6 FINANCIAL PROJECTIONS: HOW TO DO THEM THE RIGHT WAY

Bob Ronstadt

Harold Geneen, the former chairman of IT&T, once said that "to be good at your business, you have to know the numbers—cold." Geneen's advice sounds simple and straightforward. If only it were that simple. Unfortunately, business decision makers need to respond to change and unforeseen events. The numbers change because *nothing* ever turns out precisely the way it is planned.

That doesn't mean you should stop planning or ignore the numbers. Quite the contrary, you need to better understand the numerical dimensions of your business so you can respond as best you can to change when it occurs.[1]

Although Geneen's words are oversimplified, they are nevertheless true for both planning new businesses and managing ongoing operations. In all businesses—whether they are new ventures or established smaller businesses or larger corporations—superior management means having a sense for the *future financial implications* of decisions that must be made today. Geneen knew that to ignore the numbers was dangerous. If you ignore the numbers, particularly the numbers that relate to the future, pretty soon your business will begin to ignore you.

WHAT ARE FINANCIAL PROJECTIONS?

Numbers that relate to the future are called financial projections or financial pro formas. These future-oriented numbers differ greatly from accounting

numbers, that is, numbers based on past performance. Financial projections differ from accounting numbers in why, how, and by whom they should be constructed.

At the minimum, a good set of financial projections should include a pro forma income statement, balance sheet, and cash flow statement, along with a detailed explanation of the assumptions that underlie the projections.[2] A comprehensive set of financial projections will also provide a separate sales forecast that will include considerable detail about how the sales numbers are derived. Finally, you should use the data in your projections to compute selected key measures, standard financial ratios, and projected breakevens. The latter are necessary for several reasons, but chiefly to see if your projections are fairly accurate. For instance, a set of projections may look fine until you see that the derived current ratio is simply absurd for a startup in your industry.

The purpose of financial projections is to show what a business will realize in sales, gross profits, net profits, net worth, cash flows, and several other measures associated with the income statement, balance sheet, and cash flow. But more specifically, you usually want to know the answers to several questions. Given your assumptions about 50 to 100 different variables (sales growth rates, receivable collections, rent, wage levels, salaries, interest rates, and so on), you need to ask the following questions:

- How much money will my business need to maintain a positive cash flow?
- When exactly will I need this money?
- What kind of money (debt or equity or both) should it be?

Answering these questions is almost impossible when you use a simple set of *stand-alone projections* because venturing is a *dynamic* process. Things change—often quite rapidly. Yesterday's financial projections are often out-of-date today, and creating a new set simply becomes too time-consuming.

The answer to these realities is a set of financial projections that represents a valid financial model of your business. Instead of a stand-alone income statement, balance sheet, and cash flow statement, you need to *link* these different statements together so that they change when the underlying assumptions and their values change. The fact that all the numbers are related or tied to one another is why these linked financial projections are called *integrated financial statements.*

For the record, financial projections are linked, or *integrated,* when your projected income statement, balance sheets, cash flows, and the assumptions underlying these financial projections are linked by formulas. To be valid, these formulas must be consistent with accepted accounting principles. Your

statements also should tie out, that is, your balance sheet should still balance whenever you change the assumptions that drive your financial projections.

But you may ask, "Can't I get by with a pasted-up set of stand-alone projections?" The answer is "probably yes." Many investors and bankers don't understand or require integrated financial projections. You may be able to satisfy them with stand-alone projections. But the sharper ones will require linked financials because they know that a new set of conditions will emerge almost as soon as you are out the door. What will you do then? Ignore or misread the financial implications? No, the savvy investor or banker wants to be sure you understand how the numbers in your business are interconnected. They also want to be sure you have the ability to determine the financial implications of unforeseen changes that are likely to occur.

This chapter explains how financial projections should be constructed and why the leaders of a business need to understand these projections if they are ever to take control of their financial decision making. But first the chapter shows:

- Why financial projections are actually quite difficult to construct.
- Why financial projections are rarely constructed properly, even when spreadsheets are used.
- Why financial projections should be constructed by the principal decision makers of a business, despite the difficulty involved.

Although these observations probably sound like a lot of bad news, the good news is that linked financial projections have an ongoing business use. Unlike the one-use, misleading stand-alone projections, linked financial projections stay with you, once they have been created, and can help you make better management decisions.

WHY FINANCIAL PROJECTIONS ARE DIFFICULT TO PRODUCE

"What happens" when "what if" happens? The future is concerned with "what if." As you change basic assumptions about sales growth, wage levels, product costs, and so on, you need to know more than their profit-and-loss (P&L) effect. You also need to understand their effect on cash flow, on your balance sheet, and on a variety of other derived measures (for example, breakevens on selected financial ratios).

In other words, to play "what if" appropriately, you need to know what happens not just to sales, wages, and product costs but also to operating cash flow. For example, how are inventory levels, accounts receivable and accounts

payable affected? What happens to profitability, breakeven, and owner's equity? Before long, implementing this "simple" process gets detailed, downright complicated, and, for lack of better words, "intensely muddy."

It also gets exhausting. The point is that before you can simplify your numbers and know them cold, you must first produce literally thousands of numbers. It's an arduous job, even with an electronic spreadsheet. Then, to add insult to injury, you should know that most of the numbers are wrong.

Why does this happen? It happens because of technical errors. First, you need to realize that the real problems associated with producing good financial projections aren't *forecasting errors* of one kind or another. For instance, sales have always been difficult for most ventures to predict, and always will be. No one has a crystal ball, and plans rarely, if ever, work out the way intended because actual sales and cost numbers rarely match budgeted or forecasted numbers. No, the real problem lies in *technical errors*; specifically, the implicit, incomplete, and misleading financial models that most people create when putting together their financial projections, whether they use paper, pencil, and calculator, or an electronic spreadsheet.

WHY FINANCIAL PROJECTIONS ARE RARELY CONSTRUCTED PROPERLY

Why do people serious about making good decisions rely on faulty financial models? There are two reasons, and they reside in two myths:

- *Myth 1:* Most people, especially those schooled in business, believe that they can develop technically correct financial projections.

  The Reality: Most people, including most MBAs, cannot develop anything more than crude, generally misleading, financial projections.
- *Myth 2:* Spreadsheets alone (or with financial templates) make it possible for most people to create technically correct financial projections that can be used for business planning and budgeting purposes, that is, financial decision making.

  The Reality: Only a tiny percentage of spreadsheet users are capable of putting together integrated financial projections, and even they are prone to commit spreadsheet errors. They are a select group who are very advanced in both their spreadsheet skills and their accounting/finance skills. A rare breed indeed.

Consequently, most people don't really "know the numbers," cold or otherwise; they only think they know them. This lack of knowledge isn't simply a failure to "push the numbers." That used to be a problem when calculations were done

with paper, pencil, calculator, and eraser. Fortunately, the proliferation of spreadsheets helped to overcome the pure tedium of number pushing. Unfortunately, spreadsheets compounded the problem by giving people the idea that financial projections were now easier than ever to produce. Spreadsheets certainly allow people to push numbers. But, unfortunately, when it comes to financial projections, the folks using spreadsheets rarely derive the correct numbers and only rarely understand the numbers they create so plentifully.

The hard cold fact you must learn to accept is that deriving correct business numbers is impossible when working with financial models that are incomplete more often than not, and that also contain accounting or mathematical errors. To use some software lingo, the resulting financial projections are *internally corrupted.* The numbers are wrong because the implicit models people adopt are technically wrong. To use another software expression, it's classic GIGO: Garbage in, garbage out. And because the underlying assumptions aren't explicit in nine out of ten spreadsheet models, the garbage is nicely hidden from view.

What's So Important about Integrated Financials Anyway?

In life, especially business life, good ideas aren't much help if you can't execute them. And the quality and accuracy of your execution is everything. For planning and budgeting, quality and accuracy means translating your assumptions about different alternatives into a set of financial projections that are linked together into a financial model that reflects your business.

Why is this unique financial model needed? It's needed because everything you know about the first part of Geneen's advice, that is, "to be good at your business," points to understanding the interconnected totality of your decisions. Just as a business is a web of interconnected individuals and resources where every decision impacts everyone to some degree, so the various statements of your financial projections need to be interconnected because they impact one another.

For instance, let's suppose you want to add several employees, buy a piece of expensive equipment, or start or end a sales campaign. In each of these instances, you need to see the likely financial impact of your decisions. And you need to see how these decisions affect not only your income statement, but also your cash flow, balance sheet, and numerous financial measures, including breakevens.

In short, financial projections must be tied together, or *integrated,* to have much utility—not just for strategic purposes but for everyday financial decision making.

