

Teaching the Cash Flow Statement

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Teaching accounting involves starting with simple transactions and gradually layering in complexity. The idea is to use simple transactions to:

1. Introduce basic concepts, such as assets, liabilities and net income;
2. Build a set of tools, such as debit/credit, closing and balancing practices, that are used in addressing more complicated situations; and,
3. Alert the student to the restrictions of the tools, e.g. balance sheets must balance so equity is really determined by our valuations of assets and liabilities. I.e., equity is not an independently defined concept.
4. Acquaint the student with the level of care required for good quantitative analysis.

Getting this job done is challenging enough, but even more so when we recognize that our trip through simple items should not invite students to make errors in thinking that will inhibit their ability to address the more complex problems they will encounter later. Almost anyone with experience teaching the indirect method for cash flow from operations has encountered this problem: many (most? almost all?) students believe at some point that the amounts relating to the changes in balance sheet accounts are simply the ending balances minus the beginning balances for all the working capital accounts.

After decades of teaching the indirect method to undergraduate, graduate, MBA, law and executive students, we have found a way to teach it that lets the student build up their knowledge in a systematic way *without misleading them*. Our methods rely on students being introduced to the basics of the balance sheet, the income statement, journal entries, ledgers (T-accounts), adjusting and closing entries. The primary tool we use is the cash flow worksheet.

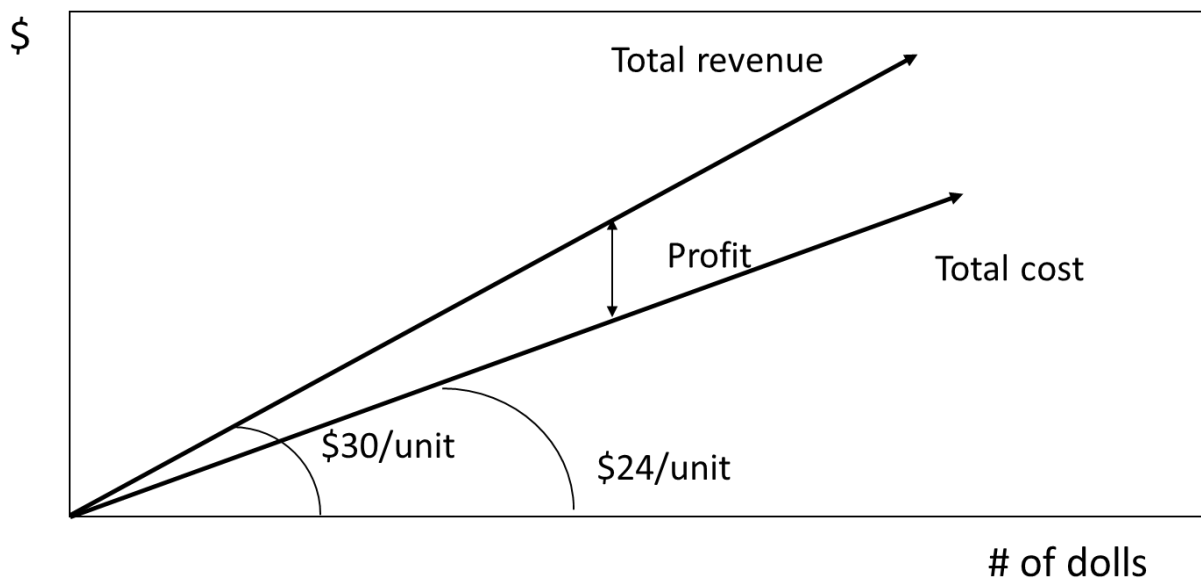
Accrual accounting v cash flows – Total Toy

After introducing the income statement and balance sheet, we go through a simple example designed to illustrate the relationship between net income and cash flow from operations. The trick to this is to include just enough complexity to make things interesting. If students have had an introductory economics class, the example can be used to emphasize the usefulness of accrual accounting. If they have also had an introductory course in finance, the example can be used to introduce valuation of businesses using discounted cash flow techniques. And if you want to push really far, you can use it to address the *relationship between the economists' approach (value) and the finance approach (cash flows)*. So let's get going.

