August 20, 2004

CANADA DEPOSIT INSURANCE CORPORATION

DIFFERENTIAL PREMIUMS BY-LAW

Following a comprehensive review of the CDIC differential premiums system, CDIC issued a consultation paper in June 2004 that reviewed each component of the system in detail and proposed certain changes. Supplementary information was to be provided in connection with two of the areas slated for change: Aggregate Industry Sector Asset Concentration Ratio[1] and the volatility measures[2]. This document provides this additional information. Comments are requested by September 15, 2004.

Aggregate Industry Sector Asset Concentration Ratio

Background

The current ratio aggregates industry asset concentrations for securities, bankers' acceptances, and commercial non-mortgage loans on a risk-weighted basis (and net of allowances) and compares these to total regulatory capital. Exposures are classified by industry based on CDIC's groupings of Canadian Standard Industrial Classification (SIC) codes. In the 1999 premium year, securities included both investment book and trading book securities, but this was modified in 2000 to include only investment book securities relieving institutions from the need to classify securities subject to high turnover.

As the ratio is currently structured, a member institution is not able to use data otherwise filed (i.e. FIC data[3]) or data reported in audited financial statements. Rather, it must organize data specifically for the purposes of completing the differential premiums reporting form. CDIC has developed a modified ratio that uses data readily available via FIC filing. The intended change was aimed at reducing the amount of financial information that member institutions have to produce exclusively for CDIC purposes, while still permitting CDIC to identify institutions that carry higher levels of industry concentration.

Available FIC Data

The current industry concentration ratio covers loans, securities and acceptances. There are some notable differences between the data filed with CDIC by institutions specifically for the calculation of the current industry concentration ratio, and comparable FIC data. First, relevant

[1] See page 17 of June 2004 Consultation Paper
[2] Ibid page 11
[3] The Financial Information Committee (FIC) sets the regulatory reporting forms and data filed by way of regulatory reports is referred to as FIC data

FIC data is not risk-weighted. Second, securities data that is available on an industry sector basis is limited to a small fraction of total member institution securities. Third, there is no industry breakdown of acceptance portfolios.

The availability of FIC data by industry is shown below.

Loans

The FIC Non-Mortgage Loan Report (NMLR) is filed quarterly by member institutions (copy attached). The NMLR details the following categories for which exposures are reported net of allowances:

1. Financial Institutions 2. Canadian Governments 3. Foreign Governments 4. Lease Receivables 5. [Loans to] Individuals for Non-Business Purposes	6. [Loans to] Individuals and others for Business Purposes 7. Own Acceptances Purchased 8. Reverse Purchase Agreements 9. Loans by Securities Subsidiary 10. Memo items

Several of these categories are further broken down into sub-headings. For example, *loans to individuals and others for business purposes (private)* are disaggregated into the following groups (reported net of allowances), some of which are further sub-divided:

1. Agriculture 2. Fishing & Trapping 3. Logging & Forestry 4. Mining, Quarrying & Oil Wells 5. Manufacturing 6. Construction/Real Estate	7. Transportation, Communication & Other Utilities 8. Wholesale Trade 9. Retail 10. Service 11. Multiproduct Conglomerates 12. Others (Private Not For Profit Institutions, Religious, Health & Educational Institutions

Securities

Institutions file a quarterly Securities Report consisting of the following:

Section I - Total Securities:

- Securities issued or guaranteed by the Government of Canada
- Securities issued or guaranteed by the Provinces
- Securities issued or guaranteed by Municipal or School Corporations

- Other Securities (less allowance for impairment)

Section II - Investment Account, Other Securities by Sector (net of allowances):

- Foreign Government
- Financial Institutions
- Non-financial corporations (resident only)
  - Public
  - Private (further broken down by industry in the "private" category – as in *loans to individuals and others for business purposes (private)* noted above)

Section III - Trading Account Securities

- Issued or Guaranteed by Canada, Province, Municipal or School Corporations
- Other (net of allowances)

Acceptances

FIC data contains no industry breakdowns for acceptances.

Proposed New Industry Concentration Ratio

In view of the data limitations, the only assets included in the new ratio are loans, calculated on a non risk-weighted basis. Acceptances and securities are excluded. Further, financial sector and government exposure (federal, provincial and municipal) are excluded because of their low contribution on a risk-weighted basis to total industry concentration. The new ratio will therefore focus exclusively on commercial non-mortgage loans (loans to individuals and others for business purposes - private) as filed by institutions in the quarterly FIC Non-Mortgage Loan Report.

