NATIONAL BANK OF KAZAKHSTAN

Department of balance of payments and currency regulation

Guideline on valuation of unquoted shares and other equity instruments of Kazakhstani enterprises for the purpose of compiling external sector statistics

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Foreword

In the international investment position, the price of external financial assets and liabilities of residents should be reported as if they were acquired in the course of market transactions at the reporting date.

In many cases, in organized markets trade in financial assets is regularly carried out, which makes it possible to estimate the value of such assets directly based on market quotes. If at the reporting date for which the international investment position is compiled, the financial markets were closed and current market quotations are not available, then the valuation is performed using market prices on the nearest date of the previous periods when the markets were open.

In the event when financial assets and liabilities are not traded or quoted on low liquid financial markets (unlisted or delisted companies, listed but illiquid companies, joint ventures and unincorporated ventures, hereinafter-unlisted equity) and actual market values are not available, an estimate is required. International methodology for such assets and liabilities recommends using a fair value as an approximation of the market price.

There is a significant part of Kazakhstani enterprises with foreign investment whose shares and other equity instruments are not publicly traded or are listed on low liquid financial markets. Therefore, compilers determine the value of these financial instruments for the international investment position by applying alternative methods of approximating market value. At the same time, there is an obligation to be transparent and clearly state the information on valuation methods used.

This guideline discloses approaches used to assess the value of unlisted equity of Kazakhstani enterprises when compiling the international investment position of the Republic of Kazakhstan.

The methodological recommendations for the valuation of enterprises of the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and other relevant international experience are presented as a theoretical basis in determining the value of unlisted equity.

The guideline was developed to ensure compliance of external statistics with international standards.

Contents

1. International methodological recommendations for the valuation of unquoted shares and other equity instruments

If the current market value is directly unobservable, then the decision on the valuation methods used should be made taking into account:

• accessibility of information,
• an assessment of which method obtains values that are closest to market value,
• the symmetrical accounting of values from the perspective of debtors and creditors.

In addition, it is necessary to take into account possible exchange rate fluctuations. The international methodology recommends the use of six methods for assessing market value, each of which has special features:

1) ***Recent transaction price.*** 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.
2) ***Own funds at book value.*** This method for valuing equity uses the value of the enterprise recorded in the balance sheet of the direct investment enterprise prepared in correspondence with International Financial Reporting Standard (IFRS) in the section of Capital (Equity) and includes paid-up capital; all reserves identified as equity and cumulated reinvested earnings. Data not revalued for several years may be a poor reflection of market values.
3) ***Net asset value.*** Appraisals of untraded equity may be conducted by knowledgeable management, directors of the enterprise or 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.
4) ***Market capitalization method.*** 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" *(2nd method)* 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.
5) ***Present value and price-to-earnings ratios.*** 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.
6) ***Apportioning global value.*** 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.

Using accounting reports of the enterprise can be a good starting point. Achieving international comparability of indicators for direct investment is possible only when both the host and the investing country use the same principles of enterprise valuation when preparing financial statements.

As an example, for the purposes of the coordinated direct investment survey (CDIS), where the focus is on consistency of valuation for bilateral data, unlisted equity and other equity should be valued using the concept of Own Funds at Book Value (2nd method).

The European Central Bank provided similar recommendations on the usage of the 2nd method when valuing the unlisted equity when compiling statistics in the European Union[1].

The value of the share of the equity of a foreign direct investor in the enterprise reflects the residual amount that the investor will receive in the event of liquidation of the enterprise.

Negative value of the equity in the enterprise, belonging to the foreign investor is possible:

a. in the early or final stages of the existence of the enterprise,

b. when there is a high turnover of enterprise's assets (under the condition that assets of enterprise are much more liquid and can be turned into cash before the due date of repayment of liabilities)

c. when foreign shareholders took over obligations of enterprise or acted as guarantors for all its obligations (both internal and external).

