APPROVED/FINAL VERSION

D.2 Valuation of Unlisted Equity

D2. Valuation of Unlisted Equity[1]

The current methodological standards posit that market value is the recommended basis for valuation of economic transactions including equity. In the case of unlisted equity for which the market value is not available, a list of alternative valuation methods for estimating market value is recommended by statistical standards.[2] *Although, the alternatives proposed by the various manuals are generally similar, the recommendation of multiple methods has led to divergent results. Indeed, differences in country practices for valuing unlisted equity reduce international comparability and increase the risk of bilateral asymmetries. This GN*[3] *analyzes the advantages and disadvantages of the six methods outlined in the manuals and recommends reducing the list to three methods for estimating market value for the valuation of unlisted equity, namely Own Funds at Book Value (OFBV), Transaction Prices, and Market Capitalization. Additionally, the GN recommends a decision tree with a view to facilitating decision-making by compilers among the three methods. In the event that some countries may not be able to implement immediately one of three methods, the GN recommends that the decision tree serves as a guiding principle to select an interim method in the transition to one of the three accepted methods.*

SECTION I: THE ISSUE

BACKGROUND

1. **The current methodological standards posit that market value is the recommended basis for valuation of equity.** Shares and other equity can be readily valued at their current prices when they are regularly traded on stock exchanges or other financial markets (*Balance of Payments and International Investment Position Manual, sixth edition* (*BPM6*), paragraph 7.15). However, if financial instruments are not or infrequently traded, a fair value should be estimated as: "the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's-length transaction" (*BPM6,* paragraph 3.88).

2. **This situation often arises for direct investment enterprises (DIE), private equity, equity in unlisted and delisted companies, listed but illiquid companies, joint ventures, and unincorporated enterprises** (*System of National Accounts, 2008 (2008 SNA)*, A3.113)**.** In the context of external sector statistics (ESS), the valuation issue primarily affects unlisted equity in direct investment (DI), and, to a lesser extent, other investment in the international investment position (IIP). Two instruments are included under the concept of unlisted equity: unlisted shares (F512) and other equity (F519). The manuals include

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[2] The *Balance of Payments and International Investment Position Manual, sixth edition (BPM6),* the *Benchmark Definition of Foreign Direct Investment, fourth edition (BD4),* the *European System of Accounts (ESA 2010),* the *System of National Accounts, 2008 (2008 SNA),* and the *Handbook on Financial Production Flows and Stocks in the SNA (2015)*

[3] The recommendations outlined in this GN were approved by the Committee and the AEG in the October 2021 meeting and the *Summary of Discussions* of this meeting can be accessed here.

the same valuation methods as valid for estimating both instruments while the *2008 SNA* also makes an explicit reference to the valuation of other equity.[4]

3. **The nature of equity is different from that of other financial balance sheet items.** Equity is a complex instrument that is both an investment (asset) for portfolio and direct investors as well as a measure of the underlying value (liability/net worth) of corporations. In accounting, equity is viewed and valued differently when it appears on the asset side than when it appears as a liability. Therefore, it is not surprising that there would be different views on the value of equity.

4. **Compilers, in estimating market value for unlisted equity, face the challenge of applying a valuation method that best reflects the market value of these instruments given the data availability of the economy.**[5] The current manuals (*BPM6, 2008 SNA, BD4, GFSM 2014,* and *ESA 2010*)[6] recommend six[7] different methods (Annex III) to estimate market value equivalents for unlisted DI equity. The methods are based on theoretical equity valuation models, which can be split into absolute and relative valuation models (see Table 1 in Annex IV). All of the macroeconomic statistics manuals recommend that economies implement a methodology that will leverage the current data available to the economy to estimate transactions and stocks of unlisted equity. Consequently, the manuals do not endorse a method with the exception of quasi-corporations where the data is generally limited, and therefore only one approach is applicable—the value of own funds is suggested. Nonetheless, the value of own funds should be valued at market to align with the non-financial assets, which have also been measured at market value.[8]

5. ***ESA 2010* and *the Handbook of Financial Production Flows and Stocks in the SNA* recognize the six approaches proposed by the *BPM6* and *2008 SNA*** and recommend three of them as possible approaches in valuing transactions in equity when the transaction value is not directly observable. According to *ESA 2010*, paragraph 7.73 a transaction value may be **"**estimated with reference to either: (a) the values of quoted shares where appropriate; (b) the value of own funds; or (c) discounting forecast profits by applying an appropriate market price to earnings ratio to the smoothed recent earnings of the institutional unit". The methodology should also consider "differences between listed and unlisted shares, notably their liquidity and consider the net worth accumulated over the life of the corporation and its branch of business". In addition, for each branch (activity) additional stratification

[4] *2008 SNA*, paragraph 13.74 "Other equity should be valued as equal to the value of the unit's assets less the value of its liabilities".

[5] As a reference to the importance of these instruments, at the end of 2020, unlisted equity constituted more than 25 percent of the financial assets and liabilities of the IIP of the euro area, and about 30 percent of the financial liabilities in Russian IIP.

[6] *BPM6* paragraphs 7.16–7.18; *2008 SNA,* paragraphs 7.25, 13.71–13.74; *OECD Benchmark Definition of Foreign Direct Investment – fourth Edition* (*BD4*) paragraphs 517–535; *Government Finance Statistics Manual* (*GFSM 2014*) paragraphs 7.29, 7.173; *European System of Accounts 2010* paragraphs 7.73 to 7.75.

[7] *BD4* also addresses four more methods, stating clearly that they are not recommended, but adding that they may serve as a starting point to collect DI equity data if compilers have no better choices available. Moreover, if data available are not sufficient to apply one of the recommended methods, *2008 SNA* and *BPM6* agree to use less recommended methods, such as cumulated flows or a previous balance sheet adjusted by subsequent flows. If that is the case, prices from previous periods have to be adjusted for subsequent price developments (e.g., using aggregate share price or asset price indices). Further, exchange rate movements have to be taken into account if relevant.

[8] In the event that market proxies do not exist then the book value will equal the market value.

of companies by size should be considered, as well as establishing thresholds to exclude companies that have extreme market values.

6. **Another way to understand the valuation methods proposed is by dividing them into three types:** (a) valuation based on recent transactions, an example is the method of Recent transaction price; (b) valuation based on accounting data of the corporation, examples of this type are the methods Net asset value, Present value/price to earnings ratios, and Own funds at book value (OFBV); and (c) valuation based on the value of a comparable corporation or of a group of comparable corporations, an example is the Market Capitalization Method.

7. **No method, so far, has been identified as clearly better than the rest.** Past papers (Damgaard, Elkjaer, and Kumah (2009), Kronholm (2013), and Damgaard and Elkjaer (2014)) and discussions by international organizations (ECB, IMF, OECD) are not conclusive on the use of one method. The advantages and disadvantages of each of the methods have been discussed (Annex IV). In recent years, exercises have been carried out to compare the results obtained from the application of the different estimation methods, showing a high degree of dispersion, and it is difficult to assess as there is no easy and widely available benchmark with which to compare.

8. **For the economy, the approach to measuring the current/market value of unlisted equity may differ across institutional sectors and between the asset and liability sides.** As such, national accounts (NA) compilers want to use as consistent an approach as possible, so as to produce accurate institutional sector equity asset and liability estimates taking into consideration inherent differences amongst the sectors. However, NA compilers do not restrict themselves to using only one methodology across institutional sectors[9]; the premise being if the data available by sector lends itself to a different approach that will be closer to a market valuation. The overall goal remains to estimate unlisted equity at market value.