Consider the operations of a hypothetical company – Total Toy. Total Toy is a retailer that can sell a total of 14,400 dolls for \$30 each.¹ It buys dolls from its supplier for \$24 each.² It is a magical enterprise that can do this without paying any landlords or workers – Cost of Goods Sold is the only expense.

Consider how this “value generating engine” would be portrayed in an economics class, where the focus would be on whether Total Toy creates value, and if so, how it can maximize the value created. The basic idea would be to define revenue and cost as functions of “volume” and see whether profits are positive for any volume and at what volume they are maximized.

Executing this strategy is extremely simple for Total Toy. Total revenues would be equal to \$30 times the number of dolls sold. Total costs would be \$24 times the number of dolls sold. Here’s a picture:



It is worth going into great detail about the construction of this graph. The idea of the graph is to depict the value-generating possibilities of Total Toy. (An immediate issue is the length of the time period over which these value-generating activities are taking place. More on this later.)

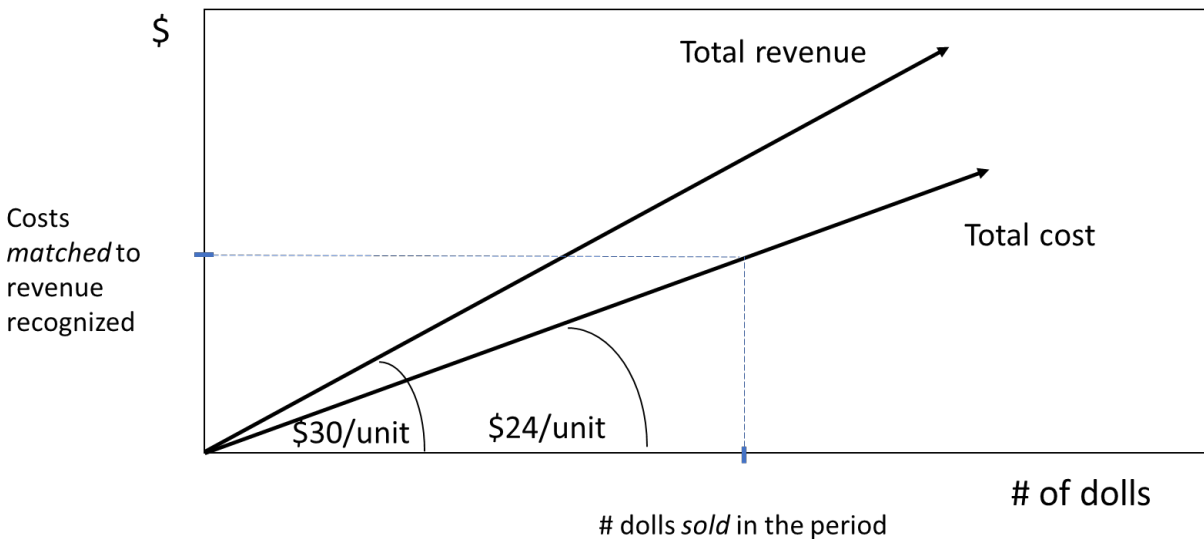
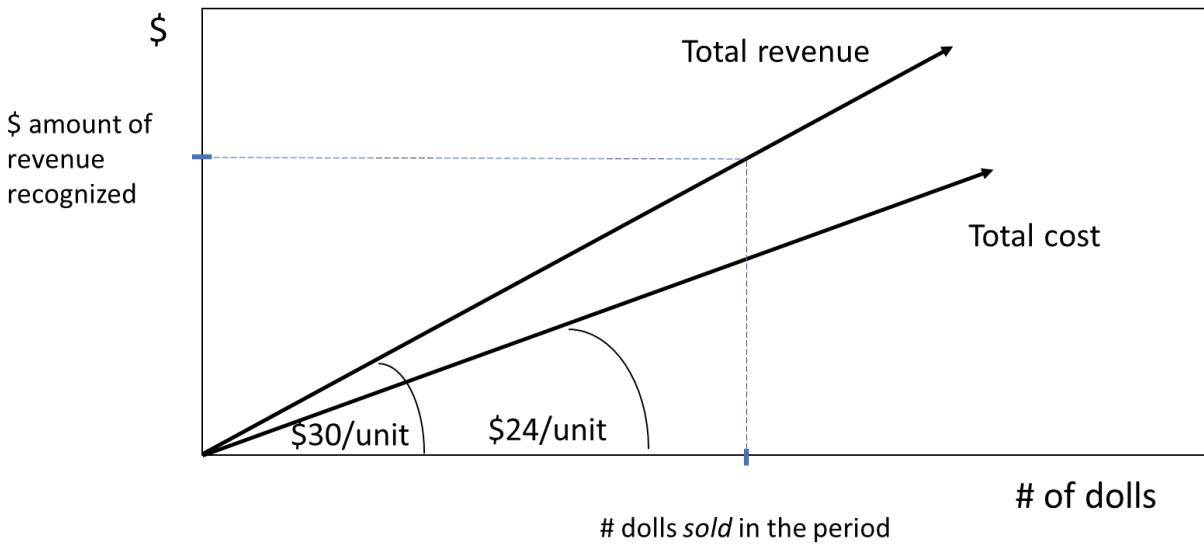
The y-axis is labeled \$, but what exactly is meant? Economists would want the y-axis to reflect the dollar amount of the value produced. Whether this value is manifested in cash, or the right to collect cash (i.e., receivables), is of no concern.

