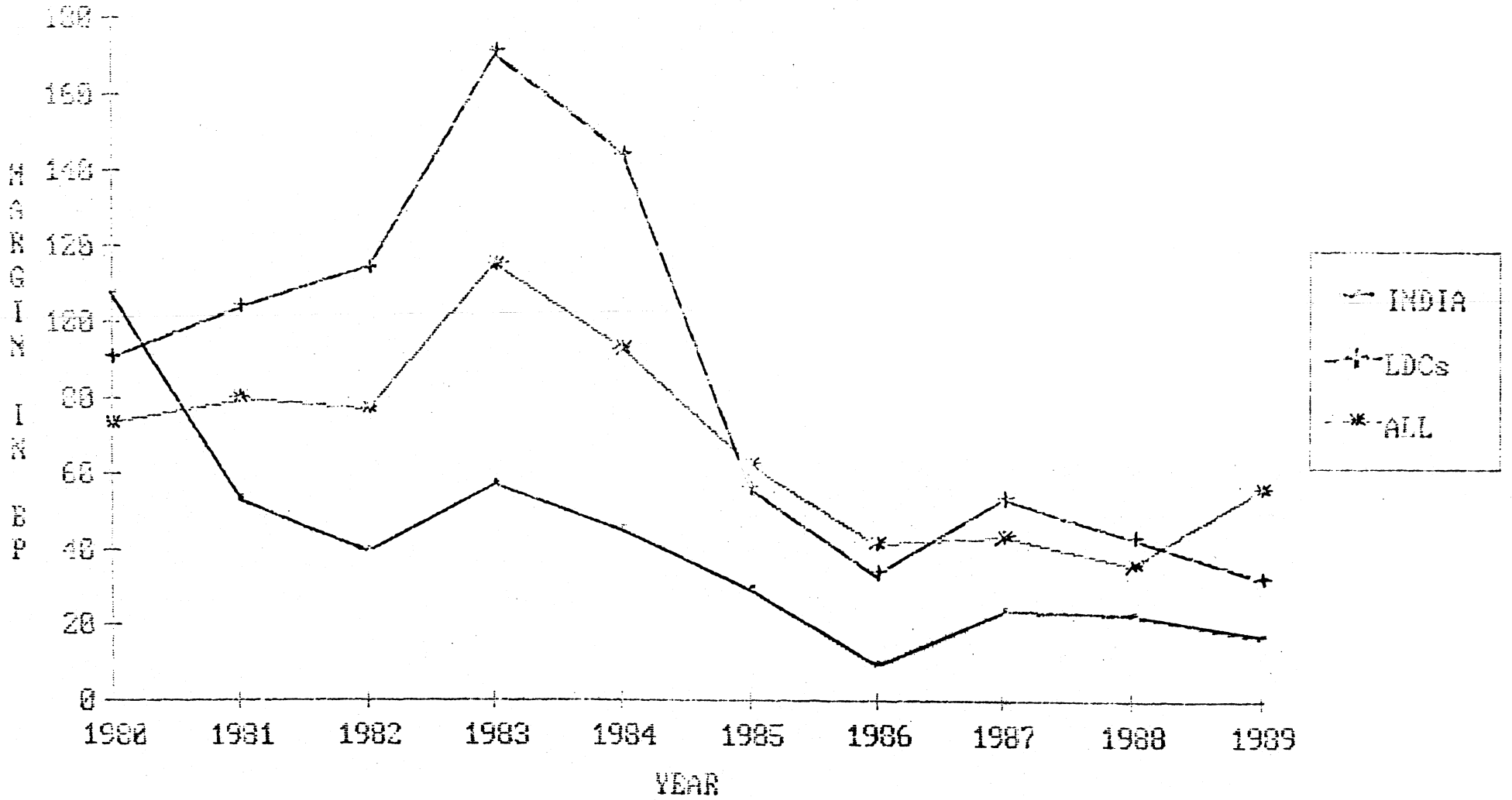
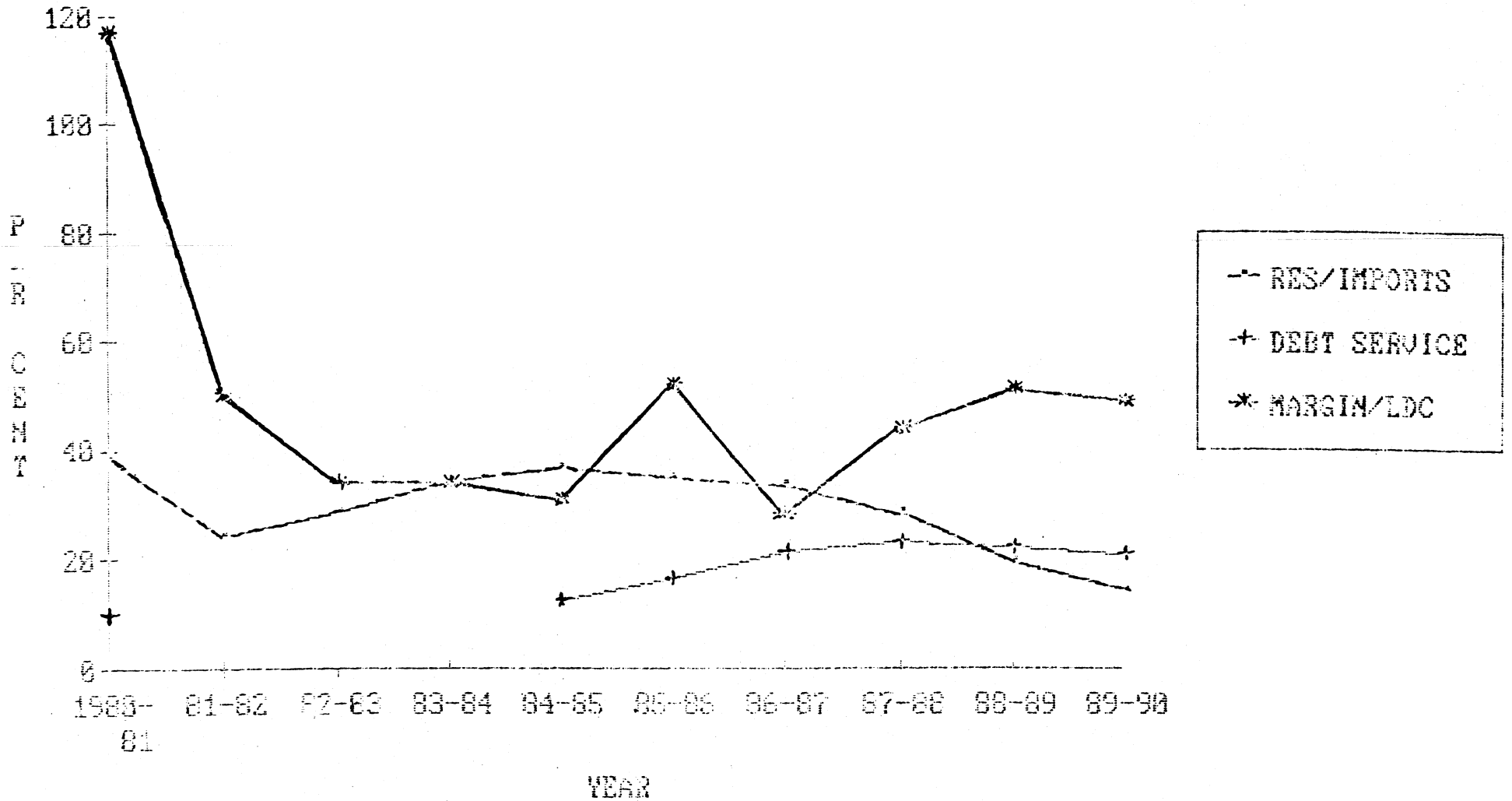


Chart 2 presents two indices which feed into assessments of country risk. The reserves to imports ratio, a liquidity measure, actually rose for India in 1983-84, after having risen the previous year as well. As for the debt-service ratio, at 9.4% it was low to start with in 1980-81, and rose to a mere 12.2% in 1984-85 (hard figures for the intervening years are unfortunately not available, but it is certain that the value for 1983-84 would lie somewhere within those terminal figures).<sup>14</sup> The margin rise of 1983 for India seems impossible therefore to justify a priori on any grounds other than the heightened 'group risk' attached to LDCs after the defaults of 1982. The margin for all LDCs rose by 56 bp in 1983, and the directional congruence between the two means thereafter suggests that starting that year, margins accessed by individual LDCs may have been influenced by generalised risk factors attached to LDCs as a whole over and above those of a purely country-specific character.<sup>15</sup> Any formal exercise could correct for this by normalising Indian margins with respect to the mean for the group,<sup>16</sup> and this is also presented in chart 2, despite the tax-sparing difficulty (which makes the ratios after 1983 lower than they would be). It can be seen that, normalised with respect to the all-LDC mean, the margin for India did not rise at all in 1983, which is more in line with the absence of any sign of enhanced country risk in 1983.