9. **Economically relevant current market values are needed to assess and analyze the financial health of the different institutional sectors of the economy.** The derivation of market indicators is important and are used to inform stakeholders and others of the potential vulnerabilities and the overall wellbeing of the economy. Ratios such as leverage, liquidity and other macroeconomic ratios are commonly used for such analyses. It is crucial for most of these ratios to have reliable, timely, robust, and consistent market values of economic transactions and stocks of assets and liabilities by institutional sector.[10]

10. **In ESS, it has been observed that differences in country practices for valuing unlisted equity in DI make it difficult to achieve international comparability, resulting in bilateral symmetries.** It is likely that different valuation techniques will produce different estimates. In addition,

[9] The same valuation for the holder and issuer is needed, however for certain sectors such as general government, unlisted equity will be treated differently than for an unlisted private market producer.

[10] In economic theory there's a ratio that measures whether a company's market valuation is over (under) estimated—Tobin's Q. The concept is based on the market and replacement cost value of a firm's assets. The ratio is derived by taking the market value of the company divided by the assets of the company. If the ratio is greater than 1, it may imply that the market value of the company is greater than its replacement value and hence the stock may be overvalued or that investors believe that some of the assets are worth more than the market valuation. Conversely, a ratio of less than 1, would imply that the company is undervalued or that the assets are underestimated.

valuation depends on a country's specific circumstances and at times involves significant judgement. The existence of such differences does not necessarily mean that the techniques are incorrect. To limit asymmetries, the methods used must be based on publicly available information about a company as much as possible rather than subjective assumptions. Even if the individual statistical agency may be able to make such assumptions in a consistent manner, this is unlikely to hold across countries, leading to asymmetries. Likewise, the use of many different methods could also lead to inconsistencies in valuation for the same company between countries.

11. **OFBV is reported as the method used by the largest number of countries for ESS,[11] however, in practice, very frequently those calculations are based on national General Accepted Accounting Principles (nGAAP)[12] as shown in several stock-taking exercises.**[13] OFBV is widely used because the balance sheets of the DIEs are often the only information available to value the assets of an enterprise and offers many advantages in terms of availability and comparability. However, OFBV based on nGAAP rules and regulation which are specific to an individual economy may result in differences in both the treatment and valuation of assets and liabilities. More importantly, differences amongst economies may also arise due to the lack of uniformity in terms of reporting the necessary line items (assets/liabilities) required from the balance sheet to derive consistent OFBV.

12. **In addition, it has to be recognized that OFBV can diverge from market values because the International Accounting Standards (IAS)[14] prohibit the recognition of many types of intangible assets and take a conservative view of the value of assets and a pessimistic view of the value of liabilities.** Consequently, it has been argued that the OFBV method underestimates the value of positions in unlisted equity, making it more suitable for the valuation of assets of financial corporations that have no or hardly any intangible or real estate assets.[15] In national accounts, the recognition of own account intellectual property products are treated as assets, such as R&D, whereas they will be generally expensed in business accounting, implying that non-financial assets will be valued differently from

[11] Additionally, it is the method recommended in the IMF's *Coordinated Direct Investment Survey Guide* due to its availability as well as the fact that it should provide comparable values across countries (paragraphs 3.12–3.16) and required by default by the Guideline on the statistical reporter requirements at EU level (Annex III art 6.1).

[12] *BD4* clearly states that OFBV involves valuing the assets of an enterprise at the value appearing in its books following international Accounting Standards, which require most assets to be revalued on, at least, an annual basis. For the variants based on national GAAP (nGAAP)—which are more commonly used—some assets might not be valued at market value, hence estimations at least for intangibles and real estate are preferable. The International Financial Reporting Standards (IFRS) are very common for consolidated balance sheets, however for ESS solo balance sheets—which are mostly based on nGAAP—are needed.

[13] In 2016, the OECD collected metadata that covered valuation practices. Of the 35 participating countries, more than 85 percent used the OFBV method for valuing DI positions in unlisted equity. In 2019, a virtual group was created at the ECB to address the main challenges related to the collection and compilation of data on unlisted equity, 26 countries were asked about the *European System of Accounts* (*ESA 2010*) method for the valuation of positions, with the result that more than 70 percent of them use the method OFBV (or a variant thereof) to estimate the value of unlisted equity. In terms of outstanding amounts, 60 percent of unlisted shares were valued with a price to book ratio or a similar method.

[14] The application of IFRS is not mandatory for all countries or all companies. In some countries/companies, it is possible to use nGAAP; the applied accounting standards depend on the country where they are located. However, for some fixed assets like real estate and intangible assets balance sheet valuation based on nGAAP can vary widely from IFRS. In these cases, OFBV based on nGAAP balance sheets might differ even more from market value.

[15] See Damgaard, J., Elkjaer, T (2014).

business accounting based on nGAAP.[16] Even in cases where accounting standards are moving closer towards current price valuations, the methodologies and prices relied by companies will be different than those recommended by the SNA, for example, the measurement of consumption of fixed capital between the two accounting systems. This divergence between OFBV and market valuation is, thus, increasingly problematic because it is crucial to ensure consistent valuation for assets and liabilities across instruments and institutional sectors to ensure reliable and relevant statistics.

13. **Stock market indices and ratios are used to derive market values of unlisted equity in some countries.** Statistics Canada has adopted a methodology based on market capitalization ratios to revalue the book values of unlisted equity in its IIP (see Annex V). DI positions by the US Bureau of Economic Analysis are valued at market prices derived by revaluing the historical cost values of the equity portion of DI using indexes of stock market prices. Past studies highlighted the relevance of the measure used to estimate the central tendency.[17]

14. **Intrinsic inconsistencies in local reporting framework of a country may lead to different valuations of the same company across functional categories in IIP** (i.e., between direct and portfolio investment) as well as external vs domestic components of investment in the form of unlisted equity. The example of a publicly traded multinational enterprise (MNE) can be used to illustrate. Shares held by non-residents in the MNE would be included in portfolio investment liabilities and valued at their market price while the foreign operations of the MNE, which would be included in DI assets, would be valued at the lower book value. This will happen when the value in the individual direct investment enterprises is not observed even as the market value of the entire enterprise is known. Consequently, if the MNE has a market capitalization much greater than the value of shareholder's equity in its books, as is likely, then the home country would have a weaker net IIP than it would have had if both the assets and liabilities associated with this company reflected its market value. Thus, market value measures of DI positions would help to enhance consistency within the IIP.

15. **Valuation of unlisted equity raises a number of other issues, which may distort implicit profitability (such as dividends/equity), the stock-flow consistency, and implicit rates of return derived from revaluations.** The integration and consistency between ESS and national accounts, therefore, poses a delicate problem**.** While OFBV is currently the commonly used method for DI, its use generally creates balancing problems in sectoral financial accounts when the use of other methods aiming to better reflect the market valuation are used. If parts of the counterpart sectors are valued via OFBV, this could lead to a horizontal balancing problem of unlisted equity in the sectoral financial accounts. As the generalization of OFBV is generally not possible (for the asset side, the holdings are often only known at the aggregated level), one of the other methods is generally the most practical valuation to guarantee a good balancing. Thus, to foster the consistency of *2008 SNA* and *BPM6* in practice, it is worth discussing whether some methods should be preferred or even some eliminated.

16. **The methods, as currently presented in the manuals, are not ranked according to preference.** The *2008 SNA* explains that they are not ranked because each method needs to be

[16] These changes recognize that these assets are increasingly important drivers of GDP; the update of the international standards are considering expanding the asset boundary even further by capitalizing data.

[17] For more details see the final report of the European Commission Working Group on Unquoted Shares (2003), and Damgaard, J., Elkjaer, T., Kumah, E. (2009).

assessed according to the circumstances and the plausibility of the estimates. To ensure the robustness of each method, each one would need to be evaluated depending on (i) available information/reporting burden of companies, (ii) symmetrical recording by investors and recipients across all institutional sectors, (iii) cross-country comparability, (iv) how well it approximates an acceptable market value, and (v) horizontal and vertical consistency in the domestic institutional sectors. To create more transparency, the current guidance suggests that compilers clearly state which methods they use.

