Excerpt: Analyzing cash flows Basics

CONTENTS

How Do I Use the Numbers?

At the start of the chapter we indicated that the indirect cash flow statement can be a valuable resource for assessing the quality of a company's income — how useful it is for predicting future performance. Understanding the reconciliation adjustments in terms of the underlying business and accounting issues is the key to these analyses.

In concept, if income is measured reliably it should be a better predictor of future performance than current cash flows because it reflects the expected impact of current events and circumstances on future cash flows. For example, income often reflects sales on account that have yet to be collected at year-end but are reasonably assured of being collected in the future.

Of course, the key assumption here is that the receivables will be collected in the future. When this is not true, the quality of the revenues and receivables is poor. This can occur if a company starts extending credit to risky customers to ensure it meets its performance targets, or worse yet begins to fabricate sales on account to make-believe customers. When these situations are extreme, there is a red flag (warning) in the reconciliation adjustments. The receivables adjustment becomes much more negative than in the past (because receivables are increasing). However, an increase in receivables can be beneficial if a company fully expects to collect on the sales.

Red flags, such as increases in receivables, are signals to dig deeper into the numbers. To determine whether they are good or bad news, you need to understand the underlying events and circumstances and the accounting decisions that determined how they were measured and reported.

The better you understand the entries behind reconciliation adjustments, the more prepared you will be for these analyses. Almost every accounting decision requiring judgment affects one or more reconciliation adjustments. This includes many decisions associated with revenue recognition, expense recognition, and gains and losses recognition.

However, remember, these judgments are a two-edged sword: they allow honest and competent managers an opportunity to convey useful information through accounting decisions, and dishonest managers an opportunity to commit fraud. Most managers fall somewhere between these extremes and your task as an informed outsider is to identify red flags, generate as many hypotheses as possible about what is behind them, and use logic and facts to validate or refute these hypotheses.

Analyzing Recent Cash Flows

Over the long run, companies perform for shareholders to the extent net cash from operations exceeds the cash outflows required to maintain and grow the business and to meet debt obligations. To assess recent progress towards this end, users often rearrange items reported on cash-flow statements, as indicated on the next page for Intel and AMD, or create other tables along similar lines to assist in their analysis.

The modified cash-flow statements illustrate that Intel's operating cash flows have been much stronger over the past three years than those of its biggest competitor, AMD and that Intel's cash balances are much larger.

Figure 1 Intel and AMD Cash Flow Analysis

This figure illustrates cash flow analysis derived from related company statements.

Intel Cash Flow Analysis

Three Years Ended December 29, 2007

(In Millions)	2007	2006	2005
Net cash from operations	**12,625**	**10,632**	**14,851**
+ Interest payments	15	25	27
+ Income tax payments	2,762	2,432	3,218
+ Excess tax benefit from share-based payment arrangements	118	123	—
Net cash from operations before interest and taxes	**15,520**	**13,212**	**18,096**
- CAPX and intangibles needed to maintain current capacity (estimated as depreciation and amortization)	(4,798)	(4,912)	(4,595)
Cash surplus (shortfall) after maintaining current capacity, pretax and prefinancing	**10,722**	**8,300**	**13,501**
- Interest payments	(15)	(25)	(27)
- Income tax payments	(2,762)	(2,432)	(3,218)
- Principal payments on long-term debt and notes payable	—	(581)	(19)
- Short-term debt payments in excess of short-term borrowings	(39)	(114)	0
Cash surplus (shortfall) after maintaining current capacity and paying debt and taxes	**7,906**	**5,148**	**10,237**
- Cash purchases of PP&E to both maintain and expand capacity, net of disposals	(5,000)	(5,860)	(5,871)
- Net cash purchases of other long term assets to both expand and maintain capacity (estimated by net of all other investing cash flows except those related to securities)	250	719	(309)
+ Cash outflows to maintain capacity (as reported above)	4,798	4,912	4,595
Cash surplus (shortfall) after maintaining and expanding capacity and paying debt and taxes	**7,954**	**4,919**	**8,652**
- Share repurchases	(2,788)	(4,593)	(10,637)
- Cash dividends	(2,618)	(2,320)	(1,958)
Cash surplus (shortfall) before new financing and securities transactions	**2,548**	**(1,994)**	**(3,943)**
New financing			
+ Proceeds from issuing capital shares	3,052	1,046	1,202
+ Proceeds from issuing long term debt	125	—	1,742
+ Short-term borrowings in excess of short-term debt payments	0	0	126
Securities transactions			
+ Proceeds from selling investment securities and maturities	8,011	7,147	8,433
- Purchases of investment securities	(13,187)	(6,994)	(8,668)
Other cash flows	160	69	25
Net increase (decrease) in cash	709	(726)	(1,083)

