



Excerpt: Revenue Recognition, Bad Debts, and Product Returns

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FRAMING THE ISSUES

Here we take a deeper look into revenue recognition, the related risks, and the consequences for accounting. The judgments around revenue recognition are extremely complex. These issues often involve challenging business and accounting decisions and users of financial statements need to understand these when interpreting related disclosures.

Revenue Recognition Criteria

Revenue must be deferred until four criteria are met:

1. *Persuasive evidence of an arrangement:* This criteria was put in place to stop opportunistic managers from devising sham transactions to increase revenues, which occurred frequently prior to the accounting scandals in 2002. For example, some opportunistic managers under pressure to make sales targets near the end of the quarter would enter arrangements called **round-trip sales** whereby they would sell products to third-parties prior to the quarter-end with a promise to buy the products back for a higher price early the next quarter.
2. *Delivery has occurred or service has been rendered:* This criteria was put in place to stop opportunistic managers from recognizing revenues before they fulfilled their obligations to customers and, in particular, before they transferred the risks of ownership to customers and customers accepted the goods or service. For example, some managers entered **bill and hold** arrangements where they would offer customers a bargain price near the end of the quarter to purchase products before the customers needed them, or even had storage space for them. The seller would “bill” the customer and recognize revenue, but agree to “hold” the products for future delivery.
3. *Fixed or determinable sales price:* This criteria aims to prevent revenue recognition when the ultimate price of a product or service is unknown or can not be estimated reliably. For example, before this criteria was recognized, retailers would recognize revenues when they received up-front annual membership fees from customers, even when these fees were fully refunded if customers subsequently decided to terminate the memberships. The SEC argued the price of the product could essentially change during the period covered by the membership contract (e.g., from the initial fee to \$0 if it was fully refunded).
4. *Collectibility is reasonably assured:* This criteria aims to improve the quality of recognized revenue — the cash will be collected from the customer. This criteria differs from the other three in that it centers on the customer’s performance obligation — to pay for the good or service — rather than on the seller’s performance obligations.

These criteria apply to a broad range of sales arrangements; but they do not apply to contexts where revenue recognition is guided by specific GAAP such as banking, leasing, and motion picture productions. In fact, U.S. GAAP has over 160 standards that guide revenue recognition. Moreover, applying the four criteria often requires considerable judgment.

For example, retailers often allow customers to return products for a full refund during the return period. Thus, strictly speaking, prices are not fixed at the sales date (they may end up being \$0 if a customer returns products) and thus, customers have not really accepted them. The SEC permits companies to recognize revenue at the sales date in these

situations, providing the company can reliably estimate returns, which can require considerable judgment.

Risks and Risk Sharing

Applying the four revenue recognition criteria or industry-specific revenue recognition GAAP is often considerably complex because the underlying sales agreements can be very complex. Generally, this complexity is due to sales arrangements specifying how sellers and buyers assume risks, share risks, or try to protect themselves from bearing risks.

This excerpt focuses on two risks particularly important to revenue recognition and related receivables and allowances balance sheet accounts: credit risk and customer preference or demand risk.

Credit Risk

In addition to being one of the four criteria for revenue recognition, reasonable assurance of collectibility is a necessary condition for staying in business: a business could quickly find itself in bankruptcy if it failed to collect a big chunk of its receivables.

While few companies are driven to bankruptcy by customers failing to pay their bills, companies with significant receivables can suffer large decreases in profitability even if a relatively small portion of their customers stop paying their bills.

For example, General Motors (GM) reported approximately \$245 billion of gross receivables on its balance sheet at the end of 2004, which represents slightly more than 50% of its assets. Some of these receivables are associated with product sales: GM bills dealers when it sells them cars. Revenues associated with these sales should only be recognized when GM is reasonably certain it will collect the related receivables and can reliably estimate the amounts that will not be collected — the bad debts.

The biggest portion of GM's receivables are related to loans or leases on a wide array of assets sold by other companies, but financed by GM. For these receivables, GM should only recognize related interest revenue if it is reasonably assured it will collect the interest and principal on these loans and can reliably estimate the related bad debts.

GM also recognized approximately \$2 billion of bad debt expense for 2004. We will discuss this expense in great detail later. For now, all you need to know is bad debt expense tends to increase when customers are less likely to pay their bills.

- GM's \$2 billion bad debt expense was very significant relative to its \$1.2 billion of pretax income for 2004. To put this in perspective, bad debt expense could have wiped out GM's \$1.2 billion of pretax income if it had increased by less than 1/2% of GM's \$245 billion of ending accounts receivable.
- Thus, an outsider valuing GM's stock or an insider managing its receivables should carefully assess the risk of this occurring, which is called credit risk.
- Additionally, GM must carefully assess credit risk when deciding whether to recognize revenue.

Credit risk refers to the possibility a debtor — usually a customer — will not make payments on time, or default on the debt altogether. When these events occur, creditors can usually take one or more legal actions to try and minimize their losses. For example, they can take the debtor to court or seize the collateral, providing the expected benefits from these actions exceed the expected costs. Credit risk depends on two factors that can offset or aggravate each other, depending on the context:

- **Collateral risk:** the risk the value of the collateral will decline. By definition, this risk pertains to the asset serving as collateral.
- **General credit risk:** the risk associated with the debtor's overall capacity to meet an obligation from its combined assets. This risk is less severe for agreements where the creditor has seniority — is paid earlier in the event of bankruptcy.

Collateral: Assets pledged to secure debt. In the event the debt obligations are not met, the lender can seize the assets.

To understand how these risks can offset or aggravate one another, consider a car loan from General Motors, which is reported as a financing receivable on GM's balance sheet. If the value of the car increases dramatically during the loan period, the collateral risk is essentially zero, regardless of the customer's general credit risk: GM can avoid losses by repossessing the car, if the customer is foolish enough to default on the loan (rather than sell the car, pay the loan, and keep the balance).

Similarly, if the value of the car decreases completely, collateral risk increases. However, GM will not be overly concerned if the customer has low general credit risk: owns several other valuable assets and few other obligations. GM can threaten to take the customer to court to get the value of these other assets if the customer tries to default on the loan.

Both of these examples illustrate that these two risks can offset each other in some contexts. However, they can also aggravate each other if the value of the debtors' assets are correlated.

Credit risk is more problematic for some companies than others depending on the length of the agreements, the nature of the collateral, and the debtors' financial circumstances, and the portion of total assets that are receivables or other debtor-creditor arrangements, such as debt investment securities. For example, consider that General Electric, General Motors, and Ford collectively recognized nearly \$700 billion of receivables at the end of 2004, which was slightly more than 50% of their combined total assets. In contrast, receivables comprise less than 5% of total assets of many other well known companies, including Wal-Mart and Home Depot.

Also collectively, GE, GM, and Ford recognized over \$12.6 billion of bad debts allowance at the end of 2004. The allowance for bad debts is a **contra asset** to gross accounts receivables, reflecting the credit risk associated with these receivables. It is intended to be management's best estimate of the gross receivables that are not expected to be collected in the future (net of recoveries associated with repossessed collateral) as of the balance-sheet date.

For companies with large receivables balances, estimating the allowance for bad debts requires considerable judgment and slight changes in the assumptions behind these judgments can have dramatic financial-statement consequences. If a company's estimates for bad debts require significant judgment it this is identified and discussed in the company's Management Discussion and Analysis (MD&A) sections of its annual report.

In response to the 2002 accounting scandals, the SEC requires companies to identify and discuss their most critical accounting estimates in their MD&A, where two criteria must be met for an estimate to be deemed critical:

- The estimate requires the company to make assumptions about issues that are highly uncertain at the time when the estimates are made. This criterion directly relates critical accounting estimates to risks.
- Different estimates the company reasonably could have used for the current reporting period, or changes in accounting estimates reasonably likely to occur from period to period have a material impact on the company's financial statements and disclosures.