ISSUES FOR DISCUSSION

17. **Due to the challenges encountered in trying to estimate unlisted equity of companies across the various institutional sectors within the economy and across economies, this guidance note (GN) focuses on and discusses three specific issues.** The analysis and proposals put forward in this GN consider both the valuation of unlisted equity within the framework of DI relationships and the national accounts, considering not only the challenges, but also the applicability and implementation in the updates. In that respect, the note proposes to provide the preferred valuation methods or shorten the list of them.

Issue 1 – Identifying Preferred Valuation Methods or/and Shortening the List of Recommended Methods

18. **It is evident that the use of different methods is very likely to yield non-comparable cross-country statistics for unlisted equity, although it may provide more accurate and consistent market value equity estimates.** None of the manuals rank the recommended methods; the best one to use depends on data availability of the economy. However, allowing that much flexibility in their use contributes to bilateral asymmetries and inconsistencies. Therefore, identifying some valuation methods as preferred based on how well they approximate market value and how easy they are to implement is also contemplated.

19. **Given that most of the manuals recommend six alternative valuation methods, some of which are only applicable under very specific conditions, a shortening of this list may enhance consistency and international data comparability.** This could be achieved by eliminating some methods, or explicitly limiting their use to well-defined cases.

20. **The choice of the valuation model to apply takes into account a combination of selected criteria, of which data availability, simplicity, comparability, and accuracy:**[18]

> **i. Availability: The information needed from companies should be equally available to all macroeconomic compilers and can be easily provided by enterprises in a timely and consistent manner.** It would be desirable that the methods be based on available information about a company rather than subjective assumptions. Even if the individual statistical agency could make such assumptions consistently, this is unlikely to hold across countries, which would hamper the comparability of such statistics internationally. On the other hand, such adjustments may provide better indicators of market value consistent with the valuation of assets and

[18] This assessment framework is based on previous similar attempts, for instance see ECB, Task Force on Valuation of Foreign Direct Investment Positions. Final Report. Statistics Paper Series NO 4 / December 2013 https://www.ecb.europa.eu/pub/pdf/scpsps/ecbsp4.en.pdf, and Damgaard, J., Elkjaer, T. (2014).

liabilities. Methods based on ratios need estimates and assumptions that play a fundamental role in the results obtained. Net asset value would require first-hand information about the companies. Recent transaction prices are not widely available, and, for apportioning global value, there is the limitation that the information does not exist for most unlisted companies. Last, for private companies which are not listed, OFBV may not be readily available. Apart from limited over the counter (OTC) data, compilers will need to rely on surveys and administrative data to compile OFBV.

ii. Simplicity: Given the challenges with data availability for unlisted equity and taking into account countries' varied level of statistical developments, methods that incorporate modeling and estimation techniques could present problems of applicability and comparability at the international level. There seems to be a consensus that these methods better approximate the market value by being based on the behavior of listed shares. In this sense, the ratios to be applied in the valuations must be calculated for companies with similar characteristics to those to be applied, and, so, breakdowns are made by sector or industry. Nevertheless, problems usually arise in applying these models in countries/sectors with few or no listed companies. This could also be tackled by a centralized estimation at the international level. In this sense, as the collection of data and the estimation of valuation models could be a very time-consuming process, it would be recommended that the work should be conducted by one specific institution (e.g., OECD or IMF or other regional organizations) in a centralized manner.[19]

iii. Comparability: the methods used should in principle support analyses. In this sense, the consistency of the figures obtained by different economies is essential in an environment of increased globalization and growth in the activity of MNEs. Comparability was the argument used to make OFBV the recommended method in some cases. Nevertheless, as noted earlier, OFBV may limit bilateral asymmetries but is not sufficient for cross-country comparability, given the cross-country differences in accounting standards (IFRS vs GAAP vs nGAAP) and legal forms. A Task Force (TF FDI) on the valuation of DI positions set up at the European level in 2012 found that there are special cases where the strict application of the OFBV method may create net IIP imbalances.[20] In addition, the divergence between market value and OFBV means that unlisted equity in DI does not have the same valuation as other functional categories in the IIP or, indeed, as listed equity in DI. At the 2018 BOPCOM meeting, the IMF Research Department presented data challenges to assessing global imbalances that included consistent valuation in the IIP as one of these challenges (IMF, 2018). Imbalances are likely to happen:

- if one or more enterprises in the chain of ownership are listed on stock exchanges, while at least one is not.
- when acquired goodwill are differently recorded along a chain of investments.

[19] In March 2002, a European Commission Working Group on Unquoted Shares was created, and as part of its work, it suggested the creation of a Pan-European database with the ratios of capitalization to own funds that would allow a test exercise to measure the consequence of different ways of calculating the capitalization ratio of quoted companies when applied to unquoted companies. Between 1998 and 2000, eight countries contributed to the Pan-European database used for the exercise. The database included on average 1800 companies over the three years.

[20] For more detail see, ECB, Task Force on Valuation of Foreign Direct Investment Positions. Final Report. Statistics Paper Series NO 4 / December 2013 https://www.ecb.europa.eu/pub/pdf/scpsps/ecbsp4.en.pdf

- when the accounts of group companies located in different economies are denominated in different currencies, exchange rate changes can lead to valuation conflicts between two units which should have the same value.

This potential impact on net IIP is significant for countries hosting many holding companies and Special Purpose Entities (SPEs), whereas it is negligible for other countries. The TF FDI report concluded that in some cases where the use of OFBV data would lead to significant biases in the national net IIP, other valuation methods than OFBV could be used, adding that national compilers shall exchange information on those positions with the other relevant EU country. This will equally impact the domestic sector where holdings companies may create distortions between the household and corporate sectors. Other issues arise as well for general government.

iv. Methodological soundness: the methods should produce reliable market value equivalents. In some cases, the absence of a benchmark with which to compare and validate the estimated values, could be a drawback for the choice of some methods. Methodological soundness of market value estimates is particularly relevant due to the links between ESS and NAs via its rest-of-the-world account, and the requirement to limit horizontal and vertical discrepancies in the latter statistics.[21]

21. **There are some factors that can significantly affect the valuation of unlisted equity that must be taken into account,** namely liquidity, control premium, negative equity values, and treatment of provisions etc. These issues should be considered when analyzing valuation of unlisted equity, as they can explain significant differences from the valuation of listed stocks of companies with similar characteristics and belonging to the same sector of economic activity.

- First, unlisted equity companies typically are less liquid than listed companies which tend to negatively affect valuation.
- Second, since unlisted equity companies usually have one or few owners, a control premium is frequently paid for a controlling stake. The impact of these factors should be taken into account when estimating market-equivalent values.

[21] Horizontal discrepancies arise when the data on assets and liabilities are not consistent for a given instrument (i.e., sum of transactions/positions of a financial instrument asset over all resident sectors and the rest of the world are not equal to sum of transactions/positions of an equivalent liability). For unlisted equity, this may be the case when the sources or valuation methods differ between or within sectors of the economy. Vertical discrepancies arise when data on financial and non-financial account transactions for a given sector are not consistent. For unlisted equity they may appear when related transactions are not recorded consistently (e.g., in listed and unlisted equity; the unlisted equity transaction and the corresponding payment; the external and the domestic legs; or—for non-FDI—where retained earnings are—incorrectly—recorded as a financial transaction). Refer to Chapter 7, *Financial Production, Flows and Stocks in the System of National Accounts* for further guidance on horizontal and vertical balancing.

Issue 2 – Treatment of Negative Equity

- The valuation methods can generate negative positions,[22] which is not consistent with the limited liability aspect of some type of equity. While it may be argued that negative equity positions should not be included, in practice, several reasons could justify the existence of negative equity in specific cases (decisions of the parent regarding the use of debt rather than equity financing of the affiliate and distributions of income or strategic decisions of the MNE).[23] However, negative equity can be only seen as economically meaningful in the case of unlimited equity liability (including branches). In the case of limited liability, no payment obligation exists for the shareholders other than the initial funds provided—contrary to the unlimited liability case—and recording a zero value in the case of negative OFBV properly reflects the rights and obligations of the shareholders in such a situation.