Without this total picture, disaster can occur. For instance, projected P&Ls that show healthy profits can mask *negative operating cash flows* and *weak balance sheets* that literally drive a business into the ground. Business leaders need a full representation of their businesses, not an isolated snapshot of an individual projection that shows only part of the story.

Integrated financial projections are especially needed when a business takes a nose dive. Good times can mask all kinds of errors. But when the bad times come, and we all see them at one time or another, there is no room for error. At these difficult moments, integrated financial models are nearly priceless. Hard decisions must be made. What projects get axed? What equipment, property, or other assets must be sold? Which vendors must wait to be paid? How much should salaries be cut? Who gets a pink slip? How soon should these actions and others be taken?

Decisions like these are never easy to make, but it helps immeasurably to know the impact of each decision on the "ending cash balance" of your cash flow projection. Many businesses that will fail in the future can be saved if they have but one tool: a financial model that produces integrated financials.

WHO SHOULD PRODUCE YOUR FINANCIAL PROJECTIONS?

The short answer is that you need to produce and understand your financial projections. The problem, however, with the short answer is that it doesn't reflect the realities of existing deficiencies in your awareness about and skills for developing integrated financials.

A wise friend once told me that the road to truth and knowledge begins by becoming aware of the things you don't know you don't know. If you are aware that you don't know something, that's 80% of the battle. It's those things about which you are totally oblivious that are the real snares of life. Integrated financials represents one such snare.

So first, *you need to recognize that significant obstacles exist when it comes to developing meaningful financial projections.* Despite intellectual muscle flexing by "spreadsheet power users," business consultants, and even some business school professors, the reality is that most people can't put together a valid and useful set of financial projections in a reasonable period of time. The reason is that for mere mortals, they are actually quite difficult to prepare.

Second, *you need to understand the concept of integrated financials and realize its importance for doing everyday financial decision making.* Fudging your financials, or putting together a set of unlinked or stand-alone projections

(for example, the income statement isn't linked to the cash flow or balance sheet) simply won't do. A financial model that truly reflects your business is a tremendous decision-making asset. In fact, I have found that it can be the difference between success and failure—not just for occasional planning and budgeting exercises, but, when necessary, for running your venture from day to day.

Given the real difficulties involved, *you will probably need to find someone who will help you to build these financial decision-making models.* The person may be a CFO, financial analyst, or accountant within your own organization. Also, there are financial business consultants who do understand integrated financials and how to implement them, and most importantly how to teach you to modify and use the model.

HOW TO PRODUCE INTEGRATED FINANCIAL PROJECTIONS

The traditional way to produce financial projections is to do the following:

1. Build a sales forecast.
2. Use the projected sales revenue as a basis for deriving a projected income statement—for example, the income statement is produced either by using historical percentage analysis or by simply making assumptions about the relationship of each cost item as a percentage of total sales. For instance, you can assume that future cost of goods sold will be 70% of projected total sales if, for one reason or another the historical cost of goods sold has been 70% of past sales (for the industry, or for other startups during their first year, or based on your own company experience if you have prior history). If forecasted sales are projected to be $1,000,000, then cost of goods sold will be 70% of this total, or $700,000. The same procedure is then used for all other expense items, calculating them individually as a percentage of total sales.
3. Use a similar approach to generate a balance sheet—for example, each balance sheet item can be derived by using its historical relationship to total assets. An alternative method is to use historical ratios (such as the accounts receivable turnover period or the inventory turnover period) to derive the projected balance sheet.
4. Build a cash flow statement using one of several approaches, including:

   - Do a rough approximation of the net cash flows by taking profit after tax and adding back depreciation and other accounting items that are not real cash outflows. (I don't recommend this approach.)

- Calculate changes in beginning and ending balance sheets to derive the net change in cash. (This approach is ok, but it is tough for most practitioners to do.)
- Actually track cash inflows and cash outflows over a *relevant time period.* (For most startups, a relevant time period is a month. For other startups, and most turnaround situations, the relevant time period is often a week. Avoid quarterly and especially annual cash flows since these longer time periods can mask all sorts of potential cash flow disasters.)

This traditional approach for generating financial projections is fine for "quick & dirty" analysis, that is, to get a fast but rough idea about what a business will be like in numerical terms. But the traditional approach has four major deficiencies:

- It generally fails to be explicit about the assumptions that are producing the numbers.
- The individual statements aren't linked together, so the real picture isn't being produced, only (at best) a close likeness.
- Most practitioners don't understand the implications of the numbers, principally because they aren't linked together and because they aren't linked to other measures (ratios, breakevens, industry-specific measures, and business valuations) that help us to understand their implications.
- Major alternatives and unforeseen changes in your business are very difficult to quickly incorporate into these partial models without almost completely redoing them.

Using the traditional approach is a little like riding a bicycle on a freeway. The bicycle is okay for academic off-road games, but it won't do for real world applications. Instead I recommend you travel your business highways in a real automobile, that is, take the time to build an integrated financial model of your business. To build one, you must do the following:

1. **Be explicit about your assumptions by first building an assumptions statement.** (A sample assumptions statement is presented later in Exhibit 6.3 for a retail business.)[3] Remember, an assumptions statement is no less important than your income statement, balance sheet statement, or cash flow statement. It's what produces them. List your sales assumptions, your P&L assumptions, your balance sheet assumptions, your cash flow assumptions, plus other assumptions as they relate to supporting budgets or output analysis such as breakevens; for instance, what percentage of cost of sales is a variable cost?

2. **Make certain you understand the general interrelationships between your assumptions and the sales revenue projection, the**

income or P&L projection, the balance sheet projection, and the cash flow projection. In other words, you need to know how your projected financial statements are related to one another as a group.

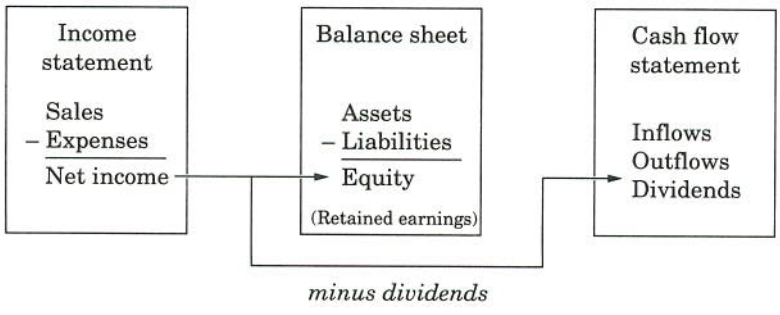
3. **Make certain you understand the specific relationships between line items within and across the different statements.** Such knowledge will enable you to make better venture decisions by knowing:

> How the individual components or line items of each financial statement are linked together *within* the same statement;
>
> How the individual components of each financial statement are linked to components with the same or similar names on different statements; for example, how is "cash" on the balance sheet linked to "cash" on the cash flow statement; and
>
> How the individual components of each financial statement are linked to different components in other financial statements.

In the latter two cases, you especially want to know the number of items involved in each linkage and the direction of the association. For example, net income from the income statement and retained earnings from the balance sheet are linked. However, you also need to know that retained earnings is derived from net income, not vice versa. Exhibit 6.1 illustrates these linkages. And you need to know what other variables, if any, are involved (or could be involved) in the calculation; for example, if dividends were declared, they would have to be subtracted from net income and subtracted from ending cash on the cash flow statement.

Once you understand how these specific linkages work, you will better understand not only what it takes to balance your balance sheet, but also how to obtain answers about how much money your business will need, when it will need this money, and what kind of money it can or should be.

EXHIBIT 6.1 A specific relationship between financial statements.