AMD Cash Flow Analysis

Three Years Ended December 29, 2007

(In Millions)	2007	2006	2005
Net cash from operations	**(310)**	**1,287**	**1,483**
+ Interest payments	314	79	139
+ Income tax payments	26	17	40
Net cash from operations before interest and taxes	**30**	**1,383**	**1,662**
- CAPX needed to maintain current capacity (estimated as depreciation and amortization)	(1,305)	(837)	(1,219)
Cash surplus (shortfall) after maintaining current capacity, pretax and prefinancing	**(1,275)**	**546**	**443**
- Interest paid	(314)	(79)	(139)
- Income taxes paid	(26)	(17)	(40)
- Principal payments on long-term debt and capital lease obligations	(2,291)	(539)	(316)
- Purchase of capped call	(182)		
- Other financing	(2)		(7)
Cash surplus (shortfall) after maintaining current capacity and paying debt and taxes	**(4,090)**	**(89)**	**(59)**
- Cash purchases of PP&E to both maintain and expand capacity, net of disposals	(1,612)	(1,834)	(1,503)
- Net cash purchases of other long term assets to both expand and maintain capacity (estimated by all other investing cash flows except those related to marketable securities)	175	(3,416)	(41)
+ Cash outflows to maintain capacity (as reported above)	1,305	837	1,219
Cash surplus (shortfall) after maintaining and expanding capacity and paying debt and taxes	**(4,222)**	**(4,502)**	**(384)**
- Repayment of silent partner contributions	(46)	0	0
Net cash inflows (outflows) before new financing	**(4,268)**	**(4,502)**	**(384)**
New financing			
+ Proceeds from issuance of common stock	608	495	0
+ Proceeds from sales of shares through employee equity incentive plans	78	231	189
+ Short-term borrowings in excess of short-term debt payments	0	0	77
+ Additions to long-term debt and notes payable to bank	3,649	3,366	169
+ Proceeds from limited partners and sale leaseback			219
+ Proceeds from government grants and subsidies	223	210	163
Marketable securities transactions			
Purchases of available-for-sale investments	(545)	(2,119)	(1,562)
Maturities and sales of available-for-sale investments	307	3,066	836
Other cash flows			7
Net increase (decrease) in cash	52	747	(286)

Source: Companies' websites

See accompanying notes in annual report

Net cash from operations

The first row in the modified statements reveals net cash from operations is positive all three years for Intel but negative for AMD in 2007. Operating cash flow deficits (e.g., negative net cash from operations) are often red flags for investors, meaning situations where healthy skepticism and further inquiry is warranted. Operating deficits must be covered by cash reserves, selling assets, or by issuing debt or common stock.

Successful companies often have operating deficits when they are growing quickly, especially during their early years. Operating deficits are also common when there are downturns in the economy. However, operating deficits can also signal problems: sooner or later companies have to generate positive operating cash flows to stay in business and return cash to their investors.

Net cash provided from operations before interest and taxes

Investors often assess performance before interest and taxes. Adjusting for interest allows investors to compare operating performance across companies with different levels of debt financing. Adjusting for taxes allows them to focus on management's performance in running the company independent from their tax strategies, over which they have limited control. You may have heard of a similar adjustment on income statements called EBIT — earnings before interest and taxes, or of a related measure called EBITDA — earnings before interest, taxes, depreciation, and amortization, which we will discuss later.

Intel's tax payments were significantly larger than AMD's over the three years, reflecting its larger size and superior profitability. (For reasons that are well beyond the scope of this chapter, Intel also has an adjustment for excess tax credits associated with share-based compensation.)Thus, the tax adjustments are more significant for Intel. By contrast, notwithstanding its smaller size, AMD paid more interest each year, especially in 2007. As we shall see shortly, AMD increased its debt significantly over this period.

