

**Fourth meeting of the Advisory Expert Group on National Accounts  
30 January – 8 February 2006, Frankfurt**

Clarification C9  
Valuation of Equity

**EQUITY**

by OECD Task Force on the Valuation and Measurement of Equity

# SNA93 clarification item -- Equity

## Issue C9

### Executive summary

1. This note provides the recommendations of the OECD Task Force on the Valuation and Measurement of Equity. The work of this Task Force highlighted a number of issues related to equity. This note generalizes these issues into four topics, including: The treatment of unquoted equity; equity component's detail; the concept of residual corporate net worth; and, an identified stock-flow inconsistency in SNA93 between the *Balance Sheet Account* and the *Accumulation Accounts*.

### Treatment of unquoted shares

2. SNA93 is very prescriptive and terse (13.74) in recommending that a market capitalization method be used to value unquoted shares. Given that country institutional arrangements and propensity to list equity differ widely across economies, the group agreed to adopt the principle of flexibility in the measurement of unquoted shares. In particular, that the current method of valuing unquoted equity with reference to quoted equity is retained in SNA93 where this approach is feasible; and, that other methods are considered in SNA93 in those cases where this approach is not feasible. It was felt that an unranked list of approaches would bring SNA93 closer to guidelines being developed in the context of an updated Balance of Payments Manual.

3. Specifically, with reference to the method for valuing unquoted shares, the Task Force agreed on the following: To use transaction prices where applicable for unquoted shares. In the absence of recent transactions prices and/or in order to establish a time series, that this be supplemented by another approach. It was concluded that in a revised SNA93 the approaches should be broadened, generalized (including a discussion of pros and cons) and presented as:

- Market capitalization method (with choice w/r to application of liquidity discount factor)
- Other methods
  - Net asset value
  - Present value
  - Own funds at book value

### 4. Questions for the AEG

Does the AEG agree on the principle of flexibility in the approaches to valuing unquoted equity?  
Does the AEG accept the proposed approaches towards valuing unquoted equity?

### Equity components' detail

5. It was concluded that the distinction and discussion between quoted and unquoted shares in SNA93 is retained and expanded as per above. There was a further recommendation to introduce a non-mandatory split between quoted equity (AF5.1.1) and unquoted equity (AF5.1.2). It was further concluded that a paragraph be inserted in SNA93 to distinguish portfolio and direct investment in the case of equity; and, that a subsequent paragraph discuss the link between inter-company investment and direct investment (to better tie in paragraph 13.87 and Chapters 13 and 14). There was no recommendation to introduce a new split between direct and portfolio equity in SNA93, though countries could choose to publish such detail if considered relevant.

6. The group endorsed the emerging emphasis on the basic split between corporate shares (AF5.1) and investment fund units (AF5.2). It was concluded that, given the differences between shares and investment fund units, this minimum split should be part of the SNA93 re-draft as a recommended (not mandatory) breakdown. This would reflect recent work undertaken at the OECD to break out household sector assets, and achieve consistency with ESA95.

#### 7. Questions for the AEG

Does the AEG agree with distinguishing inter-company equity and its subset direct investment equity in a revised SNA93 text? Does the AEG support the proposed new sub-categories of AF.5 (AF5.1 and AF5.2; AF5.1.1 and AF 5.1.2) in a revised SNA93?

#### **Residual Corporate net worth**

8. SNA93 states (13.74) that residual corporate net worth (RCNW) can be seen to exist, but does not say anything about the nature of this item. Clearly, RCNW is of a different nature than net worth in other sectors. The question is whether RCNW is a conceptual or a practical item. It is a practical item in the sense that it reflects any valuation and coverage issues that drive a wedge between (i) the market value of corporate equity liabilities and (ii) the net asset values derived as the difference between assets and liabilities (excluding equity). It may be also considered a conceptual issue with an economic interpretation if (i) in a revised SNA93 certain assets are out of scope (e.g., certain intangible assets); or (ii) if it is felt that net asset values and market value of corporate equity are not equivalent (say, as the latter can reflect excess demand for shares).

9. It was concluded that RCNW required expansion and clarification in a revised SNA93, in particular with respect to the coverage and valuation of certain assets and liabilities. It was also recommended that the AEG consider whether there are conceptual reasons for RCNW and therefore whether RCNW should be classified as a separate sub-category of net worth.

#### 10. Questions for AEG

Does the AEG agree that RCNW discussion requires expansion and agree that RCNW exists as a conceptual item; and, if so, does the AEG agree that it be a separate sub-component of B.90?

#### **Stock-flow inconsistency**

11. In the absence of foreign direct investment enterprises, the SNA93 model is straightforward. An opening stock of market value equity (assets-liabilities) evolves to a closing stock by: net share issues (liabilities) and net share acquisitions (assets) in the *Financial Account*; revaluations of equity positions (assets-liabilities), reflecting fluctuations in share prices, in the *Revaluation Account*; and, volume changes, reflecting structural changes (such as sector shifts, etc.). Abstracting from volume changes, equity positions evolve with financial transactions and revaluations.