¹ In terms of a traditional demand curve, our assumptions are pretty extreme. In any period, 0 dolls are demanded at any price over \$30. Further, cutting the price to, say, \$29, is assumed to result in no additional demand.

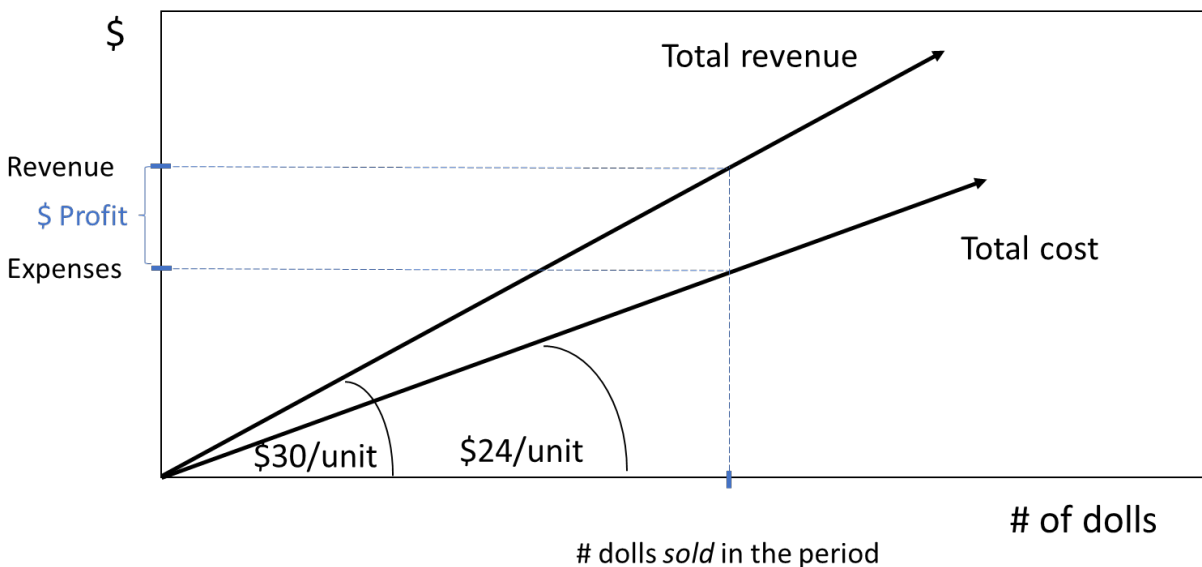
² The implicit assumptions about the supply curve are also extreme. At any price below \$24, zero dolls will be supplied, and any number of dolls will be supplied at \$24.

The x-axis is labeled # of dolls. What exactly do we mean by this? In the case of Total Toy, there are three possibilities: the number of dolls purchased, the number sold or the number held in inventory. Of these three possibilities, the number of dolls *sold* is the most directly related to the process of value creation. Once we designate a time period, we choose the point along the x-axis corresponding to the number of dolls sold that period. We then look vertically up from there to the total revenue function, which gives us the value received by Total Toy for the number of dolls sold that period. In accounting language, we have just applied the process of *revenue recognition*.