Not surprisingly, GE, GM, and Ford include bad debts estimation as one of their 4-8 critical accounting estimates. Indeed, over 30% of the Fortune 100 companies (largest 100 companies measured by sales) and over 50% of Fortune 900-950 companies include bad debt estimation as a critical accounting estimate in their 2004 annual reports.

There are three key lessons here:



- Get in the habit of studying the critical accounting estimates in the management discussion and analysis sections of annual reports (and 10-Ks, which are expanded versions of annual reports filed with the SEC) to identify where the accounting might be suspect because it requires considerable judgment, which provides opportunities for honest errors or manipulation.
- Estimating the allowance for bad debt is frequently listed as a critical accounting estimate and the uncertainty associated with these estimates depends directly on the company's exposure to credit risk.
- The more you understand the underlying credit risk, the better prepared you will be to assess the reliability of the allowance for bad debts and bad debt expense (defined later).

Companies can take several steps to manage credit risk including:

- Screening customers carefully before extending credit.
- Setting credit limits: preventing sales persons from selling more goods and services on account once a customer's outstanding receivables hit pre-specified limits.
- Monitoring receivables and refusing to sell additional products to customers who do not pay their current balances in a reasonable amount of time.
- Outsourcing customer financing to third parties, who assume the related credit risk.
- Selling receivables to banks and other financial institutions, which is called **factoring**.
- Selling receivables to **special purpose entities (SPE)** — legal entities created for a single purpose — buying receivables with cash raised by issuing mostly debt securities. The receivables are said to be securitized because the SPE's investors have debt and equity *security* claims on only one asset — the SPE's receivables.

To assess the costs and benefits of taking these actions, insiders and outsiders must understand the accounting issues discussed in this excerpt.

Customer Preference Risk and Demand Risk

Have you ever found yourself conflicted when trying to decide whether to purchase a big-ticket item such as a television, computer, automobile, or house? On the upside, you are beginning to get emotionally attached to the product, believing it has the potential to make a big difference in the quality of your life. On the downside, you are not sure you can afford it and even if you can, you are not sure it is the best way to spend your money or assume debt. Maybe you can get a better deal on the product elsewhere, find a close substitute from a competitor at a lower price, or find a completely different use for your money that gives you more satisfaction, including investing it because you are concerned about the economy or otherwise want to ensure you can consume more in the future.

Your uncertainty about this product versus other alternatives for the same or less money reflects your **preference risk** — uncertainty about your preference for a product or service. From the perspective of the person trying to sell you the product and more generally the supply chain he or she represents, the way you resolve this uncertainty has an upside — you buy the product — and a downside — you take your business elsewhere.

From the seller's perspective, your preference risk combined with other customers' preference risk increases **demand risk** — uncertainty about the quantity of products that can be sold at various prices.

For the most part, we will not be concerned about subtle distinctions between demand risk (that directly affects sellers but only affects buyers indirectly through prices) and customer preference risk (that directly affects both customers and sellers) and will use the terms interchangeably to mean the risk customers will prefer another alternative to a company's products, or buy its products and return them at a later date for a refund.

Customer preference (demand) risk either encompasses or is affected by several other risks companies can manage to varying degrees. Some of these risks, such as downturns in the economy, commodity price increases, and increasing competition, are largely beyond companies' control. They can take actions to mitigate their consequences; but they can not control them at the source.



Regardless of whether companies respond pro actively or reactively, their success depends largely on their ability to manage risks better than their competitors.

In the long-term companies can devise strategies to mitigate customer preference risk including, among other things, designing innovative products and/or cutting costs and passing some of the savings along to customers. Companies also frequently take shorter-term actions, which is the focus herein, including offering customers:

- Generous return policies, allowing customers to purchase products they are uncertain about, knowing they can return them at a later date if the products fail to meet their expectations, they find better substitutes, or they find themselves strapped for cash.
- Comprehensive warranties to alleviate customers' concerns about defects and product quality.
- Price protection, rebates, and volume discounts to mitigate customers' concerns about finding lower prices elsewhere.
- Customer loyalty programs such as frequent flyer programs to encourage repeat business.
- Attractive payment terms such as below market interest rates to address customers' concerns about financing.
- Competitive prices for all of the above features.

Another way companies manage customer preference risk is advertising. By advertising companies can provide information about products, which reduces customers' concerns as to whether the products will meet their needs. Advertising can also provide emotional comfort. Let's face it, ads frequently tell us very little about products but still strengthen our emotional bond to them.

Companies must understand and manage customer preference risk to achieve sales growth—a key driver of shareholder value. However, establishing return policies, credit terms, warranty policies, and taking other actions to stimulate sales growth entails taking on costs and risks that can affect the other two key determinants of shareholder value—return on equity and the cost of capital—favorably or adversely depending on how companies forecast and manage these costs and risks and implement related policies.

For example, if a company were to offer lifetime warranties and return privileges for products only expected to last a few years, it would stimulate considerable sales growth in the short term, but ultimately the company would likely go out of business. By contrast, if a company were to set return periods too short, restocking fees too high, or only offer exchanges rather than refunds, it would run the risk customers would take their business to competitors offering more generous terms.



Companies often shift risk from customers to themselves to lower customer preference risk. For example, preference risk is generally lowered when companies offer return policies superior to their competitors. Customers feel more comfortable purchasing products knowing they can return them for refunds. However, companies are then stuck with the risk returned products will become obsolete or otherwise become impaired and bear costs to process, hold, and resale returned products.

Similarly, warranties shift customer preference risks associated with product quality from customers to sellers. Price protection also shifts customer preference risk associated with the risk prices will decline after purchases from customers to sellers (or the risk customers will find lower prices elsewhere).

In other situations companies take actions to mitigate customer preference risk such as offering coupons, sales rebates, or reward points. Here risk is not shifted from customers to sellers, but sellers still incur risks. For example, companies run the risk of offering costly rebates to customers who would have purchased the products without rebates or offering more generous rebates than are needed to attract sales. Similarly, offering generous credit terms to customers to alleviate financing concerns can be risky because sellers assume not only credit risk, but also interest rate risk, and in some cases, foreign currency risk.

Many of the actions companies take to manage customer preference risk affect revenue recognition. For example, companies must estimate product returns and warranty costs when they make related sales. When these estimates are not reliable because a company does not have enough historical experience to establish reliable benchmarks, they can not recognize revenue on these sales when products are delivered.

Thus, in assessing a company's performance, outsiders not only need to understand the financial-statement consequence of actions taken to manage customer preference risks, outsiders should also consider the extent to which the benefits from these actions more than compensate for the costs and risks. To this end, outsiders rely greatly on numbers reported in financial statement and footnotes. However, many of these numbers are based on estimates affected by the underlying risks and can require considerable judgment when these risks are severe.

Accounting Implication of Risks

The remainder of our discussion focuses primarily on record keeping and reporting associated with events and circumstances greatly influenced by credit risk, customer preference risk, and companies' efforts to manage these risks. We will briefly discuss a few accounting implications of these risks to help you recognize the similarities in the measurements and entries in the subsequent sections.

Credit risks and customer preference risks definitely have important income statement consequences. However, the measurement focus is primarily on balance sheets and, in particular, on ensuring the end-of-period balances in allowances are adequate to cover future costs associated with these risks or efforts to manage them.

For example, the GAAP measurement goal associated with bad debts is to ensure the ending balance in the allowance for bad debts represents management's best estimate of future bad debts associated with the outstanding receivables on the balance-sheet date or, equivalently, net accounts receivable is management's best estimate of the expected future collections.



