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Title of Paper

Estimating Equity Valuation in Indonesia Financial Accounts

Abstract

As one of G-20 member, Indonesia has responsible to implement the DGI recommendation, especially phase-2 recommendation. One of that recommendation is compiling Sectoral Accounts and Balance Sheets, including Financial Account.. Compilation of financial accounts and financial balance sheets is very challenging for us. We use some administrative data such as aggregated financial reports as main data sources from many institutions in Indonesia, such as Central Bank, Financial Services Authority, Ministry of Finance, and BPS-Statistics Agency. We compile using financial instruments and sector basis to make consistency in whom to whom framework. We would like to explore our experience in compilation equity instruments. In Indonesia case, there are three types of equity, i.e. listed equity, unlisted equity, and other equity. Based on our data, we divided companies in two parts that are listed companies and unlisted companies. Listed companies are companies that list in Indonesia Stock Exchange market (IDX market). Calculating listed equity, we used administrative data that really reliable for listed companies, but for estimating unlisted equity is very important and challenging, as the transactions are very potential to take place in Indonesia economy, regarding that the country has many unlisted companies. In this study, we applied some procedures to estimate unlisted equity for unlisted companies, i.e. use of methodology from United Nations (Financial Production, Flows, and Stocks manual), using private companies surveys, and using of tax data from Ministry of Finance. Furthermore, those estimation results will be confronted with other data to make it more consistent and coherent to supports the achievement of the 8th and 17th SDGs goals to transform our world.

Keywords: equity valuation, listed equity, unlisted equity, UN methods, administrative data, survey

I.   Contents

II.   Introduction

As a response of global crisis in 2008, many countries wondering why this crisis can be happened. Therefore, the G-20 requested the Financial Stability Board (FSB) and the International Monetary Fund (IMF), to explore more information to address this issue. Availability data and informations raise data gaps initiative. To hands this problems, IMF provide proposals for strengthening data collection efforts – DGI recommendations (Chavoix-Mannato, 2011). One of their recommendation is promote estimating Sectoral Accounts and Balance Sheets.

The importance of Sectoral Accounts and Balance Sheets has been highlighted by the current global financial crisis. Among G-20 economies, there is a lack of fully integrated comprehensive and detailed sectoral balance sheets and accumulation accounts disseminated on a timely and comparable (cross-country and over time) basis (Shrestha, 2011). Indonesia as one of G-20 member has responsible to implement the DGI recommendation to compiling Sectoral Accounts and Balance Sheets, including Financial Account and Financial Balance Sheets (recommendation II.8). BPS and the other agencies have commitment is to arrange the Quarterly and Annual Stocks and Transactions of Financial Assets and Liabilities.

In Indonesia, compilation of Financial Account and Financial Balance Sheet is very challenging. We use some administrative data such as aggregated financial reports as main data sources from many institutions in Indonesia, such as Central Bank, Financial Services Authority, Ministry of Finance, and also BPS-Statistics Agency to provide more comprehensive data. We compile using financial instruments and sector basis to make consistency in whom to whom framework. System of National Accounts (2008 SNA) manuals recommend that compilation of financial account in whom to whom framework to permit better analysis. In instrument basis, we collect sector who have issues in some instruments and to whom that instruments hold by other sectors. In this paper, we focus on compiling for unlisted share. For the other instrument, we can explore in other time.

One of the most challenging issue for compiling Financial Account and Financial Balance Sheet is compile equity. In Indonesia case, there are three types of equity, i.e. listed equity, unlisted equity, and other equity. 2008 SNA manuals recommend that compilation equity should record not only equity from listed companies, but also from unlisted companies. Unlisted companies should be covered since it affects the total economy of the country.

Based on Indonesia's data, we divided companies in two parts that are listed companies and unlisted companies. Listed companies are companies that list in Indonesia Stock Exchange market (IDX market). Calculating listed equity, we used administrative data that really reliable for listed companies. From this administrative data, we can get data until individual level for issuer and holder side, such as issuer company name, classification of issuers, financial instrument code, type of financial

instrument, listing date, maturity date, currency, book value, and type of holder companies.