CDIC has determined that these exclusions do not diminish the value of the new ratio for industry concentration purposes. As mentioned, government and financial exposures did not make a significant contribution to the existing ratio on a risk-weighted basis. In addition, the current ratio includes only investment book securities (which are a small fraction of all securities held by member institutions), which are mostly government securities. Consequently, this asset category contributed little to overall industry concentration on a risk-weighted basis. Further, the fact that no risk weighting is used under the new ratio is not considered significant since, under the current ratio, loan exposures are on average weighted close to 100%.

Non-Mortgage Loan Report data is available on a quarterly calendar basis. CDIC will use the data from the quarter filed closest to year-end, i.e. December for members with a December year-end and September data for members with an October year-end.

The current ratio includes the entire risk-weighted exposure for those industry sectors where the exposure is above 10% of total capital. Under the new ratio, only the portion of industry exposure that is over 10% is included in the calculation, and not the total exposure. The thresholds have been adjusted accordingly.

The table below outlines the major differences between the current ratio and the proposed ratio:

	Assets included	**Source of data/date**	**Number of Industry Groups**	**Risk-weighted**	**Aggregate of weights as a percentage of capital**
Current Ratio	Investment book securities, bankers acceptances, non-mortgage loans	CDIC differential premiums filing using fiscal year-end data	30 includes financial and governments (federal, provincial, municipal & foreign)	Yes	Aggregates all the industries for which sector exposure > 10% of capital
New Ratio	Non-mortgage loans	FIC Non-mortgage loan report (filed quarterly) using filing quarter data closest to year-end, i.e. December for members with December year-end; September for members with October year-end	12 FIC large industry categories net of allowances	No	Aggregate all industries for which sector exposure > 10% of capital but only the portion above 10% of capital

Quantitative Analysis

When compared to the current ratio, the proposed ratio and thresholds produce results that are largely consistent with those produced by the current industry concentration ratio for the five-year period 1999 to 2003.

The new ratio uses only 12 industry categories rather than 30 under the current ratio. This does not appear to penalize or benefit individual members to any great extent. CDIC explored the possibility of breaking down some of the 12 industry categories into their component sub-categories to determine whether this would provide better diversification. Specifically, CDIC was concerned that, owing to their significance to its membership, the manufacturing and the transportation, communication and utilities categories could overstate industry concentration. These two categories can be further subdivided into seven and five sub-groups respectively.

Analysis demonstrated however that the results of members changed very little whether calculated under the current ratio or under the new ratio, whether using the proposed 12-category ratio or using the industry sub-categories. A further consideration in determining whether to use sub-categories would be that it would compel the use of gross loans instead of net loans (since FIC data does not include specific allowances for each sub-category). This could penalize members that have high concentrations but have taken significant provisions against industry exposures.

Proposal

Since the new ratio focuses only on loans, it will be called the Aggregate Commercial Loan Concentration Ratio.

The amended ratio will be calculated as follows:

$$\frac{\text{Aggregate Commercial Loan Concentration} \quad *100}{\text{Total Capital}}$$

Aggregate Commercial Loan Concentration (%) = SUM {Max (0, (loan amount net of allowances for impairment in each category / Total regulatory capital as at fiscal year end) * 100 – 10)}

Aggregate Commercial Loan Concentration Ratio	
Range of Results	**Score**
Result of the threshold formula in section 8 is > 90%	**5**
Aggregate Commercial Loan Concentration < 150%	**5**
Aggregate Commercial Loan Concentration ≥ 150% but < 350%	**3**
Aggregate Commercial Loan Concentration ≥ 350%	**0**

Mean Adjusted Net Income Volatility Ratio
Volatility Adjusted Net Income Ratio

Background

The differential premiums system attempts to capture several sources of risk: capital adequacy, earnings, asset quality, asset concentration and volatility of earnings. Volatility measures reflect the relatively higher risk that institutions with more volatile earnings will be unable to cover losses when they occur, thereby indicating that such institutions have a higher possibility that they will have to resort to capital to cover their losses.