To this end, companies typically record an adjusting entry at the end of the reporting period ensuring the allowance has the right balance. The amount recorded in this entry is determined by the target ending balance: the accountant first estimates the ending balance and then determines how much must be recorded to ensure this balance. This balance-sheet measurement approach contrasts with the accounting we have studied thus far, where ending balances simply totaled entries and did not influence the amounts recorded.

Like bad debts, the measurement goal for warranties is to ensure the balance sheet records a warranty liability, also called a warranty allowance or warranty reserve, that is management's best estimate of the future warranty claims associated with products sold in the current and prior periods still under warranty. Also similar to bad debts, an adjusting entry is recorded at the end of the period to ensure this balance.

Similarly, the accounting for sales returns, price protection, rebates, loyalty programs, and other sales incentives generally centers on getting the appropriate balances in allowances that are either contra assets (like the allowance for bad debts) or liabilities (like the warranty allowance).

Another common concept is that the adjusting entries ensuring the correct balance sheet numbers also affect income. For example, the adjusting entry to ensure the correct ending balance for the allowance for bad debts also increases bad debt expense.



As you study the subsequent sections pay particular attention to which income statement line items are affected by these entries. Some increase contra revenues and thus reduce net revenues while others increase expenses.

You do not need to understand much about credit risk and customer preference risk to understand the entries herein, their financial-statement consequences, and the underlying events and circumstances they aim to measure. However, you do need to calibrate the extent to which these risks are present in the business context to assess how reliably

the numbers in these entries measure what they are intended to measure. Several factors affect the reliability of reported numbers, but three are particularly important: the extent to which the underlying events and circumstances are risky, the extent to which there are reliable measurement benchmarks — market prices, historical measures of comparable activity, or other companies' measures of comparable activity — and the extent to which managers are motivated to report honestly.

Generally, the riskier the activity being estimated (such as future bad debts, product returns, or warranty claims) and the less reliable the available benchmarks, the greater the possibility of measurement errors for all managers and the more opportunities there are for dishonest managers to manipulate measures.

Historically, the measures we will be studying here have frequently been associated with earnings manipulation, with numerous managers facing the SEC's wrath for under reporting allowances to boost income or recognizing revenue when there was too much uncertainty about future product returns or collections.

The measures discussed in this excerpt can be particularly suspect since they require the most judgment and are recorded at the end of the period when managers are feeling particularly pressured to make their performance targets and know how close they are to making them. If they know they are going to fall short of their targets, they may be tempted to reduce allowances below what they should be to comply with GAAP and thus increase reported income. By contrast, if they know they will otherwise exceed their performance targets, they may be tempted to build a cushion for the future by increasing allowances above what they should be to comply with GAAP.

Concerned about such manipulations, the SEC issued standards in 1999 and 2001 that tightened the guidelines for revenue recognition and measuring allowances. For example, prior to the 1999 standard, companies could decide when they had enough historical experience to reliably estimate returns, a prerequisite for recognizing revenue at the time of a sale. However, the SEC narrowed the latitude of these judgments:

In general, the [SEC] staff typically expects a start-up company, a company introducing new services, or a company introducing services to a new class of customer to have at least two years of experience to be able to make reasonable and reliable estimates.

Footnote 40, SEC Staff Accounting Bulletin No. 101, December 1999

Similarly, the 2001 standard tightened the guidelines for estimating allowances and, in particular, required companies to establish consistent policies, methodologies, and processes for estimating allowances and to document that they are following them consistently each year.



Notwithstanding these tighter guidelines, you still need to exercise healthy skepticism when assessing the reliability of most of the numbers in disclosures related to topics discussed in this excerpt. While completing these assessments is beyond the scope here, you will learn how to identify situations where the numbers require the most judgment — are critical accounting estimates — and the places where you should be most skeptical about reliability.



RECEIVABLES

We have already seen accounts receivables are increased when customers are billed and are decreased when cash is subsequently collected. These operating entries typically explain most of the change in gross accounts receivable.

We have also seen receivables generally increases when a company acquires another company (that had receivables on its balance sheet prior to the acquisition) and decreases when it disposes of one of its segments or divisions. These are non-operating events. In addition to entries for sales on account and customer collections, depending on the company, the following operating entries can also affect receivables:

- Discounts for early payments
- Interest earned on accounts receivable
- Bad debts:
 - Writing off receivables associated with bad debts
 - Recoveries — reinstating previously written off receivables
 - Establishing and replenishing allowances for bad debts

Discounts and interest earned are not covered in this excerpt.

Additionally, some companies include an allowance for product returns as a contra account to accounts receivable. We will discuss the reasons they do so and an alternative approach when we study product returns.

Before discussing bad debts and product returns we will briefly consider an activity that can significantly affect your analyses of receivables disclosures in reports covering reporting periods that begin prior to November 15, 2009: transferring receivables to other companies by factoring or securitizing receivables.

Transferring Receivables

Companies often transfer receivables to other companies for one or more reasons including converting them to cash more quickly than if they waited for customers to pay their bills, reducing exposure to credit risk, or eliminating administrative responsibilities associated with monitoring and collecting receivables. The company transferring the receivables is the transferor and the company receiving them is the **transferee**.

Historically, companies could only transfer receivables to other parties by selling receivables to banks or other financial institutions. These transfers are referred to as **factorings** and the transferees are called **factors**. They can be with or without recourse. Transfers with recourse give the transferee the right to seek payment from the transferor if the customer-debtor fails to meet its payments.

Factorings are pervasive for small to medium companies, but larger companies increasingly used securitizations prior to an accounting change in 2009 (for reasons that will be discussed shortly). In securitization transactions, receivables are transferred to a **special purpose entity (SPE)** rather than a bank or other financial institution. As its name suggests, an SPE is created for a single purpose: typically purchasing a single type of asset (such as receivables) with cash raised by issuing securities to investors, and subsequently distributing to these investors the proceeds from the assets (such as customer collections). Thus, securitizing receivables literally means issuing securities with a claim on receivables only. These SPE claims are called **asset-backed securities**.

Securitizations are a big business. Trillions of dollars of loans and receivables were securitized annually in the United States prior to the 2008 financial crisis, with GE, Ford,

and GM alone accounting for hundreds of billions of these. Securitizations are also very controversial because prior to the accounting change in 2009 companies frequently structured them so they could remove receivables from their balance sheets even though they continued to bear most of the related credit risk.

Securitizations can have economic benefits for their investors and transferors. They allow investors to invest in a single asset rather than in an entire company holding this asset. For example, investors can purchase a claim on GM's receivables rather than on GM. Moreover, SPE's debt claims are typically issued in hierarchical **tranches**, where the first tranche has seniority over the second and receives its initial investment plus interest from the first cash collected from customers. Similarly, the second tranche has seniority over the third and so on until the last tranche. The more subordinated the tranche, the riskier the debt claim, and the higher the interest rate investors can earn. Importantly the risk on these securities derives largely from the underlying credit risk associated with the transferred receivables (and with the interaction between this credit risk and liquidity risk associated with re-issuance of SPE claims that have maturities shorter than the underlying collateral).

Because SPEs generally have very little equity, the most subordinated tranche often bears the majority of the credit risk. The transferor (such as GE, Ford, or GM) often purchases the debt associated with the last, most subordinated tranche or guarantees investors against suffering the losses associated with most of the bad debts through other credit enhancements.



In effect, the transferor transfers the receivables but usually retains the vast majority, if not all, of the credit risk.

These risky assets, often referred to as **toxic assets**, are included in investment securities or receivables depending on how the SPE is structured. The details of the related accounting are beyond the scope of this excerpt. For now, you only need to know they can significantly increase the allowance for bad debts. They can also cause this allowance to appear disproportionately large relative to the reported receivables.