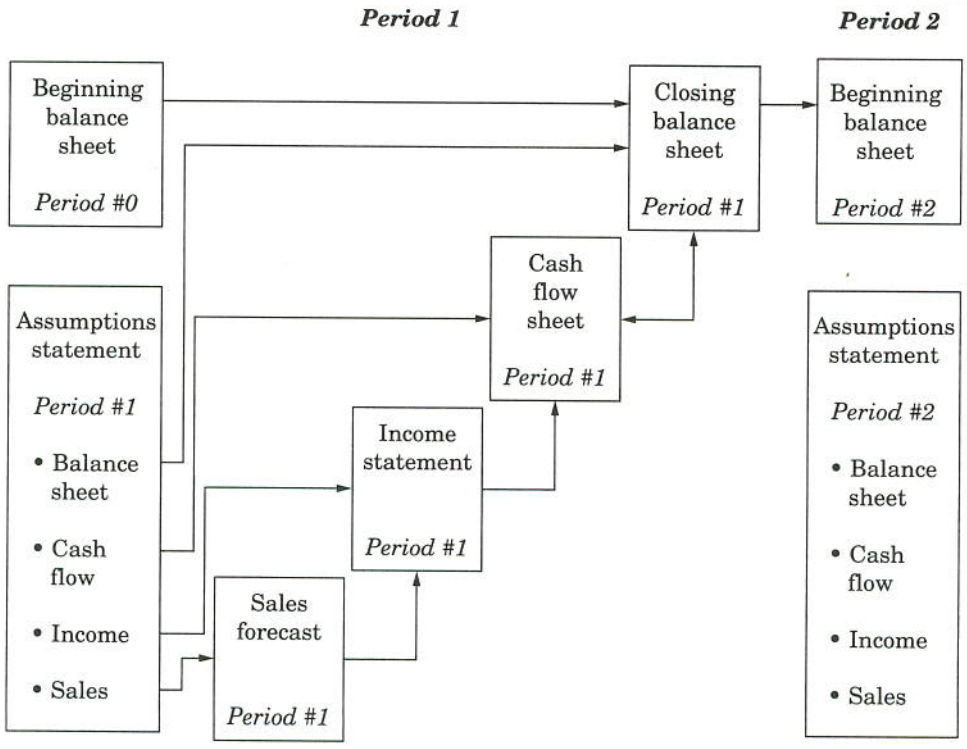
GENERAL RELATIONSHIPS BETWEEN THE PROJECTED FINANCIAL STATEMENTS

Now examine how projected financial statements are linked together as a group. A diagram helps you to visualize these general linkages. Graphically, the relationships between the statements are shown in Exhibit 6.2.

After providing information for an assumptions statement (including optional data for a beginning balance sheet for Period #0), Exhibit 6.2 traces how this information flows to produce the values in the sales forecast, the income statement, the balance sheet, and the cash flow statement. Here's how it works:

- Selected values that are produced in the sales forecast (such as net sales) based on data taken from the assumptions statement flow directly into the income statement for Period #1.
- Beginning balance sheet values for Period #0 (if you have listed them under the *base period* in the balance sheet statement) are combined with information for Period #1 from the assumptions statement, the income

EXHIBIT 6.2 General linkages between core statements.



statement, and the cash flow statement to create the values shown in the closing balance sheet for Period #1. [*Note:* The closing balance sheet for Period #1 becomes the beginning balance sheet for Period #2, and the process continues for the total number of time periods being projected. In Exhibit 6.2, the beginning balance sheet (sometimes called the opening, or base period, balance sheet) is shown as part of the balance sheet statement because this positioning is conventional; however, the base period items and values are effectively assumptions that can be listed in the assumptions statement and linked by formulas to Period #1 of the balance sheet.]

- Certain information is also flowing from the closing balance sheet into the cash flow statement. This information is supplemented with data drawn from the assumptions statement and the income statement to produce the values shown in the cash flow statement.
- Then, the process is repeated for Period #2, Period #3, and so on.

SPECIFIC RELATIONSHIPS BETWEEN THE PROJECTED FINANCIAL STATEMENTS

Although *general relationships* exist between projected financial statements, there are many specific ways to configure projected financial statements, perhaps as many as there are different ventures. Some obvious differences exist between industries. However, differences in projected financial statements can also exist within the same industry. Sometimes these differences are minor and at other times they are quite significant in the number of individual items and the way individual items are derived and linked together. Consequently, there are unlimited specific kinds of financial statements and multiple ways to derive the specific linkages across statements. What follows represents but one way. Yet, because many of the variations can be minor, it serves as a blueprint for building and linking together the components of financial projections.

Case Study

Because actual numbers help trace the linkages, let's assume you are planning to expand a small retail venture you recently started. Assume you've just finished completing the assumptions statement shown in Exhibit 6.3. You've also filled out the base period, or beginning, balance sheet column on the balance sheet statement. Your program should then compute your monthly revenue statement, income statement, balance sheet, and cash flow for the next 12

EXHIBIT 6.3 Sample assumptions statement for a retail company.

	1/31/88 Retail	2/29/88 Retail	3/31/88 Retail	4/30/88 Retail	5/31/88 Retail	6/30/88 Retail	7/31/88 Retail	8/31/88 Retail	9/30/88 Retail	10/31/88 Retail	11/30/88 Retail	12/31/88 Retail
Revenue forecast assumptions:												
Annual sales, Store A	$300,000											
Percent of sales allocated / month	4.0%	5.5%	3.5%	5.0%	9.0%	7.0%	5.0%	2.0%	4.0%	9.0%	20.0%	26.0%
Should sum to 100%	100.0%											
Growth rate next year:												
Growth rate Store A	10%											
Income statement assumptions:												
Cost of goods as a percent of sales												
Store A	45.00%											
Store A: Monthly operating expenses												
Store A manager's salary	$2,500											
Salespeople salaries:												
Base salaries	$750											
Commission rate	5.00%											
Advertising and promotion, Store A	3.00%											
Rent, Store A	$1,500											
Supplies, Store A	3.00%											
Telephone, utilities, and insurance	$1,000											
Store payroll tax and benefit rate	18.00%											
Balance sheet assumptions:												
Inventory purchases:												
Enter minimum purchasing lead time, in months to receive inventory	2											
Please review your inventory. You may want to increase or decrease your inventory.												
Enter your adjustments below:												
Inventory adjustments Store A	$6,300	$7,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fixed assets purchased:												
Fixed assets Store A	$25,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Depreciation schedule:												
Store fixed assets (in years)	7											

(Continued)

EXHIBIT 6.3 ***(Continued)***

	1/31/88 Retail	2/29/88 Retail	3/31/88 Retail	4/30/88 Retail	5/31/88 Retail	6/30/88 Retail	7/31/88 Retail	8/31/88 Retail	9/30/88 Retail	10/31/88 Retail	11/30/88 Retail	12/31/88 Retail
Cash flow assumptions:												
Base period accounts receivable received	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Monthly sales collected:												
% collected 0–30 days	80%											
% collected 31–60 days	10%											
% collected 61–90 days	5%											
% collected 90+ days	5%											
Total monthly sales collected	100%											
Base period accounts payable paid	40%	50%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Monthly expenses paid:												
% paid 0–30 days	70%											
% paid 31–60 days	30%											
% paid 61–90 days	0%											
% paid 90+ days	0%											
Total monthly expenses paid	100%											
Vendor deposits required	$1,250	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Line of credit:												
Annual line of credit interest rate	12.00%											
Maximum line of credit	$50,000											
Notes payable:												
Annual note interest rate	11.50%											
Term of note in months	60											
Minimum cash balance	$5,000											
Additional funding:												
New equity	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New debt (notes payable)	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Projected breakeven assumptions:												
Variable portion of cost of goods	50.0%											
Variable portion of store salaries	20.0%											
Variable portion of advertising and promotions	30.0%											

months. (Each of these statements is presented and discussed in the following sections.) The assumptions made in Exhibit 6.3 can be summarized as follows:

- Annual sales are $300,000 for Store A (eventually, you hope to start two or three more stores).
- The spread of sales shows a strong seasonality factor with 20% and 26% of total sales realized respectively in November and December. Note: The sales formula multiplies $300,000 by each month's seasonality factor, which projects monthly sales; thus, the $300,000 shown in January is not simply replicated across all 12 months for total sales of $3,600,000.
- A 10% annual growth rate is used to calculate 1989 sales, which are used to figure certain 1988 items (for example, purchases) that need to "look into" January and February of 1989 to calculate and derive November and December values.
- Cost of goods is projected at 45% of total sales based on prior experience.
- Operating expenses include the addition of a store manager (so we can subsequently start Store B). Advertising is increased to 3% (from 0%).
- Assets are depreciated over seven years.
- Payroll taxes and benefits have been increased to 18% due to a new employee benefits package.
- Purchases need to be made two months in advance of actual delivery, on average. *Note:* The formula related to the two-month lead time won't show any inventory purchases until Month #3; consequently, you need to enter your assumed inventory purchases for January and February ($6,300 and $7,000, respectively).
- Cash flow assumptions show that 100% of your *prior* accounts receivable will be collected in January. These were a few known customers, who were allowed to charge their purchases. However, you've decided to liberalize your policy to allow more store accounts. You believe collections will be slower (represented by the 80%, 10%, 5%, 5% spread of accounts receivable over 90+ days), but will be more than offset by greater sales compared to last year.
- *Prior* year's payables will be paid over a three-month period with 40% paid in January, 50% in February, and 10% in March.
- Accounts payable incurred in 1988 will be paid faster (70% within 30 days and 30% within 60 days) to improve credit ratings with suppliers so that good terms can be obtained when Store B is started.
- An additional $25,000 in fixed assets will be purchased in January to improve Store A. Some vendor deposits ($1,250) have been made for various deposits.