12. It was concluded that the introduction of re-invested earnings changes this model in a material way; and, that there was a significant stock-flow equity issue in SNA93 related to the concept of re-invested earnings (RIE) on foreign direct investment, such that the current framework was internally inconsistent. In summary, RIE introduces an additional element in the financial account – imputed re-investment of subsidiary earnings, in both parent direct investment assets and subsidiary equity liabilities. Since the opening and closing balance sheet market value equity constrain the total change to a certain value, adding and imputed RIE flows to financial account transactions implies the need for an offsetting adjustment elsewhere in the system. SNA93 says little on RIE in Chapters 11, 12 and 13, and this issue is not recognized.

13. It was concluded that, given that RIE is not up for re-consideration in a revised SNA93, that a second-best solution would be to alter the *Revaluation Account* in the case of FDI equity relationships. There are two main draw-backs to this proposal: First, this alteration of the *Revaluation Account* detracts from the relevance and interpretability of this account by allocating some portions of holding gains to financial transactions; and, second it blurs the distinction between transactions and revaluations.

#### 14. Questions for the AEG

Does the AEG support this proposed change to the Revaluation Account, in order to maintain stock-flow consistency in a revised SNA93?

## Background

### Impact on other major variables

15. Equity is a complex instrument that specifies some degree of ownership in a firm; it is both an investment -- in some cases, a marketable security -- for portfolio and direct investors as well as a measure of the underlying value (net worth) of corporations. Not surprisingly, equity can also take on different valuations in business accounting statements, which often form the basis of the information compiled in the SNA.

16. In most developed economies, equity is a major asset and liability and figures prominently in measures of sector net worth in the balance sheet accounts -- in particular for the household sector. Therefore, both a sound conceptual framework and methodological approach to measurement of equity components are essential, in terms of the relevance of the statistics.

17. Despite its complexity and its significant size in many economies, SNA93 says very little about equity. What it does say is largely prescriptive in nature. In some cases, what is said can lead to confusion on the part of compilers of data.

### Business accounting standards

18. It is difficult to relate the valuation and measurement of equity (quoted or unquoted) in national accounting standards to that of business accounting standards. SNA93 prescribes the market value principle as well as consistent approach to valuation across all components of equity in the *Balance Sheet Account*. Business accounting standards, whose purposes are quite different than those of national accounting, does not currently propose market valuation for equity liability issues outstanding; and, they allow for substantial differences in reporting equity asset holdings -- in particular distinguishing between portfolio equity held for income (amortized acquisition cost) or for trading purposes (marked-to-market); and inter-company investment equity (valued at cost or using the equity method).

19. This is an instance where national accounting goes beyond business accounting, and underlines the point that it is not always possible and/or desirable to harmonize national accounting with business accounting.

### Task force efforts

20. The Task Force on the Valuation and Measurement of Equity (TFVME) was mandated to clarify the treatment of equity in SNA93 by reviewing in depth the conceptual and methodological issues surrounding equity and its components in the context of the sequence of accounts. The purpose was to draft recommendations to be forwarded first to the Advisory expert Group (AEG) and ultimately to the Inter-secretariat Working Group on National Accounts (ISWGNA) for amending SNA93, so as to expand and clarify the existing sections on equity and to add additional sections where it is deemed necessary.

## The treatment of unquoted shares

21. A significant portion of the TFVME discussions was taken up with the difficult issues surrounding the valuation of unquoted shares.

22. SNA93 is first and foremost a conceptual document. In it, it is clear that market valuation of assets and liabilities -- including equity -- is the principle to which all countries should adhere. However, SNA93 is terse and very prescriptive on the matter of valuing unquoted equity.

*Shares and other equities should be valued in the balance sheets at their current prices when they are regularly traded on stock exchanges or other organized financial markets. The value of shares in corporations that are not quoted on stock exchanges or otherwise traded regularly should be estimated using the prices of quoted shares that are comparable in earnings and dividend history and prospects, adjusting downward, if necessary, to allow for the inferior marketability or liquidity of unquoted shares. Equity in quasi-corporations should be valued as equal to the value of the quasi-corporations' assets less the value of their liabilities. (13.74)*

23. A key issue was whether this prescriptive approach should be retained in an SNA93 re-draft and, if not, what other approaches should be endorsed. It was recognized that while the market capitalization approach endorsed by Working Group on Unquoted Shares (WGUS) would be widely applied in certain jurisdictions, that some countries may not be able to follow this approach, largely because the stock market is very thin or non-existent. Given that country institutional arrangements and propensity to list differ widely across jurisdictions, the group agreed to adopt the principle of flexibility in the valuation of unquoted shares. There was consensus on the point that adherence to the principle of market value in the standards may be more thoroughly achieved across by incorporating some degree of flexibility in recommendations. It was put forth that best estimates of unquoted equity would have to be country-specific. It was also agreed that flexibility was an important consideration in an international standard.