The normalised margin for India displays the same rise after 1986 as the absolute margin but greater stability after the initial drop of 1981, with the exception of a sharp rise in 1985,



CHART 2: COUNTRY INDICES FOR INDIA



reversed the next year. The 1985 rise is not justified either by the reserves/imports ratio, which dipped only marginally after three years of continuous increase, nor by the debt-service ratio, which at 16.4% was not exceptionally high that year. It has to be remembered, however, that the mean for any year reflects not merely sovereign risk, but also the borrower mix. While margins specific to the frequent, low-risk borrowers of table seen to follow the general pattern of the country mean, the overall mean across all, including higher-risk, borrowers could fluctuate with the proportion of the latter. Also, if the dependent variable is normalised with respect to the group mean, explanatory measures of country risk will require similar normalisation with respect to the same class of countries. The rise in the normalised margin after 1986 is explicable in terms of the rapidly falling reserves/imports ratio, which would be even steeper in normalised terms because of the rise in liquidity among LDCs as a group starting 1987 (as a result of purchases of the then falling US dollar by the Asian tigers in an attempt to arrest further appreciation of their own currencies).

If 1983 marks a hiatus between a prior period when group risk was not built into country spreads for individual LDCs, and a subsequent period when it was, formal analysis should be separately performed for the two periods, although the years prior to 1983 may not yield enough observations in the case of India. Also, the hypothesis clearly needs validation with respect to the experience of other, non-defaulting, LDCs.

The sizeable fall in 1981 in the mean margin for India (somewhat exaggerated by the presence of a high margin borrower among the few in 1980, and none the following year; see table A1), is not supported by the reserves/imports ratio which fell that year. The 1981 EFF loan from the International Monetary Fund could have been a contributory factor, but the loan was formalised only in late 1981. It is also possible that repeat borrowing by the term-lending institutions and the consequent name-recognition factor could have played a role in lowering margins in the early years. However, it is often the case in later years that a repeat borrower like ICICI might take a loan at a margin higher than not merely the minimum, but also the mean, for the year.<sup>17</sup> The key to understanding these disparate strands has to do with the determinants of, and restrictions upon, access to the tax-sparing provision, a crucial contributory factor towards the lowering of absolute margins starting 1983.

Tax-sparing is possible only where there is a double-taxation avoidance agreement (DTA) between India and the residence jurisdiction of the lending bank/s such that a withholding tax in India can be deemed to have been levied even when not; in such cases, the lending bank gets a tax credit for a tax not in fact paid at source, and is correspondingly willing to share the margin advantage with the borrower by lowering the margin. Since any withholding tax at source is levied on gross interest, and tax in the residence jurisdiction can only be levied on net income, the deemed tax will normally exceed the tax payable at the residence jurisdiction on the transaction, and the

advantage to the lender will be a function of whether tax laws enable the claiming of the tax credit against tax payable on other income as well.<sup>18</sup> If not, the maximum advantage to the lender is a tax-free income on the transaction, and the maximum advantage that can accrue to the borrower would be a rate equal to the cost of funds to the bank.<sup>19</sup> It is clear that both the relevant legal provisions and the interpretation thereof, and correspondingly access to and advantage from tax-sparing for the borrower, are subject to change over time.<sup>20</sup>

A total of 28 out of the 91 floating rate loans are reported to have been tax-spared, either fully or partially, of which fallback rates are available for 13 (table 5). All the reported cases in 1988 and 1989 were Japanese tax-spared, with a uniform advantage of 25 basis points; in earlier years they were mostly Belgian or UK tax-spared, with a higher and less uniform advantage. The (unweighted) mean margin advantage of tax-sparing works out to 28 basis points overall. Given the 28 bp margin advantage, the determinants of access to the tax-sparing provision become fairly crucial to any understanding of external borrowing in the eighties.

From the figures in table 5 it is clear that both the number and the proportion of loans that were tax-spared rose until 1986 but declined thereafter. Further, there is a shift in the second half of the decade towards partially-spared tranching loans, which suggests a tightening of rules at residence jurisdictions during this period. This is supported also by the rise after 1986 in the lowest tax-spared margin accessed in each

Table 5: Advantage of Tax-sparing

Year	No. of floating rate loans				Mean margin <sup>&amp;</sup> advantage (bp)
	Total	Tax-spared		Fallback (reported)**	
		Total	Full		
1980	4	-			-
1981	6	-			-
1982	8	1 <sup>@</sup>		1	-
1983	12	2	2	-	-
1984	8	3	3	-	-
1985	7	3	2	1	31.25
1986	11	7	6	1	29.72
1987	15	5	4	1	32.47
1988	13	4	3	1	25.00
1989	7	3	1	2	25.00
Total	91	28	21	7	28.08

Source: Table A1.

Notes:

& Unweighted; all on a LIBOR benchmark.

\* Partial if tax-sparing extends only to a tranche.

\*\* This includes both fully tax-spared loans for which a fallback was reported, along with partially-spared loans where the margin on the tranche not tax-spared was used as a proxy for the fallback rate. In a lone case, the 1986 ONGC loan for \$ 575m, the margin on the non-tax-spared tranche at 33.75 bp was higher than the fallback of 25 bp on the two tax-spared tranches.

@ Reported as "possibly" tax-spared with a very low margin advantage of 3.175 bp.

year (see table 3). Also, while prior to 1986 tax-sparing appears to have been the exclusive preserve of the term-lending institutions, subsequent access seems to have shifted away to a more dispersed set of borrowers consisting of large public sector organisations. This in and of itself could account for the rise in the mean margin, both absolute and normalised, after 1986, but does not explain the decline at the end of the decade, at a time when the reserves/imports ratio was falling, and the debt-service ratio was falling only slightly.

#### IV. Fixed Rate Loans

It has already been seen (table 1) that fixed rate loans picked up only in the second half of the decade; at the same time, the dominant currency of borrowing also changed from the L sterling to the yen (table 6).

Information on interest payable on fixed rate loans is not available for 25 of the 54 fixed rate loans and 14 of the 30 yen loans (table A2). With such incomplete data, it is impossible to tell if terms improved or worsened over time, even within the class of yen loans (the rates are presented at JLTP +/- a margin, so as to give a better comparative picture across the years, rather than at the consolidated rate inclusive of the benchmark at the time of taking the loan).<sup>21</sup> From the partial information at hand, the margins on most of the yen loans appear to have fluctuated within a band of 10 basis points above, to 20 basis points below the JLTP rate, with no perceptible trend; outside this range there is one 1988 NTPC loan with tranches going up to

Table 6: Currency of Fixed-rate Borrowing

LOANS (no.)						
Year	Total	Y (Incl. EuY)	L	DM	SF	Other
1980-85	9 (1T)	2	4 (1T)	..	..	3
1986	9 (2T)	2	4 (2T)	1	..	2
1987	20 (2T)	12 (1T)	1	3* (1T)	1*	4
1988	8 (2T)	6 (1T)	..	1	..	1 (1T)
1989	8 (2T)	8 (2T)	..	..	..	..
Total	54 (9T)	30 (4T)	9 (3T)	5* (1T)	1*	10** (1T)

BONDS (no.)						
Year	Total	(Incl. EuY)	L	DM	SF	Other
1980-85	7	6	1	..	..	..
1986	16	14	..	1	1	..
1987	4	..	1	2	1	..
1988	6	2	..	1	2	1
1989	3	2	..	..	..	1
Total	36	24	2	4	4	2**

Source: Tables A2 and A3.