Cash surplus (shortfall) after maintaining current capacity, pretax and prefinancing

This measure assesses the extent to which operating cash flows are adequate enough to maintain the current operating capacity. Ideally, it is the amount spent on PP&E and other long-term assets during the current year to maintain the current level of sales and profitability.

This measure allows investors to isolate the effects of growth. For example, they can split the current cash outflows for PP&E additions into two components: the cash needed to maintain capacity and the cash needed to expand capacity (included below).

Outsiders do not observe this measure so they must estimate it from reported information. One approach, which we have followed, is to use the current year's depreciation and amortization as a proxy for the expenditure needed to maintain capacity. The rationale for this proxy is that depreciation and amortization measure current period usage of long-term assets and this usage must be replaced to maintain capacity levels.

Intel's pretax-prefinancing operating cash flows are significantly more than is needed to cover depreciation and amortization for the three years. AMD's operating cash flows covered capacity maintenance for 2005-2006 but fell short by $1,275 in 2007.

Cash surplus (shortfall) after maintaining current capacity and paying debt, and taxes

If companies can not maintain their current operating capacity and can not meet their current obligations to debt holders and tax authorities, investors are likely to be skeptical about making contributions to finance growth. This skepticism can be overcome if investors believe there are great products in the pipeline or other reasons to believe the company will generate more cash in the future than it has in the past.

For 2005-2007 Intel's operating cash flows easily covered its expenditures to maintain current capacity, pay taxes, and meet debt obligations. By contrast, AMD has a $4,090 deficit after these cash outflows in 2007.

Cash surplus (shortfall) after maintaining and expanding current capacity and paying debt, and taxes

When this measure is positive, as it is for Intel in all three years, it means the company is financing its growth internally from operating cash flows. Any remaining cash flows can be returned to owners or invested in securities that can be liquidated in the future to cover growth or weather downturns. For the three years 2005-2007, Intel generated a total of $21,525 for these purposes. By contrast, AMD had a total deficit of $9,108 during these three years that had to be covered by new financing.

Cash surplus (shortfall) before new financing and securities transactions

This is the current-year cash flow after distributions to owners but before new financing. When it is positive, as it was for Intel in 2007, it means the company has held back cash flows that otherwise could have been distributed to owners.

When this measure is negative, it means the company had to cover the total net outflows for the current year, including returns to owners, by a combination of liquidating securities purchased in prior years, using cash balances carried over from prior years, or securing external financing. For Intel, the measure was negative in 2005 and 2006 because Intel returned over $19.5 billion to owners through dividends or stock repurchases.

For AMD, the measure was negative for all three years because of cash outflows discussed earlier. In fact, aside from a relatively insignificant return of $46 million to a silent partner, AMD did not return any cash to its owners during the three years.

Net increase (decrease) in cash

Intel's employees provided a total of $5,300 of new financing during the three years by exercising stock options or otherwise exchanging cash for shares. Intel also issued $1,742 of long-term debt in 2005 but only issued a total of $125 during 2006 and 2007. By contrast, during 2006 and 2007 AMD issued $7,015 of long-term debt and $1,103 of common stock, and received an additional $309 from employees related to share-based incentive programs. Thus, AMD is increasingly relying on debt financing.

When net cash flows after new financing is positive, it is used to build cash reserves or increase investments in securities. By contrast, when it is negative, cash reserves or investment balances must be used to cover the shortfall.

Cash Flow Analysis and Company Life Cycles

We have seen that Intel's operating cash flows were much stronger than AMD's during 2005-2007, which probably more than anything else reflects the fact that Intel significantly outperformed AMD in the battle for market share in microprocessor chips. The consequences for AMD show up throughout its financial statements, but as we have seen they are particularly evident on the cash-flow statement.

Cash flow analyses like the one we conducted become increasingly important to investors when companies perform poorly over prolonged periods and respond by increasing debt, as AMD did. This is particularly true when credit markets are tight, as they were during late 2007 and 2008.