24. It was concluded that that the current method of valuing unquoted equity with reference to quoted equity be retained in SNA93 where this approach is feasible; and, that other methods be considered in SNA93 in those cases where this approach is not feasible. It was concluded that the approaches should be unranked, and that the pros and cons of each approach should be presented. TTFVME reviewed a number of approaches.

25. Specifically, with reference to the approach for valuing unquoted shares, the TF agreed on the following: Transaction prices where applicable for unquoted shares. In the absence of recent transactions prices and/or in order to establish a time series, that this be supplemented by another approach. It was concluded that in a revised SNA93 the approaches should be broadened, generalized and presented as:

- Market capitalization method
- Other methods
  - Net asset value
  - Present value
  - Own funds at book value

### ***Market capitalization***

26. This method can be summarized as follows: Unquoted shares are valued as own funds at book value times a "capitalisation ratio", calculated as the market value of quoted shares divided by their own funds at book value. The capitalisation ratio could be discounted for differences in liquidity between quoted and unquoted companies.

27. This approach has two main advantages. First, it clearly attempts to reflect a market value for equity, by the link of quoted shares to unquoted equity. Second, it is for the most part relatively straightforward to understand and apply, especially given the use of own funds at book value (data that are typically widely available) as a starting point. In this regard, the important practical efforts of the Working Group on Unquoted Shares (WGUS) was recognized and endorsed by the TTFVME. WGUS recommendations were reviewed and it was felt that that general ones should be covered in an appendix revised in an expanded discussion of the market capitalization ratio (refer to Appendix).

28. However, the feasibility of this approach is related to the propensity to list in various economies. There is an issue of excluding very large and very small companies in certain

industries so as not to bias the resulting capitalization ratios. There is an issue of whether a cut-off (based on size) should apply, below which another approach should apply.

29. There is theoretically a basis for assuming that unquoted shares should be adjusted to reflect the lower liquidity. However, the problems with the liquidity discount may not be insignificant. First, it is difficult to come up with a reasonable discount factor. Second, that discount may vary over time and by industry. TFMME agreed that the principle of flexibility would apply in the application of liquidity discount.

### ***Other methods***

#### Net asset value

30. Net asset value (NAV) is total assets at current/market value less total liabilities (excluding equity) at market value. NAV has an advantage of being a conceptual construct in SNA93, and therefore can be rationalized as a reasonable approach to estimate the a current value for non-traded equity. Further a number of countries have NAV estimates.

31. However, the NAV approach has some shortcomings. First, NAV estimates can be adversely affected by inconsistent current/market valuation across the different asset-liability categories. In this respect, there have been concerns raised elsewhere about the reliability of (PIM)-based (i.e., perpetual-inventory model) measures for produced fixed assets<sup>1</sup>. Retention of certain assets at face value (e.g., loans), would also detract from NAV estimates. Second, NAV estimates would also be adversely affected by incomplete coverage of asset (e.g., intangible assets).

32. SNA93 does not explain why the valuation of equity of small unlisted incorporated entities should be different than quasi-corporations (13.74), where a NAV estimate is recommended. TFMME agreed that small incorporated entities may have more in common with unincorporated entities; this issue should warrant further discussion in a revised SNA93.

#### Present value

33. The present value of non-traded equity (PV) can be estimated by discounting the profits obtained. This method always has at its heart the issue of choosing an appropriate discount rate. Following the research in Spain discount factor could be inferred from the implicit discount rate obtained for quoted corporations and from other adjustments.

34. The PV method for unquoted shares may be better adapted to the certain economies, where a small number of securities account for a very sizable percentage of stock market capitalisations; or, where there is a general paucity of balance sheet information, but earnings data are more readily available. Notably this method is consistent with SNA93, which indicate that the valuation at current prices of an asset can be approximated by calculating the present (or discounted) value of the flow of future returns generated by that asset.

#### Own funds at book value

35. Own funds at book value (OFBV) has been a standard concept used widely in both balance sheet accounts and International Investment Positions. It was felt that it could be viewed as a minimum estimate of equity on the liability side. While there was a view that an estimate of unquoted equity at market value was the ideal, it was agreed that OFBV would be retained as an option.

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<sup>1</sup> In particular, this issue has come up at Canberra I and II meetings.

## Considerations of consistency with emerging revisions to the Balance of Payments Manual

36. In an integrated system of national accounts it was recognized as essential that the valuation of equity in a revised SNA93 be harmonized to the extent possible with a revised Balance of Payments Manual. The principle of flexibility and the generalized methods endorsed by TFVME assists in meeting this objective.

37. The OECD-IMF Direct Investment Technical Group (DITEG) has stopped short of recommending a specific methodology for unquoted equity in direct investment, in favour of an unranked list of approaches for valuing unlisted direct investment equity. TFVME has also considered more than one approach for unlisted equity and it has not ranked these approaches; however, it has generalized and partly condensed the methods advocated by DITEG. In this sense, we have moved towards the DITEG position, and there is significant overlap between the conclusions of the two groups. Please refer to the table below.