  Furthermore, note that–always in the case of limited liability–the incurrence of further corporate losses once the zero-equity-bound has been reached would, in principle, impact negatively the value of the equity liabilities of the debtholders–as opposed to the shareholders–due to the lower economic value of their debt holdings. Booking, in addition, negative equity in such cases, either as a result of a measurement problem or of an accounting convention (e.g., due to loan valuation at redemption value), would lead to a misrepresentation of the distribution of equity and net worth across the economy.[24] Finally, negative equity could lead to an overstatement of a country's net IIP. For these reasons, **it might be considered necessary to analyze the need to include a zero-lower limit for the valuation of unlisted equity** in Chapter 7 of the *BPM6* and Chapter 13 of the *2008 SNA*, except in the case of unlimited liability.

Issue 3 – Treatment of Accounting Provisions, Including Loan Loss Provisions

- The relevance of loan loss provisions, which has increased in the wake of the 2008 financial crisis, and the proliferation of non-performing loans, could have a significant impact on the valuation of unlisted companies. The general treatment of loan loss provisions, as well as the two related items—asset impairment and provisions for future payments uncertain in timing or amount—is clear and consistent between the *BPM6* and *2008 SNA*; both indicate that these provisions as such are not recorded in statistical accounts (*BPM6*, paragraphs 5.14, 7.54; *2008 SNA*, paragraph 3.41). Understanding the impact of this treatment on the valuation (net worth) of unlisted corporations in DI requires a careful reading of *BPM6.*[25] *2008 SNA* states that

[22] A test exercise conducted by the ESCB Virtual Group on Unlisted Equity showed that ratios based on profits/loss can lead to distorted results, especially if a big share of a country/branch recorded negative profits (e.g., for France's branch M (professional, scientific, and technical activities), 45 percent of the benefits in 2018 were negative.

[23] For more detail see, "Negative Equity in Direct Investment Statistics" Maria Borga, BOPCOM—19/16a https://www.imf.org/external/pubs/ft/bop/2019/pdf/19-16a.pdf and Summary of Discussions (BOPCOM—19/20).

[24] The ESCB Working Group on Financial Accounts has looked into the issue and concluded that negative values for equity when the liability is limited should not be recorded irrespective of the method used for estimation of market valuation.

[25] Reinvested earnings—one of the components in the OFBV derivation—are calculated on the basis of operational earnings which are calculated without taking into account provisions for various types of losses, such as bad debts (see *BPM6*, paragraphs 11.43–11.44).

these amounts remain in the net worth[26] of the corporation (paragraph 3.41), which implies that they are not included in the value of the equity. However, it also indicates that own funds (i.e., value of the shareholders' equity calculated under the assumption of zero net worth; t which would imply that provisions for assets not valued at market value are implicitly included in the estimate) are a possible way to value unlisted shares. **Thus, it would be beneficial to clarify the impact of various types of provisions on the value of unlisted equity corporations in *BPM6.*[27]** Proposals to achieve this include:

- State explicitly that sums set aside to provide for future liabilities or expenditures (*BPM6,* paragraph 5.14), and loan loss provisions (*BPM6,* paragraph 7.54) remain in the equity value of the corporation.
- Explicitly include in the definition of the OFBV a reference to the assumption of zero net worth as background of this method (to make more evident the expected outcome of the OFBV method as compared to the SNA perspective).
- Include a reference (possibly a footnote, similar to footnote 2 to paragraph 7.16(c)) in *BPM6,* paragraph 7.16(e) to reinvested earnings being derived on the basis of operational earnings, to explicitly link the *BPM6* paragraphs 7.16 and 11.44, clarifying the use of COPC for stock valuation.
- Update *BPM6,* paragraph 11.44 to also include provisions for future payments uncertain in timing or amount (in addition to provisions for various types of losses).

22. **The strict application of the criteria would imply that some of the proposed methods might not be totally feasible in the context of unlisted DI equity** (see Annex VI for an assessment of this issue). In this sense, the introduction of a decision tree based on the strengths and weaknesses (Annex VII) of each method could help their consistent application. Due to the difficulties in evaluating the different methods, and the fact that the draft team does not have a position with unanimous support from all its components, it consulted the DITT about the different possibilities.

SECTION II: OUTCOMES

23. **The GN, based on the above discussion, considered different proposals for the three specific issues outlined below.**

Issue 1 – Identifying Preferred Valuation Methods or Shortening the List of Recommended Methods

24. One possibility is to identify the most preferred current recommended valuation methods using the selected criteria outlined in paragraph 20 with a view to possibly reducing the number of methods both in the BPM and in the national accounts' frameworks. A decision tree included in Annex VII that can

[26] Net worth is the difference between the value of all financial and non-financial assets and all liabilities (including equity liabilities). Each asset and each liability is valued separately (see *2008 SNA*, paragraph 13.85).

[27] This issue has been raised for discussion in several GNs, of which GNs D.16 and F.9 are most relevant. A GN on *Recording of Provisions* has been prepared by the Well-being and Sustainability Task Team (WSTT).

assist compilers in the application of said valuation methods supports this argument. Another possibility is to consider the three approaches proposed in *ESA 2010* and in the *Handbook on Final Production Flows and Stocks in the SNA* as preferred.[28]

25. The following options were identified:

Option 1.1: Adopt the proposed use of the methods based on the decision tree presented in Annex VII and include it in the updated BPM and SNA.

Option 1.2: Adopt the methods recommended in the ESA 2010 *and Final Production Flows and Stocks in the SNA as preferred methods.*

Option 1.3: Cease recommending some of the proposed methods, those ranked lower or applicable only in very specific cases as shown in the decision tree, in both the updated BPM and SNA, with a view to ensuring more consistency when estimating market value, for instance.

a. *Apportioning global value*

b. *Net asset value*

Option 1.4: Leave some of the proposed methods as part of the methodological guidance but clearly limit their use to specific cases in the updated BPM and SNA.

a. ***Recent transaction price** to be used and no longer than a year from when the transaction took place.*

b. ***Apportioning global value** to be used only for the large MNEs due to (i) availability of the information, and (ii) high effort required to apply this method.*

c. ***Net asset value** to be used only when a contrast can be made to verify the quality of the assessment provided by the companies or external auditors and no longer than a year from when the valuation was made.*

Option 1.5: No changes to the manuals.

26. **The DITT, based on the criteria put forward by the drafting team, largely supported prioritizing the different methods currently proposed in the manuals in order to bring in more consistency and reduce bilateral asymmetries.** The DITT acknowledged that the preferred methods along with the proposed decision tree should both be introduced in the updates, as they are complementary. The decision tree is perceived as clearly indicating that a reduced number of methods will lead to the best estimation based on the countries' circumstances.

[28] These were: (a) the values of quoted shares where appropriate; (b) the value of own funds; or (c) discounting forecast profits by applying an appropriate market price to earnings ratio to the smoothed recent earnings of the institutional unit.

27. **The recommendations[29] include:**

- The updated *BPM6/2008 SNA* manuals should explain the concept to be measured—namely, in the absence of market prices, own funds as the difference between assets and liabilities of unlisted corporations to be measured at market prices—in line with the core principles of macroeconomic statistics.
- The three preferred estimation methods to provide estimates of market value: OFBV,[30] Transaction Prices, and Market Capitalization.[31] This selection was seen as a compromise between reducing bilateral asymmetries and differences in the availability of information across countries.
- The use of the decision tree to implement one of the three preferred methods. In the event that some countries may not be able to implement immediately one of the preferred methods, the decision tree should serve as a guiding principle to select an alternative method in the transition to one of the three preferred methods.
- The *BPM7* Compilation Guide should include further details on how the preferred methods recommended as well as the decision tree can be applied in practice.