Contrasts with listed companies, unlisted companies are companies that not list in Indonesia Stock Exchange market (IDX market). Estimating unlisted equity is very important and challenging, as the transactions are very potential to take place in Indonesia economy, regarding that the country has many unlisted companies. Based on BPS–Statistics Indonesia data, in 2015, there are around 3,7 million micro and small manufacturing companies and 26 thousand large and medium manufacturing companies. So, the total companies are so much more than that number.

Like we already mention before, that unlisted equity has the biggest proportion in the equity of Indonesia. So, it needs to be calculated. This can be done by operating technology and science. One of them is by developing this kind of calculation that we used in this study. In this study, we applied some procedures to estimate unlisted equity for unlisted companies. The results of this study could help us in estimating better of equity data which help the government to find out how many unlisted equities there are, so the targeted development will be carried out. Like "how will the shares of unlisted company can be more effective?". So, in the future, it will need cooperation between government and other sectors to increase and develop these companies to increase the equity of Indonesia. This is related with the goal of SDGs point 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development). In addition, this estimation about unlisted equity will also help to increase development-oriented policies that support productive activities and encourage the formalization and growth of micro, small, and medium sized enterprises. So, it will make the economy growth increased and stable (the goal of SDGs point 8).

Other researchers have tried to find the best method to estimate valuation of unlisted equity. Kumah et al (2009) results show that the price-to-book value method generates more robust market value estimates than the price-to-earnings method. The study also suggests that the valuation basis for the forthcoming Coordinated Direct Investment Survey – own funds at book value – will provide useful information for compiling the international investment position.

III.   Equity Valuations

A.   Conceptual Overview

The numerous theoretical models for equity valuation can be split into two groups; absolute and relative valuation models (Kumah et al, 2009). In absolute valuation models, the value of equity is determined by the specific characteristics of the particular company. This value may or may not be equal to the market price, depending on the assessment of future earnings and

risks compared to market expectations. Most absolute valuation models are based on a discounted cash flow (DCF) approach. In the relative valuation models, a company is valued at the same price as companies with identical or similar characteristics since, for arbitrage reasons, similar assets must trade at similar prices. One of the most used relative valuation models is price to earnings (P/E).

If financial instruments are not traded in a market or only traded infrequently, a market-equivalent value should be estimated instead. This value is also referred to as fair value and is defined in the following way: "Fair value is a market-equivalent value. It is defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's-length transaction" (2008 SNA).

For unlisted shares, which are equity securities not listed on a stock exchange, various valuation methods are proposed. They can be distinguished as follows: (type a) valuation based on recent transactions; (type b) valuation based on accounting data of the corporation; and (type c) valuation based on the value of a comparable corporation or of a group of comparable corporations.

The 2008 SNA and the BPM6 distinguish six different methods to value unlisted shares. These methods are based on the following:

a) Recent transaction price (type a);
   Unlisted instruments may trade from time to time, and recent prices, within the past year, at which they were traded may be used. Recent prices are a good indicator of current market values to the extent that conditions are unchanged. This method can be used as long as there has been no material change in the corporation's position since the transaction date. Recent transaction prices become increasingly misleading as time passes and conditions change.

b) Net asset value (NAV) based on accounting data (type b);
   Appraisals of untraded equity may be conducted by knowledgeable management or directors of the enterprise or provided by independent auditors to obtain total assets at current value less total liabilities (excluding equity) at market value. Valuations should be recent (within the past year) and should preferably include intangible assets.

c) Present value/price to earnings ratio by discounting the forecast future profits (P/E) (type b);
   The present value of unlisted equity can be estimated by discounting the forecast future profits. At its simplest, this method can be approximated by applying a market or industry price-to-earnings ratio

to the (smoothed) recent past earnings of the unlisted enterprise to calculate a price. This method is most appropriate in which there is a paucity of balance sheet information but earnings data are more readily available.

d) Market capitalization or price to book value (P/B) method (type c);
Book values reported by enterprises can be adjusted at an aggregate level by the statistical compiler. For untraded equity, information on "own funds at book value" (see paragraph 7.16(e)) 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. Alternatively, assets that enterprises carry at cost (such as land, plant, equipment, and inventories) can be revalued to current period prices using suitable asset price indices.