Continuing to use accounting terminology, to complete the assessment of profit, we now need to *match* expenses to the revenue recognized. In terms of the graph, proper matching consists of choosing the point on the x-axis corresponding to the number of dolls sold, looking vertically up to the total cost function and then reading the costs off the y-axis.



The final step is to calculate the dollar amount of the net value generated. In the figure below, \$ Profit is the dollar value of the net value created in the period and is the difference between the dollar amount of revenue recognized and the dollar value of costs matched against that revenue.



These figures provide a compelling picture of Total Toy’s opportunities to generate value in a period. Note that there is an implicit distinction between Total Toy and other entities in the society. Sales must be to entities *other than Total Toy* (i.e., a *customer*), and the revenue recognized by a sale is the dollar amount agreed to by both Total Toy and each of its customers. Similarly, expenses match against these revenues are linked to the dollar value of transactions in which Total Toy was the customer and other entities were *suppliers*. Therefore, these figures provide a model of the interactions of Total Toy with two other sets of actors: customers and suppliers. Like any model, a great many details are suppressed. In particular, the mechanics of the transactions between Total Toy, its customers and its suppliers are left out. We will fill in some of these details later, but first, it is worth considering one more “big” question.

Value of Total Toy

Now let’s think about the value of the enterprise, Total Toy. The value of Total Toy is a rather abstract thing. It is the value of the opportunity to generate value by operating Total Toy over time. To assess that, we turn to the techniques of modern finance.

The first thing we should notice when we find the relevant chapters in our finance test is that the value of Total Toy is viewed as being determined by the properties of the stream of *cash flows* it generates for its owners. Three properties of this cash flow stream are important: their *amounts*, their *timing*, and their *riskiness*. For our current purposes, we can suppress issues of risk and focus on amounts and timing. In particular, let’s adopt the straightforward view that the value of Total Toy is the *present value of the cash flows* it could generate to its owners.

It is important to observe that the figures presented so far *do not directly address Total Toy’s cash flows*. They address *value flows*. To get at cash flows, we must fill in some details as to how

Total Toy operates; i.e., how more precisely Total Toy's value generation opportunities are exploited. A natural place to start is to flesh out the transactions between Total Toy, its customers and its suppliers.

Operating Total Toy – Transactions' Details

To keep things as simple as possible, suppose operating Total Toy consists of a few simple steps. First, dolls are purchased from a supplier. This is a cash purchase, as the supplier never lets its customers buy on account.

Second, dolls are placed in Total Toy's inventory, where they sit for one month before being sold. All sales to customers are on account, with payment received in cash one month after the sale.

Third, cash is collected from customers one month after their purchase.

Operating Total Toy – Retail Doll Market

Demand for Total Toy's dolls lasts for one year and will evolve over three phases: growth, steady state, and decline. In the growth phase, demand starts at 0 and grows by 600 dolls per month until it reaches 1,800, where it remains for 6 months. This period of constant demand is the steady state. After 6 months of this steady state, demand declines by 600 per month until it reaches 0.

Table 1 Total Toy Demand for Dolls		
Month	Demand for dolls	Phase
January	0	Growth
February	600	
March	1,200	
April	1,800	Steady State
May	1,800	
June	1,800	
July	1,800	
August	1,800	
September	1,800	
October	1,200	Decline
November	600	
December	0	
Total	14,400	