Issue 2 – Treatment of Negative Equity

28. Given the complexity of the treatment of negative equity and earlier discussion in BOPCOM, two options are proposed.

Option 2.1: Clarify the treatment of negative equity in the current BPM and SNA framework covering both limited/unlimited liability in a separate clarification note[32] (including the possibility of zeroing out negative equity for the cases of limited liability);

Option 2.2: No changes to the manuals.

Issue 3 – Treatment of Provisions

Option 3.1: review the treatment of accounting provisions, including loan loss provisions, in the particular case of the valuation of unlisted equity under OFBV;

Option 3.2: No changes to the manuals.

29. **The DITT agreed that more explicit guidance is needed on negative equity and treatment of provisions in both the updated *BPM6* and the *2008 SNA*.** These issues may have an impact on the practical application of the valuation of unlisted shares (of which, negative equity positions, net IIP imbalances, treatment of provisions).

[29] See BOPCOM 2021 Summary of Discussion 21/18b here.

[30] It was also acknowledged that while OFBV is the most widely used valuation method, it would need to be adjusted for valuation of intangibles.

[31] Market capitalization is less likely to be available and could be challenging in countries without enough listed companies in certain industry sectors.

[32] See BOPCOM 2019 Summary of Discussion 19/16a.

30. The recommendations include:

- IMF's Statistics Department to coordinate the preparation of a separate clarification note on negative equity encompassing both the balance of payments and national accounts perspective.
- Agreement for additional guidance and clarification in the BPM, SNA, and BPM Compilation Guide on treatment of provisions.[33]

31. **Despite the difficulties involved in exchanging information, the DITT largely agreed that implementing a system of information-sharing among statisticians would promote homogeneity in the valuation of unlisted shares worldwide.** For example, a centralized database on market capitalization ratios and liquidity discounts that could be shared or a centralized compilation of data on the largest MNEs could be carried out at the international level. Countries should be encouraged to develop market value estimates of their aggregate DI positions using a method that would yield more accurate approximations to market value. They could be helped in this work by international organizations working to motivate the development of practical guidance and new data for their implementation. In addition, international organizations could continue to develop public sources of data on MNEs, such as the OECD's Analytical Database of Individual Multinationals and their Affiliates (ADIMA), which could be useful in helping countries to implement these methods.

32. **A more ambitious approach to data sharing, taking advantage of the recent technical progress with big data solutions, could be an international database of corporations' equity liabilities, hosted by one of the international organizations.** Such a database would include information on the valuation of each corporation, and the method used to estimate this amount. These data would be used by the DI compilers to derive statistics on their assets. To respect data confidentiality restrictions, it might be necessary to explore existing technical solutions, for instance distributed micro-data analysis.[34]

33. Regarding the role of international institutions to help implementing an information-sharing system for the valuation of unlisted equity, the opportunity to leverage on some existing initiatives such as the UNECE's publication "*Guide to Sharing Economic Data in Official Statistics*" and the UNSD Global Group Register,[35] was underscored.

OUTCOMES OF THE DISCUSSIONS AT THE JOINT COMMITTEE AND AEG MEETING

34. **The IMF Committee on Balance of Payments Statistics and the Advisory Expert Group on National Accounts (AEG) jointly supported the proposals put forward in the GN on the valuation methods for unlisted equity, including identifying Own Funds at Book Value, Transaction Prices, and market capitalization as the preferred methods in the updated *BPM6* and *2008 SNA*.** Members generally noted that the updated manuals should first explain the concept to be measured—namely, in the absence of market prices, own funds as the difference between assets and liabilities of unlisted

[33] See footnote 25 in this GN.

[34] Used for instance by the members of the Competitiveness Research Network (CompNet). The CompNet database is described here.

[35] A global register of multinational enterprise (MNE) groups to improve the understanding and the measurement of international trade and globalization statistics (https://unstats.un.org/unsd/business-stat/GGR/).

corporations measured at market prices—in line with the core principles of macroeconomic statistics. It was also agreed that compilers make use of the decision tree to implement one of the three preferred methods, and in the event that some countries may still not be able to do so, the decision tree would serve as a guiding principle to decide on another method as a fallback solution. With respect to the issue related to treatment of provisions, and negative equity, members supported that additional guidance and clarifications are needed in the manuals. Such issues would be addressed in another GN (provisions) and a clarification note (negative equity).

REJECTED ALTERNATIVES

35. **Options 1.3 and 1.4 were largely rejected by the DITT.** The practical implementation of these methods consistently across countries could be challenging. For example, the interpretation of "large MNEs" in Option 1.4 (b) could vary across countries. Overall, the views remained that the different options should be maintained but their limitations of use should be clearly specified, leaving the compilers with indication that they are not preferred.

Annex I. Supplementary Information

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Annex II. List of Chapters to Update

STATISTICAL MANUAL – CHAPTER AND PARAGRAPH(S)

Paragraphs in the *SNA*, *BPM*, and *Benchmark Definition* will need to be updated. These include: (i) paragraphs 13.69 to 13.74 and A3.113 to A3.114 in the *2008 SNA*, (ii) paragraphs 7.15 to 7.19 in *BPM6,* and (iii) paragraphs 298 to 304 and Annex 5 in *BD4.* The accompanying compilation guidance will also need to be updated.

Further to the proposed recommendations regarding negative equity and provisions, *BPM6* Chapter 7 including paragraphs 5.14, 7.54, 7.16, 11.44 and *2008 SNA* Chapter 13 should be updated.

The *BPM7* and *2025 SNA* editors will elaborate which parts of the *2008 SNA* and *BPM6* that need to be changed.

Annex III. Description of the Different Recommended Methods

BPM6, Chapter 7 discusses six different recommended methods to approximate the market value of unlisted equity in DIEs. This annex presents each method in detail.

i. ***Recent transaction price:*** Unlisted equity can be traded from time to time, the prices used in such operations may be applied to stocks. The transaction price must represent an "arm's length" price between an independent buyer and seller, where neither party is under compulsion or duress to engage in the transaction. More recent transactions are preferable, and it is desirable that the transactions should have occurred within the past year. If the most recent transaction is more than one-year-old, compilers should consider an alternative method.

ii. ***Net asset value:*** The value of the equity is estimated as total financial and nonfinancial assets at current/market value less total liabilities (excluding equity) at market value. The valuations should be based on very recent appraisals, certainly they must be within the prior year. The assessment of the assets and liabilities may be conducted by knowledgeable management or directors of the enterprise or provided by independent auditors. Valuations should be recent and should preferably include goodwill and intangible assets.[36]

iii. ***Present value/Price to earnings ratios (P/E):*** Set two possibilities:

   a) The value of equity can be estimated as being the present value of future earnings, where the compilers have to forecast future earnings and determine the appropriate discount rate by assessing risk factors.

   b) At its simplest, this method applies a market or industry price-to-earnings ratio to the recent past earnings of the unlisted enterprise to calculate a price. In this case, the recent past earnings are used as the basis to forecast the future earnings, and the market price-to-earnings ratio implies the discount rate.