Notes: The number of tax-spared loans is indicated in parentheses with a T.

\* These include the DM & SF tranches of a single loan. The total is therefore one less than the sum of the row entries.

\*\* Of the 10 "other" loans 8 were denominated in \$, 2 in FF; both the "other" bonds were in \$.

35 basis points above JLTP, and five loans upto 55 basis points below. Only one of the five is among the four yen loans reported as tax-spared (and fallback rates are not known for the four).<sup>22</sup>

The advantages of accessing the Japanese capital market included the possibility of extended maturity (four loans carry a maturity of 15 or more years), coupled with bullet payback,<sup>23</sup> although on the long-maturity loans the rate beyond an initial period (usually 10 years) is left for review. The loans are fairly simply structured with no tranches, with the significant exception of the 1988 NTPC loan,<sup>24</sup> and probably carried lower fees therefore. But perhaps the greatest advantage was that the low margins above JLTP enabled Indian borrowers to engage in currency and interest swaps.<sup>25</sup>

Of the total of 54 fixed rate loans, 13 are reported to have been swapped fully or partially into floating rate loans,<sup>26</sup> most involving a currency swap into US \$ as well; of these, 6 were yen loans. The post-swap rate is known in only two 1986 cases (192 bp and 18.75 bp below LIBOR), and one in 1989 (LIBOR flat), and is reported to have been sub-LIBOR in three others. These would have contributed towards lowering the effective cost of borrowing in the second half of the decade, although whether the pre-swap upturn after 1986 in the floating mean was entirely compensated for can be seen only when post-swap rates are fully available.

#### V. Fixed Rate Bonds

Table 6 also gives the currency composition of fixed rate bonds. Although the yen is the dominant currency here as well,



the number of issues denominated in DM and SF picked up starting 1986. There is also a shift from private placements (shibosai in the yen market) in the initial years to public (samurai in the yen market) and much larger issues in later years. Such information as is available (table A3)<sup>27</sup> suggests that Indian issues graduated from discount placements in earlier years, to par, and finally, premium placements. This, together with the general decline in rates on the Swiss franc, Deutsche mark and Japanese yen until 1988<sup>28</sup> made for a continued fall over the decade in the cost of accessing funds (the high rates on the few dollar bonds floated in 1988 and 1989 reflect market expectations of further dollar depreciation). There are only two reported swaps into floating rates. Such information on pattern of payback as is available suggests that even the yen issues did not necessarily have bullet payback, although needless to say, the redemption pattern in these cases is not known.<sup>29</sup>

## VI. Floating Rate Notes

The currency of issue of the 12 FRNs (listed in table A4) is the US dollar without exception. The borrowing organisations are all either commercial banks or term lending institutions, with the exception of the two FRN issues by ONGC and one by IOC. The rates of issue are available in most cases and, as is to be expected in a disintermediated mode, lower than rates on floating rate loans (there are correspondingly higher fees attached to FRNs, but these are not publicly reported). The highest margin was 25 bp above LIBOR, even in 1980 when the mean margin on

floating rate loans was more than 100 bp, and declined over the decade to 10-12.5 bp in 1987 (in one case, LIBOR flat); but there is a minimum absolute interest specified in some cases, and at least one issue, by ICICI in 1981, is reported to have been placed at a discount. FRNs carry a much lower maturity than fixed rate bonds, with a median of 5 years (table 2), but the average size of the issue is about the same.

#### VII. Note Issuance Facilities (NIFs):

Table A5 lists the 27 NIF issues<sup>30</sup> floated by Indian organisations - again, all either commercial banks or term-lending institutions. The currency of issue is the US dollar without exception, although one large issue by SBI has a multicurrency option. The function of maturity transformation provided by floating rate syndicated lending was picked up by NIFs, which emerged in the mid-eighties.<sup>31</sup> Maturity transformation through the issuance of a stream of (fully-discounted) short-term notes over a medium-term period is complete only when the facility is underwritten; when not, the short-term notes are referred to as just CP or CD issues (usually prefixed by "Euro"). Many of the issues listed in table A5 are indeed so termed, eg. the \$ 160m ICICI issue in 1987 QIII or the SBI issue in 1988 QIII for an undisclosed sum, but because information is incomplete it is impossible to say definitively that these were not in fact underwritten. Where not, it is possible in principle that the issue may not be fully subscribed, so that the amount of the issue, if stated, becomes a target rather than an actual. Also, since the short-term notes are

fully discounted, the reported amount of each issue is the amount at maturity, not what was collected.

NIFs have a spectrum of forms all of which are variants on the central "revolving" character. Among the entries in table A5 are RUFs (Revolving Underwriting Facilities), which separate the functions of placement and underwriting, and TRUFs (transferable RUFs); also issues where the functions of underwriting and placement are assumed by a tender panel (TP or CTP). There is some fluidity to usage natural in a situation where the underlying forms themselves are in a state of flux, so that while the term RUF normally applies only where there is a sole placing agent, and so should exclude tender panels, there are some issues described as RUF-CTP.

The NIF margins are much lower than those in syndicated lending, as expected; and from the limited information at hand, about the same as the margins for FRNs. The highest margin of 20 bp over LIBOR is reported for an SBI bankers' facility in 1988, and there are sub-LIBOR benchmarks of LIMEAN or LIBID in three cases. There is some evidence of the end-of-decade rise in margins witnessed in floating rate loans; the mean margin in 1986 was well under 10 basis points, whereas in 1987 and 1988 it was nearer 10 (it is impossible to make a more precise statement because of the large number of cases on which rates and/or amounts are not known). Only one issue is reported to have been tax-spared.<sup>32</sup>

The rates reported are the maximum discount prescribed for

the issue; actuals could in principle have been lower, depending on the market and the skill of the placing agent. Whether the lower rate accrued to the borrower or to the placing agent is a function of the form of the loan; tender panels are more favourable to borrowers because of competition between panel members. Set off against the lower margins of NIFs are the fees payable over and above front-end, especially in underwritten issues towards commitment and utilisation. NIFs on balance still offer a cost advantage, but the absence of details makes it impossible to quantify the advantage in specific cases.

The fact that NIFs were accessed only by banks or other financial institutions unlike syndicated loans despite the cost advantage, suggests that for Indian borrowers this was a niche characterised by restricted and limited access. This was not generally true of the NIFs market in the eighties, which was dominated by OECD corporate borrowers, many of whom were able to get large loans at sub-LIBID rates.<sup>33</sup>

Information on the length to maturity of the short-term notes is not complete, but from the partial data at hand, it seems to have been shortened over the years from the six months of the first issues in 1984. The two big ICICI of 1987 QIII report a maturity range of as little as one week to twelve months. Even though only three loans are reported to have been formally retractable to three years, the short-term nature of the instrument makes it in principle the easiest of the various forms to terminate, or to extend as the case may be.

## VIII. Conclusion

In the absence of access to official records on Indian borrowing during the eighties, the data assembled for this paper from market sources are incomplete and full of noise, and can serve at best to motivate the issues; a complete listing is provided in the appendices that follow to facilitate further research.

Indian organisations began accessing international capital markets in a regular way starting 1980, but the rate of borrowing accelerated markedly after 1986. Three-fourths of all external commercial borrowing in the eighties was contracted in the period 1986-89, and more than four-fifths of all borrowing at fixed rates, with a median duration to final maturity across all forms of borrowing of ten years.

Of the total borrowing of \$ 15.5 billion in the ten-year period 1980-89, \$ 9.7 billion was directly accessed at floating rates, of which \$ 7.2 billion was through loans, and \$ 2.5 billion through notes and NIFs. The remainder was accessed at fixed rates through loans and bonds of which one-fifth was swapped into floating rates (some swapping, although much less, is reported in the reverse direction). Not enough is known about post-swap rates for a fuller picture of the terms on which the floating component of Indian commercial debt is being serviced.

