Analyzing Operating Activities

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How do operating decisions affect the financial statements ?

1. Accounting Income measurement
2. Nonrecurring items
3. Deferred charges
4. Income taxes
5. Earnings per share

1. Accounting Income measurement

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Two main concepts behind income measurement:

1. **Economic income** measures the *net change in shareholders' wealth* during a period. Theoretically, it is equal to a period's cash flows plus change in present value of expected future cash flows
2. **Recurrent income** is an estimate of the *stable average income that a business is expected to earn* over its lifetime, given the current state of its business
    - Also called sustainable income or permanent income

Accounging income is based on accrual accounting and is determined by recognizing revenues and matching costs to the recognized revenues.

- Accounting income purports to measure neither economic income nor recurring income.
- Also called reported income or book income
- Accounting income has measurement error

1.1 Elements of accounting income

a) recurring income: each 💶 is equal to $1/r$ euros of company value, with r is cost of capital

b) transitory income: each 💶 is equal to one dolar of company value

- notice that this is less than the permament income

c) value irrelevant component: irrelevant to the value of the company

When analyzing financial statements, we should try to identify the recurring income component.

Accounting standars provide some guidance on how to identify recurring income:

- the line items on the income statement are arranged in a manner that allows an analyst to identify recurring and nonrecurring components of income

Common misconceptions: a majority of operating income components tend to be recurring, but not always:

- loss of inventory from fire --> nonrecurring operating loss
- interest earned --> recurring and nonoperating income

1.2 Measuring accounting income

Revenues and Gains

- similarities: earned inflows of cash or promises to receive cash from customers in the future
- differences: revenues are earned from the company’s ongoing operations, whereas gains are earned from peripheral or incidental activities (not expected to persist)

Expenses and Losses

- Expenses are incurred outflows, prospective outflows, or allocations of past outflows of cash that arise from a company’s ongoing business operations
- Losses are decreases in a company’s net assets arising from peripheral or incidental operations of a company

Income from continuing operations

- It is a common intermediate measure of income
- it excludes certain nonrecurring items, such as *extraordinary items*, and the effects of discontinued operations, from net income.
- Also called *income before extraordinary items*, or *income before discontinued operations*
- Companies without nonrecurring components will **not report** income from continuing operations because it is equal to net income.
- pre-tax and after-tax separation

Net income

- Net income is the sum of income from continuing operations and nonrecurring items
- Net income is the most widely reported measure of income
- But it **excludes unrealized (holding) gains and losses** that arise because of changes in the value of assets and liabilities that are reflected on the balance sheet
  - i.e., changes in the value of nonspeculative investment securities held by the company

Comprehensive income

- Reflects nearly all changes to in the value of equity
    - excluding changes driven by dividends and share issuances
- Comprehensive income is the bottom-line measure of income: best proxy for economic income
- It is most commonly found in the statement of changes in equity, and not as a part of the income statement

Components of comprehensive income:

1. unrealized gains or losses that result from changes in the fair value available-for-sale investment securities
2. unrealized gains or losses arising from the effective portion of cash flow hedges (derivatives);
3. foreign currency translation gains and losses
4. changes in the funded status of postretirement benefits not included in net income
5. (IFRS) revaluations of operating assets to their fair values

🔎 Example Apple 2022

CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Net sales:			
Products	$ 220,747	$ 213,883	$ 225,847
Services	53,768	46,291	39,748
Total net sales	274,515	260,174	265,595
Cost of sales:			
Products	151,286	144,996	148,164
Services	18,273	16,786	15,592
Total cost of sales	169,559	161,782	163,756
Gross margin	104,956	98,392	101,839
Operating expenses:			
Research and development	18,752	16,217	14,236
Selling, general and administrative	19,916	18,245	16,705
Total operating expenses	38,668	34,462	30,941
Operating income	66,288	63,930	70,898
Other income/(expense), net	803	1,807	2,005
Income before provision for income taxes	67,091	65,737	72,903
Provision for income taxes	9,680	10,481	13,372
Net income	$ 57,411	$ 55,256	$ 59,531