e) Own funds at book value (OFBV) method (type c);
This method for valuing equity uses the value of the enterprise recorded in the books of the direct investment enterprise, as the sum of (a) paid-up capital (excluding any shares on issue that the enterprise holds in itself and including share premium accounts); (b) all types of reserves identified as equity in the enterprise's balance sheet (including investment grants when accounting guidelines consider them company reserves); (c) cumulated reinvested earnings; and (d) holding gains or losses included in own funds in the accounts, whether as revaluation reserves or profits or losses. The more frequent the revaluation of assets and liabilities, the closer the approximation to market values. Data that are not revalued for several years may be a poor reflection of market values.

f) Apportioning the global value (type c)
The current market value of the global enterprise group can be based on the market price of its shares on the exchange on which its equity is traded, if it is a listed company. Where an appropriate indicator may be identified (e.g., sales, net income, assets, or employment), the global value may be apportioned to each economy in which it has direct investment enterprises, on the basis of that indicator, by making the assumption that the ratio of net market value to sales, net income, assets, or employment is a constant throughout the transnational enterprise group. (Each indicator could yield significantly different results from the others.)

Table 1. Overview of BPM6 – recommended valuation methods and their advantages and disadvantages (Kumah et al, 2009)

Method	Name	Description	Advantages	Disadvantages
A	Recent transaction price (absolute method)	Use recent transaction price as market price	• Easy to implement for traded equity • Equals market price at time of transaction by definition	• Market prices can change rapidly • Not a general method because most unlisted equity is rarely traded
B	Net asset value (absolute method)	Knowledgeable management or independent auditors' estimation of total assets minus liabilities (excluding equity) at current value	• Utilizes first-hand information about the company's value • Possible to take company-specific characteristics into account	• Uncertain that respondents use uniform principles • Companies may have an incentive to give incorrect estimates
C1	Present value of earnings (absolute method)	Discount expected future earnings	• 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
C2	Price to earnings (relative method)	Apply P/E ratios from listed equity to unlisted equity	• 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
D	Price to book value (relative method)	Apply P/B ratios from listed equity to unlisted equity	• 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
E	Own funds at book value (absolute method)	The sum of paid-up capital, reserves, cumulated undistributed net profits, and holdings gains and losses included in own funds	• Easy to implement • Promotes symmetric recording if used by all countries	• Book values do not necessarily reflect market values • Accounting principles differ across countries
F	Apportioning global value (absolute method)	Prorate overall market value of listed group to individual entities	• Based on the actual market value of the specific group • Straightforward to make the estimations	• Difficult to find the best apportioning indicator • Not a general method because many unlisted direct investment enterprises are not a part of a listed group

The valuation of unlisted shares compared to the valuation of listed shares may need to be further modified in terms of liquidity, control and negative equity values. Certain factors may have a significant impact on the valuation of unlisted shares:

a) Unlisted shares are typically characterized by lower liquidity than listed shares. Lower liquidity tends to have a negative effect on the value and, if significant, should be taken into account;

b) Unlisted corporations usually have few owners, often just one. A control premium is frequently paid when an investor obtains a controlling stake in a corporation. Since this control premium will normally be offered to all shareholders, all shares in a given corporation should be valued at the same price;

c) The valuation methods may generate negative positions, which are not consistent with the limited liability aspect of equity. For instance, the P/E method often generates negative market value estimates, as earnings are volatile and frequently negative. The BPM6 allows the inclusion of negative foreign direct investment (FDI) equity positions in the international investment position, but individual country practices may differ.

B.   Estimating Equity Valuations

In Indonesia, we still eager to try calculating the best methodology for estimating equity valuation in Indonesia Financial Accounts. In this time, we

explore the estimate using private companies survey, own fund at book value (OFBV) methods, and tax data (from Ministry of Finance). For each methods, we give the more detailed explanation in below paragraphs.

1. **Estimate Using Private Companies Survey**

To estimate unlisted share in Financial Accounts, we can use two data sources. The first one is administrative data that used to calculate private FCs and listed company of private NFCs. For private FCs, we can get agregated data financial report (listed and unlisted companies). There are some data that available in monthly, quarterly, and annual report, that depend on what subsector of those financial companies. This data source built up by Financial Services Authority systems and Financial Services Authority have some regulations that every companies obligate to report regularly to their agency. From this data sources, we can get estimate unlisted share from private financial companies.

For estimate unlisted share from listed company of private NFCs, we get data from financial report (Indonesia Stock Exchange market). We have income statement and balance sheet (in agregat) for all of listed company of Private NFCs. The total companies are around 306 companies. We have also income statement and balance sheet (in detail) for 101 big listed company of Private NFCs which represent 72% total revenue of listed populations.