Writing off Bad Debts

Most companies have policies specifying when they will write off bad debts. For example, the Management Discussion and Analysis section of General Electric's annual report indicates GE writes off receivables past due by either 120 or 180 days, depending on the nature of the receivables:

We write off unsecured closed-end installment loans at 120 days contractually past due and unsecured openended revolving loans at 180 days contractually past due. We write down loans secured by collateral other than real estate to the fair value of the collateral, less costs to sell, when such loans are 120 days past due. Consumer loans secured by residential real estate (both revolving and closed-end loans) are written down to the fair value of collateral, less costs to sell, no later than when they become 360 days past due. Unsecured loans in bankruptcy are written off within 60 days of notification of filing by the bankruptcy court or within contractual write-off periods, whichever occurs earlier.

Page 72, General Electric's 2005 Annual Report



An important lesson is there is typically no judgment involved with write-offs once a company's policy is established.

The entry to record write-offs is decrease the allowance for bad debts contra asset and decrease gross accounts receivable. However, as indicated in the following example, when

a receivable with collateral is written off, a second entry is required to record the receipt of the collateral when, and if, the company receives this property.

Example

Assumptions

- On January 31, 2007, ABC Company's allowance for doubtful accounts has a \$25 balance and ABC will not replenish the allowance until February 28, 2007.



The next few assumptions indicate ABC will write off more than \$25 of receivables prior to replenishing the allowance. This will cause the allowance to have a negative balance prior to being replenished in an adjusting entry. An important lesson here, and the only reason we included this assumption, is it is not unreasonable, nor unusual, for allowances to have negative balances *during* the reporting period. The adjusting entry replenishing the account (discussed later) ensures a positive balance at the *end* of the period.

- On February 1, 2007, ABC writes off a \$10 receivable owed by XYZ Company. There is no collateral associated with this receivable.
- On February 3, 2007, ABC writes off a \$100 collateralized receivable owed by DEF Company.
 - The collateral is products ABC previously sold to DEF.
 - ABC fully expects to repossess the collateral without incurring significant costs and to reinstate it to finished goods inventories.
 - ABC values the collateral at \$70 when it writes off the receivable on February 3, 2007. This is the replacement cost of comparable products ABC holds in inventory at that time: what it would cost to replace them.
- On February 15, 2007, DEF turns over the collateral associated with the February 3, 2007 write-off to ABC.
 - The replacement cost of comparable products in inventory is still \$70.
 - ABC reinstates the collateral to finished goods inventory at this \$70 replacement cost.
- ABC's financial statements have the same line items as many company's financial statements.
- ABC uses the accounts below for related entries.

Abbreviation	Account
ASSETS	
AR	accounts receivable (gross)
AllowBD	allowance for bad debts
FGI	finished goods inventory

Required

- (a) Record the write-off of the XYZ receivable on February 1, 2007.
- (b) Identify line items on ABC’s balance sheet, income statement, and cash-flow statement directly affected by the part (a) entry.
- (c) Record the write-off of the DEF receivable on February 3, 2007.
- (d) Record the receipt of collateral associated with the DEF write-off on February 15, 2007.
- (e) Identify the combined effect of the entries in parts (c) and (d) on ABC’s balance sheet, income statement, and cash-flow statement.
- (f) The allowance for bad debts is associated with credit risk. How do write-off entries relate to credit risk?

Solution

Part (a) — Write-off Entries, No Collateral

- On February 1, 2007, ABC will record the following entry to write-off the XYZ receivable:

+	AR	-	AllowBD	=
+	-\$10	-	- \$10	=

or

	Debit	Credit
AllowBD	\$10	
AR		\$10

Part (b) — Write-off Entries Effects, No Collateral

Balance Sheet

- There is a \$0 net effect on Accounts receivable, net of allowance for doubtful accounts:
 - Gross accounts receivable decreases by \$10, indicating ABC can no longer expect to collect \$10 from XYZ.
 - The allowance for bad debts decreases by \$10, signifying \$10 of the allowance was used to write off the XYZ receivable.



Recording write-offs decreases gross accounts receivable and the allowance for bad debts, but it does not change net accounts receivable and has no visible effect on the balance sheet. Still, banks and companies such as GE, GM, and Ford with extensive financing receivables typically report write-offs in their footnotes.

Income Statement

- There is no effect. As we shall see later, income was decreased during the previous year when the allowance was replenished in anticipation of the write off recorded here.

Statement of Cash Flows

- There is no effect for this operating entry.
- There is no income effect and no cash effect, so no adjustments are required.
- There is a \$0 net effect on the Accounts receivable adjustment.



You might be thinking this entry is not very important because it has no net effect on any of the financial statements. This is true, but the entry can have a very important indirect effect: To the extent receivables

were written off during the current period that were not anticipated when the allowance was replenished at the end of the last reporting period, the more the allowance will need to be replenished at the end of the current period and the related adjusting entry decreases net income (as we shall see shortly).

Part (c) — Write-offs Entries, with Collateral

- On February 3, 2007, ABC will record the following entry to write-off the DEF receivable:

+	AR	-	AllowBD	=	or	AllowBD	Debit	Credit
+	-\$30	-	-\$30	=		AR	\$30	\$30



After this entry, ABC continues to recognize a \$70 receivable, signifying the value of the collateral it expects to receive from DEF in the near future.

Part (d) — Receipt of Collateral Entries

- On February 15, 2007, ABC will record the following entry when it receives collateral associated with the DEF write-off:

+	AR	+	FGI	=	or	FGI	Debit	Credit
+	-\$70	+	+\$70	=		AR	\$70	\$70

Part (e) — Effects of Write-offs with Collateral Received

Balance Sheet

- The combined effect of the entries in parts (c) and (d) is a \$70 decrease in Accounts receivable, net of allowance for doubtful accounts:
 - Gross accounts receivable decreases by \$100 (\$30 + \$70).
 - The allowance for bad debts decreases by \$30. When there is collateral, the allowances can be set lower because the collateral reduces the downside of write-offs.

Income Statement

- There is no effect.

Statement of Cash Flows

- Combined, the entries in parts (c) and (d) do not effect net income or cash from operations and thus the adjustments for this operating entry must net to \$0, as indicated below.
- There is a + \$70 net effect on the Accounts receivable adjustment:
 - Recording the \$30 write-off has a \$0 effect on *net* accounts receivable and thus does not alter the adjustment.
 - Recording the \$70 receipt of collateral to forgive the receivable is associated with a positive \$70 adjustment.
- There is a - \$70 net effect on the Inventories adjustment, which is associated with the \$70 increase in inventories.

Part (f) — Connection to Credit Risk

All risks, including credit, are forward looking, centering on the possibility that something could go wrong. Write-offs are realizations of credit risk. Something did go wrong: customers did not keep their promises.



The important accounting issue is whether these realizations were anticipated on the balance sheet. The ending balance in the allowance always reflects the consequences of current-period write-offs and expected future write-offs. The critical issue that insiders and outsiders must assess is whether the company anticipates future losses: to what extent does the allowance reflect credit risk.

Recovering Write-offs

Occasionally, previously written off accounts receivable are reinstated (recovered) either because customers or other debtors pay their bills to maintain their credit standing or renegotiate the outstanding balance.

Recoveries are recorded by reversing all or part of the prior write-off:

- Increase gross accounts receivable for the amount the customer will owe going forward.
- Increase the allowance for bad debts for the same amount.

Replenishing the Bad Debts Allowance

At the end of each accounting period, prior to creating financial statements, companies replenish the allowance for bad debts. The GAAP goal is to ensure the allowance's ending balance reflects management's best estimate of the expected future write-offs (net of recoveries) associated with the outstanding gross receivables at that date.

As we shall soon see, the adjusting entry is reported as an expense on the income statement. Anticipating this financial-statement consequence, companies have been known to abandon the GAAP goal of reporting the number that reflects their best estimate of the future write-offs in favor of manipulating income through the expense associated with the entry. The SEC has taken several steps to try to curb such opportunistic behavior, but there is still plenty of room for dishonest managers to play games.