🔎 Example Apple 2022

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Net income	$ 57,411	$ 55,256	$ 59,531
Other comprehensive income/(loss):			
Change in foreign currency translation, net of tax	88	(408)	(525)
Change in unrealized gains/losses on derivative instruments, net of tax:			
Change in fair value of derivatives	79	(661)	523
Adjustment for net (gains)/losses realized and included in net income	(1,264)	23	382
Total change in unrealized gains/losses on derivative instruments	(1,185)	(638)	905
Change in unrealized gains/losses on marketable debt securities, net of tax:			
Change in fair value of marketable debt securities	1,202	3,802	(3,407)
Adjustment for net (gains)/losses realized and included in net income	(63)	25	1
Total change in unrealized gains/losses on marketable debt securities	1,139	3,827	(3,406)
Total other comprehensive income/(loss)	42	2,781	(3,026)
Total comprehensive income	$ 57,453	$ 58,037	$ 56,505

See accompanying Notes to Consolidated Financial Statements.

Accounting of comprehensive income:

- Included in shareholders' equity (balance sheet)
- Not in retained earnings ❗
  - reported in a separate component of shareholders’ equity called *accumulated other comprehensive income (AOCI)*

🔎 Example: Apple 2022

LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	$ 42,296	$ 46,236
Other current liabilities	42,684	37,720
Deferred revenue	6,643	5,522
Commercial paper	4,996	5,980
Term debt	8,773	10,260
Total current liabilities	105,392	105,718
Non-current liabilities:		
Term debt	98,667	91,807
Other non-current liabilities	54,490	50,503
Total non-current liabilities	153,157	142,310
Total liabilities	258,549	248,028
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, $0.00001 par value: 50,400,000 shares authorized; 16,976,763 and 17,772,945 shares issued and outstanding, respectively	50,779	45,174
Retained earnings	14,966	45,898
Accumulated other comprehensive income/(loss)	(406)	(584)
Total shareholders' equity	65,339	90,488
Total liabilities and shareholders' equity	$ 323,888	$ 338,516

- when the unrealized gain or loss is realized, it is reclassified from AOCI to net income
    - i.e., when the investment security is sold, two things are accounted:
    - a. the unrealized gain or loss is reclassified from AOCI to net income
    - b. previously recognized unrealized gain or loss is reversed through a *reclassification adjustment* to avoid doible counting

Analysis of accounting income:

So, what is the correct way to analyze income ❓

A huge debate about what lines should be included (excluded) when measureing income.

- firm valuation? Some analysts prefer to use income from continuing operations because of its (pseudo) recurring nature. Others prefer net income plus some adjustments.
- measure of net change in equity (or economic income)? Comprehensive income.

Important: all these measures are subjects to accounting distortions and errors

2. Nonrecurring items

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2.1 Extraordinary items

Extraordinary items are events and transactions that are both unusual in nature and infrequent in occurrence: loss of inventory from fire

- unusual in nature: high degree of abnormality and unrelated to the ordinary and typical activities of the company
- infrequent ocurrence: not reasonably expected to recur in the foreseeable future Extraordinary items are reported net of tax after continuing income.

Analysis of extraoriary items:

- Extraordinary items are not expected to recur, so they are not relevant to the valuation of the company
- but they are fully accounted when computing economic income
- typically they are excluded from income when comparing firms or analyzing trends

2. Nonrecurring items

2.2 Discontinued operations

Companies sometimes dispose of entire divisions or product lines.

When these dispositions pertain to separately identifiable business components, they are called discontinued operations.

Discontinued operations are separately reported on the income statement and the balance sheet

Accounting for discontinued operations:

- The standard is set in US GAAP (ASC 225) and IFRS 5
- Req: the operations and cash-flows of the divested business component must be distinguished from those of the continuing operations
- First: restating past 2 years of income statement excluding the discontinued operations
- Second: effects of the discontinued operations are reported separately, net of tax, below income from continuing operations.
    - (US GAAP) (1) income or loss from discontinued operations, (2) gain or loss on disposal
- Balance sheet: assets (liab.) that relate to discontinued operations are segregated and shown separately as assets (liab.) held for disposal.

Analysis of discontinued operations:

- Discontinued operations are not expected to recur, so they are not relevant for determining economic or permanent income or in determining operating or nonoperating income
- The adjustment is straightforward
    - for the current and past two years because companies are required to restate their income statements, reporting the income of discontinued operations separately.
    - Amounts for assets and liabilities are typically provided in footnote disclosures.

