

## 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 sectors 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, as described ahead. For some FSIs, when one or both of the underlying series can be defined in alternative ways, these alternatives are explained. Further, 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 on an aggregate residence basis.

7.3 For the corporate sectors, the *Guide* encourages the calculation of FSIs on a consolidated basis so eliminating double counting of income, assets, and capital of entities in the same group. As with deposit-takers, data might be compiled on both domestically-controlled cross-border consolidated and domestic consolidated bases. 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 and cover a substantial part of the sector its reporting is encouraged. For households, an aggregate residence approach is preferred.

7.4 As with the deposit-taking sector, to support the assessment of individual FSIs for corporations, the *Guide* identifies a set of structural indicators. These indicators go beyond the agreed FSIs.

## **Other Financial Corporations**

### ***Financial Soundness Indicators***

7.5 The list of encouraged indicators endorsed by the Fund's Executive Board in June 2001 includes two indicators for other financial corporations to indicate their relevant importance to the domestic economy.

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

7.6 These two indicators are described ahead. Unless otherwise stated all the line references in this section refer to Table 4.2: Other Financial Corporations in Chapter 4. However, 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

7.7 This FSI measures the relative importance of other financial corporations within the domestic financial system. Other financial corporations financial assets (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), and general government.<sup>156</sup> Financial assets are defined in paragraph 4.35.

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

7.8 This FSI measures the relative importance of other financial corporations to the size of the economy. Other financial corporations financial assets (line 3) is the numerator, and GDP is the denominator. Financial assets are defined in paragraph 4.35, and for this

---

<sup>156</sup> For completeness, financial assets of NPISH could also be included, but in many instances these might be insignificant within the total.

indicator, data are compiled on a domestically 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 (plus any taxes, and minus any subsidies, on products not included in the value of their outputs).

***Structural Indicators***

7.9 Given the different specializations within the other financial corporations sector, to more fully understand the financial structure, not least the size and importance of the various types of activity, compilers could disseminate the following sub-sector information for insurance companies, pension funds, security (including derivative) dealers, and investment funds:

- Number of resident institutions (life and nonlife identified for insurance companies)
- Total value of assets (domestic and foreign) owned or, for investment companies, under management
  - of which: (i) domestically-controlled
  - (ii) foreign-controlled

7.10 Information on the split of assets of other financial corporations between claims on residents and nonresidents could also be disseminated.

7.11 Further, compilers could identify the largest corporations in the other financial corporations sector so that it is transparent as to who might be the major players in the financial markets outside the deposit-taking sector.

- Names and, in terms of the value of assets, market share of the top five companies

7.12 For insurance companies the following could also be disseminated:

- Total premium income of resident insurance companies
  - of which (i) Life
  - (ii) Nonlife

7.13 The types of financial institutions mentioned above are likely to be the major owners of financial assets within the other financial corporations sector. However, if some other groups of financial institutions are significant owners of financial assets in the economy e.g., finance companies, compilers could disseminate information on the value of their assets, and type of activity.

### ***Financial conglomerates***

7.14 In many economies, financial conglomerates are important to domestic markets. Financial conglomerates are defined in the *Guide* as enterprises that have controlling interest in a range of entities that straddle the different types of financial activity described above. This could include bank holding companies. In other words, a holding company might own a deposit-taker and an insurance company, and/or other entities. While the *Guide* recommends that data be presented separately for each financial sector (deposit-takers, other financial corporations, etc.) because the nature of their financial activities differs, nonetheless if a financial conglomerate is significant within the economy,<sup>157</sup> compilers could disseminate the information specified ahead. These indicators go beyond the agreed FSIs.

- Names of large financial conglomerates; and
- The value of assets owned on a basis that allows the information to be disaggregated by types of financial activity in which the conglomerate is involved, e.g., deposit-takers, insurance companies, security dealers, etc.
- Return on equity and capital to asset ratios for the largest conglomerates.

---

<sup>157</sup> What is meant by “significant” can differ depending upon country circumstances. Nonetheless while it may be difficult to measure, a conglomerate might be considered “significant” if it either owns one of the top five entities in any of the types of financial activities mentioned in this or previous chapter, or, in broad terms, has a total value of the assets (calculated on an aggregate basis) greater than any of the top five entities in any of the types of financial activities in which the conglomerate is involved.

## **Non Financial Corporations**

### ***Structural Indicators***

7.15 As structural indicators, compilers are encouraged to provide information on the names of, and assets owned by, the top 5 nonfinancial corporations so as to facilitate the compilation of data on large exposures and to provide an indication of their importance within the economy.

### ***Financial Soundness Indicators***

7.16 There are 5 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

7.17 Unless otherwise stated all the line references in this section refer to Table 4.3: Non Financial Corporations in Chapter 4. However, 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

7.18 This FSI is a measure of corporate leverage—the extent to which activities are financed out of 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 environment in which corporations operate could be important indicators of the probability of corporate financial distress.