The adjusting entry to replenish the allowance will be illustrated in the example that follows:

- Increase the allowance for bad debts for the amount needed to ensure the ending balance reflects the expected future write-offs (net of recoveries).
- Increase the provision for bad debts, also called the bad debts expense for the same amount.

Example

Assumptions

- ABC Company starts fiscal 2007 with \$100 of gross accounts receivable and a \$5 allowance for bad debts, or \$95 of net accounts receivable. Thus, assuming ABC was following GAAP, at the end of fiscal 2006, management expected it would write off \$5 of its \$100 of its outstanding receivables at that time.
- During fiscal 2007, ABC:
 - Billed customers \$60 when it sold goods and services on account

- Collected \$75 from customers related to previous sales on account
 - Wrote off \$7 of accounts receivable.
- ABC’s credit department expects to collect \$71 of the outstanding receivables at the end of 2007.
- ABC uses the accounts below for related entry.

Abbreviation	Account
ASSETS	
AllowBD	allowance for bad debts
TEMPORARY OWNERS' EQUITY	
ProvBD	provision for bad debts

Required

- (a) Determine the bad debts provision to be recorded at the end of 2007.
- (b) Record the 2007 provision for bad debts.
- (c) Identify line items on ABC’s balance sheet, income statement, and cash-flow statement directly affected by the part (b) entry.
- (d) How does recording the provision for bad debts relate to credit risk?

Solution

Part (a) — Determining the provision for bad debts

The first step towards determining the provision is to derive the trial balances for gross accounts receivable and the allowance for bad debts immediately prior to recording the provision:

	Gross accounts receivable	Allowance for doubtful accounts
Beginning balance	\$100	\$5
Sales on account	\$60	
Collections	(\$75)	
Write-offs	(\$7)	(\$7)
Trial balance	\$78	(\$2)

ABC’s credit department expects \$71 of the \$78 gross accounts receivable ending balance to be collected, which means they expect \$7 of these receivables to be written off (\$78 - \$71).

Prior to recording the provision, the allowance is -\$2 (as indicated above). The allowance must be increased by \$9 to take it from -\$2 to the \$7 target ending balance. Thus, the provision is \$9.

U.S. GAAP versus IFRS:

Provision has very different meanings under U.S. GAAP and IFRS (International Financial Reporting Standards). Under U.S. GAAP provision refers to a flow into the allowance during a reporting period. By contrast, under IFRS provision is a synonym for the allowance and generally refers to the ending balance.

Part (b) — Provision for Bad Debts Entry

Here is the adjusting entry ABC records at the end of fiscal 2007 to recognize the provision for bad debts and ensure the allowance for bad debts target balance:

-	AllowBD	=	-	ProvBD
-	+ \$9	=	-	+ \$9

or

	Debit	Credit
ProvBD	\$9	
AllowBD		\$9

Part (c) — Effects of Provision for Bad Debts

Balance Sheet

- There is a -\$9 effect on accounts receivable, net. The provision increases the allowance for bad debts and thus decreases accounts receivable net of the allowance for bad debts, reducing the future benefits associated with this asset — expected future collections.
- There is a -\$9 effect on retained earnings. The provision increases an expense which decreases income, and thus, decreases retained earnings.

Income Statement

- There is a -\$9 effect on net income from recording the expense.
- Most companies do not report the provision for bad debts separately on their income statement. The provision is typically included in an operating expense such as a general and administrative expense. Thus, recording the provision increases an expense, which decreases net income.

Statement of Cash Flows

- Recording the provision decreases net income by \$9 but does not affect cash from operations. Thus, a +\$9 adjustment is needed to reconcile Net income to Net cash provided by operations.
- Some companies disclose this adjustment separately as Provision for doubtful accounts.



Banks and other companies with large receivables generally report a separate adjustment for the provision; but in contrast, most companies with relatively small receivables balances do not disclose a separate adjustment. Instead, the provision adjustment is included in the Accounts receivable adjustment. By convention the net effects of all operating entries affecting working capital accounts such as accounts receivable are included in the adjustments. As a result, we typically can interpret the accounts receivable adjustment as the net effects of the operating entries affecting accounts receivable, or more precisely as the negative of these effects. When a separate adjustment is provided for the provision for bad debts, this adjustment must be combined with the accounts receivable adjustment to determine the net effects of operating entries on accounts receivable.

Part (d) — Connection to Credit Risk

In contrast to write-offs (net of recoveries), which reflects realizations of credit risk, recording the provision for bad debts reflects three aspects of credit risk:

- (1) Measurement error: More or less realizations of risk during the current period through write-offs (net of recoveries) than was anticipated in the allowance at the start of the period.
- (2) Revisions to the allowance associated with new information during the period about receivables outstanding at the start of the period. For example, suppose part of ABC's \$5 allowance at the start of 2007 had pertained to non-current receivables not due until 2008. If the credit quality of these receivables deteriorated during 2007 because of previously unforeseen circumstances, the allowance at the end of 2007 would need to be increased through the provision to reflect the increased credit risk.
- (3) Management's estimate at the end of the period of the expected future write-offs (net of recoveries) associated with new receivables added during the period.

Note, the first aspect of credit risk looks back at unanticipated risk realizations and the second and third look forward to expected future losses.

Analyzing Bad Debts

This section discusses where you can search for information that will help you assess bad debts and related credit risk, ways you can use it to assess a company's credit risk associated with receivables, and calibrate the relative importance of this risk in assessing a company's overall financial position.

This discussion will help you begin to assess companies' exposure to credit risk associated with receivables. However, you will still have a good deal to learn to become an expert.

Searching for Bad Debt Information

Before you start creating ratios and comparing them across companies and time, it is important to analyze a company's exposure to credit risk qualitatively.

For example, knowing Boeing sells a good deal of airplanes to airlines and many of these customers were in dire financial condition at the end of 2005, we would start an analysis of Boeing's credit risk knowing qualitatively it could be quite significant.

More generally, the first step in analyzing the credit risk associated with a company's receivables is to understand its business and the general health of its customers. If you are not already knowledgeable about a company and its customers, you can usually gain a pretty good general understanding from the Business and Risks sections of companies' 10-Ks filings to the SEC (Sections I and IA, respectively).

Another qualitative assessment you should make early on is the extent to which the company's receivables are concentrated in a few customers. Companies with concentrated receivables discuss the extent of this concentration in footnotes. For example, the Credit Risk section of the Significant Group Concentration of Risks footnote (Note 22) of Boeing's 2005 annual report states:

Of the \$15,252 in Accounts receivable and Customer financing included in the Consolidated Statements of Financial Position as of December 31, 2005, \$9,711 related to commercial aircraft customers (\$221 of Accounts receivable and \$9,490 of Customer financing) and \$2,797 related to the U.S. Government. Of the \$9,490 of aircraft customer financing \$8,917 related to customers we believe have less than investment grade credit. Air Tran Airways, United, and AMR Corporation were associated with 18%, 11% and 12%, respectively, of our aircraft financing portfolio. Financing for aircraft is collateralized by security in the related asset, and historically we have not experienced a problem in accessing such collateral.

Page 77, Boeing's 2005 Annual Report

This quote also suggests another path you could follow at this point: analyze (at least qualitatively) customers' financial statements and footnotes, especially those under financial duress. Customer concentration is not the only thing you should assess up front. You also need to search the report for "securitizations," "securitized," or "off-balance sheet" activities to find related disclosures. Keep in mind relatively small assets associated with retained interests in receivables transferred to SPEs are often highly concentrated sources of credit risk.

