Projection of future flows, the way to determine the specific value of an *asset*

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Abstract

The aim of this article is to present the accounting valuation, "the specific value of an asset," according to the International Accounting Standards approaching a financial vision.The methodological development was based on a documental analysis of theInternational Accounting Standards, International Standards of Financial Information and other investigations related to the financial asset valuation, especially those that deal with the topics of estimated cash flow projection and discount rate.These made it possible to identify variables and accounting categories, and explain the applications that they should have in order to know the specific value for the entity of an assetthrough an estimate of its intrinsic value and the future cash flows.

Keywords:valuation, estimated future flows, specific value, current value, discount rate

1. Introduction

The basic concepts about the valuation of assets and liabilities, according to the International Accounting Standards, are mainly associated to a reasonable value or fair value. These are closely related to the criteria used in the financial area as it incorporates a market-based measurement and not a specific measurementofthe entity.Theconcepts of current value and specific value of an asset for the organization are applicable when a similar asset or liability is not observed NIIF 13 (2012).

The article tries to base, from the financial point of view, the accounting valuation: "specific value of an asset" according to the International AccountingStandards and the International Standards of Financial Information.To do this,the research attempts to answer the following question:Which are the variables that allow us to value the assets from anaccountingperspective?

The methodological development has been based on the categorization of the Informationstarting with the variables associated to the valuation of assets, and exploring the projection of future cash flows as a basis of the financial valuation.Finally, a conclusion isreachedfocusing on the question mentioned above, associated to the variables and categories analyzed in the assets valuation, accounting standards and the financial models found in the theory.

2.0 Theory

2.1 Accounting Standards

In Chile, the study of the process of convergence of Accounting Principles Generally Accepted to International Accounting Standards (NIC-IFRS9, startedin the year 2004 when the Superintendence ofSecurities and Insurancegaveinstructions for their applicability and stated a date on which the societies under their supervision, should adopt themthrough the circular letter 368 of October 2006.Additionally, the Chilean association of accountants together with the IDB (Inter-American Development Bank) declared in their project about convergence,That"the development reached by our economic activity both National and international, revealedtheimportance of financial informationand with itthe necessity to participate in the development of the accountingharmonization at international level". (Colegio de Contadores,2006: 1)

As a result of the process of convergence and taking into account the concepts of assets, liabilities and equity, the conceptual model presented by the IASC, definedeach of them as follows:

"(a) An asset is a resource controlled by the entity as a result of pasttransactions from which the entity expectsto obtain future economicbenefits.

(b) A liability is the present obligation of a company as a result of pasttransactions, but in the moment they are due and in order to pay them,the entity has to get rid of resources which involve economic benefits.

(c) Equity is the residual part of the assets of a company after deducting allof its liabilities". (Conceptual Model, 1989;45)

From the definition of asset, two important variables are deduced and have to be considered by an organization. The first one is the control that has to be taken for the recognition of an asset, and the second variable correspondsto the acquisition of future economic benefits. The valuation must necessarily incorporate these two variables that are part of the definition presented by theconceptual model of the International Accounting Standards.

2.2 *Value of the assets, accounting vision*

The determination ofthe value of an asset, according to the Accounting Principles Generally Accepted (PCGA), wasbased on its historical cost.This was one of the eighteen accounting principleswhich appeared in the technical bulletin N°1 of the Chilean association of accountants.Due to the process of convergence, the valuation of assets such as properties, land and equipment are regarded as fixed assets. It has different approaches depending on their use and because of that, wecan identify: cost, specific value for the entity, reasonable value, recoverableamount, current value and residual value according to the NIC 16 (2005).

When dealing with costs, it implies "the amount of cash or means of paymentequivalentto the paid cash, or the reasonable value of theconsiderationto buy an asset in the moment of its attainment or construction or, when it isapplicable, the amount attributed to the assetaccording to the requirements" (NIC 16, 2004: 682)The specific value for a company corresponds to the "current cash flows which the entity expects to receive for its continual use and for the alienation ordisposalby any other means at the end of its useful life". (NIC16, 2004: 2).