7.19 The FSI is calculated by taking debt (line 29) as the numerator, and capital and reserves (line 31) as the denominator. Debt is defined in paragraph 4.58, and capital and reserves are defined in paragraph 4.59.

7.20 Going beyond the agreed FSI, the ratio could also be calculated with data that have different coverage. First, the FSI could be calculated excluding from the numerator debt owed to other nonfinancial corporations, as the resultant FSI would indicate the amounts owed to other sectors as a percentage of capital and reserves in the nonfinancial sector. Second, the ratio could be calculated taking the narrow measure of capital and reserves (line 31(i)) defined in paragraph 4.120 as the denominator if data are available.<sup>158</sup>

7.21 Also beyond the agreed FSI, it can be important to identify the type of activity undertaken by those nonfinancial corporate borrowers that have high debt to equity ratios to discover whether corporate indebtedness is concentrated in sectors that are particularly vulnerable to shifts in economic activity. As noted above, corporate activities could be classified by using the International Standard Industrial Classification of all Economic Activities (see Box 6.1).

(ii) Return on equity

7.22 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.

7.23 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

---

<sup>158</sup> In the discussions leading up to the production of this draft, one expert noted the possible extension of this ratio to include liquid assets together with equity in the denominator as such assets are available to meet liabilities.

movements in corporate sector profitability, and of market structure—that is, industry characteristics, competitive environment and pricing flexibility.

7.24 The FSI is calculated by taking earnings before interest and tax (EBIT) (line 34) as the numerator, and average value of capital and reserves (line 31) over the same period, as the denominator. As a minimum, the denominator can be calculated by taking the average of the beginning and end-period positions (e.g., at beginning and end month), but compilers are encouraged to use the most frequent observations available in calculating the average. EBIT is defined in paragraph 4.122 (and see also 4.106 to 4.110). Capital and reserves are defined in paragraph 4.59.

7.25 Beyond the agreed FSI, the ratio could be calculated taking the narrow measure of capital and reserves (line 31(i)) defined in paragraph 4.120 as the denominator if data are available. Another additional approach would be to calculate the return on equity including purchased goodwill in the denominator, that is using a measure of capital and reserves closer to commercial accounting concepts.

7.26 Also beyond the agreed FSI, as with the previous indicator on corporate leverage, monitoring could also be undertaken at the subsectoral level, using International Standard Industrial Classification of all Economic Activities (see Box 6.1).

(iii) Debt service coverage

7.27 This FSI measures nonfinancial corporates' 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.

7.28 This FSI is calculated by taking earnings (net income) before interest and tax (EBIT) (line 34) plus interest receivable from other nonfinancial corporates (line 33) as the numerator, and debt service payments (line 35) over the same period, as the denominator.<sup>159</sup>

---

<sup>159</sup> 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.

EBIT is defined in paragraph 4.122, interest receivable from other nonfinancial corporates in paragraph 4.121, and debt service payments are defined in paragraph 4.123.

7.29 Beyond the agreed FSI, the ratio could also be calculated excluding both interest receivable from, and debt service payments from, other nonfinancial corporations (lines 33 and 36) from the numerator and denominator, respectively. The resultant FSI would provide a measure of debt service payments coverage of nonfinancial corporates to other sectors only.

7.30 An additional possibility is to include payments on operating leases in the denominator, as while not debt, such payments can be significant and the items leased can be important for on-going operations.

(iv) Corporate net foreign exchange exposure to equity

7.31 This FSI measures the nonfinancial corporations exposure to foreign currency risk compared to its 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, as their customers, on deposit-takers. This applies to both borrowing domestically in foreign currency, and borrowing foreign currency in foreign markets.

7.32 Nonfinancial corporations' net foreign exchange exposure for on-balance sheet items (line 37) 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 6.43 and 6.44. 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 6.2 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 38) as the numerator.



7.33 Capital and reserves are defined in paragraph 4.59. The ratio could be calculated taking the narrow measure of capital and reserves (line 31(i)) defined in paragraph 4.120 as the denominator if data are available.

(v) Number of applications for protection from creditors

7.34 This FSI is a measure of bankruptcy trends, and is influenced by the quality and nature of bankruptcy and related legislation. It is a simple numerical addition of those resident nonfinancial corporations that have filed for protection from bankruptcy.

## **Households**

### ***Financial Soundness Indicators***

7.35 There are 2 FSIs for households:

- Household debt to GDP
- Household debt burden to income

7.36 Unless otherwise stated all the line references in this section refer to Table 4.4: Households in Chapter 4. No sector-level adjustments are required.

(i) Household debt to GDP

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

7.38 This FSI is calculated by taking household debt (line 20) as the numerator, and GDP as the denominator. Debt is defined in paragraph 4.58, while 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

7.39 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 growth.

7.40 This FSI is calculated by taking 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 4.132 (see also 4.123), and gross disposable income is defined in paragraph 4.130.