Once you have completed a qualitative assessment of a company's bad debts and credit risk, you should search for the numbers in bad debts entries. These can be useful for creating ratios reflecting credit risk that can be compared across companies and trends over time.

When can you locate the numbers we recorded in an earlier section for bad debts entries? The short answer is we can generally locate or reliably estimate write-offs, recoveries, and bad debt expense when they are important and, in particular, when companies include bad debts estimation as a Critical Accounting Estimate in the Management Discussion and Analysis section of their annual reports (or 10-K SEC filings). By contrast, you typically can't estimate these items reliably for companies with relatively small receivables balances. Between these extremes, you may or may not locate related disclosures. The best place to start a search for this information is Schedule II in 10-Ks, "Valuation and Qualifying Accounts." The SEC requires companies to include Schedule II when related numbers are material. For example, the drug store chain Walgreens, the 45th largest U.S. company by sales in 2005, includes estimating doubtful accounts as a Critical Accounting Policy in its 2005 annual report (page 21). For example, searching for "Schedule II" in Walgreen's 2005 10-K, you would soon find the table at the bottom of the page.

Interpreting Disclosed Numbers

Walgreen's Schedule II below reports its allowances for doubtful accounts' beginning balance, additions charged to costs and expenses, deductions, and the ending balance for the period. We are tempted to conclude the \$50.4 million "Additions Charged to costs and expenses" is Walgreen's 2005 provision for bad debts. However, when we study product returns later, you are going to learn many companies combine their allowances for product returns and bad debts. This is appropriate when products are typically returned before customers pay their bills. By contrast, when customers tend to purchase products with third party credit cards or cash, the returns allowance is classified as a liability, rather than as a contra asset. Unfortunately, it is usually impossible to determine how companies classify returns allowances.

The adjusting entry to replenish the allowance for returns differs from the one to replenish the allowance for bad debts. The entries are similar in they both increase an allowance (and perhaps the same allowance), but the offset is an increase to an expense for bad debts and an increase to a contra revenue for product returns (as discussed later).

WALGREEN CO. AND SUBSIDIARIES				
SCHEDULE II--VALUATION AND QUALIFYING ACCOUNTS				
FOR THE YEARS ENDED AUGUST 31, 2005, 2004 AND 2003				
(Dollars in Millions)				
Classification	Balance at Beginning of Period	Additions Charged to Costs and Expenses	Deductions	Balance at End of Period
Allowances deducted from receivables				
for doubtful accounts -				
Year Ended August 31, 2005	\$28.3	\$50.4	\$(33.4)	\$45.3
Year Ended August 31, 2004	\$27.1	\$31.2	\$(30.0)	\$28.3
Year Ended August 31, 2003	\$20.1	\$30.4	\$(23.4)	\$27.1

Based solely on the table, all we can reasonably conclude is the \$50.4 million Additions charged to costs and expenses could very well be explained by two adjusting entries (there could be other entries but they will usually have a much smaller impact on the allowance):

- (1) Recording bad debts expense and/or
- (2) Recording the provision for returns (a contra revenue).

For Walgreen, we can likely eliminate the hypothesis the returns provision explains much, if any, of the \$50.4 million because the company's 2005 Summary of Accounting Policies footnote states:

Customer returns are immaterial.

Page 27, Walgreens' 2005 Annual Report

Thus, we are pretty confident the following entry is a reasonable estimate of the combined entries Walgreen recorded during 2005 to replenish its bad debt allowance:

-	AllowBD	=	-	ProvBD	or	ProvBD	Debit	Credit
-	+ \$50.4	=	-	+ \$50.4		AllowBD	\$50.4	\$50.4

Similarly, we are also confident the \$33.4 million reported as "Deductions" is a good estimate of the annual write-offs net of recoveries.

Measuring and Calibrating Credit Risk

The importance of credit risk and related bad debts information for assessing a company's overall performance and financial position can vary greatly from one company to another and can vary significantly over time for the same company.

Assuming for now the allowance for bad debts is a reasonably reliable estimate of future bad debts, one way to measure credit risk is to express the allowance as a percent of gross accounts receivable at each balance sheet date. This measure reflects credit risk concerns going forward. Similarly, we can measure credit risk realizations, which can be a good indicator of future realizations, by expressing write-offs as a percent of the average gross receivables balances during the reporting period.

These measures can then be compared to those of comparable companies, to the same company over time, or to changes in economy wide or industry wide measures that correlate with credit risk. To illustrate how to locate information in these ratios and their limitations, we will derive Walgreen's allowance to gross receivables ratios at the ends of fiscal 2004 and 2005.

We could derive Walgreen's gross receivables by adding the allowance balances in the earlier table to the net receivables on the balance sheet. Alternatively, we can get it directly from the table reported in Walgreen's Supplementary Financial Information footnote.

Supplementary Financial Information

Included in the Consolidated Balance Sheets captions are the following assets and liabilities (*In Millions*):

	2005	2004
Accounts receivable –		
Accounts receivable	\$1,441.6	\$1,197.4
Allowance for doubtful accounts	(45.3)	(28.3)
	\$1,396.3	\$1,169.1

Page 31, Walgreens' 2005 Annual Report

We see the allowance increased from 2.4% of gross receivables at the end of fiscal 2004 ($2.4\% = \$28.3/\$1,197.4$) to 3.1% at the end of fiscal 2005. These percents are nearly twice those GM and Ford typically report, suggesting a few hypotheses an analyst might examine:

- (1) Walgreen's receivables are riskier than GM's and Ford's receivables.
- (2) Walgreen's receivables' risk is more concentrated because it retains more credit risk associated with securitizations than GM or Ford.
- (3) GM and Ford either unintentionally or intentionally understate their allowances.
- (4) Walgreens either intentionally or unintentionally overstate its allowance.

Subject to the caveats below, the first hypothesis likely explains most of the difference between Walgreen and the two automobile manufacturers. We would expect Ford's and GM's receivables to be less risky than Walgreens' because theirs are collateralized while Walgreen's are likely not collateralized.

However, we want to warn you about three caveats to accepting the first hypothesis above — Walgreen's receivables are riskier than GM's and Ford's:

- There are plenty of situations in the past where companies either understated or overstated allowances so the third and fourth hypotheses are usually worthy of serious consideration.
- Credit risk retained through securitizations must be taken into account when comparing companies (second hypothesis).
- Walgreen's receivables may be riskier per dollar of gross receivables, but this widely used measure of credit risk has an important limitation: it does not account for the *amount* of gross receivables on companies' balance sheets. For example, GM's receivables are nearly 50% of its assets while Walgreen's receivables are only 7% of its assets.

The most important lesson of this section is analyzing a company's exposure to credit risk involves analyzing qualitative and quantitative information from several sources, and comparing this information for the same company across time and for comparable companies.

PRODUCT RETURNS

Like warranties and bad debts, product returns are a risky future cost companies incur to reduce customer preference risk and increase current sales. Also, similar to bad debts and warranties, revenue recognition on product sales must be deferred at the time of sale if returns can not be estimated reliably and when returns can be estimated reliably, an allowance must be maintained.

Accounting for product returns is also similar to the accounting for bad debts and warranties in that the allowance is used during the reporting period and replenished at the end of the period. However, the entries are quite different than those for bad debts and warranties, and there are several variations in product return entries depending on whether:

- customers have paid for returned products and are due a refund or, alternatively, have not yet paid and their receivables are forgiven,
- the company reports the allowance for product returns as a contra asset to accounts receivable or, alternatively, reports it as a liability.

Returns Allowances

As products are returned during the period, companies use return allowances to offset the net effect of giving customers refunds (or forgiving receivables) and reinstating returned products to inventory. Income is not affected by these entries, just as it is not affected when companies write off bad debts or incur costs associated with warranty claims. Similar to bad debts and warranties, the income effects of product returns are recognized through adjusting entries at the end of reporting periods.