Currently, two measures in the differential premiums system look at volatility. The mean adjusted net income volatility ratio (Mean Adjusted) compares the relative volatility or risk of each institution. It is calculated as the standard deviation of an institution's net income divided by its mean net income over a five-year period. The volatility adjusted net income ratio (Volatility Adjusted) stress tests an institution's earnings by comparing the current year's income to the volatility of that institution's income. It is calculated as the current year's net income minus an adjustment for the volatility of that income over the past five years (defined as the standard deviation of earnings over the same period), assuming one and two standard deviations of earnings.

As mentioned in the Consultation Paper, some members suggested that CDIC look into the possibility of using a statistical measure of volatility that would capture only the volatility associated with drops in net income rather than all variations, positive and negative, compared to the mean. CDIC's concern with earnings volatility is its effect on the riskiness of an institution. CDIC therefore concurs that only downside, and not upside, risk should be considered in the calculation of volatility; increases in net income do not expose the member institution to the risks described above.

In this scenario, the elements of the calculation of the standard deviation take on zero values for those years in which net income is above the mean over a five-year period. The resulting ratio is described as the semi deviation, and is calculated as follows:

1. Calculate the mean (A) of net income over the last five years (N1, N2, N3, N4, N5), including current year (N1).
2. Compare each year's net income (Ni) with the mean, and calculate R1, R2, R3, R4, R5
    a. If Ni ≥ A, Ri = 0
    b. If Ni < A, Ri = (Ni – A)^2
3. Total R1 to R5, and then divide by 4.
4. Take the square root of the result to obtain the semi deviation

Quantitative Analysis

CDIC carried out extensive testing on both volatility ratios (calculating them for each year from fiscal years 1998 to 2003) to determine the effect on member scores under the differential premiums system if the ratios were recalculated using semi deviation. CDIC's earlier analysis had indicated that the volatility criteria are effective in differentiating between member institutions on the basis of risk. In the circumstances, in setting thresholds for the revised ratios, CDIC sought to minimize the number of institutions changing scores as a result. The thresholds indicated below result in minimal disruption to the distribution of differential premiums scores for the membership as a whole.

Proposed Amendment

It is proposed that both volatility ratios be calculated using the semi deviation in place of the standard deviation of net income over five years. In addition, it is proposed that the second ratio be renamed Stress-Tested Net Income Ratio to more accurately reflect the fact that it is a stress test of current income rather than strictly a measure of volatility.

Mean Adjusted Net Income Volatility Ratio (Revised)	
Range of Results	**Score**
Mean Adjusted Net Income Volatility ≥ 0 and ≤ 0.4	**5**
Mean Adjusted Net Income Volatility > 0.4 and ≤ 1.0	**3**
Mean Adjusted Net Income Volatility > 1.0	**0**

Stress-Tested Net Income Ratio	
Range of Results	**Score**
Net income minus 2.8 semi deviations ≥ 0	**5**
Net income minus 2.8 semi deviations < 0 but net income minus 1.4 semi deviations ≥ 0	**3**
Net income minus 1.4 semi deviations < 0	**0**

CONCLUSION

CDIC looks forward to your comments by September 15, 2004. Please address them to:

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NON-MORTGAGE LOANS ASSETS CLASSIFIED BY INSTITUTIONAL SECTOR

PURPOSE

This return provides a detailed breakdown of the non-mortgage loans of deposit-taking institutions.

STATUTORY

Sections 628 and 600 of the Bank Act and Section 495 of the Trust and Loan Companies Act.

APPLICATION

This return applies to all institutions.

PUBLICATION

Information from this return is published in the Bank of Canada Banking and Financial Statistics on a total-for-all-institutions basis.

FREQUENCY

Quarterly - calendar.

CONTACT PERSON

Provide name and phone number of person to contact regarding any questions about this return.

REPORTING DATES

The return is to be completed within 45 days of calendar quarter-end.

WHERE TO SUBMIT

OSFI.