From an economic point of view, for an investor, the emergence of a company's negative book value means that the company's own capital has been fully used to cover losses (turned into "zero") and there is a lack of assets to cover liabilities. That is, the remaining losses of the company are covered by borrowed capital and the loss is shifted from the enterprise to the creditor (the claimant of the liabilities).

In the theory of corporate finance, when estimating discounted cash flows, the value of equity is zero if the value of the enterprise is less than the amount of the existing liabilities. At the same time, due to the limited liability of the investor (which creates a certain type of call option for the owners of the enterprises), the equity will be estimated positively even if the value of the company falls well below the face value of the outstanding debt. This holds true due to time premium of an option, that is the value of the assets of the enterprise might exceed the value of the liabilities when they are due[2]. Thus, the negative cost of a company's capital is not transferrable directly to the shareholder (investor) of the enterprise because of its limited liability.

When compiling IIP statistics, negative values of the unlisted equity belonging to foreign direct investors, reduce the country's FDI obligations creating positive distortions in statistics and correspondingly improving IIP. Therefore, compilers of external sector statistics need to avoid simple consolidation of balance sheet data and separately study the cases where enterprises with foreign participation have negative equity values. Those valuation techniques that provide maximum approximation to the market price of an asset should be used.

2. Other relevant international experience on valuation of enterprises with the valuation of unlisted equity

France[3]

The Bank of France publishes its foreign direct investment statistics on a yearly basis. Unquoted foreign FDI equity accounts for some 90% of France's outward and inward FDI stocks at book value.

Unlisted equity stocks are valued both at book value (Own funds at book value) and market value (market capitalization method is used).

According to the market capitalization method, the Bank of France uses the SBF 250 index[4], which accounts for nearly 95% of the market capitalization of all listed companies in

[1] Guideline «on the statistical reporting requirements of the European Central Bank in the field of external statistics», European Central Bank, 9 Dec 2011, Guideline ECB/2011/23

[2] Article «Valuing Equity in distressed firms», NYU Stern Business School, Author Aswath Damodaran, http://pages.stern.nyu.edu/~adamodar/

[3] Article «Valuation of unquated foreign direct investment stocks at market value: methods and results for France», ,Quaterly Selection of Articles Spring 2010, N17, Bank of France, Author Dominique Nivat, Agnes Topiol

[4] Société des Bourses Françaises 250 Index - is a French stock market index., based on the 250 French

France, in order to calculate market capitalization indicator (the ratio of market capitalization to the book value of listed companies in the same country).

The companies presented in the index are sorted according to the Industry Benchmark Classification into 4 groups. For unlisted equity entities, information from the consolidated financial statements is used. At the same time, these enterprises are sorted by industry in accordance with the industry classification standard.

With respect to the 4 groups of enterprises with unlisted equity shares, the Bank of France used the median values for the indicators of market capitalization, rather than the weighted average, in order to exclude the influence of extreme values. In addition, an illiquidity discount of 25%[5] was applied to the values (assuming that listed equity is 25% more expensive due to their liquidity).

The Central Bank of the Republic of **Turkey** uses a similar framework when evaluating their foreign direct investments.

Belgium[6]

The National Bank of Belgium used the Own funds at book value method to estimate the value of enterprises with unlisted equity. However, the negative balance sheet value of own funds for some enterprises led to the underestimation of the aggregate indicator of direct investment in Belgium. At the same time, the real value of these unlisted equity enterprises, taking into account their legal form, could not be negative. Therefore, the National Bank of Belgium decided to recognize the market value of such enterprises (with a negative book value of equity) as equaling to zero (zeroing of values).

For other enterprises with unlisted equity, a calculation similar to that of the Bank of France was used. At the same time, the illiquidity indicator was set at 20%.

Switzerland[7]

Switzerland approached the problem of negative equity capital from a legislative point of view.

Swiss corporate law stipulates that the board of directors of a company in a difficult financial situation must adopt measures established by law to address the company’s difficult situation. These duties are inalienable and non-transferable, both for individual firms and within corporate groups. The type of measures depends on the level of losses incurred in relation to the company's own capital.