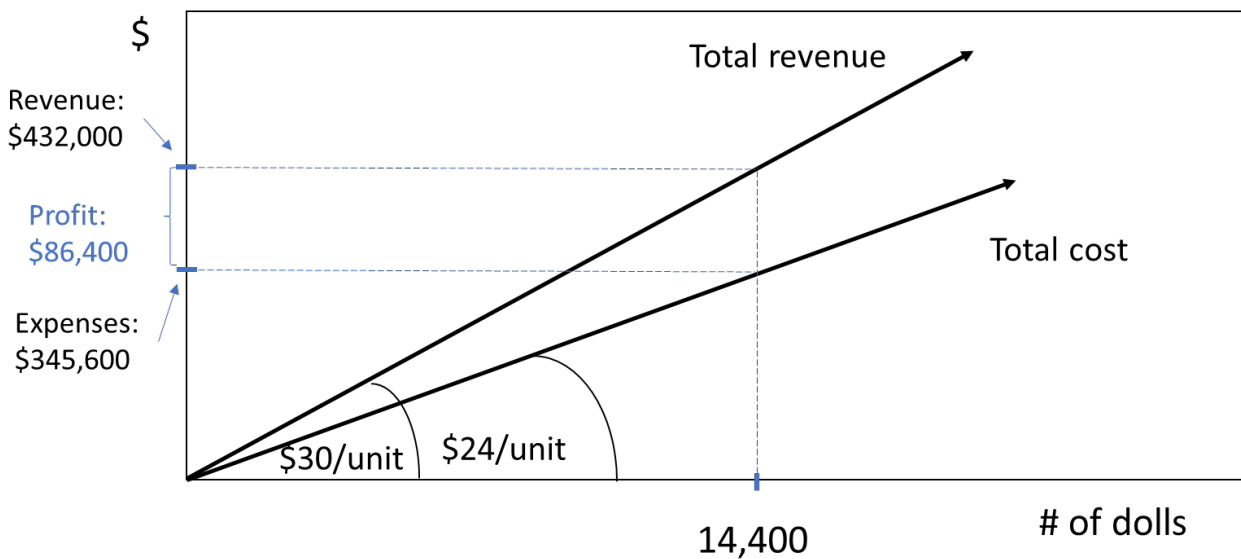
Operating Total Toy – Wholesale Market

Of course, Total Toy must acquire the dolls it sells to customers and must hold them in inventory for one month. There is no advantage to stocking excess inventory, therefore Total Toy's purchases from its supplier would be:

Table 2 Total Toy Purchases of Dolls		
Month	Dolls Purchased	Phase
January	600	Growth
February	1,200	
March	1,800	
April	1,800	Steady State
May	1,800	
June	1,800	
July	1,800	
August	1,800	
September	1,200	
October	600	Decline
November	0	
December	0	
Total	14,400	

Operating Total Toy – Results of its entire existence

Over its life, Total Toy will sell 14,400 dolls. That will generate revenues of \$432,000 and involve costs of \$345,600. So the total profit generated will be \$86,400. In terms of our picture:



In this picture, a period is defined as one year, and that suppresses an important fact if you actually want to run Total Toy – the dynamics of its cash flows.

Operating Total Toy – Cash Flows

We need to delve further into how the sales and purchases transaction work if we are to understand how cash flows in and out of Total Toy, and here is where things get interesting. The supplier demands cash immediately for any dolls purchased. The customers, however, only buy on account. Further, customers pay their bills one month after they buy the dolls. The following table gives Total Toy’s cash receipts and disbursements for each month of its life:

Table 3			
Total Toy			
Cash Receipts and Disbursements			
Month	Cash Received	Cash Disbursed	Phase
January	-	\$14,400	Growth
February	-	\$28,800	
March	\$18,000	\$43,200	
April	\$36,000	\$43,200	Steady State
May	\$54,000	\$43,200	
June	\$54,000	\$43,200	
July	\$54,000	\$43,200	
August	\$54,000	\$43,200	
September	\$54,000	\$28,800	
October	\$54,000	\$14,400	Decline
November	\$36,000	-	
December	\$18,000	-	
Total	\$432,000	\$345,600	

Even a quick glance at this table is revealing. In January, Total Toy must lay out \$14,400 in cash, but receives nothing. It’s worse in February: \$28,800 out and nothing in. March is a little better: \$43,200 out and \$18,000 in, and April is better still: \$43,200 out and \$36,000 in. Finally, in May the cash inflow exceeds the outflow: \$43,200 out, and \$54,000 in. In all the remaining months, cash collected exceeds cash spent.

So just looking at the cash flow figures, it is clear that, to actually run Total Toy, someone must provide some cash up front to get the business going until it reaches a stage where it can generate enough cash to cover the amount it has to spend. In the long run, Total Toy’s operations will generate \$86,400 more in cash than consumes, but this analysis only holds in the long run. The problem is what you need to do in the short run in order to get there. This is where a bit of business planning is required.