- Remaining long-term debt ($20,000) is payable over five years or 60 months at 11.50%. You also have a $50,000 line of credit at 12% with your bank where you must maintain a minimum cash balance of $5,000.
- Additional funding is set at zero for both new equity and new debt, so you can determine the minimum cash balance (to be shown in the cash flow statement). This figure will tell you if you need additional funding, and how much you need. The monthly ending cash balance will indicate when you will need these funds. You can then experiment with injecting different amounts of equity or debt into the venture to see what kinds of financial projections are associated with different combinations of debt and equity.

In order to calculate the amount of sales the store needs to break even for different assumptions and financial projections, you also need to make rough estimates to what extent monthly costs are totally variable (100% means these costs vary directly with each incremental sale, that is, the cost is not incurred until the sale is made) versus totally fixed (0% means these costs must be paid even if nothing is sold). For example, salaries (0%) must be paid each month even if there are no sales. Thus, salaries are totally fixed costs. However, advertising and promotion is 30% variable because the promotions portion (30%) is paid *only* when someone buys something. Advertising is 70% of the budget, and it is fixed because you must pay your advertising bill even if you sell nothing.

The Revenue Statement (or Sales Forecast)

The better business plans I've read over the last decade usually did a fairly good job of forecasting their costs. Though it is sometimes tedious, you can generally obtain good ballpark estimates of R&D, marketing, production, and administrative expenses. If these "better plans" had a flaw, it was their estimates of sales revenues or the *top line*.

Before startup, the top line is the most important line for nearly all entrepreneurial enterprises. After startup, other lines may assume greater importance. For instance, a materials-intensive manufacturing enterprise may need to monitor inventory and purchasing of certain materials much more closely than sales (once these are known for some relevant period of time). The reason is that slight variations in materials costs can have a devastatingly negative or incredibly positive impact on profits compared to slight changes in sales.[4] But before venture launch, the top line is usually the hardest line to forecast accurately. (That's why I've separated sales from the income statement and given it the status of a separate statement.)

Unexpected sales growth or sales decline can cause an increase in cash needs that pushes you above the upper limit of your venture's required capitalization. For instance, you need to know the *maximum sales increase* for which you have sufficient cash to cover related increases in costs and cash outflows that may suddenly begin increasing faster than cash inflows. Conversely, you need to know the *maximum sales declines* for which you have sufficient cash to cover decreases in cash inflows that may be occurring faster than the decline in costs and cash outflows.

Exhibit 6.4 illustrates the capital you'll need in different sales scenarios. The shaded portion represents a range of sales. Your ultimate task (in terms of entrepreneurial finance) is to discover what is the appropriate amount of capital that will finance not just likely sales, but the entire range of sales possibilities between pessimistic and optimistic sales forecasts.

The Components of the Sales Revenue Statement

There can be one or many items in a sales revenue statement. There may be no more than a single line (for example, net sales) if you are doing a quick feasibility analysis as is the case for the retail venture described in the case study. Exhibit 6.5 provides a sample retail revenue statement. Of course, many additional line items can be involved for a more detailed forecast of sales. For instance, a slightly more complicated sales forecast may break out sales discounts, deductions, and/or returns. More extensive calculations of sales may

EXHIBIT 6.4 Capital needed for a range of sales.

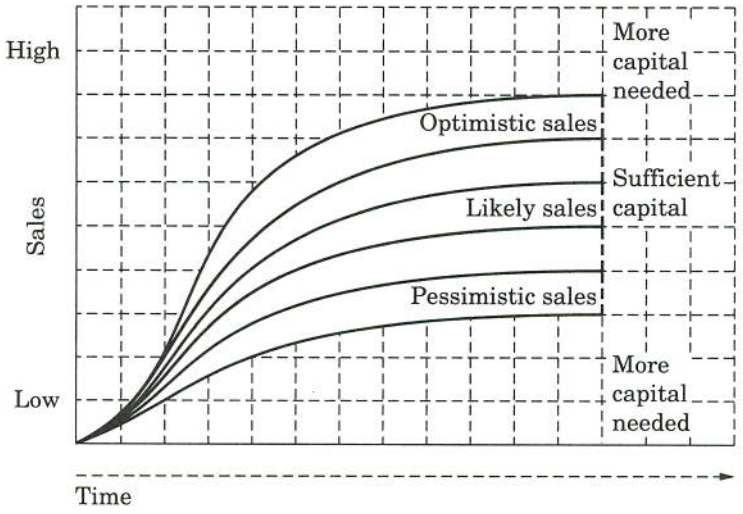


EXHIBIT 6.5 Sample revenue forecast for a retail company.

	1/31/88 Retail	2/29/88 Retail	3/31/88 Retail	4/30/88 Retail	5/31/88 Retail	6/30/88 Retail	7/31/88 Retail	8/31/88 Retail	9/30/88 Retail	10/31/88 Retail	11/30/88 Retail	12/31/88 Retail	Year 1 Retail
Sales, Store A	$12,000	$16,500	$10,500	$15,000	$27,000	$21,000	$15,000	$6,000	$12,000	$27,000	$60,000	$78,000	$300,000
Net sales	$12,000	$16,500	$10,500	$15,000	$27,000	$21,000	$15,000	$6,000	$12,000	$27,000	$60,000	$78,000	$300,000
Monthly increase/decrease in sales	0%	38%	(36%)	43%	80%	(22%)	(29%)	(60%)	100%	125%	122%	30%	N/A

show units and prices for different products and services. Detailed sales forecasts may disaggregate sales by location (Store A, Store B, and so on), channel of distribution, or many other ways.

The Derivation of the Sales Forecast's Components

For the retail venture, the analysis is fairly simple for the first cut to see if the venture expansion is feasible. The analysis can be refined later. Based on some preliminary work, $300,000 in annual sales represents a realistic top line. The assumptions statement assumes a seasonality spreading of these sales based on discussions with other retailers in related businesses. Consequently, monthly sales in Exhibit 6.5 are derived in the revenue statement simply by multiplying the annual sales assumption by the percent of sales allocated per month (both found in the assumptions statement).

The Income Statement

The income statement presents your venture's performance over a specified period of time (be it a month, quarter, or year) in terms of sales, costs, and profits or losses. A projected income statement's main purpose is to show how much profit (or loss) you hope to earn based on when you make your sales and legitimately incur your costs, as opposed to when you actually collect the cash for the sales or pay for the costs you are obligated to pay.

The Derivation of the Income Statement's Components

In the retail store example, several items (gross profit, total operating expenses, operating profit, and net income before taxes) are calculated internally from other income statement items. Also, you've already seen how one item, net sales, has simply been copied from the revenue statement. The actual values are shown in Exhibit 6.6. The remaining items are all derived as follows:

Note: The source of each item in the following list is shown in brackets when it comes from a statement other than the income statement.

- *Cost of goods* is calculated by multiplying net sales by 45% (the cost of goods as a percentage of sales for Store A [assumptions statement]).
- *Payroll, taxes, and benefits* is calculated by adding payroll to taxes and benefits. First, payroll is derived by adding the store manager's salary [assumptions statement] to the product of net sales on the income statement times the 5% commission rate [assumptions statement]. Then, taxes and benefits

EXHIBIT 6.6 Sample income statement for a retail company.

	1/31/88 Retail	2/29/88 Retail	3/31/88 Retail	4/30/88 Retail	5/31/88 Retail	6/30/88 Retail	7/31/88 Retail	8/31/88 Retail	9/30/88 Retail	10/31/88 Retail	11/30/88 Retail	12/31/88 Retail	Year 1 Retail
Net sales	$12,000	$16,500	$10,500	$15,000	$27,000	$21,000	$15,000	$6,000	$12,000	$27,000	$60,000	$78,000	$300,000
Cost of goods	5,400	7,425	4,725	6,750	12,150	9,450	6,750	2,700	5,400	12,150	27,000	35,100	135,000
Gross profit	6,600	9,075	5,775	8,250	14,850	11,550	8,250	3,300	6,600	14,850	33,000	42,900	165,000
Operating expenses:													
Payroll, taxes, and benefits	4,543	4,809	4,455	4,720	5,428	5,074	4,720	4,189	4,543	5,428	7,375	8,437	63,720
Occupancy	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	30,000
Advertising and promotion	360	495	315	450	810	630	450	180	360	810	1,800	2,340	9,000
Supplies and other	360	495	315	450	810	630	450	180	360	810	1,800	2,340	9,000
Depreciation	714	714	714	714	714	714	714	714	714	714	714	714	8,571
Total operating expenses	8,477	9,013	8,299	8,834	10,262	9,548	8,834	7,763	8,477	10,262	14,189	16,331	120,291
Operating profit (loss)	(1,877)	62	(2,524)	(584)	4,588	2,002	(584)	(4,463)	(1,877)	4,588	18,811	26,569	44,709
Interest expenses/income	288	476	486	621	665	597	524	496	587	775	920	733	7,168
Net income before taxes	$(2,165)	$(413)	$(3,010)	$(1,205)	$3,922	$1,405	$(1,108)	$(4,959)	$(2,464)	$3,812	$17,890	$25,835	$37,540

are calculated by multiplying base salaries [assumptions statement] by the 18% store payroll tax and benefit rate [assumptions statement].