Swiss law makes a distinction: between status (I) - partial loss of capital due to excessive debt and status (II) - total loss of capital or the emergence of negative equity.

Restructuring liabilities	*Restructuring assets*
Restructuring existing debt by extending maturity, amending the type of instrument, providing financial flexibility	Aggressive management of working capital of a company (reducing the inventory, imposing strict payment terms, strict management of accounts receivables).
Exchange of debt on equity	
Attraction of new shareholders and thus increasing shareholders capital	Sale and lease back of non-operative assets, sale of non-vital parts of business

The presence of legislation measures regarding loss-making enterprises excludes the

companies

[5] Article «L’estimation d’une valeur de marché des actions non cotées», Économie et Statistique, N366 ,2003, Author Picart C

[6] Article “Revised valuation of unquoted shares and other equity in the financial accounts”, Statistical bulletin (2008-2010), National Bank of Belgium, pages 11-14

[7] Article «Dealing with financially troubled Swiss Corporates» Alexander Vogel, Wolfgang Muller and Debora DurrerKern, http://www.iflr.com/Article/3158664/DealingwithfinanciallytroubledSwisscorporates.html

emergence of negative capital from foreign investors in statistical data.

3. The book value of own funds of Kazakhstan enterprises - direct investment enterprises

In Kazakhstan, due to the small market of listed equity, it is impossible to use the valuation indicators for unlisted equity similar to the international experience of central banks of the European Union.

Using similar companies listed on the stock exchanges of other countries for comparison reasons is not possible due to the following reasons: the presence of non-market relations, the relatively small size of subsidiaries in Kazakhstan compared to the entire foreign group and the concentration of enterprises in a small number of industries.

Regarding Kazakhstan's participation in the Coordinated Direct Investment Survey, the two most accessible methods for estimating the market value of the unlisted equity of Kazakhstan enterprises were chosen - 1) recent transaction price ***(1st method)*** and own funds at book value ***(2nd method)***, which is the capital (Equity) in the financial statements of legal entities.

From the third quarter of 2014, the National Bank introduced for residents a new version of the form of state statistical reporting 1-PB "Survey on financial claims and liabilities to non-residents" (hereinafter – the survey), which includes information sufficient to use own funds at book value method. Enterprises with foreign participation also submit this survey.

For the 3rd quarter of 2014, there were end-quarter negative positions in the book value for some enterprises in the survey data provided by the respondents. The devaluation of the tenge, which occurred with the transition to the free-floating exchange rate regime (starting from August 2015), entailed an increase in the number of enterprises with negative book value. The main reason for the negative book value of a number of enterprises was the absence of a revaluation of assets to the market value, as it is recommended by IFRS, while the book value of their liabilities (both domestic and foreign) was expressed in foreign currency which increased in tenge terms significantly with the devaluation.

For the beginning of 2017, almost one-third of enterprises with foreign participation and which submitted the survey, showed negative own funds at book value. Most of these enterprises do not meet the criteria under which the international methodology allows negative equity.

As above-mentioned, one of the main reasons for the negative equity in the balance sheets is a conservative approach to asset valuation. At the same time, for some enterprises which reported negative equity, it is possible to approximate the value of their equity to its current market price using alternative sources of information (mass media, publicly available databases).

Negative equity values in the IIP reduce the country’s FDI liabilities to nonresidents and artificially increase net investment position.

In order to exclude these statistical distortions The National Bank conducted working consultations with the experts of the International Monetary Fund. As a result, for the period starting from the third quarter of 2014 the National Bank adjusted the market values of the equity, which belongs to foreign direct investors in the country's IIP by reassessing the value of certain Kazakhstani enterprises with negative capital. The reassessment of the value was made based on information additional to the data on respondents' surveys. Data was not updated for enterprises for which the international methodology allows the presence of negative values of own funds.