The reasonable value is "the price to be received after selling an asset or to be paid after transferring a liability in a transaction between market-participantson the date to be leased." (NIIF 13, 2012:2)

In the case of a recoverable amount the value "corresponds to the greatestbetween the net selling price of an asset and its current value"(NIC 16,2004:682). This means that the valuation of a recoverable amountdepends on the current value of an asset, which according to the NIC 36 "isthe present value of future cash flows to be obtained by the asset or by a CGU(cash generating unit)". (NIC 36, 2006:1158).

The residual value of an asset "is the estimated amount that the company might getthrough the alienation of it by other means after deducting its estimated costs only if it hadreached its due date and fulfilled the conditionsat the end of its useful life". (NIC 16, 2004:682).

2.3 Value of Assets, financial vision

From a financial point of view, Van Horne and Wachowicz (2010) say that the term "value" can have different meanings as understood by different people, so it is necessary to revise the way it is used in the financial transaction to be done. The following concepts are presented so as to take them into account: associated liquidation value meaning "the amount of money which can be obtained if a asset or assets (for example, a company) is sold apart from its operational organization."(Van Horne and Wachowicz, 2010:74). Going concern value: this is associated to "the amount of money in which a company can be sold as a continuous operational business"(Van Horne andWachowicz, 2010:74).The concepts of "value" found in books and in the market are also widely usedfrom a financial point of view. In books value is considered as the cost of a asset minus its depreciation (Van Horne and Wachowicz, 2010). The market value is related to "the market price at which the asset (or similar assets) are traded in the open market" (Van Horne and Wachowicz, 2010: 74). Having in mind, the market value and its definition, the named authors present another classification. The so called, intrinsic value of a asset,defining it as "thecurrent value of a sequence of cash flows given to the investor after deductingthe yield rate corresponding to the risk implied" (Van Horne and Wachowicz, 2010: 75).

2.4. Linking the Accounting and Financial Concepts

Considering the specific value of an asset and its current value, it is shownthat both concepts are related to the current value of futureestimated flows.Therefore, from a financial point of view, it is said that the evaluation ofaninvestment corresponds to the specific value of an asset as stated by theInternational Accounting Standards.

According to the NIIF 13 (2012) the reasonable value differs from the "currentvalue. The first one reflects the assumptions that the market participantsshouldtake into consideration when fixing the price of an asset. On the other hand, the current value refers to the effects that factors from a specific entity may have, and which are not applicable to all entities." (NIIF 3, 2012:51)

Additionally,the International Accounting Standard Nº16 (2004) states the concept of recoverable amount of an asset or of a CGU; defining it as thegreatest amount between its fair value minus the alienation costs and its currentvalue. And, according to the standard NIC 36 (2006) which establishes the deterioration of the assets, the current value is defined as "the present value ofthe estimated future cash flows that they expect to achieve from an asset or CGU." (NIC 36, 2004: 1158).

2.5. Future Flows as a valuation method

From a financial point of view, flows consider cash as the incomes or expenseswhich are produced by an asset or CGU in each period, taking into consideration the variables thatoperate in those flows as a result of thedifferent future conditions which might appear. This implies a risk in theincorporation of values for the analysis.The period of time in which a flow rules for an asset or CGU must consider homogenous values throughout the whole period.

The projection of flows has to incorporate associated flows, in the case of Investments of assets or CGU, and other adjustments such as maintenance or partsthat might be necessary so as to continue making use of the asset or CGU.

It also needs to consider the incomes that the asset generates as a resultof its associated use in the company´s production thatcan be both operationaland administrative. Also the expenses associated to the necessary costs in making use of the asset or CGU.The International Accounting Standard Nº 36 states the calculation bases of the current value and which also have to be considered for the specific value of an asset or CGU indicating the following: (NIC 36, 2004)