- *Occupancy* is calculated by adding monthly rent [assumptions statement] plus monthly telephone, utilities, and insurance [assumptions statement].
- *Advertising and promotion* is calculated by multiplying net sales on the income statement by the 3% monthly advertising and promotion rate [assumptions statement].
- *Supplies and other* is calculated by multiplying net sales by the 3% monthly supplies rate [assumptions statement].
- *Depreciation* is calculated by using a straight line depreciation function that is equivalent to rounding the figure for total property and equipment at cost [balance sheet] for Period #1 to $60,000 and dividing it by seven years, the store fixed assets depreciation rate [assumptions statement], and then dividing this total ($8,571) by 12 months to arrive at the $714 of monthly depreciation shown on the income statement.
- *Interest expense/income* is calculated by multiplying the beginning principal balance [cash flow statement] times the 11.5% annual interest rate [assumptions statement] divided by 12 months plus the previous period's line of credit [balance sheet] times the 12% annual line of credit interest rate [assumptions statement] divided by 12 months.

The Balance Sheet

A balance sheet is a statement of a venture's financial position at a specific point in time. It gives a snapshot of the venture's financial position at this time, expressed in terms either of historical costs for an accounting statement or future costs when a balance sheet is used for financial projections. Often the date of a balance sheet coincides with the ending date of an income statement; however, you should remember that the income statement is showing sales, expenses, and profit activity *over a specified period,* whereas the balance sheet is showing the venture's financial position *exclusively as of the ending date.*

Actually, there are at least two balance sheets you need to consider when generating a set of linked financial projections: one is the opening balance sheet, and the other is a closing balance sheet. The *opening balance sheet* contains all prior transactions, and is sometimes called the base period, or beginning, balance sheet. The *closing balance sheet,* as the name suggests, shows the status of your assets, liabilities, and equities at the end of a specified period.

One reason you need two balance sheets on the balance sheet statement is that the other projected financial statements encompass or cross some period

of time. However, the balance sheet is different. It shows the status of an enterprise at a specific point in time, for example, on January 1, 1990, when you first committed some significant dollar resources to your venture. It's vital to recognize at least two balance sheets because the comparison of the two statements allows us to understand how an organization changed the size and deployment of its assets and liabilities during the time period.

The opening balance sheet is unique because it represents either:

- A statement of historical fact, for example, I've started working on this venture and here are the assets I've allocated and the liabilities I've incurred, and the equity I've invested up to this point in time; or
- An assumption about the future set of assets, liabilities, and equity I will bring to the initiation of the venture.

If the latter, you may ask, "Then why isn't the opening balance sheet part of the balance sheet assumptions in the assumptions statement?" The answer is that it could be included in the assumptions statement. However, convention and convenience require us to show the opening balance sheet (or at least some base period) on the balance sheet statement so it can be compared easily with other projected balance sheets.

What the initial time point of an opening balance sheet should be for a new venture is a matter of judgment. To be informative, the opening balance sheet should be prepared after some assets have been obtained and deployed. The key point is that every venture has an opening balance sheet. Even if you aren't explicit about its existence, an implicit balance sheet exists. Theoretically, one exists from the time you first had the idea for your venture, even if you had zero assets invested and zero liabilities incurred at that point.

Obviously, listing a balance sheet with zero assets and liabilities is not very informative; consequently, it usually pays to select a base period to mark the beginning point of your business for comparative purposes. The fact that the base period is not necessarily the first balance sheet does not matter for our purposes since a balance sheet captures all that has transpired financially up to that time.

For instance, Base Period #5 in Exhibit 6.7 incorporates all prior balance sheet transactions, covering a 60-day prestartup period for a venture. See if you can explain the transactions that have occurred by the end of each period shown in Exhibit 6.7:

- *Period #1:* The end of Day 1 marks the birth of your venture idea. No financial transactions have taken place yet, but an implicit balance sheet already exists.

EXHIBIT 6.7 Opening balance sheet or base period.

	Idea for venture	Prestartup period (no sales)			60 days later
	Day 1 Period #1	Day 15 Period #2	Day 30 Period #3	Day 45 Period #4	Day 60 Period #5
Cash	$0	$10,000	$20,000	$20,000	$15,000
Inventory	0	0	0	5,000	5,000
Fixed assets	0	0	0	0	5,000
TOTAL ASSETS	$0	$10,000	$20,000	$25,000	$25,000
Trade payables	0	0	0	5,000	5,000
Long-term debt	0	0	10,000	10,000	10,000
Equity	0	10,000	10,000	10,000	10,000
TOTAL LIABILITIES AND EQUITY	$0	$10,000	$20,000	$25,000	$25,000

- *Period #2:* As of Day 15, the following transactions have occurred: $10,000 has been invested in the venture as *equity* and appears as $10,000 in cash on the asset side of the balance sheet.
- *Period #3:* As of Day 30, an additional $10,000 has been borrowed as long-term debt, raising total liabilities and equities to $20,000. Cash is increased to $20,000 on the asset side of the balance sheet.
- *Period #4:* As of Day 45, $5,000 of trade payables have been incurred to finance the buildup of $5,000 worth of Inventory.
- *Period #5:* As of Day 60, no charges occur on the liabilities and equities side of the balance sheet. However, $5,000 is used to purchase (for cash) some fixed assets.

Although these transactions are simple, they reveal two important things about the balance sheet:

- The size of your balance sheet in terms of total assets can increase (as it did in Periods #3 and #4) if you simply increase long-term or short-term debt.
- Shifts in assets and liabilities can occur that will have a definite impact on the amount of cash you end up with.

The Derivation of the Balance Sheet's Components

The retail venture's balance sheet is shown in Exhibit 6.8. The numbers for the opening balance sheet come from either historical data or assumed data that

EXHIBIT 6.8 Sample balance sheet for a retail company.

	Base period	1/31/88	2/29/88	3/31/88	4/30/88	5/31/88	6/30/88	7/31/88	8/31/88	9/30/88	10/31/88	11/30/88	12/31/88
Assets													
Current assets:													
Cash and equivalents	$24,700	$34,893	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$610	$5,000	$19,197
Accounts receivable	12,500	2,400	4,500	4,350	4,875	7,425	7,650	6,450	3,750	3,750	6,900	15,300	22,950
Inventories	7,250	12,875	19,200	26,625	29,325	23,925	17,175	15,825	25,275	46,875	69,825	48,765	21,833
Total current assets	44,450	50,168	28,700	35,975	39,200	36,350	29,825	27,275	34,025	55,625	77,335	69,065	63,979
Property and equipment, net	33,500	57,786	57,071	56,357	55,643	54,929	54,214	53,500	52,786	52,071	51,357	50,643	49,929
Other assets	2,500	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750
Total assets	$80,450	$111,704	$89,521	$96,082	$98,593	$95,029	$87,789	$84,525	$90,561	$111,446	$132,443	$123,458	$117,658
Liabilities and equity													
Current liabilities:													
Accounts payable	$32,456	$31,247	$8,418	$4,584	$3,855	$3,261	$1,938	$2,640	$4,503	$9,066	$11,766	$3,612	$4,604
Accrued expenses	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850
Current portion of long-term debt	10,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
Line of credit	0	0	1,676	15,702	20,775	14,516	7,835	5,622	15,406	34,852	50,000	31,950	0
Total current liabilities	44,306	47,097	25,944	36,136	40,480	33,627	25,623	24,112	35,759	59,768	77,616	51,412	20,454
Long-term debt	20,000	35,628	35,012	34,390	33,762	33,129	32,489	31,843	31,191	30,533	29,868	29,197	28,519
Stock-holders' equity:													
Contributed capital	20,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000
Accumulated earnings	(3,856)	(6,021)	(6,434)	(9,444)	(10,649)	(6,727)	(5,322)	(6,430)	(11,389)	(13,854)	(10,041)	7,849	33,684
Total equity	16,144	28,979	28,566	25,556	24,351	28,273	29,678	28,570	23,611	21,146	24,959	42,849	68,684
Total liabilities and equity	$80,450	$111,704	$89,521	$96,082	$98,593	$95,029	$87,789	$84,525	$90,561	$111,446	$132,443	$123,458	$117,658
Does the balance sheet balance?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

are entered directly into each line item of the base period, just as sales, income, and cash flow assumptions are entered directly into the assumptions statement. [*Note:* In the present model, the only requirement is that the amount of total assets you enter in the base period must equal total liabilities and equities. There is no discretionary balancing, or "plug," figure that automatically equalizes these totals for the base period. The formulas for this model are written to start at Period #1, so you do not necessarily have to enter an opening balance sheet since the equalizing precondition is still satisfied in the base period when zero assets equals zero liabilities and equities.]

