Chapter Seven

Specification of Financial Soundness Indicators for Other Sectors

Introduction

7.1 Drawing on the definitions and concepts set out in Part I of the *Guide*, this chapter explains how FSIs for the other financial corporations sector, the nonfinancial corporations sector and the household sector are to be calculated.

Calculation of financial soundness indicators

7.2 As with the deposit-taking sector, most FSIs for the other sectors are calculated by comparing two underlying series to produce a ratio. For some FSIs, when one or both of the underlying series can be defined in alternative ways, these alternatives are explained. As described in Chapter 5, data for the other financial and nonfinancial sectors should be compiled on a consolidated-based approach, and data for households ought to be compiled on an aggregate residence basis.

7.3 For the corporate sectors, the *Guide* encourages the calculation of FSIs on a consolidated basis to eliminate double counting of income, assets, and capital of entities in the same group. As with deposit-takers, data might be compiled on both a domestically controlled cross-border consolidated basis and a domestic consolidated basis. Given the general paucity of information on the nondeposit-taking corporate sectors in many countries, in the first instance, compilers may well focus on developing sectoral balance sheet information on a domestic basis. But where domestically controlled cross-border consolidated data are available (such as provided by annual corporate income statements and balance sheets) and cover a substantial part of the sector, its use in compiling the FSI is encouraged.

Other financial corporations

7.4 The list of encouraged indicators includes two indicators for other financial corporations to indicate their relative importance to the domestic economy.

- Other financial corporations assets to total financial system assets, and
- Other financial corporations assets to GDP.

7.5 These two indicators are described below. Unless otherwise stated, all the line references in this section refer to Table 4.2: Other Financial Corporations. The data to be used to calculate FSIs should be adjusted at the sector level, as described in Box 5.2.

(i) Other financial corporations assets to total financial system assets

7.6 This FSI measures the relative importance of other financial corporations within the domestic financial system. Financial assets owned by other financial corporations (line 3) is the numerator and total financial system assets is the denominator. The latter is the total of financial assets owned by deposit-takers (line 16, Table 4.1), other financial corporations, nonfinancial corporations (line 17, Table 4.3), households (line 11, Table 4.4), general government, and the central bank.[200] Financial assets are defined in paragraph 4.38.

(ii) Other financial corporations assets to gross domestic product (GDP)

7.7 This FSI measures the size of the other financial corporations subsector relative to the size of the economy. Financial assets owned by other financial corporations (line 3) is the numerator and GDP is the denominator. Financial assets are defined in paragraph 4.38, and for this indicator, data are compiled on a domestic consolidated basis only. GDP is an aggregate measure of production in the economy, equal to the sum of the gross value added of all resident institutional units engaged in production..

Nonfinancial corporations

7.8 There are five FSIs covering the nonfinancial corporations sector:

- Total debt to equity.
- Return on equity.
- Debt service coverage.
- Net foreign exchange exposure to equity.
- Number of applications for protection from creditors.

7.9 Unless otherwise stated, all the line references in this section refer to Table 4.3: Nonfinancial Corporations. The data to be used to calculate FSIs should be adjusted at the sector level, as described in Box 5.2.

(i) Total debt to equity

7.10 This FSI is a measure of corporate leverage—the extent to which activities are financed through liabilities other than own funds. Given the need to make interest and principal payments on debt, high corporate leverage increases the vulnerability of corporate entities in the event of economic or financial market shocks and may impair their repayment capacity. More generally, the extent of corporate leverage together with the volatility of the

[200] For completeness, financial assets of NPISH could also be included, but in many instances these might be insignificant relative to total financial assets.

environment in which corporations operate could be important indicators of the probability of corporate financial distress.

7.11 The FSI is calculated by using debt (line 29) as the numerator, and capital and reserves (line 31) as the denominator. Debt is defined in paragraph 4.61, and capital and reserves are defined in paragraph 4.62.

(ii) Return on equity

7.12 This FSI is commonly used to capture nonfinancial corporations' efficiency in using their capital. Over time it can also provide information on the sustainability of nonfinancial corporations' capital position.

7.13 Profitability is a critical determinant of corporate strength, affecting capital growth, the ability to withstand adverse events and, ultimately, repayment capacity. Sharp declines in corporate sector profitability, for example as a result of economic deceleration, may serve as a leading indicator of financial difficulties. However, account should be taken of cyclical movements in corporate sector profitability, and of market structure—that is, industry characteristics, competitive environment, and pricing flexibility.