2. Nonrecurring items

2.3 Accounting changes

Managers may change accounting methods or estimates for a variety of reasons, including:

- to manage earnings
- adopt new accounting standards
- to better reflect changing in business conditions

Of course, accounting regulations discourage managers from applying unjustified changes in accounting methods or estimates

Types of accounting changes

1. Change in accounting principle e.g., change from LIFO to FIFO in inventory accounting, or from straight-line to accelerated depreciation

The change should be reflected in the financial statements through retrospective application of the changed principle to the current and all prior periods to the extent that it is practicable

This means that all current and prior period information in the income statement and balance sheet will reflect the effects of the new principle

Types of accounting changes

2. Change in accounting estimate e.g., change in the estimated useful life of a depreciable asset, inventory obsolescence, uncollectible accounts receivable

By their very nature, the estimates are approximations of unknown future conditions, so it is not surprising that they are subject to change

The change should be reflected in the financial statements prospectively, in the current and future periods affected by the change. So no restatement of prior periods is required.

However, the effects should be disclosed in the footnotes to the financial statements

Analysis of accounting changes:

In both cases, the analyst must consider that the accounting changes yield no cash flow consequences either present or future.

But this does not mean that the changes are irrelevant or mere cosmetics: sometimes they are used to manage earnings or can reflect new economic reality

Furthermore, the changes can affect the comparability of financial statements across time periods even withim the same company

2. Nonrecurring items

2.4 Special items

Transactions and events that are unusual or infrequent but not both.

Reported in a separete line item on the income statement, as part of *income from continuing operations*.

- but it is not garanteed that they have a transitory nature ❗

By large, they are the most common and important class of nonrecurring items.

- 1980s: just 1% of companies reported special items
- today: nearly 50% of the companies report special items
- 2% of total revenues.
- types (a)Restructuring charges (b) write-offs (goodwill, inventory, and PP&E)

Special items are a cumbersome topic among analyst.

First, the economic implications of special items, such as restructuring charges, are complex.

Second, many special items are discretionary and, hence, serve earnings management aims.

Example: earnings management with special items.

Consider a firm with a cost of capital of 10%.

Real scenario: company earns $2 per share in perpetuity. Then, the value of the company is $20 (=$2/0.1).

Manipulated scenario: company overstates earnings by $1 per share for four consecutive periods and then reverses them with a single charge in the final year as follows

$ per share	2018	2019	2020	2021
Recurring earnings	$3	$3	$3	$3
Special items	0	0	0	-4
Reported net income	$3	$3	$3	-$1

In this reporting pattern: permanent income is $3 and there is a transitory component of -$4 in just one year.

A naive analyst would consider the -$4 as a transitory shock and value the stock at $26 (=$3/0.1 - $4).

A naive and less prepared analyst would even remove the special item from the income statement and value the stock at $30 (=$3/0.1).

These amounts are substantially different than the correct value of $20

So, our main goal must be trying to identify the special items and their economic implications.

Analysis of special items

The core question: is the special charge properly categorized? if not, how their financials statemtents would look like if the special charge were properly categorized?

Some examples:

1. The company reports an asset impairment as a one-time change that is not expected to occur again.
    - could this be better treated as an accounting change? eg., shortening the useful life of the asset and increasing depreciation expense in the current and future years.

Some examples: 2. The company reports restructuring charges that can be consider an operating investment

- e.g., improving operational efficiency in a product line may result in reducing workforce and incurring severance costs.
- could this severance cost be better treated as a capital investment instead than as a special item?
- the severance cost will reduce future operating expenses and increase future operating income… as any other capital investment ❗

Let's see the disclosure of Colgate-Palmolive Company (CL) in 2022: Search for "Critical Accounting Policies and Use of Estimates" in the 10-K report.

3. Deferred charges

3. Deferred charges

Deferred charges are costs incurred that are deferred because they are expected to benefit future periods.

The motivation for deferral of costs is to better match costs with expected benefits.

This motivation underlies the capitalization of all long-term assets and their depreciation discussed in the previous topic.

3.1 R&D costs

R&D expense are the cost of the resources used to explore, discover, and develop or improve new products and processes.

R&D activities exclude routine or periodic alterations in ongoing operations, market research, and testing activities

Accounting for R&D costs

The high uncertainty of the benefits of R&D activities makes it difficult to match costs with benefits.