(a) An estimate of the future cash flows, which an entity expects to achieve from an asset, musttake into account the budgets andestimatesapproved by the board of directors of the company, andin case they involve aperiod of five years or more, they have to be guaranteedto make sure toobtain those results.
(b) The expectations about possible variations in the amount or in the temporal distribution of the future cash flows must consider the projections about the length of time required to achieve economicbenefits, and the possible variations in the amounts of expenses.The analyses of sensitivity in the projects are those which deal withthe variability that each of the variables experimentin the attainment offuture flows.
Theasset investmentshave certain risks "because the cash flowsrelatedto them operate in a future time and that makes themquite uncertain". (Martinez, 2012: 136).
(c) The temporal value of money is represented by the current market interestrate, but without any risk. The interest rate corresponds to thevalue of money all through the time; therefore, when the NIC 36indicates that there is no risk, itis saying that the risks and cashvariations have been included in the flows. And in the case a projection of futureflows didn't includethe risk associated to the attainmentof cash, the discount rate had to incorporate the risks which are part of theasset, such as a property, land, equipment or even a CGU.The profitability of investment projects is calculated taking into consideration two indicators: the TIR and VAN, says Martínez(2012) "the net currentvalueis the present value or price that is paid for the investment, and theinternal return rate corresponds to the profitabilityof the investment" (Martínez 2006:136). From a financial vision, when using a reasonable value of an assetwewill be talking of its net present value (VAN).
(d) The uncertainty which all assets have can be adjusted to the flowsprojection or due to its risk to the discount rate. However, it is importantto consider either one or the other, but not both at the same time becausethis would duplicate the effect on the valuation.

(e) "Other factors, such as illiquidity may be reflected in the price given by themarket and influence the future cash flows which an entity expects toderive from an asset." (NIC 36, 2006:1163) In this case, what is reflected is the flow that comes from the entity´s projection for a specific asset or CGU.

Van Horne and Wachowicz (2010) said that the price should consider all the factors that intervene in the valuation: revenues, future prospects, administration and others. In short the intrinsic value of an asset is itseconomic valueso if the market is reasonably efficient and well-informed; the current market price of an asset or CGU will fluctuate near its intrinsicvalue.

3.0. Variables affecting the assets´ valuation when using a traditional method andestimated cash flow

The current value, the specific value for an asset, the intrinsic value of an asset, and its value necessarily use the projection of future cash flows when calculating its price. This permits to value the asset or CGU taking into accountits future projection. Thebasesto calculate its specific value are associated to:

(a) "Reasonable and based hypotheses of the projections of cash flows whichrepresent the best estimates of all the economic conditions that might appear throughout its useful life. A great importance will be given to the external evidences of the entity". (NIC 36,2004:1164)

(b) "The projection of cash flows in the budgets or recent financial estimates approved by the managers, not considering the estimates of inflows or outflows due to future restructuring or improvements in the profitability of the assets. These projections will cover a period of maximum five years unless a longer period could be justified." (NIC 36,2004:1164)

(c) "The projection of cash flows for a longer period should be based on a constant or decreasing growth rate unless an increasing rate could be justified, and it shouldn´t exceed the long term medium growth rate for products or industries as well as for the country or market where the entity operates with this asset." (NIC 36,2004: 1164)

According to the NIC 36, the estimates of future cash flows have to be composed by:

(a) "Projections of inflows that come from the continuous use of an asset;
(b) Projections of outflows necessary to generate the inflows for the continuous use of the asset (including the payments to prepare it for its use) and which could be directly attributed or distributedaccording to a uniform and reasonable base for that asset.
(c) The net cash flows that would be achieved by the asset alienation or disposal by other means at the end of its useful life."(NIC 36,2004:1165)

Before the payment of taxes, the type or types of discount to be used have to reflect the current market evaluations:

(a) "Time value of money; and
(b) Specific risks of the asset if the estimates of future cash flows have not been adjusted." (NIC 36, 2004: 1168)

According to the NIC 36, to calculate the rate the following considerations have to be taken into account:

a) "The weighted average cost of capital which is determined using techniques such as the price model of financial assets.
b) The increasing interest rate of loans hired by the entity
c) Othermarket interest rates for loans." (NIC 36, 2004:1193)

Nevertheless, these types should be adjusted:

(a) "So as to reflect the way in which the market evaluates the specific risks associated to the estimated cash flows of the assets
(b) To avoid the risks which have no relevance in the estimated cash flows,or for those that have already been adjusted." (NIC 36, 2004:1193).