But the patterns on borrowing directly accessed at floating rates are of interest. As is to be expected, securitised borrowing at floating rates carried much lower margins than

syndicated loans, but since the issuing organisations were with two exceptions either commercial banks or the term-lending institutions, this was clearly a niche characterised by restricted access (for Indian borrowers, at any rate; NIFs have been successfully floated by large corporate borrowers from the OECD countries). A much wider spectrum of borrowers is to be observed in syndicated loans,<sup>34</sup> and there is correspondingly a wide range between the highest and lowest margins accessed in any year, not less than 40 bp except in two years, and more than 100 bp in two.

The mean margin for India on syndicated loans fell steeply until 1986 starting 1980, but the fall was broken by a rise of nearly 19 bp in 1983; after 1986 the mean margin rose and then declined mildly, a pattern also exhibited in the mean margins obtained by frequent borrowers who accessed the market repeatedly across the decade. Tax-sparing was an important contributory factor towards lower margins starting 1983; the mean margin advantage across the 28 loans reported as tax-spared was 28 bp, calculated from fallback rates or non tax-spared tranches. The legal provisions for tax-sparing, and the interpretation thereof, are subject to change over time. From the reported data, there seems to have been a decline in the number and proportion of tax-spared loans after 1986, along with a shift from fully tax-spared to partially-spared tranching loans, both of which suggest a tightening of regulations bearing on tax-sparing at the residence jurisdiction of lending banks. This could have contributed to the rise in margins after 1986, but does not explain the slight

end-of-decade decline. There is also an apparent shift in access to the tax-sparing provision over the years, away from the term-lending institutions and in favour of a more dispersed set of borrowers in the later years.

The steep margin rise in 1983 despite the lack of any evidence of deterioration in country-specific liquidity and debt-service indices, and the marked directional congruence starting that year between the mean margin for India and the OECD mean across non-OPEC LDCs (though not across all borrowers), suggests the operation of a 'group risk' factor after the defaults of 1982. The Indian margin when normalised with respect to the LDC mean reveals no rise at all in 1983, which is more in line with the absence of any sign of enhanced country risk in 1983. The normalised margin displays the same rise after 1986 as the absolute margin (which is explicable in terms of the fall in the reserves/imports ratio of those years, at a time when liquidity for LDCs as a group was rising), but greater stability after 1982 with the exception of a sharp rise in 1985, for which there is no ready explanation. The normalised margin needs to be recalculated using fallback rates on Indian tax-spared loans if and when such information becomes fully available, since the OECD mean across LDCs excludes tax-spared margins; most of all, it has to be remembered that the normalised margin calculated here is tentative, based on unconfirmed data for India, and OECD means which are subject to fairly violent revision.<sup>35</sup>

If 1983 marks a hiatus between a prior period when group risk was not built into country spreads for individual LDCs, and a subsequent period when it was, this should be visible in spreads accessed over time by other, non-defaulting, LDCs as well.

Tax-sparing is only one of many clauses bearing on margins. Some of the loans are explicitly export credits (commercially arranged), and most of those taken by organisations other than financial institutions have some form of trade link since approval at the Indian end is contingent on an import requirement. In such linked transactions, the terms might be sweetened relative to a purely financial transaction between the two parties. The trade-finance nexus could possibly account for the very advantageous terms obtained on the fixed rate yen loans from the Japanese capital market in the second half of the eighties, and might perhaps have mattered least with Euroloans. Fixed rate loans were tax-spared as well, although the reported percentage is much lower than for floating rate loans; and fallback rates, with a single exception, are not known. To the extent that some of the fixed rate yen loans were swapped into floating rate loans sub-LIBOR, the upturn in the mean pre-swap margin after 1986 may not be visible in post-swap means.

It is impossible to discern any marked trend over time in the terms of fixed rate borrowing because the data are so very incomplete, even within the class of yen loans where rates are quoted in terms of margins around the JLTP benchmark. Since the decline in the JLTP itself was halted in mid-1987, the absolute fixed rate of borrowing from the yen market is likely to have



risen thereafter, in the absence of any evidence of a compensating decline in margins. By contrast, the onset in the upturn on fixed rate bonds is likely to have occurred much later, if at all, as a result of the shift starting 1986 to issues denominated in Deutsche marks and Swiss francs, on which rates began rising only in mid-1988, and as a result also of the graduation of Indian issues from discount placements in the early years to par and finally premium placements.

Notes:

1. Upto 1979-80, external commercial borrowings are reported by the Ministry of Finance to have amounted only to Rs. 600 crores (\$ 750 million); see Annual Report 1985-86.
2. A consolidated listing provided by Euromoney of syndicated loans by country lists 186 loans for India over the period 1981-88; considerably more than the number reported here (91) and obtained from the same source.
3. It is possible that there might have been some misclassification in the case of some of the loans on which no information on rates was available.
4. The post-swap floating share would be higher since at least 13 of the 55 fixed rate loans, and one of the 37 fixed rate bonds are reported to have been swapped into floating rates, and there are only four reported cases of swapping in the reverse direction from floating to fixed rates.
5. Fixed rate loans were mostly denominated in L sterling/yen, and fixed rate bonds in yen/DM/Swiss francs (see sections III and IV), all transacted in countries in which the currencies are indigenous, although a few of the yen loans/bonds were in Euroyen.
6. Prepayment carries a penalty. Another variant on multiple margins used in a 1990 OIL loan is a put option, which lowers the margin since the loan can be retracted by the lender if the credit rating of the borrower goes down.
7. Comparison of these two benchmarks for any maturity reveals that while close, they are not identical. There is some evidence that the discrepancy between the two has narrowed since 1980.
8. The high-margin NALCO loan was on a lease facility, which underlines the importance of riders and clauses bearing on margins.
9. Although in 1983, one of the three such was not so reported; see notes to table 3.
10. And also by the mean spread for industrial countries, which in his formulation is used as an independent explanatory variable.
11. There are also annual country ratings issued by Euromoney.
12. The country's formal credit rating declined starting October 1990; by mid-1991 India had dropped below investment grade to the speculative grade. See Folkerts-Landau, 1985, and earlier work by Eaton and Gersovitz, 1981, and Sachs, 1982, for a theoretical analysis of the credit rationing response.

13. Earlier issues of Financial Market Trends provide separate series for OPEC and other LDCs; the later issues have a series for 'developing countries' and 'other', where the latter category appears to be LDCs other than OPEC. There is a fair amount of instability in the reported means from issue to issue of Financial Market Trends; figures for each year have been taken from the latest issue reporting for that year.

14. Figures on aggregate debt service are not available for years before 1984-85; the percentage for 1980-81 has been taken as reported in the Economic Survey. For 1984-85 and subsequent years, the ratio has been calculated here using as denominator gross exports and gross receipts from invisibles.

15. The mean across all borrowers also rose in 1983 by 38 bp, less than the 56 bp rise for LDCs. However, the 1987 margin rise for India and across all LDCs is not reflected in the all-borrower mean (and the rise in the latter in 1989 is clearly on account of borrowers other than LDCs).

16. Ahmad, 1989, normalises all country spreads with respect to LIBOR, a specification which is possible only if analysis is confined within a single currency, as perhaps it was in his case. LIBORs in the eighties were not synchronised across currencies: the LIBOR on the US dollar reached a low in 1986, and rose thereafter; on the Deutsch mark and Japanese yen, the rise took place in mid-1988; and on the Swiss franc in 1989. Normalisation with respect to the benchmark is justifiable only if there is evidence that the mean spread across all loans denominated in a currency is correlated with the benchmark for that currency.

17. For example, the ICICI loans of 1987 and 1989, both of which were raised at margins of 25 bp, above the mean margins for those years of 23.27 and 15.61 bp respectively.

18. The tax credit system may be of the full credit, varied credit, or ordinary credit variety (see Verma and Tikku, 1990).