4. Valuation methods of unquoted shares and other equity instruments of Kazakhstani enterprises

Taking into account the international experience, as well as the recommendations of the IMF, the National Bank has developed several approaches for estimating the value of unlisted equity, depending on the type of enterprise activity, the size of the existing external claims and liabilities as well as the availability of audited financial statements.

1) Estimation of the market value of mining deposits

Enterprises that own mining deposits for a long period may incur significant costs associated with the exploration, development and use of these deposits.

The following main stages can be identified in the exploration, development and use of deposits:

• exploration of the deposit - search for resources sufficient for commercial exploitation, including topographic and geological research, drilling for sampling of rocks, etc.;

• estimation of possible available stocks – possibility of technical feasibility and commercial viability of the exploration as well as preparation of an appropriate assessment of reserves in the deposit. In the case of the confirmation of technical feasibility (final or bankable feasible study) of the exploration, the exploration costs incurred are reclassified as capital investments and placed on the assets side of the balance sheet. In accordance with IFRS6, the classification of the cost incurred as the capital investment can be made after the acquisition of the mineral rights in the area. If the entity does not implement IFRS6, then costs are classified as expenses of current and future periods[8];

• development of the deposit - preparation of the required infrastructure for extraction, processing and transportation. At the same time, costs are classified as stripping costs;

• production - launching commercial production;

• closure of the deposit and rehabilitation - closure of the deposit, restoration of the environment[9].

The main problem arising in assessing the market value of enterprises that own mining deposits and which are at the pre-production stages is the lack of a unified approach in the application of the financial reporting standards in the classification of costs incurred (in particular, IFRS6). In general, Kazakhstani enterprises do not recognize mining deposits as assets on the balance sheets and there are no estimates for their fair value.

When assessing the market value of enterprises that own mining deposits at the stage of commercial production, the deposit is recognized as an asset, but the absence of a revaluation of this asset at market (fair) value creates another problem.

The assessment of market value is complicated by the fact that the exploration, development and use of these deposits is mostly financed through debt rather than capital financing both from foreign direct investors and non-affiliated non-residents, including foreign banks.

The National Bank uses the following methods to estimate the values of enterprises holding mining deposits:

a) capitalization of cash flows spent on geological exploration of the field, information on which can be obtained from the financial statements of the enterprise - in the absence of a technical assessment of the field in accordance with IFRS-6;
b) an appraised value method, where the estimated value is the sum of meaningful past exploration expenditures (only those past costs that are considered adequate and have

[8] The logic in reclassification is the realization that the costs incurred are not current costs, but capital costs (by analogy with the acquisition of software licenses, etc.).

[9] Deloitte Touche Tohmatsu "Financial Reporting in the global mining industry, survey of twenty one leading companies" Nov 4, 2003, https://www.iasplus.com/en/binary/dttpubs/0310deloittemining.pdf

contributed to identification of exploration potential) and warranted future costs (a reasonable exploration budget to test the identified potential). Accumulation of such expenses should be limited to the past 3-5 years. If the mining deposit has sufficient mineral reserves, then 100% of the estimate is used; If there are not sufficient mineral reserves, but there is some potential for production, then 25% of the estimate is used; If there is little or no production potential, then 0-10% of the estimate is used[10];

c) reconstruction of the cash flow model based on the values of the publicly available technical assessment of the mining deposit in accordance with IFRS6 (such as pre-feasibility, feasibility, "bankable feasibility studies"). The model is calculated for the entire life of the deposit. Technical evaluation of the deposit is sometimes available in the financial statements of the foreign direct investor, most often - in the event when direct investor is a publicly traded company.

2) Assessment of the market value of costs for research and development of technology

The problem in classification of costs as capital investments arises not only in the context of assessing the value of mining deposits. A similar problem exists for research and development costs. This is particularly true for pharmaceutical companies and companies involved in the development of information technologies which classify such costs as future expenses (shown as expenses in the income statement, reducing the company's profit) and not as capital investments (displayed as an asset in the Balance sheet). A conservative approach to these costs leads to situations where the balance sheet of a company investing in the future (investing in research and development of new technologies) looks financially worse than of a similar company that does not conduct such investments[11].