Returns Allowance can be a Liability or Contra Asset

Conceptually, the allowance for returns is a liability, representing a company's legal obligation to honor its sales agreement with customers by accepting returned products. However, in situations where return periods typically end before customers are expected to pay their bills, companies generally net the returns allowance against accounts receivable as a contra asset, reducing receivables, net.

To understand the intuition here, consider what happens when a customer returns a product prior to paying for the product. The company meets its obligation to the customer by taking back the product and forgiving the receivable. The receivable is never collected. In anticipation of these situations, the company creates an allowance for doubtful accounts that includes both expected product returns and expected bad debts associated with credit risk. More generally, the allowance for doubtful accounts can pertain to both bad debts and product returns or just to bad debts.

Reporting the returns allowance as a contra asset rather than a liability is an example of a more general concept called netting assets and liabilities. Generally, GAAP does not permit companies to net assets and liabilities because doing so shrinks the balance sheet and reduces financial leverage. Instead, it mandates reporting assets and liabilities separately.

The exception to this general rule can occur in situations where the assets and liabilities are with the same party or group — such as customers — and will be settled at the same time. When these conditions are met, assets and liabilities can sometimes be netted with the net effect being reported as an asset or liability depending on the relative sizes of the netted items. This exception applies to returns allowances and receivables when customers (as a group) generally return products before paying bills.

Returns Allowances Net Two Portions

To understand why reported allowances for product returns effectively net two allowances, consider what happens when customers return products. The customer gives the company the product, which is returned to inventory, and the company either gives the customer a cash refund or forgives a receivable.

The revenue portion of the returns allowance represents the expected foregone revenues that will be realized by paying refunds or forgiving receivables associated with returns.

The **cost of sales (or inventoried cost)** portion of the returns allowance, represents the expected foregone cost of sales (inventoried costs) associated with the returns. Alternatively stated, it is the benefits the company expects to receive when customers return products – the returned products measured at their inventoried costs.

The reinstated inventory is recorded at the lower of its inventoried cost when it was sold or its replacement cost on the date it is returned — what it would cost the company to produce or otherwise acquire comparable inventory on the return date. If the replacement cost is lower than the original inventoried cost, the return can be recorded at the original inventoried costs with a follow-up impairment entry to write the inventory down to its replacement cost. For this reason, to simplify the subsequent discussion and examples, we will assume replacement costs are the same as the original inventoried costs.

We are also going to ignore restocking fees customers might incur when they return products. When there are restocking fees or when customers otherwise receive partial refunds, customers essentially share the risk associated with returns. As a result the net cost associated with refunds is smaller and a smaller allowance is needed.

Given the above assumptions, the net cost of a product return is the foregone gross margin on the sale: foregone revenue (sales price) less foregone cost of sales (measured at inventoried costs). Stated alternatively, the company's net obligation for the product return is its expected gross-margin obligation to customers as a group — the estimated future refunds or forgiven receivables, measured at sales prices (foregone revenues) less the benefits it expects to receive from customers, the returned products, measured at their expected inventoried costs (foregone cost of sales).

Example

Not all Schedule II's report the flows in and out of the allowance during the year:

Most companies' Schedule II's or related footnotes report the four items in our example for the allowance: beginning balance, additions, deductions, and ending balance.

However, some companies, including J. Crew, do not report the additions and deductions and they record different entries: When products are returned during the period, they bypass the allowance by charging refunds net of merchandise returned directly to the income statement. At the end of the period, they adjust the allowance to the same balance it would have been if they had followed the accounting in the example.

Assumptions

- ABC Company classifies the allowance for product returns as a liability and has a single allowance account that reflects the net effects of the revenue and cost of sales portions discussed earlier. The company maintains the table on the next page to ensure it can record entries into this allowance.
- During 2007, ABC had not yet collected cash from customers when they returned products: Receivables balances were forgiven in exchange for returned products.
- The replacement costs of products returned during 2007 were the same as the original inventoried costs recognized when the products were sold.
- As indicated in the table, on January 1, 2007, the revenue and cost of sales portions of the allowance were \$125 and \$50, respectively. Thus, ABC's Schedule II reported a \$75 beginning balance for the allowance. The average gross margin percentage is 60% on the expected returns ($= (125 - 50)/125$), which we will assume is the margin for all of ABC's sales.
- During 2007, customers returned products for which \$150 of revenues and \$60 of costs of sales had previously been recognized. Thus, ABC's Schedule II reported \$90 of deductions to the allowance, representing the gross margin of the returned products.
- On December 31, 2007, ABC expected customers to return products in the future associated with \$200 of previously recognized revenues and \$80 of previously rec-

ognized cost of sales (inventoried costs). Thus, ABC’s Schedule II reported a \$120 ending allowance balance, representing the gross margin of the expected returns associated with sales prior to the balance sheet date.

- Companies typically replenish allowances throughout the year and at the end of the year, as discussed later. Collectively, these entries added \$135 to ABC’s allowance, which ensured the \$120 ending balance. ABC’s Schedule II reported \$135 charged to costs and expenses: a \$225 decrease in revenues (recorded to a contra revenue account) and a \$90 decrease recorded directly to cost of sales.
- ABC uses the accounts below.

	Allowances for Returns		
	Revenues portion	Inventoried costs portion	Reported gross margin
Beginning balance	\$125	\$50	\$75
Deductions	(\$150)	(\$60)	(\$90)
Charged to costs and expenses	\$225	\$90	\$135
Ending balances	\$200	\$80	\$120

Accounts	
Assets	
ALLBD	Allowance for bad debts
C	Cash
GrAR	Gross accounts receivable
Invent	Inventories
Liabilities	
RetALL	Returns allowance
Temporary Owners' Equity	
CGS	Cost of goods sold
GrRev	Gross revenues
OthExp	Other expenses
SalesR	Sales return contra revenue

Required

- Record an entry that summarizes the entries ABC recorded during 2007 when products were returned.
- Describe in general terms how the entry in part (a) directly affects ABC’s balance sheet, income statement, and statement of cash flows.
- Record an entry that summarizes the adjusting entries ABC recorded throughout the year to ensure the allowance was properly replenished.
- Describe in general terms how the entry in part (c) directly affects ABC’s balance sheet, income statement, and statement of cash flows.

Solution

Part (a) — Returns Entry

The following entry summarizes the entries ABC recorded during 2007 when products were returned:

+	GrAR	+	Invent	=	+	RetALL
+	- \$150	+	+ \$60	=	+	- \$90

or

	Debit	Credit
Returns allowance	\$90	
Inventories	\$60	
Gross accounts receivable		\$150

Commissions: Sales personnel’s commissions on returned products are often deducted from their commissions on gross sales. To see how this works, suppose ABC recorded a 10% commission when the \$150 of gross revenues were recognized. The entry would be increase SG&A \$15 (or a more specific expense) and a accrued liabilities \$15. As we shall see later, ABC will anticipate reversing the commission when replenishing the allowance. The returns entry would now: decrease gross receivables \$150; increase inventories \$60; decrease accrued liabilities \$15; and decreases the returns allowance \$75.

At the beginning of 2007, ABC expected the gross margin associated with the returns to be \$75, as indicated in the beginning balance of the allowance. However, the gross margin of the actual returns was \$90 during 2007.

Like most companies, there were likely two reasons the actual returns differ from the forecasted returns. First, the forecasted returns were based solely on sales made prior to the end of 2006 and some of the 2007 returns were likely associated with 2007 sales. Second, the forecasted returns associated with sales prior to the end of 2006 differed from the actual returns associated with these sales.