19. In some residence jurisdictions, full credit may be granted but confined to total income sourced from abroad. In such cases, the external borrower may conceivably obtain a loan at below cost of funds, but access to tax-sparing would be limited to a tranche of the loan, or confined to certain borrowers but denied to others. In only one case of a loan taken by ITI in 1986, fully tax-spared, does the margin of 12.5 bp below LIBOR appear *prima facie* to be below the cost of funds.

20. In the UK budget of 1987, for example, the tax liability against which the deemed tax at source could be claimed as credit was sharply curtailed to tax payable on the loan, instead of total tax liability as previously.

21. The JLTP declined steadily from over 8% in 1983 to just below 5% in mid-87 before climbing up again to end the decade at 6.5% in December 1989.
22. Of the total of 9 fixed rate loans reported as tax-spared, fallback rates are known only for one L loan in 1982 (interestingly specified in floating terms; perhaps the loan was swapped, although not so reported).
23. Payback patterns are known for only 14 of the 30 yen loans; of these, 9 had bullet payback.
24. In addition, there was a tranching loan with a Euroyen component, and another differentiated by tax-sparing.
25. Because of spread compression in floating rates (see Sundaresan, 1991), a swap from fixed to floating rates would normally be undertaken by the party with the higher credit rating, often a bank. In the reverse direction, the counterparty to the Indian borrower would have the higher rating.
26. In addition, there was one 1988 yen loan, swapped into US \$ at a fixed rate.
27. Data on rates are more fully available than for loans, and show a fair degree of consistency.
28. See footnote 16.
29. Commencement of redemption before maturity can be either mandatory, as with a sinking fund, or conditional, as with a purchase fund.
30. Some FRNs might have been misclassified as NIFs because of incomplete information.
31. Although the first such publicly known facility dates back to 1981; see BIS 1986, p.20.
32. There are no tax-spared bond issues at fixed or floating rates, perhaps because unlike NIFs they are not necessarily institutionally absorbed.
33. BIS, 1986, p.23.
34. Although here as well, access to external commercial borrowing was officially sanctioned only for capital goods imports, and only if these could not be accommodated within external funds accessed institutionally or commercially by financial institutions, or Government aid funds.
35. It has to be remembered that 1983 was one of the two years in which the weightage of excluded observations was not negligible (see table 3). On the variability of OECD figures, see footnote 13.

Table A1: Floating rate loans

Date	Amount		Benchmark	Margin	Duration	Payback starts	Remarks	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )						
1980 QII	(1)DM	20	11	LIBOR	(a)0.5000 (b)0.6250	1- 5 6-10	Prepaid 1986	ICICI
	(2) \$	20	20	LIBOR	(a)0.5000 (b)0.6250	1- 5 6-10	Prepaid 1986	ICICI
1980 QII	\$	30	30	LIBOR	(a)0.3750 (b)0.5000	1 2- 5	1985	Indian Airlines
1980 QIV	\$	35	35	SIBOR	(a)1.8750 (b)2.1250	1- 3 4- 7.5	?	PT Indo-Bharath Rayon
1981 QI	\$	200	200	LIBOR	(a)0.3750 (b)0.5000	1- 2 3- 7	1983	ONGC
1981 QIV	(1)DM	30	13.3	LIBOR	(a)0.3750 (b)0.5000	1- 5 6-10	1985 Prepaid 1988	ICICI
	(2)EuY	3000	13.6	LIBOR	(a)0.3750 (b)0.5000	1- 5 6-10	1985 Prepaid 1988	
	(3)SF	30	15.3	LIBOR	(a)0.3750 (b)0.5000	1- 5 6-10	1985 Prepaid 1988	
1981 QIV	\$	77	77	?	?	?	?	Indian Airlines
1981 Q ?	\$	680	680	LIBOR	(a)0.5000 (b)0.6250	1- 6 7-10	?	NALCO
1982 QI	\$	25	25	LIBOR LIBOR*	(a)0.3750 (b)0.5000	1- 7 8-10	?	IDBI
1982 QI	EuY	5400	21.6	SIBOR	(a)0.3750 (b)0.5000	1- 7 8-10	1984	ONGC
1982 QI	\$	68	68	LIBOR	(a)0.2500 (b)0.3750	1- 4 5-10	?	S.Ind.Ship.Corp.
1982 QI	L	2.5	4.2	?	?	?	?	Ind Road Const.
1982 QII	(1) L		44	LIBOR	0.3750	1-10	Exp.cr. Poss T(UK)	Air India
	(ii)DM		88	LIBOR	0.3750	1-10	Exp.cr.	
	(iii)FF		88	LIBOR	0.3750	1-10	Exp.cr.	
1982 QIII	\$	17.7	17.7	LIBOR	0.7500	1- 8	?	Ind Shmshp Co.
1982 QIII	\$	12	12	SIBOR	0.3750	1- 3	1985	ICICI

Table A1: (Contd....)

Date	Amount		Benchmark	Margin	Duration	Payback starts	Remarks	Borrower
	(10 <sup>6</sup> )	\$ (10 <sup>6</sup> )						
1982 QIV	(1) \$	30.2	30.2	LIBOR	0.3750	1-10	?	ONGC
	(11) FF	163.4	24.8	Fixed rate				
1983 QI	(1) \$	30	30	LIBOR	0.3750	1-7	1983	Prepaid ICICI
	(11) DM	45	17.7	LIBOR	0.3750	1-7	1988	
1983 QI	\$	25	25	LIBOR	0.3750	1-7	Prepaid 1987	EXIM
1983 QI	DM	37	14.5	SIBOR	(a) 0.6250 (b) 0.7500	1-4 5-8	?	TELCO
1983 QI	\$	45	45	SIBOR	(a) 1.3750 (b) 1.5000	1-2 3-5	?	PT United Tractors
1983 QI	\$	16	16	LIBOR	0.6250	1-9	1992	Escorts
1983 QI	\$	5	5	?	?	?	?	Kothari Elctls.
1983 QII	\$	18	18	SIBOR	0.6250	1-10	?	Orissa Mining
1983 QIII	DM	50	20	?	?	?	?	BHEL
1983 QIV	\$	30	30	LIBOR	0.3750	1-8	?	IDBI
1983 QIV	\$	25	25	LIBOR	0.3750	1-7	Prepaid 1986	EXIM
1983 Q ?	(1) \$	260	260	LIBOR	0.5000	1-8	?	ONGC
	(11) \$	140	140	USPR	0.1500	1-8		Cap: 120 bp
1983 Q ?	L	65	97	?	?	?	?	Coal India
1984 QI	\$	46.85	46.85	SIBOR	(a) 0.5000 (b) 0.6250	1-1.5 1.5-5	1989	SCI
1984 QI	\$	75	75	LIBOR	(a) 0.3750 (b) 0.5000	1-4 5-7	?	Maruti Udyog
1984 QII	(1) L	10	13.31	PIBOR	0.3750	1-8	Prepai	ICICI
	(11) \$	15	15	LIBOR	0.3750	1-8	1988	
1984 QII	\$	20	20	LIBOR	0.3750	1-8	?	IFCI
1984 QII	\$	5.87	5.87	SIBOR	(a) 0.6250 (b) 0.7500	1-4 5-8	?	Enfield

Table A1: (Contd....)