NON-MORTGAGE LOAN REPORT (Quarterly)

	RESIDENT		NON-RESIDENT		TOTAL	
	LOAN BALANCES		LOAN BALANCES		ALLOWANCE FOR IMPAIRMENT	GROSS IMPAIRED LOANS
	FC	TC	FC	TC	TC	TC
1. FINANCIAL INSTITUTIONS						
(a) Call & Other Short Loans to Investment Dealers & Brokers Secured						
(b) Deposit-taking Institutions						
(c) Consumer & Business Finance Companies						
(d) Investment Companies						
(e) Insurance Companies						
(f) Pension Funds						
(g) Other						
Sub-total 1.						
2. CANADIAN GOVERNMENTS						
(a) Federal Government						
(b) Provinces						
(c) Municipalities & School Corporations						
Sub-total 2.						
3. FOREIGN GOVERNMENTS						
4. LEASE RECEIVABLES						
5. TO INDIVIDUALS FOR NON-BUSINESS PURPOSES						
(a) Loans to Purchase or Carry						
(i) Tax-sheltered Plans						
(ii) Securities						
Sub-total 5(a)						
(b) Loans to Purchase Consumer Goods & Other Personal Services						
(i) Private Passenger Vehicles						
(ii) Mobile Homes						
(iii) Renovation of Residential Property						
(iv) Other						
Sub-total 5(b)						
(c) Credit Card Balances						
Sub-total 5.						

	RESIDENT		NON-RESIDENT		TOTAL	
	LOAN BALANCES		LOAN BALANCES		ALLOWANCE FOR IMPAIRMENT	GROSS IMPAIRED LOANS
	FC	TC	FC	TC	TC	TC
6. TO INDIVIDUALS AND OTHERS FOR BUSINESS PURPOSES (a) Public (b) Private (i) Agriculture (ii) Fishing & Trapping (iii) Logging & Forestry						
(iv) Mining, Quarrying & Oil Wells (A) Mining (B) Energy (C) Other						
Sub-total 6.(b)(iv)						
(v) Manufacturing (A) Food, Beverage & Tobacco (B) Leather, Textile & Apparel Products (C) Metal Products (D) Transport Equipment Products (E) Petroleum Products (F) Rubber, Plastic & Chemical Products (G) Other						
Sub-total 6.(b)(v)						
(vi) Construction/Real Estate (A) Builders & Developers - Residential (B) Builders & Developers - Commercial (C) Land Developers (D) Real Estate Operators (E) Other						
Sub-total 6.(b)(vi)						
(vii) Transportation, Communication & Other Utilities (A) Transportation (B) Pipeline Transportation (C) Storage & Warehousing (D) Communications (E) Other Utilities						
Sub-total 6.(b)(vii)						

	RESIDENT		NON-RESIDENT		TOTAL	
	LOAN BALANCES		LOAN BALANCES		ALLOWANCE FOR IMPAIRMENT	GROSS IMPAIRED LOANS
	FC	TC	FC	TC	TC	TC
(viii) Wholesale Trade (A) Apparel (B) Other						
Sub-total 6.(b)(viii)						
(ix) Retail (A) Food Stores (B) Clothing (C) Furniture (D) Automotive (E) Department Stores (F) Other						
Sub-total 6.(b)(ix)						
(x) Service (A) Hotels (B) Restaurants & Bars (C) Leasing Companies (D) Other						
Sub-total 6.(b)(x)						
(xi) Multiproduct Conglomerates						
(xii) Others (Private Not for Profit Institutions, Religious, Health & Educational Institutions)						
7. OWN ACCEPTANCES PURCHASED						
8. REVERSE REPURCHASE AGREEMENTS WITH: (a) Financial Institutions (b) Other (c) Unallocated						
Sub-total 8.						
9. LOANS BY SECURITIES SUBSIDIARY (a) To individuals for non-business purposes (b) To individuals and others for business purposes (c) Reverse repurchase agreements						
10. ALLOWANCE FOR IMPAIRMENT RELATED TO GROUP ALLOWANCES AND COUNTRY-RISK ALLOWANCES						
TOTAL						

	RESIDENT		NON-RESIDENT		TOTAL	
	LOAN BALANCES		LOAN BALANCES		ALLOWANCE FOR IMPAIRMENT	GROSS IMPAIRED LOANS
	FC	TC	FC	TC	TC	TC
MEMO ITEMS 1. LOANS MADE UNDER GOVERNMENT OF CANADA GUARANTEED LOAN SCHEMES (INCLUDED ABOVE) (a) Home Improvement Loans (b) Small Business Loans (c) Farm Improvement Loans (d) Canada Student Loans (e) Other (please specify)						
2. INTERIM CONSTRUCTION LENDING INCLUDED IN 6.(b)(vi)(A) to (E)						
3. LOANS TO UNINCORPORATED BUSINESSES (BUSINESS PURPOSES)						