<b>OECD Task Force on the Valuation and Measurement of Equity – Approaches to equity valuation</b>	<b>IMF-OECD Direct Investment Technical Group – Approaches to DI equity valuation</b>
Transaction price	Value of recent transactions
Market capitalization (with optional illiquidity discount)	Use of capitalization ratios (no illiquidity discount considered)
Net asset value (NAV)	NAV including intangibles and goodwill
	NAV excluding intangibles and goodwill
	Models that revalue non-financial assets
Own funds at book value	Own funds at book value
Present value	
	Apportioning global value of a group to a local operation, using an appropriate indicator

38. It should be noted that DITEG felt that three other considered methods – the use of stock price indices to revalue cumulated flows, historic or acquisition cost, and summing transactions – were not good approximations of market value. DITEG also felt that new manuals should specify criteria for compilers to make choices among various alternatives. This is in fact similar to TFVME recommendation that a revised SNA93 should include, along with a description of methods, a short discussion of the pros and cons of each method.

39. The only two material differences are that TFVME market capitalization approach allows for an optional application of an illiquidity discount factor, while this point was not discussed in DITEG; and, TFVME has adopted a present value methodology as a possible approach, and DITEG has not considered this option.

### Questions for the AEG

40. Does the AEG agree on the principle of flexibility in the approaches to valuing unquoted equity? Does the AEG accept the proposed approaches towards valuing unquoted equity?

## Equity detail in SNA93

### Quoted versus unquoted shares

41. It was concluded that for practical reasons the existing distinction between quoted and unquoted shares in SNA93 AF.5 is retained and expanded with a discussion of methods as outlined above. There was also a recommendation to introduce a non-mandatory split of AF5

between quoted and unquoted equity (AF5.1.1 and AF5.1.2) in SNA93. It was agreed that countries could choose to publish such detail if considered relevant from an analytical point of view. It should be noted that this split is included in ESA95 as core detail. Further, it should be noted that a proposal to introduce such a split for direct investment in a revised BPM was rejected by DITEG.

### **Inter-company (direct) investment**

42. Equity included in SNA93 category AF5, can be either portfolio or inter-company. In most countries both types of equity investment can be significant in terms of values. Inter-company equity investment can be of two types: (i) domestic inter-company investment and (ii) foreign direct (inward or outward) investment. While the latter is relevant for the *International Investment Position* (IIP), both are relevant for the *Balance Sheet Account* (BSA).

43. In the balance sheet account chapter of SNA93 there is no discussion of the valuation, treatment or breakdown of inter-company versus portfolio equity investment assets (typically broken down on the asset side in macroeconomic balance sheet accounts) and how these components relate to the total for equity liabilities of corporations. However, this breakdown is an important consideration for national accountants – in particular for balance sheet account compilers and IIP compilers. It is also an important consideration for linking SNA93 chapter 13 to chapter 14 as well as to the Balance of Payments Manual. Therefore the distinction between portfolio and inter-company investment seems important enough to make its way into SNA93 Chapter 13.

44. It was concluded that a paragraph be inserted in SNA93 to distinguish portfolio and direct investment in the case of equity; and, that a subsequent paragraph discuss the link between inter-company investment and direct investment (to better tie in with Chapter 14 as well as paragraph **13.87**, which calls for a direct investment equity memorandum item – AF.m). There was no recommendation to introduce a new split between direct and portfolio equity in SNA93 AF.5, though countries could choose to publish such detail if considered relevant for analytical purposes.

### **Corporate equity in AF.5**

45. The Task Force endorsed the emerging emphasis on the basic split between corporate shares (AF5.1) and investment fund units (AF5.2). The group agreed that, given the differences between shares and investment fund units, this minimum split should be part of the SNA93 re-draft as a *recommended* breakdown. This would reflect recent work undertaken at the OECD to break out household sector assets between corporate equity and investment fund units.

46. Having said this, under a proposed AF5.2, some participants felt that money market mutual funds should also be shown separately. Further, there was concern over the definition of investment funds, specifically whether these included hedge funds. A detailed discussion of AF5.2 was considered beyond the scope of the TFVME.

47. TFVME endorsed the basic split between corporate shares (F5.1) and investment fund units (F5.2). It was concluded that this minimum split should be part of the SNA93 re-draft as a *recommended* (not mandatory) breakdown. It should be noted that this split is currently included in ESA95 (though AF5.1 is referred to as mutual funds).

### **Questions for the AEG**

48. Does the AEG agree with distinguishing inter-company equity and its subset direct investment equity in a revised SNA93 text? Does the AEG agree that a new split of AF.5 between (AF.5.1)



and s (AF5.2) be included in a revised SNA93 as a recommended breakdown; or, should only only AF5.1 be considered?