The second one is survey data that used to estimate unlisted share from unlisted company of Private NFCs data. For unlisted company of Private NFCs, we get data from surveys that we called "SKPS". This survey built up by BPS – Statistics Indonesia. The sample of this survey in 2017 is 1124 corporations, that held in 18 province in Indonesia. Responden of this survey is unlisted company of Private NFCs based on industry which must parent company or single company. The sample is divided in two groups (medium and large corporations) and (micro and small corporations).

For getting the population of the unlisted company of Private NFCs of medium and large corporations, we use structure of income statement and balance sheet from listed corporation and we blow up the population based on income tax (PPh 25/29) which is exclude listed income tax. For micro and small corporations, we use structure of income statement and balance sheet from unlisted corporation survey and we blow up the population based on micro and small enterprises data (value added).

2. **Estimate Using Own Fund at Book Value (OFBV) Methods**

No single valuation method is prescribed by international statistical standards. Flexibility is encouraged in the choice of methods, and no ranking of methods has been established. The exact choice of method is left to the compilers depending on data availability and market conditions in each

economy. However, some methods, e.g. price to earnings (P/E) and price to book value (P/B) are commonly used by valuation practitioners, whereas the OFBV method has been developed by statisticians in an attempt to reach a harmonized book value definition across countries and accounting standards.

The OFBV method compares the value of own funds of unlisted corporations to that of listed corporations: **Value of unlisted shares = Market price of similar listed shares × (Own funds of unlisted corporations) / (Own funds of similar listed corporations)**. The ratio of the share price to own funds may vary with the type of business. Therefore, it is preferable to calculate the current price of unlisted shares branch by type. Other differences between listed and unlisted corporations may have an effect on the estimation method.

3. Estimate Using Tax Data

Tax data is one of the solution to estimate unlisted equity. As we know that every companies have to pay tax, not only for listed companies, but also for unlisted companies. From tax data, we can get the number of tax that paid by companies to get their dividen. Article 23 Income Tax is tax imposed on income on capital, delivery of services, or gifts and awards, other than those already deducted from Article 21 of Income Tax.

With tax data, we can also get data of tax on sales of shares - closed companies. In the case of companies whose shares are not listed on the stock exchange, then there is only one aspect of Income Tax that will be charged. Article 4 Paragraph (1) letter d number 1 stated that the profit (capital gain) from the transfer of property to the company as share capital or equity participation which is the object of tax payable due to the following:
"(d) profit due to sales or transfer of property to the company, partnership and other entities as share capital or equity participation".

Because of the obligation to submit tax data, every companies also have to send their financial report to Ministry of Finance. So, we can also entry their equity data from financial report, but it takes much times.

C.   Exploring Data

As we already discussed in B.2 about Estimate Using Own Fund at Book Value (OFBV) Methods, **Value of unlisted shares = Market price of similar listed shares × (Own funds of unlisted corporations) / (Own funds of similar listed corporations)**.

In Indonesia, we calculate own funds of unlisted corporations from retained earnings of unlisted corporation, that can deliver from ratio of gross value added unlisted corporation between population and sample, and

multiply by retained earnings of unlisted corporation (sample data). This sample data is from private companies' survey by BPS – Statistics Indonesia.

Besides that, own funds of similar listed corporations are derived from ratio of gross value-added listed corporation between population and sample, and multiply by retained earnings of listed corporations (sample data). Sample data is from manual entry of financial reports from IDX.