Let’s start by seeing how big a cash deficit would be generated if we had no financing up front. Here’s the table:

Table 4 Total Toy Cash Receipts, Disbursements, Net Cash Flows and Cash Balances					
Month	Cash Received	Cash Disbursed	Monthly Cash Flow	Total Cash at Month End	Phase
January	-	\$14,400	\$(14,400)	\$(14,400)	Growth
February	-	\$28,800	\$(28,800)	\$(43,200)	
March	\$18,000	\$43,200	\$(25,200)	\$(68,400)	
April	\$36,000	\$43,200	\$(7,200)	\$(75,600)	Steady State
May	\$54,000	\$43,200	\$10,800	\$(64,800)	
June	\$54,000	\$43,200	\$10,800	\$(54,000)	
July	\$54,000	\$43,200	\$10,800	\$(43,200)	
August	\$54,000	\$43,200	\$10,800	\$(32,400)	
September	\$54,000	\$28,800	\$25,200	\$(7,200)	
October	\$54,000	\$14,400	\$39,600	\$32,400	Decline
November	\$36,000	-	\$36,000	\$68,400	
December	\$18,000	-	\$18,000	\$86,400	
Total	\$432,000	\$345,600	\$86,400		

Inspecting the column “Total Cash at Month End,” we see that the cash deficit hits its worst level in April, when Total Toy’ cumulative deficit hits \$75,600.

Financing Total Toy

Just as Total Toy requires customers to buy its dolls and suppliers to provide them, to actually operate the company it needs to find a supplier of cash. When we think about customers, we think about the retail market. When we think about suppliers, we think about the wholesale market. Now we need to think about a financial market where there are suppliers of cash. And just like we had to get specific about how transactions with suppliers and customers work, we now need to get specific about how transactions with cash providers work.

For simplicity, we suppose that all cash must be raised at the beginning of January, and all distributions of cash will be occur at the end of December. Because Total Toy is a profitable company over its life, there will be \$86,400 more cash at the end of December than is raised from financiers. That’s good because financiers that provide cash will want a return on their investment. As long as the total return required does not exceed \$86,400, financing Total Toy is at least feasible.

Roughly speaking, we think about providers of cash as being one of two types: *creditors* and *equity holders*. Creditors provide cash up front in exchange for the right to receive *specified payments* of cash later. Equity holders provide cash up front in exchange for a *share* of the cash ultimately distributed.

Suppose the person that identifies the opportunity presented by Total Toy has the means and willingness to provide cash out of his own pocket. There is a bit of subtlety here – we have been thinking about Total Toy as an *entity in and of itself*. That is, we distinguish Total Toy from its owners, just as we do from its customers and suppliers. At any rate, suppose the owner puts \$90,000 of his own cash into the business, Total Toy. Just like its customers and suppliers, Total Toy’s owner will expect some benefit from supplying Total Toy with this \$90,000. The customer benefits through the enjoyment of the doll. The supplier benefits through the profits made by selling to Total Toy. What benefit would the owner require?

There are many joys and challenges of owning a business, but the financial return is often the primary benefit of ownership. We will focus, therefore, on the fact that the owner will be able to take \$86,400 more out of Total Toy than the \$90,000 he put into it. Here’s a table of the relevant numbers:

Table 5 Total Toy Cash Receipts, Disbursements, Net Cash Flows and Cash Balances with Owner’s Contribution						
Month	Cash Received from or Paid to the Owner	Cash Received from Customers	Cash Disbursed to Supplier	Monthly Cash Flow	Total Cash at Month End	Phase
January	\$90,000	-	\$14,400	\$75,600	\$75,600	Growth
February		-	\$28,800	\$(28,800)	\$46,800	
March		\$18,000	\$43,200	\$(25,200)	\$21,600	
April		\$36,000	\$43,200	\$(7,200)	\$14,400	Steady State
May		\$54,000	\$43,200	\$10,800	\$25,200	
June		\$54,000	\$43,200	\$10,800	\$36,000	
July		\$54,000	\$43,200	\$10,800	\$46,800	
August		\$54,000	\$43,200	\$10,800	\$57,600	
September		\$54,000	\$28,800	\$25,200	\$82,800	Decline
October		\$54,000	\$14,400	\$39,600	\$122,400	
November		\$36,000	-	\$36,000	\$158,400	
December	\$(176,400)	\$18,000	-	\$(158,400)	\$-	
Total	\$(86,400)	\$432,000	\$345,600			