## **Residual Corporate net worth**

### **Background**

49. SNA93 says that corporations “can be seen to have a residual net worth ...” (13.74), but does not say anything about the nature of this item. This suggests that residual corporate net worth (RCNW) is the difference between the market value of shares outstanding and the net asset value, though the reader can only infer this from the current SNA93 text. RCNW is a standard feature in *Balance Sheet Accounts* that cover both non-financial and financial assets. The question is related to the intent of SNA93, specifically: Whether RCNW is a statistical issue (measurement error) or a conceptual issue implying that it could have an economic interpretation. It would appear to be both.

### **Measurement error**

50. RCNW will always contain some measure of measurement error in item in the sense that it reflects any valuation and coverage issues that drive a wedge between the market value of corporate equity liabilities on the one hand and the net asset values derived as the difference between assets and liabilities (excluding equity) on the other hand. Most countries do not cover intangible assets and natural resources in their net asset value estimates, and there is a long history of dissatisfaction with the widely-used PIM models used to estimate and value stocks of produced assets. On the financial side, some countries may not have all marketable securities (assets/liabilities) valued at market or may not cover certain assets (e.g., financial derivatives). Market value equity estimates may have some measurement issues associated with it, related to the valuation of unquoted shares. It was established and agreed upon by the TF that RCNW is partly measurement error, and that this was important for compilers to understand.

### **Intangible assets**

51. The Canberra Group has spent some time debating the valuation and inclusion of intangible assets in a revised SNA93. They have broken down intangible assets into two principal categories: Intangible produced assets; and, intangible non-produced assets. Intangible produced assets cover research and development (which is assumed to cover the value of patented entities). Intangible non-produced assets cover leases and other transferable contracts, purchased goodwill and other. The issue before the TFMVME is how business asset coverage issues relate to the market value of corporate equity. Only including purchased goodwill in a revised SNA93 does not account for intangibles such as ongoing customer relations. This is important in most industries and key in certain industries (e.g., the customer service relationships of some software and computer companies).

52. TFMVME agreed that asset coverage, particularly for intangible assets, should be discussed with reference to the market value of corporate equity and residual corporate net worth in a revised SNA93). RCNW may be considered a conceptual issue if, in the evolving SNA93 recommendations, certain intangible assets are considered out of scope, but are reflected in market value equity estimates. In this case, this leads to a specific interpretation of RCNW.

### **Conceptual issue**

53. More generally, the issue of whether RCNW is a conceptual construct revolves around a specific question: Whether we would expect that there could be at different points in time (say over an economic cycle) a difference, as well as fluctuations in the difference, between net asset

values and the market value of corporate equity liabilities. The consensus on this issue was yes - that market value equity can fluctuate around net asset value estimates reflecting, for example, excess demand for corporate shares in a period. This can be formalized as the macroeconomic version of Tobin's Q, which is: The market value of assets divided by replacement value of assets (where, essentially, a Tobin's Q ratio greater than 1 indicates the firm has done well with its investment decisions).

54. That RCNW conceptually exists was considered crucial for compilers and users of data to understand. This implies that RCNW is a legitimate entry in the system – that is, has an economic interpretation. Notably, this interpretation differs markedly from that of net worth in the other (ultimate) sectors. This argues that consideration should be given to creating a separate sub-category for RCNW under B.90.

### **Summary**

55. While RCNW is derived in the same way as with other (non-corporate) sectors, its nature is quite different from net worth in these (ultimate) sectors. It was concluded that the concept of RCNW required expansion and clarification in a revised SNA93, in particular as to its interpretation and with respect to the coverage and valuation of assets and liabilities (especially intangible assets). It was also recommended that the AEG should consider whether RCNW should be treated as an explicit sub-category of B.90.

### **Questions for AEG**

56. Does the AEG agree that RCNW discussion requires expansion? Does the AEG agree that RCNW exists as a conceptual item; and, if so, does the AEG agree that it be a separate sub-component of B.90?

## **Stock-flow inconsistency**

### **Background**

57. The SNA93 *Balance Sheet Account* (BSA) measures the market value of all assets and liabilities, including equity. It is clear that the intent is that all price changes in the market valuation of outstanding assets (and corresponding) liabilities are to be clearly articulated in the *Revaluation Account* (RA) of the *Other Changes in Assets Account* (OCAA). This implies that changes in the value of equity outstanding should fully take into account changes in the market price of equity issues outstanding on the liability side as well as equity holdings on the asset side.

58. Equally clear is that *Financial Account* (FA) is to measure financial transactions. This implies that equity flows should include net new issue of equity on the liability side as well as net acquisitions of equity on the asset side, including both portfolio and inter-company investment.

59. However, there is one small exception noted in the FA: The inclusion of re-invested earnings (RIE) on foreign direct investment positions, which was introduced with the release of SNA93. This item is mentioned but not articulated in the Financial Account Chapter (11.88) and the Balance Sheet Account (13.74), whereas the Revaluation Account is silent on RIE. Notably, this item gives rise to conceptual inconsistency between the *Balance Sheet Account* and the *Accumulation Accounts*. It should also be noted that there is no consistency issue in the transactions accounts with respect to RIE.