3) Estimation of market value of undervalued assets

The problem of asset undervaluation comes to light when there are large illiquid assets in the enterprises, reflected in the balance sheets on their historical cost and created with the use of foreign currency debt financing. Such large illiquid assets include, for example, pipelines, narrow-purpose real estate facilities, railway trains, etc. The original cost method fixes the price of the created asset (completed construction) in the national currency, although the obligations that arose during the creation of this asset are denominated in foreign currency.

Regarding the pipelines: an initial estimate was used to re-create the value of the existing asset at a current date. At the same time, due to data unavailability, an estimate was calculated on the cost of building pipelines in the United States[12]. This provided an estimate similar to the historical costs of the built pipelines in the financial statements of some enterprises in dollar terms at the time of the recognition of them as a completed construction.

The assessment confirms the main reason for underestimating the asset is not its original value as such (that is, the construction cost corresponds to the market prices), but the absence of a periodic revaluation of the value of the pipeline, which is fixed in the national currency.

Thus, an exchange rate is the main contributor to the emergence of negative capital in the balance sheet of this group of enterprises. To exclude the impact of the exchange rate on the valuation of assets, the value at the date of recognition of the asset as completed construction is converted into US dollars with the use of the corresponding exchange rate. That is, the initial value of the asset is calculated as if it was nominated in US dollars. Quarterly depreciation flows were also converted into US dollars at the appropriate exchange rate.

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[10] Valuation of metals and mining companies", Basinvest, University of Zurich, Swiss Banking Institute, Svetlana Baurens and Prof . DR. T. Hens, 7.Nov 2011

[11] Article «Research and development expenses: implications for Profitability Measurement and Valuation», NYU Stern Business School, Author Aswath Damodaran, http://pages.stern.nyu.edu/~adamodar/

[12] "Challenges in appraising pipelines" Team consulting, llc, Anthony E. Bell, RPA & Robert Lehn, www.teamconsulting.cc/images/challenges_in_appraising_pipelines.pdf

The information regarding the recognition of the asset as completed construction was obtained from websites of the enterprises.

A similar approach was used for other large assets (buildings, hotels, factories, etc.).

4) Using method of apportioning global value

This method is applied to medium sized enterprises with a relatively simple group structure, where the shares of the non-resident parent company can be quoted on the stock exchange, but the main production base is located in Kazakhstan. The structure of the group can be seen in the detailed consolidated financial statements of the parent company. The global value of the group can be allocated to the countries and enterprises in which the parent company is involved. Based on this indicator, assuming that the ratio of net market value to sales, net income, assets or employment is constant across the entire group of enterprises.

5) Zeroing of values

For enterprises for which there is no available information to calculate the estimate of the market value (absence of financial reporting, lack of information about the parent company, the reason for negative capital is not determined), the method of zeroing values of the enterprises is applied.

From an economic point of view, the method of zeroing assumes the value of an enterprise is the shareholder's funds. Zero value implies that the shareholder (participant) has lost all of his/her investments invested in the enterprise.

The main types of activities of these enterprises are mostly related to the provision of services (intermediary services in the sale and lease of housing and other non-production real estate, transportation services, business and management consulting, tax consulting); trade (wholesale trade of petrol, wholesale trade of tobacco products, wholesale trade of grains, seeds and animal foods, of agricultural machinery, equipment and spare parts, of other machinery and equipment, of pesticides and other agrochemical products and of a wide range of goods without any specification); lease (lease and maintenance of own or leased real estate), other type of activities (advertising, activities related to accounting and auditing, gambling and betting, commission activities in trade of a wide range of goods).

This guideline outlines the basic principles and approaches in assessing the market value of the equity of Kazakhstani enterprises. The methods listed here are not exhaustive and work continues in this direction.

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