Date	Amount		Benchmark	Margin	Duration	Payback starts	Remarks	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )						
1984 QIII (I)	\$ 25	25	LIBOR	0.2500	1- 8	1988	T	ICICI
(II) ECU	30	23.6	LIBOR	0.2500	1- 8	1988	T	
1984 QIII	\$ 40.99	40.99	LIBOR	0.5000	1- 8	?		
1984 QIII	DM 31.47	11	SIBOR	0.6250	1- 7	?		JK Synthetics
1984 QIII	\$ 14.5	14.5	SIBOR	0.6250	1- 8	1987		Reliance
1985 QI	\$ 12	12	LIBOR	0.7500	1- 7.3	1985		Orkay Silk Mills
1985 QII (I) EuY	5000	20	LIBOR	0.3750	1-10	1990	Not T	IDBI
(II) EuY	5000	20	LIBOR	(a) 0.1250	1- 5	1990	T (Blg)	
				(b) 0.1875	6-10			
1985 QII	\$ 25	25	LIBOR	0.1250	1- 8	1989	T (Blg, UK, Fr): flbk	IFCI
1985 QII	\$ 9.6	9.6	LIBOR	(a) 0.5000	1- 5	1987		SPIC
				(b) 0.6250	6-10			
1985 QIII (I)	\$ 25	25	LIBOR	0.1250	1-10	1989	T	ICICI
(II) ECU	20	15.13	LIBOR	0.1250	1-10	1989	T	
1985 QIII (II) DM <sup>5</sup>	11.0	4.5	LIBOR	0.6250	1-10	1987		Gwalior Rayon
1986 QI	\$ 18.72	18.72	LIBOR	0.5000	?	?		Reliance
1986 QI	\$ 25	25	LIBOR	0.0625	1-10	1990	T; flbk; swp fixed	IDBI
1986 QI	\$ 25	25	LIBOR	0.0250	1-10.5	1992	T	IFCI
1986 QII	\$ 173	173	LIBOR	0.0250	1-10	1990	T; flbk	Air India
1986 QII	\$ 8.25	8.25	LIBOR	0.03125	1-10	1989	T; flbk	SPIC
1986 QIII	\$ 30	30	LIBOR <sup>2</sup>	-0.0625	1-10	1991	T	ICICI
1986 QIII	\$ 45	45	LIBOR	-0.0700	1-10	1994		Reliance Udyog
1986 QIII	\$ 20	20	LIBOR	-0.1250	1-10	1991	T (Blg)	ITI
1986 QIII (II) SF <sup>5</sup>	44	26.10	LIBOR	0.5000	1- 9	1989		Bajaj Tempo
1986 QIII	\$ 2	2	?	?	?	?		Escorts

Table A1: (Contd....)

Date	Amount		Benchmark	Margin	Duration	Payback	Payback	Remarks	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )							
1986 QIV	(i) \$	325	325	LIBOR	(a)0.2500	1- 3	1992	Not T	ONGC
					(b)0.3750	4-10			
	(ii) \$	75	75	LIBOR	0.0100	1-10	1992	T(Blg) flbk	
	(iii) \$	175	175	LIBOR	0.0000	1-10	1992	T(Jp, UK) flbk:	
1987 QI	\$	5.25	5.25	LIBOR	0.0156	1-10	?	T; flbk	SPIC
1987 QI	DM	98	53.3	LIBOR	(a)0.3750	1- 4	1993		MSEB
					(b)0.4375	5-10			
1987 QI	\$	80	80	LIBOR	0.0000	1-10	1992	T(Jp);int. swap	Air India
1987 QI	\$	70	70	LIBOR	0.0000	1-10	1992	T(Jp)	NALCO
1987 QI	\$	150	150	LIBOR	0.0000	1-10	1993	T(Jp)	NALCO
1987 QI	(i) \$	8	8	?	?	1- 8			Ashok Leyland
	(ii)DM		5		?	1- 8			
1987 QI	(i) \$	8	8	LIBOR	?	1- 6	1988	Swp fixed	Bajaj Auto Ltd.
	(ii)DM	21	11.4		?	1- 6		Not swp	
1987 QI	\$	11	11		?	1-10			Essar Ship.Corp.
1987 QII	(i) \$	279	279	LIBOR	(a)0.2500	1- 6	1993	Not T	NALCO
					(b)0.3750	7-10			
	(ii) \$	21	21	LIBOR	0.0100	1-10	1993	T(Blg)	
1987 QII	\$	150	150	LIBOR	(a)0.4375	1-12	1994	Lease facility	NALCO
					(b)0.5000	13-15			
1987 QIII	DM	25.70	13.97	LIBOR	0.375	1- 7			JK Synthetics
1987 QIV	(i) \$	30	30	LIBOR	0.2500	1-10	1993		IFFCO
	(ii) \$ <sup>3</sup>	30	30	LIBOR	0.2500	1-10	1993		
1987 QIV	EuY 12000		92.5	LIBOR	0.2500	1-10	1993	?	ICICI
1987 QIV	EuY 14000		107.8	LIBOR	(a)0.2500	1-10	1993	?	
					(b)0.3750	11-12			
1987 QIV	DM	37	21.64	LIBOR	0.375	1-10			GHCL



Table A1: (Contd....)

Date	Amount		Benchmark	Margin	Duration	Payback starts	Remarks	Borrower	
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )							(%)
1988 QI	(i) \$	30	30	LIBOR	0.2500	1-10	?	Currency option	IFFCO
	(ii) \$	30	30	LIBOR	?	1-10			
1988 QI	\$	300	300	LIBOR	(a)0.1875 (b)0.2500	1- 2 3-10	1995	Transferable loan facility	ONGC
1988 QI	(i) Y	20000	156.2	Fixed rate					
	to(iii) (iv) Y	10000	78.1	LIBOR	(a)0.2500 (b)0.3750	1- 8 9-15	1996	T	NTPC
1988 QII	(i) \$	20	20	LIBOR	0.2500	1-12	1993		SCICI
	(ii) \$	40	40	LIBOR	0.2500	1-12	2000	Bullet	
1988 QII	DM	36	21.1	LIBOR	0.3750	1-10	?	?	GHCL
1988 QII	\$	14.7	14.7	LIBOR	(a)0.3750 LIBOR	1- 5 6-10	?	?	Reliance
1988 QIII	(i) \$	100	100	LIBOR	(a)0.1875 (b)0.2500	1- 2 3-10	1992		Air India
	(ii) \$ <sup>4</sup>	50	50	LIBOR	(a)0.1875 (b)0.2500	1- 2 3-10	1992		
1988 QIII	\$	160	160	LIBOR	0.0000	1-10		T(Jp); flbk	Air India
1988 QIV	(i) \$	50	50	LIBOR	0.0000	1-10	1993	T(Jp)	BHEL
	(ii) \$	50	50	LIBOR	0.2500	1-10	1993	Not T	
1988 QIV	Y	20000	159.6	LIBOR	0.2500	1- 7			IFCI
1988 QIV	\$	94	94	LIBOR	0.4500	1-12			Air India
1988 QIV	(i) L	50.0	91.6	LIBOR	0.2500	1- 7			Jana Corp.
	(ii) \$	35.0	35.0	LIBOR	0.2500	1- 7			
1988 QIV	(i) \$	40	40	LIBOR	0.0000	1-10		T; flbk	IPCL
	(ii) \$	40	40	Fixed rate		1-10			
1989 QI	\$	250	250	USTreas	?	1-15	1990		Indian Airlines
1989 QI	\$	200	200	LIBOR	0.0000	1-10	1993	T(Jp); flbk:	Indian Airlines
1989 QIII	MC	..	100	LIBOR	0.2500	1-10	1994	Partial swp fixed	ICICI
1989 QIII	(i) \$	75	75	LIBOR	0.2500	1-10	1993	Not T	ONGC
	(ii) \$	75	75	LIBOR	0.0000	1-10	1993	T(Jp)	
1989 QIII	DM	140	72.76	LIBOR	(a)0.2500 (b)0.3750	1- 7 8-10	1994		Rasht Ispat Nigam

Table A1: (Contd....)

Date	Amount		Benchmark	Margin	Duration	Payback	Remarks	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )						
1989 QIII	(i) DM 164	85.2	?	?	1-15			SAIL
	(ii) DM 246	127.8	LIBOR	0.2500	1-15			
1989 QIV	(i) \$ 50	50	LIBOR	0.0000	1-10	1996	T(Jp); flbk:	ONGC
	(ii) \$ 50	50	LIBOR	0.2500	1-10	1994	Not T	

Source: See notes to table 1.

Notes: Loans in a quarter listed by arabic numerals are separate loans; listed by roman numerals, they are tranches of loans. Where loans denominated in non-dollar currencies were reported only in dollar equivalents, the amount in the original currency is not given.