### **Illustrative example**

60. An example will serve to illustrate the stock-flow problem.

SNA93 basic equity stock-flow model

61. In a world excluding direct investment enterprises, the SNA93 stock-flow relationship is relatively straightforward, as shown in Table 1 (below). The second and sixth columns are the opening and closing balance sheets, the third column covers the financial account transactions, and the fourth and fifth columns include the revaluation and volume change accounts, respectively.

62. If we assume one firm in the economy and several domestic investors, the economy-wide framework for equity is shown in Table 1. The domestic firm has a market value of equity in the opening BSA of 200. Share prices increase by 10% over the course of the period, which alone would alter total equity assets and liabilities by +20 in the form of an unrealized holding gain. In addition, the firm issues at period-end +30 of new shares on the liability side, giving rise to a +30 net acquisitions of equity by the investors on the asset side. Therefore, the total change in equity over the period is +50 and the period-end stock of equity assets and liabilities in the economy is 250. This total change in market value equity is comprised of +20 in the RA and +30 in the FA.

**Table 1. Current SNA: Equity assets-liabilities – Balance Sheet, Accumulation Accounts**

	BSA <sub>t-1</sub> Stocks	FA <sub>t</sub> Transactions	OCAA - RA <sub>t</sub> Revaluations	OCAA - OCVA <sub>t</sub> Volume changes	BSA <sub>t</sub> Stocks
<b>ASSETS</b>					
INVESTORS					
- Shares (AF.5/F.5)	200	30	20		250
<b>LIABILITIES</b>					
ENTERPRISE EQUITY					
- Shares (AF.5/F.5)	200	30	20		250

SNA93 equity stock-flow model with direct investment enterprises

63. The inclusion of direct investment enterprises extends the model, by introducing two classes of investors. A modification to the above example is shown in Table 2 (below). In this case, the domestic firm is a 50% owned foreign direct investment enterprise (in the S2 sector). The remaining 50% of the firm's equity is owned widely by domestic portfolio investors.

**Table 2a: Current SNA Equity assets-liabilities – Balance Sheet, Accumulation Accounts**

	BSA <sub>t-1</sub> Stocks	FA <sub>t</sub> Transactions	OCAA - RA <sub>t</sub> Revaluations	OCAA <sub>t</sub> Volume changes	BSA <sub>t</sub> Stocks
<b>ASSETS</b>					
INVESTORS					
- Portfolio shares (AF.5/F5)	100	15	10		125
- Foreign direct investment shares (AF.5/F5)	100	15	10		125
<b>LIABILITIES</b>					
DIRECT INVESTMENT ENTERPRISE EQUITY					
- Shares (AF.5/F.5)	200	30	20		250

64. We assume one firm in the economy with one-half owned by a foreign parent firm and one-half widely-held by domestic portfolio investors, the economy-wide framework for equity. The domestic firm has a market value of equity in the opening BSA of 200. This 200 is equally allocated to direct and portfolio investors on the asset side. Share prices increase by 10% over

the course or the period, which alters equity assets and liabilities by +20 in the form of an unrealized holding gain. Direct and portfolio investors share equally in this gain (+10 each). In addition, the firm issues at period-end +30 of new shares on the liability side, giving rise to a +30 net acquisitions of equity by the investors on the asset side. These issues are picked up by investors in the same proportion as their ownership, so that direct investors acquire +15 and portfolio investors acquire +15. The total change in equity over the period is +50 and the period-end stock of equity assets and liabilities in the economy is 250. As in the first example, this total change in market value equity is comprised of +20 in the RA and +30 in the FA.

SNA93 equity stock-flow model with direct investment enterprises and re-invested earnings

65. A complication is that the existence of an FDI relationship implies the existence of reinvested earnings (RIE) in SNA93 – that is, the imputed remittances of the FDI domestic subsidiary to the FDI foreign parent (in the S2 sector). These imputed remittances reflect the foreign parent’s claim on the domestic subsidiaries undistributed earnings in the period, based on the parent’s proportion of equity participation in the direct investment enterprise subsidiary. Therefore, in the example that we are using, the direct investment owner would have an imputed claim of 50% of the direct investment enterprise subsidiary’s undistributed earnings.

66. The undistributed earnings are reflected in the corporate saving flows in the economy. In our case, we assume that the one firm in the economy records saving of 40, so that the RIE flow would account for 20 (50% of the saving). If domestic sector corporate saving is reduced by 20, in the *Capital Account (CA)*, then the imputation results in internally-generated sources of funds being reduced by 20. Since total CA and FA uses of funds are unchanged, an additional source of funds must be imputed in order to balance the corporate sector *Capital and Financial Account*<sup>2</sup>. The only account in which to allocate an additional source of funds is the FA, and the financial instrument to allocate an additional imputed source of funds to the domestic direct investment enterprise subsidiary is the equity liability.