From that method, we can see the growth of unlisted equity and listed equity value in the graphic below:
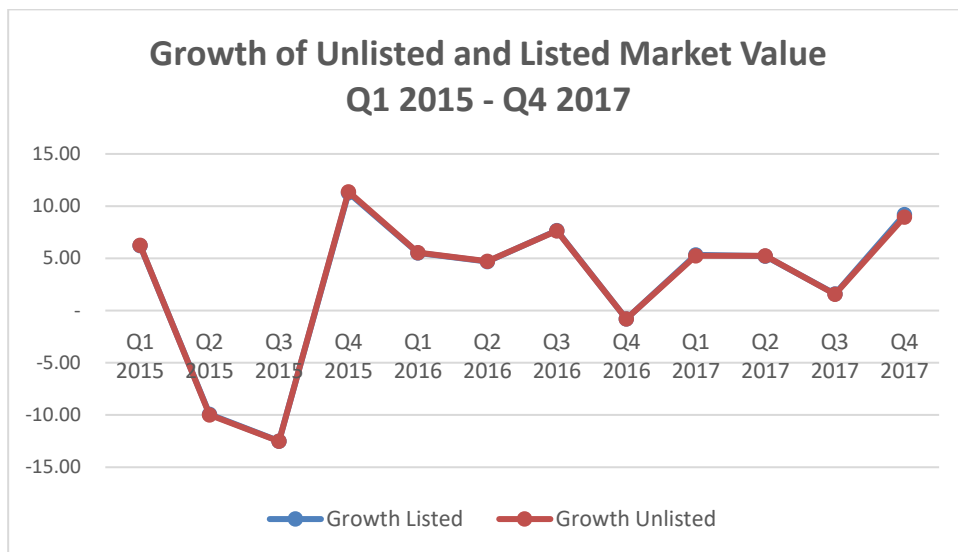
This graphic says that growth of unlisted value are in line with growth of listed. Although, the growth is not exactly same with listed value. The difference range is about 0,01 – 0,27.

To divide the holder of unlisted equity, we used the same pattern as listed equity, except ROW sector. Because, there is no transaction between ROW sector. For the better comparison, in the graph below we give the details about ratio of each institution to total market value of listed and unlisted. We can see that ratio has the same pattern.
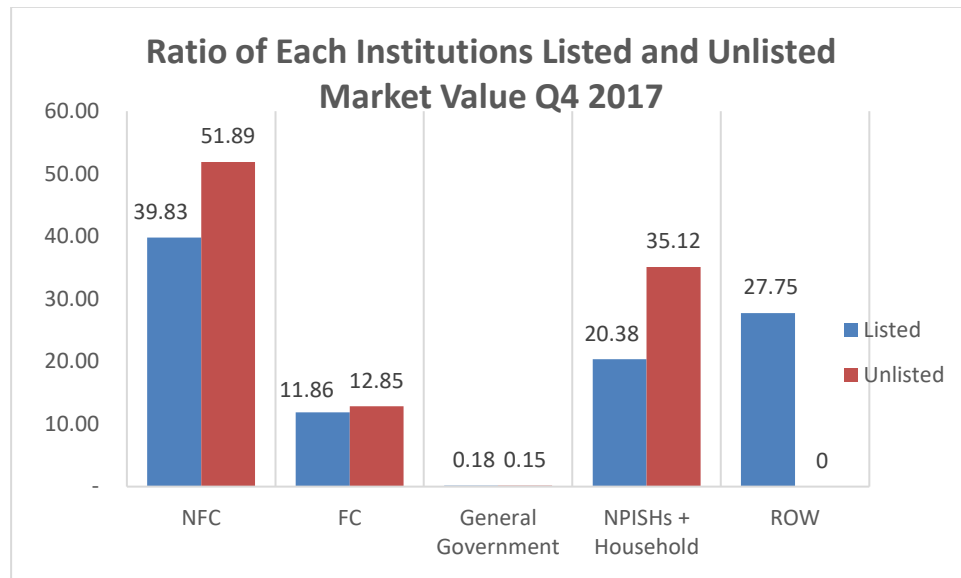
IV. Conclusion

1. Estimating unlisted equity in Indonesia is very important and challenging, as the transactions are very potential to take place in Indonesia economy, regarding that the country has many unlisted companies. With this estimation, we can support the achievement of the 8th and 17th SDGs goals to transform our world.

2. Indonesia has already done estimate using private companies survey, own fund at book value (OFBV) methods, and tax data (from Ministry of Finance). But, we still eager to try calculating the other methodology to find the best method for estimating equity valuation in Indonesia Financial Accounts.

3. Especially for OFBV methods, we can get the value of unlisted equity that has growth in line with growth of listed. Because of that, to calculate this method, we should bring the ratio of unlisted and listed between their sample and population data.

4. In this estimation, we divide the holder of unlisted equity using the same pattern as listed equity. We do it this ways, because the lack of data sources in holder side. This method is not recommended, because listed and unlisted equity have different market (who/which sector is possible to hold the equity).

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