   In general, P/E ratios can be calculated for listed companies and then applied to unlisted companies. In order to recognize certain industry-specific differences, manuals suggest that these ratios should be calculated for industry groups. P/E is based on a flow variable (earnings).

iv. ***Market capitalization ratio to book values reported by enterprises with macro level adjustments by the statistical compiler:*** Information on "book value" can be collected from enterprises, and then adjusted with ratios based on suitable price indicators, such as the ratio of market capitalization to book value for listed companies, in the same economy, with similar operations or for industry groups. Capitalization ratios developed from broad stock exchange data should be adjusted, or individual ratios should be developed for separate industry groups, if the industries represented in the broad stock exchange for a given economy are not representative of the industry mix of DIEs located in the same economy. Alternately, assets that enterprises carry at

[36] According to *BD4* there are two possibilities to calculate the Net asset value: including or excluding goodwill and intangibles. It is highly recommended to include them as goodwill and intangible assets may account for much or most of the current value of many DIEs and therefore, if they are not included, the valuation might not be representative of market value.

cost (such as land, plant, equipment and inventories) can be revalued to current period prices using suitable asset price indices.

v. ***Own funds at book value (OFBV):*** establishes to value a company at the value appearing in its books following International Accounting Standards (IAS). OFBV is based on the books of the DIE and can be seen on its balance sheet as shareholder's equity. The definition of OFBV contains paid-up capital, all types of reserves, and net value of non-distributed profits and losses (including the result for the current year). IAS require most assets to be revalued on, at least, an annual basis; and cumulative depreciation of plant and equipment, including write-offs of worthless assets.

vi. ***Apportioning global value:*** If equity of a particular DIE is unlisted, but the enterprise belongs to a global enterprise group whose equity is listed, the current market value of the global enterprise group can be calculated and apportioned to the operations in each economic territory, on the basis of an indicator. The key to this method is the selection of an appropriate apportioning indicator (e.g., sales, net income, assets or employment). The current market value of the global enterprise group should be based on its market price on the exchange on which it is traded and, once the best apportioning indicator has been found, estimates can be made.

Annex IV. Usage and Caveats of Different Valuation Methods

A Annex 4 of *BPM6 Compilation Guide* and Annex 5 of *BD4* discuss the six different recommended methods, presenting the advantages and caveats. This annex reproduces this discussion, including information on what is needed to apply the method and caveats for its use.

1. ***Recent transaction price***

Usage: A recent arm's length price is required.

Caveats: Not often available due to low frequency of trade in unlisted equity. When a transaction price has been used in the past to value the equity, but the information is becoming dated, a strategy is required to splice the valuation with a valuation calculated from another method.

2. ***Own funds at book value (OFBV)***

Usage: This method may be used where books are kept on the basis of IAS, and access is available to the books of the DIE.

Caveats: IAS prohibit the recognition of certain intangible assets (e.g., brands, mastheads, publishing titles, customer lists). Goodwill can only be bought; it cannot be internally generated. Assets in some asset classes (loans, assets held to maturity and non-trading liabilities) may be valued at nominal or historic cost. These will cause distortion from market valuation. Calculation of capitalization ratios require a reasonably broad stock market with high trading volume, but application of a well-based capitalization ratio may dampen the impact of other caveats.

3. ***Net asset value (NAV)***

   a. NAV including goodwill and identified intangibles

Usage: At a minimum, this method requires an asset and liability valuation to be undertaken by the enterprise.

Caveats: NAV provided by an enterprise may exclude some classes of assets (e.g., intangibles), while other assets may be valued using a method that is a distortion from the current market value (e.g., historic cost or nominal value). To the extent that valuations are poor or assets are excluded from the NAV, this method can be a poor approximation of market value and other methods may be more appropriate. Calculations of capitalization ratios require a reasonably broad stock market with high trading volume.

   b. NAV excluding goodwill and identified intangibles

Usage: Compilers who cannot accurately provide estimates that include goodwill and identified intangibles may use this method.

Caveat: Goodwill and intangible assets may account for much or most of the current value of many DIEs. This valuation might not be representative of market value.

4. ***Market Capitalization method***

Usage: Useful exercise if the overall enterprises listed in the stock exchange are good representatives of the national industry.

Caveats: Some very large local foreign direct investment unlisted enterprises might represent almost the entire industry. Another strategy is then required to better reflect the market valuation of these enterprises. Apart from this, some other considerations could be seen as caveats of this method, for example, some specialists question the assumption that quoted and non-quoted companies should use the same ratio to own funds. Being quoted in a public market means that a company has to comply with stricter rules, provide more detail information to market participants, etc. Moreover, a liquid asset (quoted shares) may have a higher value for the fact of being liquid.

5. ***Present value / price to earnings ratio***

Usage: This method is most appropriate where there is a paucity of balance sheet information, but earnings data are more readily available. It also requires an appropriate discount rate or reasonably broad-based price-to-earnings ratio to be calculated.

Caveats: Earnings for an individual enterprise can have a highly irregular component and can be negative (leading to negative equity valuations). As a result, if earnings information over a longer period of time is available, the earnings of the enterprise should be smoothed. If earnings for only one period are available or discount rates or price-to-earnings ratios are based on a narrow market, other methods are preferable.

6. ***Apportioning global value***

Usage: Current market capitalization of the global enterprise group is required. As such, this method may only be feasible for outward investment. An indicator that is well-correlated with market value and is readily available is also necessary. This is more likely to occur in enterprise groups that are horizontally integrated.

Caveats: Weaknesses in the correlation between market value of equity and the variable used for apportioning the global value will lead to distortions—sensitivity to the distortion is greatest when the proportion allocated to an economic territory is small or when different activities take place in different economic territories. In this case, other methods may be preferable. The use for outward investment only may lead to asymmetries in bilateral comparisons.

B The table below reproduces the pros and cons of the different valuation methods.[37]

Table 1. Overview of the Advantages and Disadvantages of Different Valuation Methods

Method	Advantages	Disadvantages
i. Recent transaction price (Absolute valuation method)[38]	• Simple implementation for traded equity • Equals market price at time of transaction by definition • Objective method • Reflects acquired goodwill • Provides symmetric values for liabilities and assets when information is available	• Market prices can change rapidly • Not a general method because most unlisted equity is rarely traded • Further operational guidance is required on how long the price remains 'recent' and how to manage the transition
ii. Net asset value (Absolute valuation method)	• Utilizes first-hand information about the company's value • Possible to take company-specific characteristics into account • Objective method • Uses market valuations of assets and liabilities	• Accounting principles may differ from country to country • Companies may have an incentive to report incorrect estimates for protectionist reasons • Difficult for compilers to validate and guarantee consistency across companies
iii.a Present value of earnings (Absolute valuation method)	• The theoretically best way to value equity • Possible to capture expectations to future earnings at company level	• Very time-consuming if done properly • Based on subjective estimates • Approximates fundamental value rather than market value • Assumes that future earnings are known
iii.b Price to earnings ratio (Relative valuation method)	• Easy to implement • Based on actual market values	• Does not take company-specific characteristics into account. • Assumes that a model based on listed equity can be transferred to unlisted equity • For precise estimations a lot of basic information is needed but will probably be unavailable in less developed countries. • Results are only possible for a certain level of aggregation, not at enterprise level • May result in negative amounts
iv. Market capitalization ratio (P/B) (Relative valuation method)	• Easy to implement • Based on actual market values • More robust results than the P/E method	• Does not take company-specific characteristics into account • Assumes that a model based on listed equity can be transferred to unlisted equity • Results are only possible for a certain level of aggregation, not at enterprise level

[37] Sources: Damgaard J., and Elkjaer T. (2014) Foreign Direct Investment and the External Wealth of Nations: How Important Is Valuation? (roiw.org); Damgaard J., Elkjaer T., and Kumah E. (2009) Valuation of Unlisted Direct Investment Equity, IMF WP 09/242.

[38] In absolute valuation models, equity value is determined only by the characteristics of the particular company. Most absolute valuation models take a net present value approach by discounting future cash flows. In relative valuation models, a company is valued at the same price as companies with similar characteristics since, for arbitrage reasons, similar assets must trade at similar prices. Some methods are also used in financial markets to estimate a company's value and others serve mainly macroeconomic statistical purposes, to harmonize book value definitions across economies and accounting standards.