Additionally to those adjustments, "risks such as country-risk, the risk-free-rate and the market risk have to be considered as potential risks." (NIC 36,2004:1193)"The type of discount is independent from the entity´s capital and in the way the entity pays for the purchase of the asset.

This is because the estimated future cash flows that derive from the asset do not depend on the way the entity financed it" (NIC 36,2004:1193)"An entity would normally use only one type of discount to estimate the current value of an asset. Nevertheless, the entity would use different types of interest for different future periods if its value were sensitive to the risks involved, or to the types of interest in time." (NIC 36, 2004:1193)

To determine the flows, the NIC 36 (2004), mentions a traditional approach and an expected cash to calculate its current value.In the traditional approach, "a unique interest rate incorporates all the expectations of future cash flows as well as the adequate risk prime "(NIC 36, 2004:1190). When talking about similar market assets, the traditional approach uses their current value with estimated cash flows and a unique discount rate that is the rate corresponding to" the risk involved." (NIC 36, 2004:1190). The expected cash approach uses all the "expectations about the possible cash flows instead of a more probable cash flow." (NIC36, 2004:1191)

Additionally, the NIIF 13 (2012) proposes other valuation approaches. One of them is the market approach that deals with market transactions which involve assets, liabilities, groups of assets or CGU that can be similar.Another one is the associated cost approach which corresponds to the amount that will be needed at present to substitute the effective capacity of an asset. The income approach transforms future amounts into a unique present amount; in this case, the valuation of inflows takes into account the market reasonable value.
The NIF 13 (2012) considers all the aspects associated to the valuation of flows which the NIC 16 and 36 mentionwith respect to the estimate of future flows as forms of valuation.

Table 1: Variables to calculate the specific value of an asset/current value

Variables to calculate the specific value of an asset/current value	Categories of the identified variable
Projection of future cash flows of an asset or CGU	Reasonable hypotheses
	Based hypotheses
	External evidence associated to the hypotheses
	Company's budgets approved by its board of directors
	Financial provisions associated to a company's asset
	Prior projections based on budgets or foreknowledge.
	Use of constant growth rates after 5 years
	Use of decreasing growth rates after 5 years
	Analysis of an increasing growth rate after 5 years
	Limitations in the use of a rate depending on the industry, market and thecountry
	Projections of inflows that come from a continuous use of an asset
	Projections of cash outflows necessary to generate cash inflows
	Net flows as a result of the alienation of an asset
	Net cash flows due to the end of an asset´s useful life
Discount rate used to calculate the value of an asset or CGU	Value of Money over time
	Specific risks of an asset
	Return on assets
	Cost of financing the asset

Source: Own elaboration based on NIC36 (2004).

According to the NIIF 13 (2012), the valuation techniques used to measure the reasonable value or each of the flows, which form part of the net flow, will "maximize the use of relevant observable variables and minimize the use of unobserved variables." (NIIF 13, 2012:10)When determining the flows, it is necessary to consider the order of importance in the reasonable value to produce each flow.

The variables considered in level one are those quotations carried out in the market (without adjustments) for similar assets or liabilities which an entity may have on the date of their measurement. NIIF 13(2012).The variables on level two are associated to the quoted prices of similar assets or liabilities found in non-active markets, and also incorporating variables that are different to those quoted prices. Finally, the variables to be found in level three are those which are unobserved for an asset or liability. (NIIF 13, 2012).

Table 2: Category of the identified variable when calculating the specific value of an asset/ current value and/or asset´s future flows.