7.14 The FSI is calculated by using earnings before interest and tax (EBIT) (line 34) as the numerator, and the average value of capital and reserves (line 31) over the same period as the denominator. At a minimum, the denominator can be calculated by taking the average of the beginning and end-period positions (e.g., at the beginning and the end of the month), but compilers are encouraged to use the most frequent observations available in calculating the average. EBIT is defined in paragraph 4.116 (and see also 4.100 to 4.104). Capital and reserves are defined in paragraph 4.62.[201]

(iii) Debt service coverage

7.15 This FSI measures nonfinancial corporations' capacity to cover their debt service payments (interest and principal). It serves as an indicator of the risk that a firm may not be able to make the required payments on its debts.

7.16 This FSI is calculated by using earnings (net income) before interest and tax (EBIT) (line 34) plus interest receivable from other nonfinancial corporations (line 33) as the numerator, and debt service payments (line 35) over the same period as the denominator.[202] EBIT is defined in paragraph 4.116, interest receivable from other nonfinancial corporations is defined in paragraph 4.115, and debt service payments are defined in paragraph 4.117.

[201] If the market value of equities was used instead, the series might be significantly different, and the information available would be limited to quoted companies.

[202] If the numerator excludes interest receivable from other nonfinancial corporates but debt service payments include those to other nonfinancial corporates, the denominator and numerator would have different coverage.

(iv) Corporate net foreign exchange exposure to equity

7.17 This FSI measures nonfinancial corporations' exposure to foreign currency risk compared to their capital. The more exposed to foreign currency risk, the more a significant currency depreciation could put severe pressure on the financial soundness of nonfinancial corporations, and, in turn, on deposit-takers. This applies to both borrowing domestically in foreign currency and borrowing in foreign markets (in foreign currency).

7.18 Nonfinancial corporations' net foreign exchange exposure for on-balance-sheet items (line 36) is the numerator, and capital and reserves (line 31) is the denominator. The open position should be calculated as described for deposit-takers in paragraphs 6.32 and 6.33. As with deposit-takers, by providing more disaggregated information on the net open position for individual major currencies, the *Guide* encourages the use of Table 6.1 to present data on the net open position. Given the potential difficulty in compiling data on off-balance-sheet foreign currency exposures, the *Guide* encourages at least an initial focus on the *corporate net foreign exchange exposure for on-balance-sheet items,* but the FSI could also be calculated using total corporate net foreign exchange exposure (line 37) as the numerator.[203]

7.19 Capital and reserves are defined in paragraph 4.62.

(v) Number of applications for protection from creditors

7.20 This FSI is a measure of bankruptcy trends, and is influenced by the nature of bankruptcy (and related) legislation and the degree of its implementation. It is a simple numerical addition of those resident nonfinancial corporations that have filed for protection from bankruptcy during the period.

Households

7.21 There are 2 FSIs for households:

- Household debt to GDP.
- Household debt burden to income.

7.22 Unless otherwise stated all the line references in this section refer to Table 4.4: Households. No sector-level adjustments are required.

(i) Household debt to GDP

7.23 This FSI measures the overall level of household indebtedness (commonly related to consumer loans and mortgages) as a share of GDP. As with the nonfinancial corporate sector,

[203] If data are provided on a domestic consolidated basis, but open positions on this basis are "hedged" with positions held by related entities in other countries, additional information on the net open position including the foreign-held "hedges" could be provided.

high levels of borrowing increase the vulnerability of households to economic and financial market shocks and may impair their repayment capacity. Given the role of households as consumers, as well as depositors of funds to deposit-takers and purchasers of other financial liabilities of the corporate sector, changes in household behavior caused by a high debt burden can have significant impact on both real economic activity and financial market developments.

7.24 This FSI is calculated by using household debt (line 20) as the numerator, and GDP as the denominator. Debt is defined in paragraph 4.61. GDP is an aggregate measure of production in the economy, equal to the sum of the gross value added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs).

(ii) Household debt burden to income

7.25 This FSI measures the capacity of households to cover their debt payments (interest and principal). It is also a potentially significant predictor of future consumer spending growth: a high debt-service ratio sustained over several quarters can affect the rate of growth of personal consumption.

7.26 This FSI is calculated by using household debt service payments (line 24) as the numerator, and gross disposable income (line 6) over the same period as the denominator. Household debt service payments are defined in paragraph 4.122 (see also 4.117), and gross disposable income is defined in paragraph 4.120.