Method	Advantages	Disadvantages
		• Need for information on foreign companies and markets to assess foreign unlisted equities, which becomes very cumbersome if not simplified.
v. Own funds at book value (OFBV) (Absolute valuation method)	• Easy to implement • Possible to derive detailed breakdowns • Available for all enterprises • Promotes symmetric recording if used by all countries	• Book values do not necessarily reflect market values, (e.g., goodwill internally generated); therefore, the underestimation of the market value, particularly for those companies/industries in which intangible assets are a major component of the balance sheet, may be possible; also, quality of estimates depends on the frequency and recency of revaluations • For medium and small companies, accounting principles may differ • Accounting principles differ across countries • Countries hosting a large number of SPEs may face difficulties in collecting the necessary detail data. • In certain cases, the application of this methodology can cause biases in the national net international investment position • The value of a company at OFBV may differ from the accounting value applied by the entity that holds it. While in FDI it seems usual practice to have access to the data of the DI company this is not general the case in national accounts when the line-by-line detail of the assets of resident entities is not available • This method may result in negative valuations depending on the structure and valuation of the different components of the company balance sheet. A negative valuation although possible in companies that are part of foreign groups and are not reported in consolidated basis disturbs the integrated sector accounts analysis
vi. Apportioning global value (Absolute valuation method)	• Based on the actual market value of the specific group • Straightforward to make the estimations • May be appropriate when certain subsidiary or branch indicators such as indebtedness, level of equity or results are dominated by strategies at group level. For example, results may be kept low for tax reasons, equity may be low in relation to debt, potentially intra-group.	• Difficult to find the best apportioning indicator • Only applicable where the (head of the) group is listed • Requires comprehensive information on the group

Annex V. Valuation of Unlisted FDI Equity in Canada

1. **Statistics Canada started to compile all components of its International Investment Position (IIP) statement, including direct investment (DI), at market value, in 2012.**[39] As part of the Canadian System of Macroeconomic Accounts (CSMA), DI at market value is feeding the National Balance Sheet Accounts (NBSA) which also produce market value series for all domestic inter-corporate claims.

2. **Amongst the suggested valuation methods in current manuals, Statistics Canada has favored a methodology based on market capitalization ratios to produce market value estimates for unlisted equity in both the IIP and the NBSA.** International standards in national accounting, in particular, the *2008 SNA* and the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)* recommend that assets and liabilities be recorded at market value or a close approximation thereof. This is directly related to the relevance of the data as economic behavior that is based on, among other things, perceptions of wealth positions at current values. Further, market value estimates also enhance the interpretability of the data as it provides symmetry in the valuation of assets and liabilities and between portfolio and DI functional categories. These reasons motivated Canada's choice and this note provides a broad overview of the Canadian valuation method.

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3. **The overall approach to convert equity book value estimates of unlisted firms to market value largely involves the use of market capitalization ratios derived from similar listed companies, on an industry basis.** The ratios are applied to book value equity estimates of unlisted entities,[40] with exceptions for specific cases (i.e., small companies, specific sectors), to generate the corresponding market valuation. Capitalization ratios are applied to the equity portion of the position, the value of the debt portion is left unchanged and equals to book value.

4. **This approach is only used to value the equity of large unlisted firms as their equity is most similar to that of firms which trade on the market and it can be argued that they could easily go to the market for equity funding.** For Canada, a relatively small number of enterprises account for most of the FDI value while a large number of enterprises at the bottom of the distribution account for very little value. It was therefore decided to leave the valuation of these small firms at book value. Because the impact of the small companies is not significant, book value is considered a reasonable estimate of market value for these units. Small units are defined as those representing 2.5 percent of the total equity investment and this threshold can also be interpreted as an illiquidity factor.

5. **Only total aggregates for outward and inward FDI quarterly series are available at market value, on an asset-liability basis, and are included in the IIP**. Additional country and industry details on both inward and outward FDI, on a directional basis, are only available at book value, as per the books of the DIE.

[39] Statistics Canada has been producing a market value IIP since 2003, only with marketable assets and liabilities at market value.

[40] If the Canadian or foreign subsidiary or affiliate is listed on a stock market, its appropriate market value is used.

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6. **For inward DI, the capitalization ratios are based on the Toronto Stock Exchange data reconciled to a Statistics Canada enterprise survey collecting book value information.** A capitalization ratio is established for each individual company at every period-end. This method gives a set of ratios for listed companies and these ratios are then used to generate Canadian industry average ratios. These averages include all Canadian listed firms except for extreme ratios that are considered outliers. Industry average ratios are then applied to unlisted Canadian affiliates' equity book value (BV) to generate market value (MV) estimates.

7. **A specific treatment is applied to some sectors.** For example, the automobile manufacturers are very concentrated in Canada and as a result, capitalization ratios are not considered representative. For this sector, market value estimates are based on information from the global parent company.

8. To summarize:

- Ratios derived from Canadian listed firms and grouped by industry;
- Liquidity factor: 2.5 percent of all inward FDI equity for which MV=BV;
- Branches: MV=BV;
- Special treatment for specific sectors.

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9. **For outward DI, different approaches are used depending on the destination of the investment.** For DI in the United States,[41] capitalization ratios derived from listed firms are compiled on an industry basis using commercial data. As is the case with inward DI, these ratios are then applied to US affiliates' equity book value to generate market value estimates.

10. **For DI in countries other than the United States, a two-stage approach is applied: capitalization ratios at the country level obtained from commercial data sources are used for a selected number of major destination countries whereas a World global index is applied for the remaining ones.** As a consistency check, the market capitalization of the Canadian parent is compared to the sum of market value of all its foreign subsidiaries and its participation in foreign associates and might lead to some adjustments.

11. To summarize:

- For DI in the US, ratios derived from a sample of US listed firms and grouped by industry;
- For DI in other major destination countries, aggregated ratios at the country level used;
- Liquidity factor: 2.5 percent of all outward FDI equity for which MV=BV;
- Branches: MV=BV;
- Special treatment for specific sectors;
- Consistency check: Sum of MV of foreign affiliates compared to market capitalization of the Canadian listed parent.

[41] For Canada, DI in the US represents about half of its overall outward investments.

Annex VI. Assessment of the Six Methods According to Selected Criteria for their use in DI Statistics by the Drafting Team

	OFBV	**Recent Transaction Price**	**Net Asset Value**	**Market Capitalization Method – Price to Book Value (P/B)**	**Present Value of Expected Earnings – Price-to-Earnings Ratio (P/E)**	**Apportioning Global Value**
Availability	**High** Depending of IAS/IFRS availability if we stick to a strict definition of OFBV. **High** availability if nGAAP is allowed.	**Low**, Unlisted equities are infrequently traded	**Low**, very difficult to obtain	**High**, for the OBFV part (see also OFBV). **Medium**, Limited for the ratios computation if the number of listed companies is too small/if the listed market is not large enough	**High**, for the earnings that should be most often available. **Medium**, Limited for the ratios computation if the number of listed companies is too small/if the listed market is not large enough and complexities in seeking for the appropriate discount rate	**Low**, only applicable where the (head of the) group is listed
Simplicity	**High**	**High**	**Low**	**Medium**, if the information is not available	**Medium**	**High**
Comparability	**High**, in the majority of cases. Asymmetries can occur for chains of companies, SPEs, round tripping. If nGAAP is used the estimation would be consistent with the next criteria	**High**, if all countries have the information	**Low**, due to the differences in input data used by countries	**Low** Additional methodologies/approximations needed to calculate a value of foreign unlisted equities. The problems of asymmetry then depend on the quality of these methodologies.	**Low** Additional methodologies/approximations needed to calculate a value of foreign unlisted equities. The problems of asymmetry then depend on the quality of these methodologies.	**Low** Dependent of the availability of comprehensive information for the global enterprise group
Accuracy	**Medium** Even in IFRS, OFBV do not entirely reflect market values. **Low** If nGAAP is used, differences could be larger	Timely factor: **High** The purchasing price has been assessed at a certain point in time and then it is close to the market value. **Low** At any other point in time, it differs, especially regarding the estimation of the goodwill.	**Medium** Should be close but dependent on the precision of estimation of the different balance sheet components and of the recognition of goodwill and intangible assets	**High** Good approximation but dependent of the representativeness of the listed companies on which the ratios are built	**High** Good approximation but dependent of the representativeness of the listed companies on which the ratios are built. Theoretically best valuation method to estimate the fundamental, actual value of an asset. Close to methods used by private equity asset managers.	**Medium.** Dependent of the relevance of the apportioning indicator

Annex VII. Decision Tree[42]

1. It is the view of the drafting team that the decision tree constitutes a complement for compilers to clarify the methods available for the valuation of unlisted equity depending on the information they have available.