- would this research line be successful?
- when will the benefits be realized?
- how long will the benefits last?

So, even though R&D costs are (intangible)capital investments by nature, in US GAAP, they are expensed as incurred.

- Only costs of materials, equipment, and facilities having alternative future uses (in R&D projects or otherwise) are capitalized as tangible assets.

IFRS (IAS 38) allows capitalization of R&D costs in the later stages ("*development*") if certain conditions are met:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale
- the intention to complete the intangible asset and use or sell it
- the ability to use or sell the intangible asset

R&D costs include:

- Materials, equipment, and facilities acquired or constructed for a specific R&D project,
- Purchased intangibles having no alternative future uses.
- Materials consumed in R&D activities; and depreciation of equipment or facilities, and amortization of intangible assets used in R&D activities.
- Salaries (and other related labor costs) of personnel engaged in R&D activities.

Analysis of R&D costs

Given the accounting rules of expensing R&D costs, the analyst must consider the lack of matching between costs and benefits when analyzing the financial statements.

- Companies heavily investing in R&D in a desire for future benefits, face a decline in income and build intangible assets out of the balance sheet.
- but at the same time the stock market may reward them with higher stock prices because of the expected future benefits

So, what can we look for in the financial statements to identify the R&D activities of a company, besides the periodic R&D expense ❓

Voluntary disclosure of:

- types of research performed and their forecast,
- how close a project is from the technical feasibility and commercial viability,
- success/failure experience with R&D activities to date

4. Income taxes

4. Income taxes

4.1 Accounting for income taxes

Income tax expense (or provision) is a significant expense for most companies.

The rules for determining the amount of income tax are based on Tax Laws.

- country specific
- complex and subject to change
    - different tax rates for different types of income
    - exemptions or deductions
- losses are carried forward and offset with income arising in future periods

In general, tax rules differ substantially from accounting rules used to measure accounting income.

Therefore, taxable income is not equal to accounting income.

Differences:

a) temporary differences: timing differences about when revenues and expenses are recognized for tax and accounting purposes. The difference is expected to be reversed in the future.

- e.g., depreciation expense is recognized earlier for tax purposes than for accounting purposes
- deferred tax adjustments are used to reconcile taxable income and accounting income

Differences:

b) permanent differences: differences that are not expected to reverse in the future

- e.g., interest income on municipal bonds is not taxable, but it is included in accounting income

How to account for temporary differences ❓

Using deferred tax adjustments: these adjustment recognize in the accounting books the future tax obligations or savings that are not yet considered in the *pretax income* reported under GAAP.

Deferred tax adjustments creates important balance sheet:

- Deferred Tax Liability (DTL): It arises when tax expense on the income statement is less than tax payable on the tax return. It represents the recognition of future taxes obligations.
- Deferred Tax Asset (DTA): It arises when tax expense on the income statement is more than tax payable on the tax return. It represents future tax savings.

Example: deferred tax liability

A company purchases an asset for $10,000. This asset is depreciated using the Straight-Line method for financial reporting purposes over 5 years, resulting in annual depreciation of $2,000.

Tax low enables the company to use an accelerated method of depreciation, deducting $4,500 in the first year, $3,500 in the second year, $1,000 in the third year, and $500 in the fourth and fifth years.

Given a tax rate of 30%, let's calculate the deferred tax liability arising from the difference in depreciation methods:

Year	Accounting Dep	Tax Dep	Temp. Diff	DTL/DTA	Cumulative DTL/DTA
1	$2,000	$4,500	$2,500	$750 DTL	$750 DTL
2	$2,000	$3,500	$1,500	$450 DTL	$1,200 DTL
3	$2,000	$1,000	($1,000)	$300 DTA	$900 DTL
4	$2,000	$500	($1,500)	$450 DTA	$450 DTL
				$450	

Each year, the *Tax Expense* = *Tax Payable* + *DTL*(or - *DTA*).

Net income= *Pretax Income* - *Tax Expense*.

Analyzing deferred tax adjustments

Are they truly assets and liabilities ❓

All that a DLT or DTA suggests is that the actual tax payments will be proportionally higher (or lower) in future because tax payments were proportionally lower (or higher) in the past.