1. If UK-T, margin reduced by 0.03125%
2. The rate was really LIMEAN + 0%
3. After 4 years, the lender has the option to redenominate the tranche in yen, at a sub-LIBOR rate of interest.
4. After 2 years, the lender has the option to redominate the tranche in DM, in return for an upfront subsidy to borrower.
5. The first tranche of the Gwalior Rayon and Bajaj loans were from the IPC for DM 15.8 million at a fixed rate, and SF 4 million at an unspecified rate, respectively.

Table A2: Fixed rate loans

Date	Amount		Rate (%)	Duration (years)	Payback starts	Remarks T: Tax-spared	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )					
1981 QI	L	14	28	7.5	1-10	?	TISCO
1982 QI	L	7.5*	14	?	?	?	SBI
1982 QIV	(1) \$	30.2	30.2	Floating			ONGC
	(11) FF	163.4	24.8	?	?	?	
1982 QIV	L	344	575	7.75	1-15	1988	T <sup>6</sup> ; curr.swp \$ NTPC
1984 QIII	Y	1000	4.1	JLTP+0.1	1- 8	?	Prepaid 1988 EXIM
1984 QIII	\$	20	20	11.5	1- 8.5	?	Ship.Corp.Ind.
1984 QIII	L	24.93	33.2	9.5	1-10	?	Bharat Almin.
1985 QII	Y	5280	21	JLTP+0	1- 5.5	1985	SBI
1985 QIII	\$	40	40	9.85	1-11.25	1989	Swap** Indo-Gulf
1986 QI	\$	50	50	?	?	?	Swp LIBOR - 1.92%; SF option IFCI
1986 QI	Y	10000	50	JLTP-0.5	1-10	1991	Air India
1986 QI	(1) FF		88	11.65	1-10	1986	Export credit Air India
	(2) DM		88	7 - 9	1-10	1986	Export credi
	(3) L		44	12.05	1-10	1986	Export credit
1986 QIII	L		55	9.6	1-10	1990	T; Swp \$ sub-LIBOR EXIM
1986 QIV	L		85	?	1-10	?	Swp \$ flt IDBI
1986 QIV	L		50	?	1-10	1991	T; Swp LIBOR -0.1875% IFCI
1986 QIV	Y	5000	31.2	JLTP-0.5	1-10	1996	Bullet Maruti Udyog

Table A2: (Contd....)

Date	Amount		Rate (%)	Duration (years)	Payback starts	Remarks T: Tax-spared	Borrower	
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )						
1987 QI	\$	26.5	26.5	7.4	1-12	?	Buyer credit **	ONGC
1987 QI	(1) Y	3500	22.85	(a) ? (b) For review	1-15 16-20	?		GAIL
	(2) Y	3500	22.85	JLTP+0	1-15	?		
1987 QI	DM	169.1	92	6.48	1-15.5	1992	T; Buyer credit **	NTPC
1987 QI	\$	28	28	?	1- 7.5	1988		Ship. Corp. Ind.
1987 QI	(1) Y	3440	22.45	?	1- 8.5	?		L & T
	(11) EuY	3440	22.45		1- 8.5			
1987 QI	DM	172	93.5	?	1-10	?		Rasht Ispat Nigam
1987 QII	Y	10000	70	(a) JLTP+0 (b) For review	1-10 11-15	?		IDBI
1987 QII	Y	3770	26.4	JLTP+0.1 <sup>¢</sup>	1- 7	1994	Bullet; Swp \$ sub-LIBOR	EXIM
1987 QII	(1) SF	19	12.5	?	1- 8	?		L & T
	(11) DM	22.6	12.5	?	1- 8			
1987 QII	Y	6500	45.5	JLTP+0	1- 7.5	?		L & T
1987 QII	Y	3500	24.5	JLTP-?	1-10	1993		OIL
1987 QII	\$	57.4	57.4	?	1- 8			GNFC
1987 QIII	Y	10000	68	(a) JLTP-0.2 <sup>¢</sup> (b) JLTP+0	1-10 11-15	2002	T; Bullet; swp 3 b Y flt	NTPC
1987 QIII	Y	5000	34	?	1-10	?	Not bullet	ICICI
1987 QIII	Y	10000	68	JLTP-0.2 <sup>¢</sup>	1-10	1997	Bullet	SBI
1987 QIII	Y	5000	34	JLTP-0.2 <sup>¢</sup>	1-10	1997	Bullet	SBI
1987 QIII	\$	20	20	?	1-10			SBI
1987 QIV	L	17.95	31.5	?	?	?	Export credit	GAIL/HBJ
1987 QIV	EuY	6500	50	?	1- 6	?		L & T

Table A2: (Contd....)

Date	Amount		Rate (%)	Duration (years)	Payback starts	Remarks T: Tax-spared	Borrowe
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )					
1988 QI	Y 30000	234.38	?	?	?		NTPC
1988 QI	(i) Y 7000	54.7	JLTP+0.35	1-15	2003	T; Bullet	NTPC
	(ii) Y 7000	54.7	(a) JLTP+0.20 (b) For review	1-10 11-15	?	T	
	(iii) Y 6000	46.9	(a) JLTP+0 (b) For review (c) For review	1-5 6-10 11-15	?	T	
	(iv) Y 10000	78.1	Floating				
1988 QII	Y 10000	79.6	?	1-12	?	5bY Swp \$ sub-LIBOR	IDBI
1988 QIII	Y 12000	89.8	?	1-12	1997	Not bullet	ICICI
1988 QIII	Y 20000	149.6	JLTP+0 <sup>§</sup>	1-10	1998	Bullet	NALCO
1988 QIII	DM 20.35	1.1	?	1-8	?		Ready Foods
1988 QIV	Y 20000	159.6	?	?	?	Swp \$ fixed 7.25%	IFCI
1988 QIV	(i) \$ 40	40	Floating	1-10	?	T	IPCL
	(ii) \$ 40	40	JLTP-0.2	1-10	?		
1989 QI	Y 3000	23.3	?	1-7	?		IDBI
1989 QI	Y 6500	50.6	?	?		Swp \$ LIBOR flat	IDBI
1989 QII	Y 2000	14.5	?	1-5	1994	Bullet	ICICI
1989 QII	Y 12000	86.9	JLTP-0.3	1-12	1992		IFCI
1989 QIII	Y 22000	154.6	?	1-10		Swp \$ flt	SBI
1989 QIII	Y 10000	70.3	JLTP-0.55 <sup>§</sup>	1-10	1991	T	ONGC
1989 QIII	(i) Y 5000	35.1	JLTP-?	1-10	1999	Not T; Bullet	ONGC
	(ii) Y 5000	35.1	JLTP-?	1-10		T	
1989 ?	Y 7500	52.7	JLTP-0.5 <sup>§</sup>	1-10	1992		ONGC

Source: See notes to Table 1.

Notes: See notes to Table A1.

\* May be two such loans.

\*\* Medio Credito Centrale providing a floating rate interest; in 1985 Indo-Gulf loan, at margin over LIBOR of 75 bp for eight years, 78.13 bp for 3.25 years.

§ These rates have been converted to margins over JLTP using the value of the benchmark at the time of taking the loan.

€ Fallback: LIBOR + 1.25%.