2. First of all, if a recent transaction price exists, then, it equals market price by definition at the time of transaction (except for a potential control premium to deal with) so it is a value that one may want to favor. If this method is used, the question of the duration of its use arises as well as the transition to other valuation methods.

In other cases:

3. On the right-hand side of the tree, there is the possibility of using specific methods (which cannot be extended to all unlisted companies) if the data are of good quality and relevant. By order, it is possible to use:

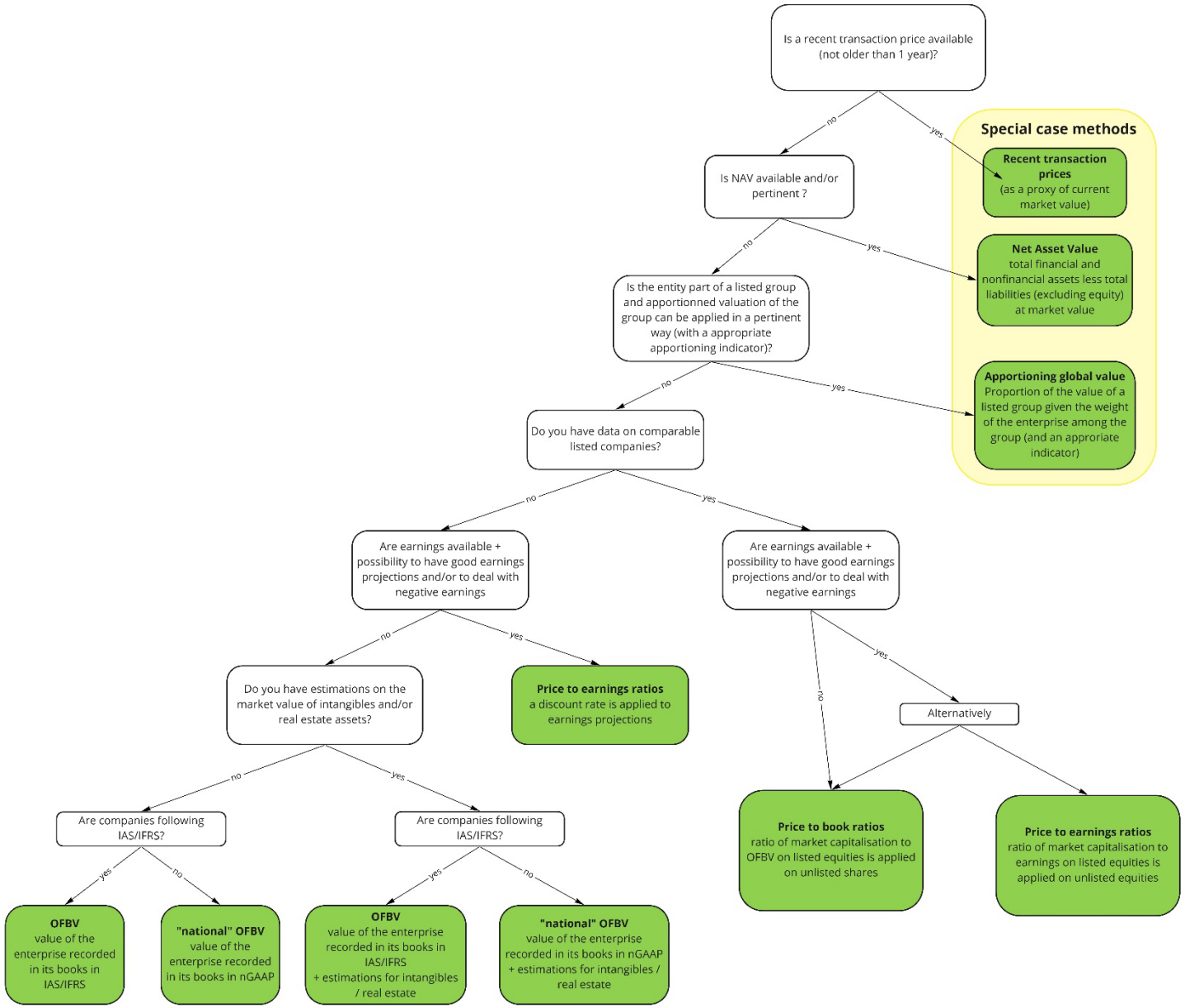
- Net Asset Value, even if it is rare in practice to have such an estimate.
- Apportioning global value if the entity is part of a listed group and if an apportioned valuation of the group can be applied in a pertinent way (with an appropriate apportioning indicator.).

4. On the left side of the tree, we have the more widely applicable methods.

- The first branch concerns the availability of comparable data on listed shares. In this case it is possible to use methods based on ratios (price to book ratios or price to earnings ratios) and the decision will depend on the information available or the goodness of the estimate (for example by testing on real transaction prices).
- If comparable data on listed shares are not available or no information on earnings is available (at the national level or potentially at a larger scale), then there are two possibilities: use price to earnings ratio based on a discount rate (if a good estimation exists) or use OFBV in other cases.
- In the last option, the recognized downside of the OFBV leading to undervaluation of unlisted equity could be addressed by recommending the compilers to include estimates of the market value of intangible / real estate assets. When using OFBV, there are four possibilities depending on whether or not you have a good estimate of the market value of intangible / real estate and the accounting standards (IAS/IFRS or GAAP or nGAAP) that govern the elaboration of the companies or the affected country.

5. The decision tree focusses on the valuation of a single company, as the collection of firm-level data is the basis for valuing unlisted equity.

[42] The decision tree presented has used as a starting point the outcome of the work of a subgroup of the ESCB Virtual Group on Unlisted Equity. However, it has been slightly adapted to reflect the different realities that different countries may have.


Is a recent transaction price available (not older than 1 year)?
no
yes
Special case methods
Recent transaction prices
(as a proxy of current market value)
Is NAV available and/or pertinent ?
no
yes
Net Asset Value
total financial and nonfinancial assets less total liabilities (excluding equity) at market value
Is the entity part of a listed group and apportionned valuation of the group can be applied in a pertinent way (with a appropriate apportioning indicator)?
no
yes
Apportioning global value
Proportion of the value of a listed group given the weight of the enterprise among the group (and an approriate indicator)
Do you have data on comparable listed companies?
no
yes
Are earnings available + possibility to have good earnings projections and/or to deal with negative earnings
Are earnings available + possibility to have good earnings projections and/or to deal with negative earnings
no
yes
Do you have estimations on the market value of intangibles and/or real estate assets?
Price to earnings ratios
a discount rate is applied to earnings projections
yes
no
Alternatively
no
yes
Are companies following IAS/IFRS?
Are companies following IAS/IFRS?
Price to book ratios
ratio of market capitalisation to OFBV on listed equities is applied on unlisted shares
Price to earnings ratios
ratio of market capitalisation to earnings on listed equities is applied on unlisted equities
yes
no
yes
no
OFBV
value of the enterprise recorded in its books in IAS/IFRS
"national" OFBV
value of the enterprise recorded in its books in nGAAP
OFBV
value of the enterprise recorded in its books in IAS/IFRS
+ estimations for intangibles / real estate
"national" OFBV
value of the enterprise recorded in its books in nGAAP
+ estimations for intangibles / real estate