The derivation of the numbers for the closing balance sheet is described in the following lists, with the source statement for variables shown in brackets if the variable comes from a statement other than the balance sheet.

Current assets are derived as follows:

- *Cash and equivalents* is derived from the ending cash balance [cash flow statement] for the period in question.
- *Accounts receivable* is derived from the previous period's accounts receivable plus the current period's net sales [income statement] *after* subtracting total cash receipts [cash flow statement].
- *Inventories* is derived by adding purchases [cash flow statement] to the previous period's inventories and then subtracting cost of goods [income statement].

Fixed assets are derived as follows:

- *Net property and equipment at cost* is calculated by adding the previous period's fixed assets at cost plus fixed assets purchased [assumptions statement] minus accumulated depreciation.
- *Accumulated depreciation* is calculated by adding the previous period's accumulated depreciation plus the current period's depreciation [income statement].
- *Other assets* is calculated by adding the previous period's other assets plus vendor deposits required [assumptions statement].

Current liabilities are derived as follows:

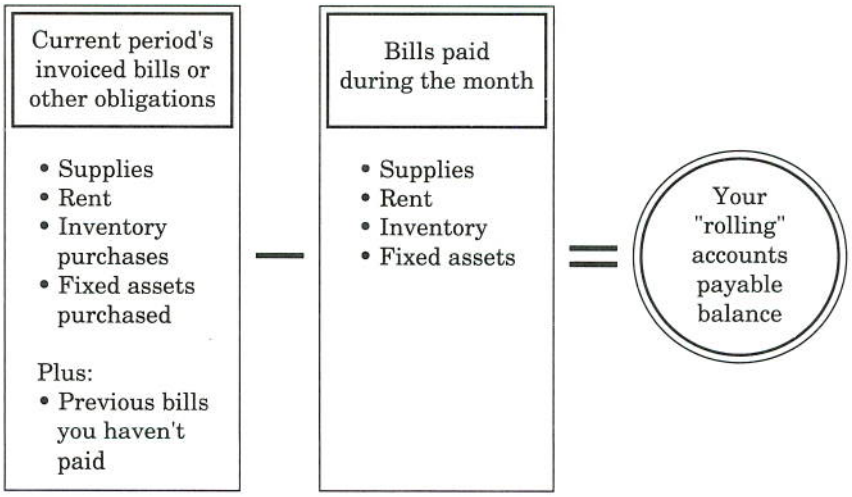
- *Accounts payable* is calculated by taking all the previous payables that have not been paid and adding all the new bills or obligations incurred in operating expenses [income statement] *plus* inventory purchases [inventory purchasing statement, not shown here] *plus* fixed assets purchased [assumptions statement] *minus* the bills or obligations that are paid during the month (for example, payroll, taxes, and benefits [income statement]) *minus* noncash expenditures included in operating expenses (for

example, depreciation, [income statement]). Exhibit 6.9 illustrates the calculation of a rolling accounts payable balance.

Unfortunately, the formulas used to project your balance sheet are often the most complicated among those in your financial projections. For instance, the specific formula for *accounts payable* for our retail store is calculated by adding the previous period's accounts payable on the balance sheet *plus* inventory purchases [inventory purchasing statement] *plus* fixed assets purchased [assumptions statement] *plus* operating expenses [income statement] *minus* payroll, taxes, and benefits [income statement] *minus* depreciation [income statement] *minus* accounts payable paid from 1987 expenses [cash flow statement] *minus* monthly expenses, inventory, and fixed assets paid [cash flow statement].

- *Accrued expenses* for the retail store are assumed to equal the previous period's accrued expenses. In other situations, you may wish to include new items that are obligations you have incurred legally but have not yet received an invoice or are not yet obligated to pay. If so, the process is similar to accounts payable in which old and new accrued expenses are combined and then subtracted from accrued expenses actually paid during the current period to arrive at a net accrued expenses balance. For example, income taxes are incurred legally for each day you operate. However, you are not invoiced daily or even monthly but are expected to pay quarterly. Perhaps a better example is services you have received

EXHIBIT 6.9 Calculation of accounts payable.



from a lawyer or consultant, who will not send a bill or invoice for three or four months.

- *Current portion of long-term debt* is calculated by taking the previous period's current portion of long-term debt plus the current period's current portion of long-term debt on the balance sheet minus the notes payable principal payment [cash flow statement] *until* long-term debt becomes a zero balance.

Equities are derived as follows:

- *Contributed capital* is derived from the previous period's contributed capital on the balance sheet plus new equity [cash flow statement] from the current period.
- *Accumulated earnings* is derived from the previous period's accumulated earnings on the balance sheet plus net income before taxes [income statement] minus dividends [cash flow statement] for the current period.

How to Get the Balance Sheet to Balance

If you have ever tried to put together a set of financial projections, you probably experienced some trying moments attempting to discover why your balance sheet didn't balance. Don't worry. You're not alone. I've seen experienced CPAs spend hours trying to figure out why a particular set of projections didn't *tie out,* that is, produce a balanced balance sheet.

Despite what people may say, getting your balance sheet to balance isn't easy. You may also wonder, since we're dealing with imprecise future projections, why you need to have a balance sheet that balances. The answer relates to the *interdependent nature of all the statements.* Because the balance sheet is tied to the cash flow and ultimately all other statements, a balance sheet that is out of balance can provide the wrong answers about how much cash your venture needs, when it needs this cash, what form the cash should take, and where you should try to raise the needed funds.

In short, an incorrect balance sheet can mess up your cash flow statement, your ratios and profitability measures, your sales breakeven, and any other analysis that is derived directly or indirectly from the balance sheet. That means just about everything, since the linkages between the statements ensure that errors ripple through all of your projections. In addition, you can't ignore or rationalize away a small error in your balance sheet. Flagging potential errors is important here. It's why Exhibit 6.8 asks a simple "Yes" or "No" question at the bottom of the statement: "Does the balance sheet balance?" Remember, a small error in your balance sheet often gets bigger with each new round of calculations for each successive time period.

The Cash Flow Statement

The income statement and the balance sheet have dominated the attention of stockholders, and, consequently, many managers in the past. The reasons for this domination include the facts that:

- Both statements are important indicators of the organization's past performance and current position; and
- Accountants can reduce and consolidate a great deal of information from other statements into these two statements for presentation purposes.

Both the income statement and the balance sheet also satisfy the needs of managers and stockholders of larger corporations for a relatively accurate picture of an enterprise's future health, especially when these people can focus on a few financial ratios drawn from these statements. For instance, the amount of debt your venture has incurred relative to total equity (the debt/equity ratio) shows the financial commitment of the owners compared to that of outside creditors and bankers. Where nearly all debt is used with very little equity, this shows little financial reason for the owners to stick with the venture when it experiences difficult times. They personally have little to lose by selling the business. They also have little or no further ability to use debt to help the venture through difficult times.

Over the last decade, a third statement—the cash flow statement—has garnered increasing attention among entrepreneurs, and especially owner/managers of smaller businesses. The reason is simple. Cash is what keeps ventures alive and functioning. The cash flow statement tracks the *actual flow of cash into and out of the venture.* The income statement and balance sheet can be misleading about the true existence of cash, and this is especially likely if a venture is new, small, or rapidly growing. For example, at some point *within* an accounting period, a venture may not have sufficient cash to continue operating, even though the income statement shows a substantial projected profit and the balance sheet projects a positive net worth and positive cash for the end of the accounting period (some months away).