67. In this example, the foreign parent’s imputed withdrawal of 20 (50%) of the domestic direct investment enterprise subsidiary saving must be re-injected (or re-invested) in the domestic direct investment enterprise subsidiary as an imputed additional acquisition of equity by the parent. This is equivalent to an additional equity issue/acquisition in the FA. This imputation is treated in SNA93 as an addition to financial transactions on both the asset and liability sides of the economy. This implies the following FA RIE entries in Table 2a, as shown in Table 2b (below).

**Table 2b. Current SNA: Equity assets-liabilities – Balance Sheet, Accumulation Accounts**

	BSA <sub>t-1</sub> Stocks	FA <sub>t</sub> Transactions	OCAA - RA <sub>t</sub> Revaluations	OCAA – OCVA <sub>t</sub> Volume changes	BSA <sub>t</sub> Stocks
<b>ASSETS</b>					
INVESTORS					
- Portfolio shares (AF.5/F.5)	100	15	10		125
- Foreign direct Investment shares (AF.5/F.5)	100	15 PLUS RIE: 20 EQUALS: 35	10		125
<b>LIABILITIES</b>					
DIRECT INVESTMENT ENTERPRISE EQUITY					
- Shares (AF.5/F.5)	200	30 PLUS RIE: 20 EQUALS: 50	20		250

<sup>2</sup> This is a similar treatment in the BOP or ROW sector account where the financial account must also reflect the imputed RIE flows that are included in the current account in order to match sources and uses of funds (and thus avoid adversely impacting on the BOP net errors and omissions or ROW sector discrepancy).

68. The domestic firm has a market value of equity in the opening BSA of 200. This 200 is equally allocated to direct and portfolio investors on the asset side. Share prices increase by 10% over the course of the period, which should alter equity assets and liabilities by +20 in the form of an unrealized holding gain – +10 to each of portfolio and direct investors, respectively. In addition, the firm issues at period-end +30 of new shares on the liability side, giving rise to a +30 net acquisitions of equity by the investors on the asset side – +15 to each of portfolio and direct investors, respectively. However, in addition to the +30 equity issues/acquisitions in the FA, there is an imputed re-investment flow of earnings in the FA of +20 allocated to the direct investors' assets in the S2 sector; and, the required offset to this is matching imputed +20 equity issue liability flow by the domestic direct investment enterprise.

69. The total recorded equity flows in the FA are now +50 and the equity revaluations are +20 – amounting to a total change of +70. However, in this example, it is clear the total change in equity positions is constrained to be +50 ... and can only be +50 – comprised of revaluations plus actual share issues/acquisitions. The stock-flow sequence of accounts with respect to equity does not balance and it is clear that RIE is not fully consistent with the SNA93 conceptual model, as currently articulated<sup>3</sup>. Aside from the example in this note, other evidence to support this contention is the lack of a full discussion of RIE in the stock-flow framework of SNA93, suggestive of an oversight.

#### **Accrual of earnings on FDI and changes in the value of SNA93 equity positions**

70. SNA93 is based on market valuation for equity portfolio and inter-company (direct) investment positions. Re-invested earnings (RIE) are a component of the change in the book value of direct investment equity positions – specifically, the change in accumulated earnings relating to the equity method of accounting for unconsolidated subsidiaries. It would seem that the principal reason why the RIE flows might lead to an inconsistency in the SNA93 model is that it is fundamentally tied a book value equity concept. The flow of RIE has been included for many years as part of the change (increase/decrease) in the value of IIP book value direct investment positions<sup>4</sup>. This was also true of domestic inter-company investment in certain OECD countries' BSA.

71. In keeping with the SNA93 market value model for equity (both portfolio and direct), the *Revaluation Account* (RA) suggests that we should be using the change in market prices to calculate holding gains for all instruments. To the extent that corporate earnings are influential in moving equity prices, subsidiary earnings already accrue on market value equity assets of parents as an implicit part of calculated holding gains/losses in the SNA93 model. The change in corporate equity at market value as defined in SNA93 has only two components to it – changes in the value of shares outstanding in the RA and share issues/acquisitions in the FA. Therefore, RIE drives a wedge into the clearly articulated SNA93 stock-flow model with respect to equity.

#### **Summary**

72. The consensus of TFVME was that there is a significant stock-flow equity issue in SNA93 related to the concept of re-invested earnings (RIE) on foreign direct investment, such that the current framework is internally inconsistent. Early on in the SNA93 review process, RIE was briefly considered as a potential review item, and rejected. Given this situation, it was agreed that the Task Force would propose an alternative solution to address this problem. There were two obvious options: That holding gains/losses be re-defined and adjusted to allow for RIE flows to be treated as imputed transactions in the FA in the case of direct investment relationships; or, that

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<sup>3</sup> This example works through the case of RIE on inward direct investment. The same issue exists on outward direct investment.

<sup>4</sup> Given this, it can be argued that, the current RIE treatment implicitly argues against moving direct investment equity positions to a market value basis.

the *Other Changes in the Volume of Assets Account (OCVAA)* be re-defined and adjusted to allow for RIE flows to be treated as imputed transactions in the FA (so as not to affect the *Revaluation Account*). The option of using the OCVAA was not considered seriously.