Companies that maintain returns allowances generally record entries in one of two ways. First, they can record returns estimates throughout the year as they make sales (based on historical averages of sales returns of comparable products). They then “true-up” the allowance at the end of the reporting period to ensure it represents management’s best estimate of the gross margin of the expected future returns associated with sales made prior to that date. Second, they can replenish the allowance at the end of each reporting period to ensure it represents their best estimate at these reporting dates.

The financial statement consequences of these two alternatives are identical. The entry for this example summarizes both approaches. It is the entry outsiders can construct from disclosed Schedule II information.

Part (b) — Returns Entry Effects

Balance Sheet

- Assets decreased by \$90, with a \$150 receivables decrease offset by a \$60 inventories increase. This \$90 net decrease in assets reflected the realized customer preference risk associated with the returns — foregone gross margin on a prior sale.
- Liabilities decreased by \$90. This \$90 decrease in liabilities signifies ABC has met an obligation to a customer by accepting the returned product in exchange for forgiving a receivable.
- Owners’ equity is not affected by the entry, at least directly. Similar to writing off bad debts, using the allowances during the reporting period does not directly affect owners’ equity. Moreover, if the return was accurately anticipated earlier when the allowances were replenished at the end of the prior period, it is already reflected in owners’ equity. By contrast, if the return was not anticipated in the allowance, it will affect owners’ equity when the allowance is replenished at the end of the current period.

Income Statement

- No direct effect.

Statement of Cash Flows

- There is no income effect and no cash-flow effect, but the following reconciling adjustments offset each other:
 - \$150 increase in receivables adjustment (this asset decreased)
 - \$60 decrease in the inventories adjustment (this asset increased)
 - \$90 decrease in accrued liabilities or other liabilities, reflecting the net decrease in the returns allowances (\$150 decrease in the revenues portion less a \$60 decrease in the inventoried cost portion).

Part (c) — Replenishing Allowances Entry

The following entry summarizes the entries ABC recorded throughout 2007 to ensure the allowance was properly replenished and, in particular, that the balance at the end of 2007 represented management's best estimate of the gross margin associated with future returns of products sold prior to the balance sheet date:

=	+	RetALL	-	SalesR	-	CGS
=	+	+ 135	-	+ 225	-	- 90

or

	Debit	Credit
Sales return contra revenue	\$225	
Returns allowance		\$135
Cost of goods sold		\$90

Part (d) — Replenishing Allowances Entry Effects

As you study the financial statement consequences of this entry, keep in mind the entry:

1. Adjusts for differences between expected returns at the beginning of the current period (associated with prior period sales) and realized returns during the current period associated with prior period sales.
2. Recognizes realized returns associated with current period sales, which can not be anticipated in the beginning allowance.
3. Recognizes anticipated future returns associated with current period sales.

Balance Sheet

- Liabilities increase by \$135: This represents the gross margin associated with expected product returns.
- Owners' equity decreases by \$135, reflecting the \$135 reduction in gross margin recognized in income (discussed next).

Income Statement

Gross margin decreases by \$135, reflecting the cost of returns associated with current or prior period sales not recognized in income in prior periods. It nets two effects:

- \$225 decrease in net sales, ensuring reported revenues are net of revenues associated with expected product returns.
- \$90 decrease in cost of sales, ensuring reported cost of sales are net of cost of sales associated with expected product returns.

Cash Flow Statement

The following adjustments reconcile the entry's -\$135 income effect to its \$0 effect on operating cash flows:

- \$135 increase in the accrued liabilities, or another liabilities adjustment, reflecting the combined effect of the adjustment on the allowances.

Commissions: When sales personnel's commissions on returned products are deducted from their commissions on gross sales, the allowance must anticipate these commission reversals.

To see how this works, suppose ABC recorded a 10% commission on the \$225 of sales revenue associated with replenishing the allowance.

The earlier entry to record the commission would have increased SG&A \$22.50 and accrued liabilities \$22.50.

The entry to replenish the allowance would have been: increase sales return contra revenue \$225; decrease cost of good sold \$90; decrease SG&A \$22.50; and increase the returns allowance \$112.50. The required allowance would have been smaller, reflecting the fact that ABC is better off because it does not need to pay the commissions.

Outsiders' Challenge: Reconstructing Product Returns Entries

For the ABC example, we were insiders who knew the revenues and cost of sales associated with returned products and expected future returns. By contrast, outsiders only see the gross margins associated with returned products and expected future returns in Schedule II's or related footnotes. This means they must estimate the related sales and cost of sales to reconstruct the entries.

It is relatively easy to get reliable estimates in industries where cost of sales is reported separately on the income statement and is mostly attributable to costs transferred from inventory (called inventoried costs). By contrast, determining reliable estimates is often more challenging in retailing where cost of sales is often combined with occupancy costs on income statements and not reported separately in footnotes.

Cost of Sales Reported Separately

In this section we assume cost of sales is reported separately and is mostly attributable to inventoried costs. Our goal is to estimate the revenues and cost of sales associated with gross margin numbers reported in Schedule II or related footnotes.

To this end, we will assume the average gross margin percentage determined from net revenues and cost of sales reported on the income statement for the current year is the same as the gross margin percent associated with this year's returns, allowance replenishments, and allowance ending balance. This will allow us to estimate the sales and cost of sales associated with numbers reported in Schedule II.

For example, suppose the income statement reports \$3,000 of net revenues and \$1,200 of cost of sales. Then the gross margin percentage associated with the income statement is $60\% = (\$3,000 - \$1,200)/\$3,000$. If the current year's Schedule II reports \$54 of charges to cost and expenses, we know the \$54 of gross margin is associated with replenishing the allowance for returns. Given our assumption that the gross margin percentage associated with the related returns is the same as the 60% determined using the income statement, we know: $60\% \text{ gross margin percent} = \text{gross margin}/\text{revenues}$.

Thus, $60\% = \$54/\text{revenues}$. So, we estimate that \$90 of revenues are associated with the gross margin ($\$90 = \$54/.60$). Accordingly, we can solve the equation for an estimate of cost of sales: $\$54 \text{ gross margin} = \$90 \text{ revenues} - \text{cost of sales}$.

Here we estimate that \$36 of cost of sales are related to the \$54 of gross margin ($\$36 = \$90 - \54). Our estimated entry to replenish the allowance is to increase the allowance \$54, increase contra revenues \$90, and decrease cost of sales \$36.

Cost of Sales Not Disclosed Separately from Occupancy Costs

Next, we assume cost of sales is not disclosed separately. For example, it is aggregated with occupancy costs on the income statement. Because occupancy costs include rent and many other operating costs, we can't ignore them and get reliable estimates of gross margin. Still, to the extent we can get reliable estimates of a retailer's average price markups above costs (sales price divided by its cost), we can get reliable estimates of the revenues and cost of sales associated with gross margin numbers.

Suppose we were willing to assume that an upscale clothing chain's average markup is 2.5, meaning its sales price is 2.5 times higher than its costs. Also suppose, it reports \$90 of charges to costs and expenses in its Schedule II, representing the gross margin of expected returns. Then: $\$90 \text{ gross margin} = \text{revenues} - \text{cost of sales}$.

Substituting the markup of 2.5 times cost of sales for the revenue we get: $\$90 \text{ gross margin} = 2.5 \text{ cost of sales} - \text{cost of sales}$.

Thus, $\$90 \text{ gross margin} = 1.5 \text{ times cost of sales}$. We can now estimate \$60 cost of sales related to the \$90 of gross margin ($\$60 = \$90/1.5$). We can now solve the following equation to determine revenues: $\$90 \text{ gross margin} = \text{revenues} - \60 cost of sales .

Our estimated revenue is \$150 ($\$90 = \$150 - \60). Then entry to replenish the allowance is increase the allowance for \$90, increase contra revenues \$150, and decrease cost of sales \$60. The estimation error associated with this entry depends on the accuracy of the average markup estimate.