The closer companies get to bankruptcy or liquidation, the more investors tend to focus on cash flows and product pipelines. In fact, the focus on cash flows tends to be most pronounced at the two extremes of companies' life cycles. Venture capitalists and entrepreneurs focus almost exclusively on cash flows during the early years of a new venture and, in particular, on the rate at which cash is used — the burn rate. The critical concern

is whether the company will run out of cash before it has time to launch products and win over customers. Intel's investors do not have this concern because Intel's operating cash flows far exceed its cash needs.

More generally, as companies progress through their life cycles, their operating cash flows tend to cover more of the costs we discussed earlier: Early on cash from operations is negative. The company succeeds by first generating positive operating cash flows, then positive cash flows that cover capacity maintenance costs, and so on. If the company starts performing poorly, this process can begin to reverse itself and the lack of cash can ultimately lead to liquidation.

Assessing the Quality of Earnings

The indirect cash-flow statement can be a valuable resource for assessing the quality of a company's income — how useful it is for predicting future performance. Understanding the reconciliation adjustments in terms of the underlying business and accounting issues is the key to these analyses.

In concept, if income is measured reliably it should be a better predictor of future performance than current cash flows because it reflects the expected impact of current events and circumstances on future cash flows. For example, income often reflects sales on account that have yet to be collected at year-end but are reasonably assured of being collected in the future.

Of course, the key assumption here is that the receivables will be collected in the future. When this is not true, the quality of the revenues and receivables is poor. This can occur if a company starts extending credit to risky customers to ensure it meets its performance targets, or worse yet begins to fabricate sales on account to make-believe customers. When these situations are extreme, there is a red flag (warning) in the reconciliation adjustments. The receivables adjustment becomes much more negative than in the past (because receivables are increasing). However, an increase in receivables can be beneficial if a company fully expects to collect on the sales.

Red flags, such as increases in receivables, are signals to dig deeper into the numbers. To determine whether they are good or bad news, you need to understand the underlying events and circumstances and the accounting decisions that determined how they were measured and reported.

The better you understand the entries behind reconciliation adjustments, the more prepared you will be for these analyses. Almost every accounting decision requiring judgment affects one or more reconciliation adjustment. This includes many decisions associated with revenue recognition, expense recognition, and gains and losses recognition.

As you learn new entries in later chapters, you will become increasingly adept at interpreting the reconciliation adjustments, and thus at assessing the quality of earnings. For now, we are going to focus mainly on ABC Company, where you understand the entries. Still, seeing how to interpret ABC's reconciliation adjustments will help you begin to learn how to interpret real companies' adjustments. In fact, when appropriate, we will explain how the ABC analysis applies to Intel and other companies.

ABC Company Indirect Statement of Cash Flows
First year of operations

Operating Activities	
Net Income	$40
Depreciation	$10
Receivables	($20)
Inventories	($80)
Accounts payable	$40
Net cash from operations	($10)

Outsiders analyzing ABC's financial statements would want to determine how concerned they should be about the $10 first year operating cash deficit. To the extent they conclude the $40 of net income — the first year's performance measure — signals solid future performance and positive future operating cash flows, they will be less concerned about the operating deficit.

To this end, they will want to assess the quality of the current year's income, meaning how well it measures what it is intended to measure (performance), and they are going to want to assess the extent to which the first year's income is a good predictor of future income and cash flows.

To understand how ABC's four adjustments affect the reconciliation, outsiders need to know the operating events that affect them and how these events affect net income and cash from operations. That is, as an outsider, you need to understand the earlier discussion.

You also need to know how to assess the combined or net effect of all entries associated with each reconciliation adjustment, and how to interpret this net effect in terms of the underlying events and circumstances.

Depreciation adjustments

Depreciation is a common reconciliation adjustment on cash-flow statements. For companies such as ABC that do not manufacture the products they sell, the depreciation adjustment simply reverses depreciation expense recognized in net income that does not affect net cash from operations.

Regarding the quality of earnings, a dishonest manager who wishes to manipulate income can do so by reducing depreciation expense, providing he can deceive auditors, the regulators, and users. But, doing so will decrease the depreciation adjustment and a skeptical user of the company's financial statements will view a large decrease in this adjustment from one year to the next as a signal for further investigation.