73. It was concluded that the only practical and transparent solution would be to alter the revaluation account equity entries in the case of FDI relationships. Given that RIE flows (undistributed earnings) are embodied (along with other factors) in the overall revaluation of direct investment equity positions, this amounts to reducing some of the revaluation account changes in equity positions with respect to direct investment equity in order to reflect that fact that these are already accounted for as imputed re-investment in the financial transactions account. It was felt that this solution could be loosely rationalized as a reflection of the special relationship between direct investment parents and subsidiaries as described in SNA93 (7.121) and elsewhere.

74. However, this proposal was viewed by some Task Force members as a second-best approach. It has two main disadvantages: First, it detracts from the overall relevance and interpretability of the *Revaluation Account* for both equity assets and liabilities, by allocating some portion of holding gains to financial transactions; second, in doing so, it blurs the distinction between equity transactions and revaluations of outstanding equity positions.

75. This proposed solution is articulated in an extension of the example -- a correction to Table 2b in Table 3 (below). Revaluations of direct investment equity of +10 are reduced by RIE of 20 to result in revaluations of -10. Portfolio equity investment revaluations of +10 are then combined with direct investment equity revaluations of -10 to yield overall equity liability holding gains of 0, despite (in the example) a share price increase of 10%.

**Table 3. Proposed SNA: Equity assets-liabilities – Balance Sheet, Accumulation Accounts**

	BSA <sub>t-1</sub> Stocks	FA <sub>t</sub> Transactions	OCAA - RA <sub>t</sub> Revaluations	OCAA – OCVA <sub>t</sub> Volume changes	BSA <sub>t</sub> Stocks
<b>ASSETS</b>					
INVESTORS					
- Portfolio shares (AF.5/F.5)	100	15	10		125
- Foreign direct Investment shares (AF.5/F.5)	100	15 PLUS RIE: 20 EQUALS: 35	10 MINUS RIE: 20 EQUALS: -10		125
<b>LIABILITIES</b>					
DIRECT INVESTMENT ENTERPRISE EQUITY					
- Shares (AF.5/F.5)	200	30 PLUS RIE: 20 EQUALS: 50	20 MINUS RIE: 20 EQUALS: 0		250

### Questions for the AEG

76. Does the AEG support this proposed change to the Revaluation Account, as a means to restore stock-flow consistency in a revised SNA93?

## APPENDIX

### Sample revised SNA93 Chapter 13 Appendix on Market capitalization Method for valuing unquoted shares

77. The task force sticks to the principle of the valuation at current price. It examined several methods for estimating the current price in the absence of a recent transaction price. A widely accepted method, documented in the report of the Working group of unquoted shares (WGUS) in Eurostat (2003) and implemented in several countries may be described as follows:

- unquoted shares are valued as own funds at book value times a “capitalisation ratio”, calculated as the market value of quoted companies divided by their own funds at book value;
- the capitalisation ratio should be discounted for differences in liquidity between quoted and unquoted shares;
- other equities are valued at own funds at book value.

One advantage of the method is that it is based on the use of own funds at book value, widely available from balance sheet data. The collection of own funds at book value is also recommended in the context of direct investment statistics.

78. Thus, the debatable aspects are mostly limited to the calculation of the “capitalisation ratios”. To be statistically significant, the capitalisation ratios should be calculated on sufficiently large samples of quoted companies. This method is thus especially adapted to unquoted shares issued by resident companies of countries with large stock exchanges and should be at least tested by any country in such a situation. It is also possible to obtain larger samples for quoted companies by aggregating individual data for resident companies in several countries (see recommendation 8 in the Manual of sources and methods for the compilation of ESA95 financial accounts, in annex). The underlying assumption is that the rates of return are comparable in the different countries of the sample, something to be assessed beforehand.

79. The following observations may help to define guidance in the implementation of the method: Capitalisation ratios should be calculated by branch when the resulting ratios corresponding to different economic activities significantly differ and the structure by activity of quoted companies widely differs from the one of unquoted companies. This helped for example not to apply the consequences of the end 90s bubble on ICT quoted shares to all unquoted companies (see WGUS recommendations 5, 6, 7). The size of the company may have a decisive impact on its capitalisation ratio: for example, very large and very small quoted companies may be seen as not comparable to unquoted companies. Conversely, very small unquoted companies may have no equivalent among quoted companies (see WGUS recommendations 9 and 10). The capitalisation ratios may be calculated as weighted average (acting own funds at book value as weights) or median. The simple average should be avoided (see WGUS recommendation 11). The estimation of the liquidity discount could be made at a national level. An estimation was made for French companies by comparing, in the year of acquisition the value of the shares in the balance sheet (asset) of the parent company and the value of the own funds in the balance sheet (liability) of the daughter company, adjusted for the percentage of acquisition. The use of a median ratio instead of a weighted average ratio may be seen as a substitute to the application of a liquidity discount (see WGUS recommendation 12).