Table A3: Fixed Rate Bonds

Date	Amount (10 <sup>6</sup> )	Amount \$ (10 <sup>6</sup> )	Coupon Rate (%)	Duration (years)	Payback	Remarks	Borrower
1983 QIII	L 100	151.5	?	?	?	Perf/bid bonds	GOI
1984 QII	Y 5000	21.8	7.9	?	?	Shibosai	IDBI
1984 QIII	Y 5000	20.5	7.9	1- 7	1988	Shibosai; par	ICICI
1984 QIV	Y 5000	20.3	7.9	?	?	Shibosai	IDBI
1984 QIV	Y 5000	20.3	?	?	?	Shibosai	IFCI
1985 QIII	Y 5000	21	6.9	?	?	Shibosai	IFCI
1985 QIV	Y 5000	24.1	6.6	1-10	1991	Shibosai; dis: 0.6%	ICICI
1986 QI	DM 100	42.6	7.0	1- 7	1993	Public; dis: 0.25%	IDBI
1986 QI	Y 5000	26.6	6.3	?	?	Shibosai	IFCI
1986 QI	Y 10000	53.2	6.6	1- 7	1990	Shibosai	ONGC
1986 QIV	SF 75	45	5.75	1-10	1996	Public; par	ICICI
1986 QI-IV	Y 35000	207	?	?	?	Shibosai ; 11 issue.	
1986 Q?	Y 10000	59.1	?	1- 6	1989	Shibosai	ONGC
1987 QI	L 85	131	?	?	?	Swp flt	IDBI
1987 QI	SF 100	64.89	5.625	1-10	1997	Public; par	IDBI
1987 QI	DM 150	81.52	6.375	1- 7	1994	Public; par	ONGC
1987 QIV	DM 200	117.3	6.375	1- 7	1994	Public; prem: 0.5%	IDBI
1988 QI	SF 150	109.1	5.375	1-10	1998	Public; prem: 0.125% Bullet	ONGC
1988 QII	EuY 15000	119.4	5.25	1- 5	1993	Public; prem: 1.875%; swp. flt. sub LIBOR	SBI
1988 QIII	SF 80	51	5.25	1- 7	1995	Public; prem: 0.5%	ICICI
1988 QIII	DM 250	134	6.625	1- 7	1995	Public; prem: 0.25%	IDBI
1988 QIII	Y 20000	160	?	1-10	1998	Samurai; bullet	ONGC
1988 QIV	\$ 125	125	9.75	1- 5	1993	Public; prem: 1.65%	ONGC

Table A3: (Contd....)

Date	Amount (10 <sup>6</sup> )	Amount \$ (10 <sup>6</sup> )	Coupon Rate (%)	Duration (years)	Payback starts	Remarks	Borrower
1989 QI	Y 20000	155	5.5	1-10	1999	Samurai; prem: 1.20%	ONGC
1989 QII	\$ 100	100	10	1- 7	1996	Public; prem: 0.125%*	IDBI
1989 QIV	Y 20000	140	5.7	1-10	1999	Samurai; prem: 1.35%	IDBI

\* This is a consolidated entry for 11 bond issues reported to have been privately placed for IDBI, ICICI, IFCI, Maruti and other unspecified borrowers in the Japanese market over the whole year.

# \$ 25 million was swapped conditionally into floating rates, with a 10% LIBOR threshold; below the threshold the borrower receives a subsidy.

Table A4: Floating Rate Notes

Date	Amount (10 <sup>6</sup> )	Amount \$ (10 <sup>6</sup> )	Benchmark	Margin	Duration (years)	Payback starts	Remarks T: tax-spared	Borrower
1980 Q ?	\$ 30	30	LIBOR	0.2500	1- 7	1987	Min int: 6.75%	SBI
1981 Q ?	\$ 35	35	SIBOR	?	1- 3	?	FRCD	SBI
1981 QIV	\$ 30	30	LIBOR	0.2500	1-10	1988	Dis: 2%; Min int: 6.5%	ICICI
1982 Q ?	\$ 30	30	LIBOR	0.2500	?		Min int: 7%	BOB
1985 QI	\$ 150	150	LIBOR	0.1250	1-12	1997		ONGC
1986 Q?	\$ 125	125	?	?	1-10	1996		ONGC
1987 QII	\$ 50	50	LIBOR	0.1000	1- 5		FRCD; priv	Synd Bank
1987 QII	\$ 30	30	LIBOR	0.1250	1- 5		FRCD; priv	BOB
1987 QIV	\$ 30	30	LIBOR	0.0000	1- 5*		FRCD; priv	IOB
1988 QI	\$ 25	25	?	?	?		FRCD	IOB
1988 QII	\$ 30	30	LIBOR	0.1250	1- 5		FRCD	UCO
1989 Q ?	\$ 200	200	?	?	1- 5	1994	Public	IOC

Notes:

\* Retractable to 3 years.



Table A5: Note Issuance Facilities

Date	Amount		Max. dis. to yield		Maturity of notes (months)	Duration (years)	Remarks	Borrower
	(10 <sup>6</sup> )	\$(10 <sup>6</sup> )	Bench-mark	Margin (%)				
1984 QI	\$ 25	25	LIBOR	0.0000	6	1- 4	Rev. CD	PNB
1984 QIII	\$ 25	25	LIBOR	?	6	1- 3	Rev. CD	BOB
1984 QIII (i)	\$ 75	75	LIBOR	0.0000	?	1- 7	RUF	SBI
(ii)	\$ 25	25	SIBOR	0.0000				
1985 QI	\$ 30	30	?	?	?	?	CD	Can Bank
1985 QI	\$ 50	50	LIBOR	0.1875	3- 6	1- 7	RUF; ISM <sup>g</sup>	BOB
1985 QIII	\$ 40	40	LIBOR	0.1875	3- 6	1- 7	RUF; ISM <sup>g</sup>	PNB
1985 QIV	\$ 100	100	LIBOR	0.1000	3- 6	1- 5	CD-RUF; CTP	Bank of Ind
1986 QI	\$ 25	25	LIMEAN	0.0000	?	?	RUF	IDBI
1986 QI	\$ 30	30	LIMEAN	0.0000	3- 6	1-10	T; CTP-RUF; fallback: LIBOR+0.1250%	IDBI
1986 QI	\$ 20	20	LIBOR	?	?	1- 5 <sup>e</sup>	Rev. CD	IOB
1986 QI	\$ 30	30	LIBOR	0.1000	3- 6	1- 5	CD-RUF; CTP	Centl Bank
1986 QIII (i)	\$ 30	30	LIBOR	0.1000	3- 6	1- 5	CTP	Can Bank
(ii)	+	+					Uncommitted tender-driven	
1986 QIII	\$ 100 <sup>##</sup>	100	LIBOR	0.0750	1- 6	1- 5	CD-TRUF; ISM <sup>g</sup>	SBI
1986 QIII	?	?	?	?	1-12	?	Fully-dis. CDs	SBI
1986 QIV	\$ 50	50	SIBOR	0.1000	3- 6	1- 3	CD-TRUF	Ind Bank

Table A5: (Contd....)

Date	Amount		Max. dis. to yield		Maturity of notes (months)	Duration (years)	Remarks	Borrower
	(10 <sup>6</sup> )	\$ (10 <sup>6</sup> )	Bench- mark	Margin (%)				
1987 QI	\$ 25	25	LIBOR	0.1000	?	1- 5	CD; priv	IOB
1987 QII	\$ 30	30	LIBOR	0.1000	1,3,6	1- 5	CD	Ind Bank
1987 QII	\$ 30	30	LIBOR	0.1000	1,3,6	1- 5	CD	UCO
1987 QIII	\$ 150	150	LIBOR	0.0625	1,2,3,6	1- 7	TP	ICICI
1987 QIII	\$ 160	160	?	?	0.25-12	?	Euro-CP	ICICI
1987 QIV	\$ 25	25	LIBOR	0.1000	?	1- 5*		IOB
1987 QIV	\$ 30	30	LIBOR	0.1000	?	1- 5	CD; priv	BOB
1988 QI	\$ 200	200	LIBOR	0.2000	?	1- 2	Ba. fac.	SBI
1988 QIII	+	+	?	?	1-12	?	?	SBI
1988 QIII	+	+	?	?	1-12	?	Euro-CD	SBI
1988 Q ?	\$ 100	100	LIBID	0.0000	?	?	CD	SBI
1989 Q ?	\$ 300	300	?	?	Min. 9**	?	CP; USA	SBI

Source: See notes to table 1.

Notes: Excludes facilities entered into by foreign branches of Indian banks.

\* Retractable to 3 years

## Multicurrency option.

@ Underwriters have the option of receiving a line of concessionary priced rupees.

+ The target sum for these issues is not reported.

\*\* Maturity range going all the way up to 30 years, which would make this a mixed FRN/N issue.

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