This possibility is more likely to have a devastating impact when the accounting period or the projection period is relatively long, (for example, a quarter or especially a year). Annual income and balance sheet projections have been known to show entrepreneurs rich and famous at the end of the year although their ventures actually run out of funds six months before that time. For instance, monthly cash flow projections in the exhibit on page 167 show big negative cash flows in August, September, and October followed by large positive cash flows in November and December. Unfortunately, the venture never sees November unless it raises additional funding of $4,390 in October.

Consequently, the cash flow statement is an extremely important statement for new enterprises. It shows not only *how much* money you need to launch the venture but also *when* you will need it.

The cash flow statement tracks when you actually receive cash and when you pay it out over some specified period of time. In short, its basic purposes are to tell you if you have sufficient cash to continue present and future operations, and, if not, how much cash you will need and when you will need it to keep the venture operating at some designated level.

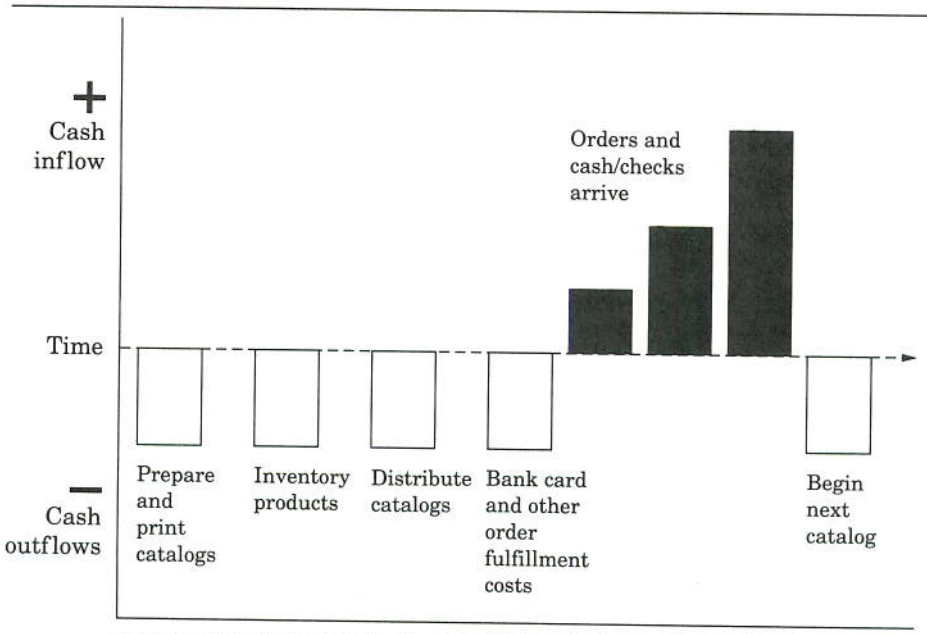
The cash flow statement is important because it prevents you from equating sales with cash flow unless sales are actually cash sales. It also tells you what your minimum cash point will be over the time period in question. From a projections perspective, the cash flow statement tells you how to manage the cash you have. It gives you the insight and time to react, to decide how to spend (or not spend) cash under a variety of circumstances.

For example, your ending cash position for any particular month can be positive or negative, depending on whether you've received more cash (including your starting cash position) than you've spent. If you cannot offset negative cash flows with additional capital (debt or equity), someone will go unpaid. You may be able to live with this condition for some period of time depending on your creditors. But eventually you will be forced to take action to turn cash flow positive in the future. This action can include a reduction in expenditures as shown on the income statement—that is, reducing wages, salaries, rent, utilities, travel, and so on. Or it can include changes in balance sheet items that free up cash: selling fixed assets, reducing your accounts receivables faster (that is, increasing your collections), increasing your accounts payable (that is, extending the average time you pay vendors and other creditors), or reducing the amount of cash tied up in inventory. Should these and other possible actions prove insufficient to turn cash flow positive, you may have no other choice but to sell or discontinue the venture.

The critical point, however, is that you can use an integrated financials model to test the effects of these actions *before* they happen. This capability allows you to manage financial decisions by evaluating numerous options quickly, using a true "what if" approach to find a viable, if not the best, option available to you.

Many new and fairly new ventures show negative net cash flows from their operations because entrepreneurs and other investors have to spend money to build up the business. These negative positions should be covered by the initial capital invested in the venture and other debt and equity financings that prove necessary. Eventually, however, a venture needs to earn a positive *operating* cash flow so the business can not only stand on its own feet but presumably begin providing a return to investors from the operations

EXHIBIT 6.10 Timing of cash flows.



This chart illustrates the timing of cash flows in the mail-order business.

of the venture. For instance, Exhibit 6.10 illustrates the typical situation for a mail-order venture at startup where operating cash flows are negative at first.

Components of the Cash Flow Statement

Cash flow statements are arranged in many different ways. These can be categorized into three basic types in terms of complexity:

1. *The simple cash flow statement,* so called because all items are arranged into only two categories: cash inflows (including your starting cash position) and cash outflows.
2. *The operating cash flow statement,* so called because cash inflows and outflows are limited initially to the cash flows that stem from the venture's ongoing operations, as opposed to the cash flows needed to finance the venture.
3. *The priority cash flow statement,* so called because cash inflows and particularly cash outflows are further classified into any number of priority or discretionary groupings.

Priority cash flow statements are very useful. However their increased utility is often offset by their greater complexity. For our purposes, the operating cash flow statement offers a better trade-off. A slight decrease in complexity is worth the advantage of knowing whether a positive cash flow for a particular month, quarter, or year is being produced from the venture's operations, from financial inflows, or from operating inflows from *prior* periods.

Because of this advantage, I've chosen to use the operating cash flow model with only some slight variations. The fundamental model is shown in Exhibit 6.11, followed by the projected cash flow statement for our retail venture in Exhibit 6.12.

EXHIBIT 6.11 Operating cash flow statement.

	Period #1	Period #2
Cash received:	(Inflows)	
Cash sales	XXX	
Receivables collected	XXX	
Operating cash inflows	XXX	
Cash disbursed	(Outflows)	
Purchases paid	XXX	
Payroll paid	XXX	
Other operating expenses paid	XXX	
Operating cash outflows	XXX	
Net operating cash flow	XXX	
Nonoperating inflows		
Add:		
Beginning cash balance	XXX	
New equity invested	XXX	
New debt invested	XXX	
Nonoperating outflows		
Minus:		
Debt principal payments	XXX	
Interest payments	XXX	
Income taxes paid	XXX	
Fixed assets paid	XXX	
Dividends paid	XXX	
Ending cash balance	XXX	
Cumulative cash flow	XXX	

EXHIBIT 6.12 Cash flow statement for a retail company.

	1/31/88	2/29/88	3/31/88	4/30/88	5/31/88	6/30/88	7/31/88	8/31/88	9/30/88	10/31/88	11/30/88	12/31/88
Cash received (inflows)												
Accounts receivable collected from 1987 sales	$12,500	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Monthly sales collected	9,600	14,400	10,650	14,475	24,450	20,775	16,200	8,700	12,000	23,850	51,600	70,350
Total cash receipts	22,100	14,400	10,650	14,475	24,450	20,775	16,200	8,700	12,000	23,850	51,600	70,350
Cash disbursed (outflow)												
Payroll paid	4,543	4,809	4,455	4,720	5,428	5,074	4,720	4,189	4,543	5,428	7,375	8,437
Accounts payable paid from 1987 expenses	12,982	16,228	3,246	0	0	0	0	0	0	0	0	0
Monthly expenses, inventory, fixed asset paid:												
1–30 days paid	27,472	12,068	10,696	8,995	7,609	4,522	6,160	10,507	21,154	27,454	8,428	10,743
31–60 days paid	0	11,774	5,172	4,584	3,855	3,261	1,938	2,640	4,503	9,066	11,766	3,612
61–90 days paid	0	0	0	0	0	0	0	0	0	0	0	0
90+ days paid	0	0	0	0	0	0	0	0	0	0	0	0
Vendor deposits	1,250	0	0	0	0	0	0	0	0	0	0	0
Total cash disbursement	46,247	44,878	23,568	18,299	16,892	12,857	12,818	17,336	30,200	41,948	27,569	22,792
Operating cash surplus (deficit)	(24,147)	(30,478)	(12,918)	(3,824)	7,558	7,918	3,382	(8,636)	(18,200)	(18,098)	24,031	47,558
Less: interest payments:												
Interest on debt (notes payable)	288	476	470	464	458	452	446	439	433	427	420	414
Interest on line of credit	0	0	17	157	208	145	78	56	154	349	500	320
Less: notes payable principal payment	372	616	622	628	634	640	646	652	658	665	671	677
Add: beginning of month cash balance	24,700	34,893	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	610	5,000
Cash balance before funding	$(107)	$3,324	$(9,026)	$(72)	$11,259	$11,681	$7,212	$(4,784)	$(14,446)	$(14,538)	$23,050	$51,147
Line of credit principal payments	0	0	0	0	6,258	6,681	2,212	0	0	0	18,050	31,950
Dividends	0	0	0	0	0	0	0	0	0	0	0	0
Additional funding:												
New equity	15,000	0	0	0	0	0	0	0	0	0	0	0
New debt (notes payable)	20,000	0	0	0	0	0	0	0	0	0	0	0
Line of credit borrowings	0	1,676	14,026	5,072	0	0	0	9,784	19,446	15,148	0	0
Ending cash balance	$34,893	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 610	$ 5,000	$19,197
Is additional funding required?	No	No	No	No	No	No	No	No	No	Yes	No	No
If Yes, please enter your amount in the "new equity" or "new debt" (notes rows on the assumptions statement)												
Your minimum cash requirement was	$5,000											
The cash to fund your venture is	$4,390											

The Derivation of the Cash Flow's Components

The components of retail store's cash flow are derived from several sources. Some items come directly from the assumptions statement. Others come from the balance sheet or income statement. Again, the source statement is shown in brackets.