This does not mean managers are necessarily manipulating income every time they reduce depreciation expense. There are very valid reasons for doing so. For example, if a company believes an asset will last longer than originally expected, it can reduce its annual depreciation.

Because of the potential for manipulation and honest errors estimating usage, auditors, investors, regulators and other outsiders generally get very skeptical when depreciation numbers deviate much from industry norms. This is good and bad news. The good news is manipulation and honest errors associated with depreciation are mitigated. The bad news is companies that use their assets differently than others in the industry and would report this usage accurately feel compelled to conform to the industry norms. In the limit, if all companies in the industry report the same depreciation, this measure is not longer useful for comparing companies within the industry.

Ultimately, a user must assess the extent to which reported depreciation is a good (bad) measure of usage and this assessment will affect his overall assessment of the quality of the company's earnings and his prediction of its future cash flows.

For example, if a company decreases its depreciation and the user concludes that depreciation is an excellent measure of usage, he can reasonably infer that either: (1) the cash outflows to replace the related PP&E will be deferred because the PP&E will last longer; or (2) if the PP&E will be replaced at the same time as originally planned, less cash will be needed because the trade-in value will be larger.

This discussion relates to a widely used performance measure mentioned earlier: EBITDA, or earnings before interest, taxes, depreciation, and amortization. This measure removes depreciation and amortization from income. Investors who use this measure rather than earnings are indicating, perhaps implicitly, that depreciation and amortization diminish the quality of earnings.

Receivables adjustments

Net income differs from cash from operations when revenues, recognized in net income, differ from cash collections, recognized in net cash from operations. We have seen that this difference explains the receivables adjustment for companies like ABC that recognize revenue when customers are billed.

Again, regarding the quality of earnings, a dishonest manager can manipulate income by billing customers and recognizing revenues before goods are delivered to customers or otherwise meet customer specifications. Worse yet, in a few notorious cases managers have fraudulently recognized revenues by billing customers who did not exist and shipping merchandise to secret locations. In these examples of deceit, revenues are much larger than cash collections and large negative receivables adjustments are needed to reconcile net income to cash from operations.

A healthy skeptic will view a large negative receivables adjustment (relative to past years or competitors' adjustments) as a signal for further investigation. Again, keep in mind that there can be perfectly valid reasons for unusually large increases in accounts receivable so this does not necessarily signal manipulation. For example, an honest and competent manager facing an abrupt downturn in the economy and increased credit risk can end up with a comparable adjustment.

After a careful investigation, to the extent that the skeptic concludes that the increase in receivables will (not) be collected in a timely basis, she will infer that the company's revenues are of high (low) quality. This assessment will affect her overall assessment of the quality of the company's earnings and her prediction of future cash flows.

Inventories and accounts payable adjustments

It is easier to interpret the combined effect of the inventories and payables adjustments before interpreting them separately. Recall, ABC recognized $20 cost of sales, which had a ($20) effect on income, but it paid its vendors $60, which had a ($60) effect on net cash from operations. A ($40) adjustment is needed to reconcile the ($20) income effect of cost of sales to the ($60) cash from operations effect of the vendor payments. This combined ($40) adjustment indicates that ABC paid $40 more for inventories than it expensed as cost of good sold.

Similar to receivables, unusually large increases in inventories signal a need for a thorough investigation of related business and accounting issues. For example, if inventories start increasing because sales fall off, a company may need to decrease the sales prices below cost to unload the inventory. When companies anticipate this, GAAP requires that they write down the value of the inventory on their balance sheet at year end. The entry decreases inventories and increases cost of sales, indicating the future benefits associated with the inventories have decreased. Determining whether inventories should be written down takes considerable judgment, leaving room for honest errors and manipulation.

When companies fail to write down inventories, the result is higher inventories than are appropriate and thus a more negative inventories reconciliation adjustment than is appropriate. As a result, investors should exhibit a healthy degree of skepticism about inventories adjustments during periods when demand for a company's products are declining.

To summarize, collectively ABC's four reconciliation adjustments meet the second purpose of cash-flow statements — they help users reconcile differences between net income and cash from operations, which helps them assess the quality of net income and predict when income will be converted to cash.