E.g., the DTL in the previous example is not a liability in the sense that the company does not have to pay anything to anyone, but it is a liability in the sense that the company will have to pay more taxes in the future relative to the GAAP income.

- In this sense, DTA and DTL do provide information about future cash flows to the extent that the temporary differences are reversed
- But they do not always reverse ❗ company growths, tax reforms, accounting reforms, inflation, future losses, etc.

Many analysts exclude DTA and DTL from the balance sheet when conducting ratio analysis.

In some industries, it is even the standard procedure: Moody's recommend that deferred tax assets or liabilities be excluded when determining solvency or liquidity ratios such as debt-to-equity ratio or current ratio.

Accounting for deferred tax adjustments

This topic can take a whole course, so we will just focus just in two core points. An interested reader can check US GAAP (ASC 740) and IFRS (IAS 12).

Computation of tax expense: Income tax expense (or provision) is not computed directly. Rather, it is computed as the difference between the change in DTA and DTL, and the tax payable to taxing authorities.

Level computation: Deferred taxes are determined separately for each tax-paying component (an individual entity or group of entities consolidated for tax purposes) in each tax jurisdiction.

🔎 Example Apple and Grifols 2022

Check Note 5.

5. Earnings per share

5. Earnings per share

Earnings per share (EPS) data are widely used in evaluating the operating performance and profitability of a company.

It is the core metric used by analysts to value a company and for business press when reporting earnings announcements.

Given the importance of EPS, it is not surprising that companies are motivated to manage earnings to meet or beat analysts’ EPS forecasts.

So it is important to understand how EPS is calculated and how it can be manipulated.

The computation and reporting requirements for earnings per share under US GAAP (ASC 260) and IFRS (IAS 33) are consistent

5.1 Basic EPS

Computed considering only simple capital structures with only common stock and neither dilutive nor convertible securities.

$$\text{Basic earnings per share} = \frac{\text{Net income - Preferred dividends}}{\text{Weighted-average number of common shares outstanding}}$$

where $\text{weighted-average number of common shares}$ is the sum of shares outstanding each day, divided by the number of days in the period

5.2 Diluted EPS

For cases where the company has securities that are potentially dilutive, such as convertible bonds, convertible preferred stock, stock options, and warrants.

Above 25% of publicly-traded companies in the U.S. have potentially dilutive securities.

Diluted EPS is computed assuming that all convertible securities are converted and options exercised at the earliest possible opportunity (full dilution)

$$\text{Diluted EPS} = \frac{\text{Net income to common shares adjusted for interest (net of tax) and preferred dividends on dilutive securitiess}}{\text{Weighted-average number of common shares outstanding (including dilutive securities)}}$$

Example: computing basic and diluted EPS

Common stock: 1,000,000 shares outstanding for the entire year. Preferred stock: 500,000 shares outstanding for the entire year.

Convertible bonds: $5,000,000 6% bonds, sold at par, convertible into 200,000 shares of common stock.

Employee stock options: options to purchase 100,000 shares at $30 have been outstanding for the entire year.

The average market price of the company’s common stock during the year is $40.

Net income: $3,000,000; Preferred dividends: $50,000; Marginal tax rate: 35%

$$\text{Basic EPS} = \frac{3,000,000 - 50,000}{1,000,000} = \$2.95$$

$$\text{Diluted EPS} = \frac{3,000,000 - 50,000 + [(5,000,000 \times 6\%)(1 - 0.35)]}{1,000,000 + 200,000 + 25,000} = \$2.57$$

🔎 Example Apple 2022

Compare with the Forecasts in Yahoo Finance

Based on:

- Subramanyam, K. R. (2014). Financial statement analysis. McGraw-Hill Education. Chapter 6.
- Fridson, M. S., & Alvarez, F. (2022). Financial statement analysis: a practitioner's guide. John Wiley & Sons. Chapters 6-8.
- Steven M. Bragg (2022). IFRS Guidebook. Accounting Tools. Chapters 20-23.
- IFRS 15 Revenue from Contracts with Customers.
- IFRS 2 Share-based Payment.
- IFRS 5 Non-current Assets Held for Sale and Discontinued Operations.
- IAS 12 Income Taxes.
- IAS 38 Intangible Assets.

Questions ❓

Check my website for an updated version of this presentation:

👉 https://www.marceloortizm.com/

Thanks 👏