Category of the identified variable when calculating the specific value of an asset/ current value and/or asset´s future flows.	Specification of the category (It´s way of being calculated)
Reasonable hypotheses	Definite amount for each flow
Based hypotheses	Definite amount for each flow
External evidence related to the hypotheses	Documents and quotations according to the amounts associated to inflows and outflows.
Company´s budgets approved by the board of directors.	Company´s approval which can be in the form of a signature, record or document authorizing the budget
Financial provisions associated to the asset in the company.	Documents associated to programmed maintenance considered by the company
Previous projections based on budgets or foreknowledge	Company´s budgets corresponding to analyzed assets
Use of constant growth rates after five years.	Estimate of the production growth rate of an asset in the last three years, and estimate of the average rate.
Use of decreasing growth rates after five years.	Estimate of the production growth rate of the asset in the last three years, and estimate of the average rate, including a deduction if it corresponds depending on the approved documentation.
Analysis of the increasing growth rate after five years.	Estimate of the production growth rate of the asset in the last three years, and estimate of the rate average including an increase if it corresponded depending on the approved documentation.
Limitations in the use of a rate depending on the average of the industry, market and country.	Estimate of the average rate of the industry where the company is inserted and specially the asset.
	Estimate of the market´s average rate for the analyzed asset.
	Estimate of the country´s average rate.
Projections of inflows which come from the continuous use of the asset.	Production amount of the asset measured in cash.
Projections of outflows necessary to generate inflows.	Amount of the outflows associated to the necessary resources which need to be incorporated for its production.
Net flows as a result of the alienation of the asset	Cash flow associated to the projection of the selling time of the analyzed asset.
Net flows due to the end of the asset´suseful life	Cash flow associated to the end of the asset´s useful life.
Value of Money in time	Use of homogenous amounts, use of a protected currency and incorporation of operational and financial risk
Specific risks of the asset	Associated to an operational risk (Use of a model when determining a discount rate).
Asset´s production	Associated to an operational risk (Use of a model when determining a discount rate)
Financial costs of the asset	Associated to the financial risk (Use of a model to determine the discount rate).

Source: Own elaboration according to the NIC 36 (2004).

Table 3: Models incorporated in the specifications of categories to estimate the value of an asset

Models incorporated in the specifications of categories to estimate the value of an asset	References		Formula to estimate the rate depending on the model.	Incorporated variables
CAPM	Sanchez(2010; 123)	Rate of the market cost of a liability	$Ra = Rf + (Rm - Rf) * b$	Investment risk Investment´s profitability Minimum pressing from the company
APM	Sanchez(2010; 123)	Arbitrage Princing Model	Investmentrisk = Marketrisk	Investment risk Market risk
MFM	Sanchez(2010; 123)	Multi Factor Model	Specific factors of market risk	Market risk
PM	Sanchez(2010; 123)	Proxy Model	High return, highrisk	For long periods of time, high returns imply high risks
WACC	Zuñiga, Soria y Sjoberg (2011)	Weighted average cost of capital.	Average cost rate of capital. Business level	Associated to the business risk

Source: Own elaboration according to the authors cited in the references.

Variables included in the models presented:

Factors which may impact WACC-CAPM next year include:

a. "The cost of debt
b. The corporate tax rate
c. The risk-free rate
d. The market risk
e. The market rate of return

Using spinners, adjust each of the aforementioned factors and briefly comment on how they impact WACC-CAPM". (Drougas, Walstra and Harrington,2012:8).

4. Discussion

The revised theory, associated to the accounting valuation of assets, according to international accounting standards and international standards of financial information, the convergence presented in Chile, the financial valuation, and the identification of variables and categories involved in the application of accounting and financial methods of valuation made it possible to identify financial methods which are used based on accounting standards and therefore permit to have a financial vision from the accounting perspective.

5. Conclusion

This article shows in a reflexive way the assets valuation regarding its specific and current value from an accounting perspective, according to the International Accounting Standards and the International Standards of Financial Information. Additionally, an analysis from a financial vision is carried out taking into account the recommendations presented by the IASC and IASB through the international standards issued by them. The analysis permitted to identify categories associated to the methodologyfound in NIC and IFRS. This focus their attention on the projection of future flows and the use of discount rates corresponding to the identified variables.

After identifying the categories of the two variables, it can be concluded that the traditional and the estimated cash flow models presented by the NIC 36 (2004) are based on estimated flows associated to the asset and make use of financial discount rates such as WACC and CAPM.In Chile, just a few organizations are thinking about using this methodology as it requires a profound analysis in the moment of doing a valuation with these variables and financial models.

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