The formulas for certain cash flow items are very complex for legitimate technical reasons. In these instances, I've chosen to demonstrate how the calculation works; however, the reader should realize that computing a number in your head or even with a calculator is very difficult. In one or two instances, such calculations are even impossible because they require access to some intermediary calculations that are not shown.

Operating cash inflows are derived as follows:

- *Accounts receivable collected from 1987 sales* are taken directly from the amounts estimated in the assumptions statement.
- *Receivables collected from 1988 sales* are calculated from the sum of the following:
  - —*Receivables collected 30 days after sale,* which is derived by multiplying the previous month's net sales [income statement] by the assumed percentage collected in 30 days [assumptions statement].
  - —*Receivables collected 60 days after sale,* which is derived by multiplying the net sales [income statement] realized two months ago by the assumed percentage collected in 60 days [assumptions statement].
  - —*Receivables collected 90 days after sale,* which is derived by multiplying the net sales [income statement] realized three months ago by the assumed percentage collected in 90 days [assumptions statement].
  - —*Receivables collected over 90 days after sale,* which is derived by multiplying the net sales [income statement] realized four months ago by the assumed percentage collected after 90 days [assumptions statement]. Note: In this set of projections, bad debts are part of deductions and subtracted from gross sales. An alternative calculation would be to make receivables collected add up to something less than 100% in the assumptions statement with receivables collected over 90 days incorporating the shortfall (for example, a cumulative receivables collected percentage of 98% gives a 2% bad debt rate).

In some instances, cash sales are assumed to be any sale where cash is received within the first 1 to 30 days. When this assumption is made, cash sales are simply combined with receivables collected instead of being listed as a separate item.

EXHIBIT 6.13 Accounts receivable spreading.

	Actual		Projected					
Month	F	M	A	M	J	J	A	S
Sales	300	200	100	100	200	300	400	400
Cash receipts								
1–30 days (20%)	(60)	(40)	20	20	40	60	80	80
31–60 days (50%)	150	(150)	(100)	50	50	100	150	200
61–90 days (30%)	120	90	(90)	(60)	30	30	60	90
Total receipts from sales	330	280	210	130	120	190	290	370

Source: Adapted from Leon Haller's excellent book, *Making Sense of Accounting Information* (New York: Van Nostrand Reinhold, 1985), 41 (with the author's permission).

Exhibit 6.13 shows how receivables are spread over time. Operating cash outflows are derived as follows:

- *Payroll paid* is taken from payroll, taxes, and wages and benefits [income statement].
- *Accounts payable paid* [from 1987 expenses] is calculated by multiplying the '87 accounts payable of $32,456 [base period of balance sheet] by the base period accounts payable paid [assumptions statement].
- *Monthly expenses, inventory, fixed assets paid* is calculated by *multiplying* operating expenses [income statement] *minus* salaries and wages, *minus* depreciation, *plus* any inventory purchases and any fixed assets purchased [assumptions statement] by a monthly expenses paid rate that is spread over 90+ days.
- *Vendor deposits* is taken from vendor deposits required [assumptions statement].
- *Interest part of debt (notes payable) payment* is calculated by multiplying the beginning principal balance [memo item or cash flow statement, not

shown] times the annual interest rate [assumptions statement] and divided by 12 months.

- *Principal part of debt (notes payable) payment* is calculated by subtracting the interest part of payment from the monthly payment amount [memo item or cash flow statement, not shown].
- *Interest on line of credit* is calculated by multiplying the previous period's line of credit [balance sheet] times the line of credit interest rate [assumptions statement] and dividing by 12 months.
- *Add: beginning of month cash balance* is taken from the previous period's cash and equivalents [balance sheet].
- *Line of credit principal repayments* occur when the cash balance before funding [cash flow statement] is above the $5,000 minimum cash balance [assumptions statement]. The exact amount paid is either the total principal due on line of credit borrowings or the maximum amount that will still leave an ending cash balance of $5,000.
- *New equity* is taken directly from new equity [assumptions statement] and is held at zero initially in order to determine incremental cash needs.
- *New debt* is taken directly from new debt [assumptions statement] and is held at zero initially in order to determine incremental cash needs.
- *Line of credit borrowings* are calculated when the cash balance before funding plus new equity and new debt are less than the $5,000 minimum cash balance [assumptions statement]. The amount calculated is whatever amount is needed to make the ending cash balance $5,000 without exceeding the maximum line of credit [assumptions statement] of $50,000.

YOUR ULTIMATE GOAL: POSITIVE OPERATING CASH FLOWS

If happiness is a positive cash flow, then venture ecstasy is a *positive operating cash flow.* One can finance a venture forever and show a positive cash flow by injecting new debt or equity. Yet your business may never be profitable in either an accounting or economic sense because you haven't produced a positive cash flow from the operations of the business.

Under certain conditions, a conscious decision may be made to subsidize a venture (for example, some nonprofit ventures) through donations and other fund-raising activities. For instance, many symphonies and museums operate on this basis in order to keep admission prices affordable. Although they operate in the red every year, a positive cash flow is produced by annual gift giving or periodic capital campaigns.

Most ventures, however, do not fit these nonprofit profiles. The goal of most for-profit entrepreneurs, though it may be unappreciated and unstated, is to earn a positive *operating* cash flow. Only as these operating cash flows increase over time can true wealth be created and equity increased in a venture so that the venture is worth something substantial to you because others place value on it.

KNOWING YOUR NUMBERS COLD MEANS NEVER GUESSING ABOUT THEM UNLESS YOU MUST

This chapter has shown how the initial assumptions you make will produce an interrelated set of projections. These projections start with a revenue statement and culminate in a cash flow statement. Don't worry if you don't understand every interrelationship perfectly at this time. With experience, these linkages will become clearer. For now, it's enough to understand how every element of your financial projections are related to all other elements. There's a saying in business that a change in any part of an organization finds a way of eventually rippling across the entire venture. Your financial projections are no different.

Today's entrepreneurs need to understand how accounting statements and financial projections are created and evolve. Practically speaking, they need this knowledge to plan and execute the startup of their ventures. They also need it for their own peace of mind. The experience of one entrepreneur speaks for many:

> Numbers may be the language of commerce, but it's a dialect few of us speak when we first go into business. That can make for some very anxious moments. I recall being at the mercy of my bookkeeper for seven long years. She was oracular, and I would wait nervously for her to deliver each month's profit-and-loss statement. It took about 15 years before I actually understood the double-entry method of accounting. As much as I pretended to read, comprehend, and comment on P&Ls and balance sheets, I was operating under a thick film of ignorance that I was too embarrassed to admit. It was only later—after I got over both my ignorance and my embarrassment—that I fully appreciated the role numbers should play in the management of a successful business.[5]

What's true about understanding historical accounting statements is doubly true for future-based financial projections. Most entrepreneurs need to control their environments as much as possible given the uncertainty that confronts them. Fortunately, reduction of uncertainty in the area of financial projections is attainable, and you shouldn't have to wait years to experience it. For venturing to be truly a calculated risk, you should be *calculating* likely cash

flows, not guessing about them. As someone once said, "Never guess . . . unless you have to. There is enough uncertainty in the universe."

Creating a set of integrated financial projections allows you to take calculated risks. It allows you to limit your guessing. With integrated financial projections you can test and retest your basic assumptions about your business. You can understand the impact of changing many variables simultaneously. As this process evolves, you begin to see the forest, not just the trees, and eventually you truly understand your numbers, as Harold Geneen would say, "cold."