Before we leave the economics, let’s think about the owner’s return for his investment in Total Toy. An investment of \$90,000 at the beginning of January gets the owner \$176,400 at the end of December. The owner’s rate of return is:

$$(1+r)*\$90,000 = \$176,400 \rightarrow r = 96\%.$$

As long as the owner's other investment opportunities would return less than 96% on a \$90,000 investment, he will find investing this amount in Total Toy is an attractive opportunity.

Financial Statements

Having presented all the details of Total Toy's one year life, we now show three sets of monthly financial statements: balance sheets, income statements and statements of cash flows.

The balance sheets are:

Month End	Cash	Accounts Receivable	Inventory	Equity	Phase
January	\$75,600	\$-	\$14,400	\$90,000	Growth
February	\$46,800	\$18,000	\$28,800	\$93,600	
March	\$21,600	\$36,000	\$43,200	\$100,800	
April	\$14,400	\$54,000	\$43,200	\$111,600	Steady State
May	\$25,200	\$54,000	\$43,200	\$122,400	
June	\$36,000	\$54,000	\$43,200	\$133,200	
July	\$46,800	\$54,000	\$43,200	\$144,000	
August	\$57,600	\$54,000	\$43,200	\$154,800	
September	\$82,800	\$54,000	\$28,800	\$165,600	Decline
October	\$122,400	\$36,000	\$14,400	\$172,800	
November	\$158,400	\$18,000	\$-	\$176,400	
December	\$-	\$-	\$-	\$-	

The income statements are:

Table 7 Total Toy Income Statements				
Month	Revenue	Cost of Goods Sold	Net Income	Phase
January	\$-	\$-	\$-	Growth
February	\$18,000	\$14,400	\$3,600	
March	\$36,000	\$28,800	\$7,200	
April	\$54,000	\$43,200	\$10,800	Steady State
May	\$54,000	\$43,200	\$10,800	
June	\$54,000	\$43,200	\$10,800	
July	\$54,000	\$43,200	\$10,800	
August	\$54,000	\$43,200	\$10,800	
September	\$54,000	\$43,200	\$10,800	
October	\$36,000	\$28,800	\$7,200	Decline
November	\$18,000	\$14,400	\$3,600	
December	\$-	\$-	\$-	
Total	\$432,000	\$345,600	\$86,400	

We should think a little before we do a cash flow statement. We want that statement to reveal more than the change in cash because anyone can get that by subtracting the beginning cash balance from the ending cash balance. We want the cash flow statement to reveal something about the flow of cash, but what? Let's begin to address that question by comparing the cash flows to the other flow we have, net income. Here's the table:

Table 8 Total Toy Comparisons of Net Incomes and Cash Flows				
Month	Net Income	Total Cash Flow	Difference	Phase
January	\$-	\$75,600	\$75,600	Growth
February	\$3,600	\$(28,800)	\$32,400	
March	\$7,200	\$(25,200)	\$32,400	
April	\$10,800	\$(7,200)	\$18,000	Steady State
May	\$10,800	\$10,800	\$-	
June	\$10,800	\$10,800	\$-	
July	\$10,800	\$10,800	\$-	
August	\$10,800	\$10,800	\$-	
September	\$10,800	\$25,200	\$(14,400)	Decline
October	\$7,200	\$39,600	\$(32,400)	
November	\$3,600	\$36,000	\$(32,400)	
December	\$-	\$(158,400)	\$(158,400)	

This comparison between net income and cash flows is not very revealing, in part because there are two cash transactions that are not related to the *operating* of Total Toy. That is, value creation, as reflected by net income, inherently involves *using* resources to create value, not merely *acquiring* or disposing of resources. Two of Total Toy’s transactions – the exchange of its equity for \$90,000 at the beginning of January and the exchange of \$176,400 to buy back its equity at the end of December – do no involving using Total Toy’s value-creation engine to create value. They are part of what is required for Total Toy to access its value-creation opportunity, but they are not directly involved in using that opportunity. Therefore, we think about the initial contribution of \$90,000 and the dissolution payment of \$176,400 as *financing transactions*, not *operating transactions*. The following table breaks up Total Toy’s cash flows into Operating and Financing pieces:

Table 9 Total Toy Cash Flows with Financing and Operating Cash Flows Separated				
Month	Financing Cash Flow	Operating Cash Flow	Total Cash Flow	Phase
January	\$90,000	\$(14,400)	\$75,600	Growth
February		\$(28,800)	\$(28,800)	
March		\$(25,200)	\$(25,200)	
April		\$(7,200)	\$(7,200)	Steady State
May		\$10,800	\$10,800	
June		\$10,800	\$10,800	
July		\$10,800	\$10,800	
August		\$10,800	\$10,800	
September		\$25,200	\$25,200	Decline
October		\$39,600	\$39,600	
November		\$36,000	\$36,000	
December	\$(176,400)	\$18,000	\$(158,400)	
Total	\$(86,400)	\$86,400		

We could add more detail to the calculation of Operating Cash Flows:

Table 10				
Total Toy				
Cash Flows from Operations: Direct Method Statements				
Month	Cash from Customers	Cash to Suppliers	Total Operating Cash Flow	Phase
January	-	\$14,400	\$(14,400)	Growth
February	-	\$28,800	\$(28,800)	
March	\$18,000	\$43,200	\$(25,200)	
April	\$36,000	\$43,200	\$(7,200)	Steady State
May	\$54,000	\$43,200	\$10,800	
June	\$54,000	\$43,200	\$10,800	
July	\$54,000	\$43,200	\$10,800	
August	\$54,000	\$43,200	\$10,800	
September	\$54,000	\$28,800	\$25,200	Decline
October	\$54,000	\$14,400	\$39,600	
November	\$36,000	-	\$36,000	
December	\$18,000	-	\$18,000	
Total	\$432,000	\$345,600	\$86,400	

This form of the statement of Operating Cash Flows just reproduces our analysis of Total Toy’s cash requirements in Table 3. It is intuitive, but it is also a “stand alone” type of presentation. That is, it tells us about cash flows, but not in a way that is woven in with the other financial statements. Can we do better?

A place to start is to compare operating cash flows to net income. Here is the table:

Table 11 Total Toy Comparison of Cash Flows from Operations to Net Income				
Month	Operating Cash Flow	Net Income	Difference	Phase
January	\$(14,400)	\$-	\$(14,400)	Growth
February	\$(28,800)	\$3,600	\$(32,400)	
March	\$(25,200)	\$7,200	\$(32,400)	
April	\$(7,200)	\$10,800	\$(18,000)	Steady State
May	\$10,800	\$10,800	\$-	
June	\$10,800	\$10,800	\$-	
July	\$10,800	\$10,800	\$-	
August	\$10,800	\$10,800	\$-	
September	\$25,200	\$10,800	\$14,400	Decline
October	\$39,600	\$7,200	\$32,400	
November	\$36,000	\$3,600	\$32,400	
December	\$18,000	\$-	\$18,000	
Total	\$86,400	\$86,400	\$-	

This is an interesting exercise, particularly when we recall that the net income numbers tell us about value flows and the cash flow numbers, obviously, tell us about cash flows.³ For Total Toy, the flow of value is much smoother than the flow of cash. Value flows in a month relate simply to the sales in that month. Cash receipts and disbursements are related to value flows over the life of Total Toy, but are not so intuitive on a month-by-month basis. Cash disbursements to suppliers have to cover inventory purchases for *next month's* sales. Cash collections are for *last month's* sales. In a sense, there are timing mismatches in cash receipts and disbursements, at least from the standpoint of value-creation activities.

Further, we could go into some detail about these timing mismatches; i.e., about *why* there is a difference between cash flows and net income. One place those are reflected is in the balance sheet. For example, when Total Toy spends \$14,400 for dolls from its supplier in January, it is purchasing an *asset* that will be useful in next month's operations. This asset, *Inventory*, is reflected on Total Toy's balance sheet as of the end of January. Similarly, when Total Toy sells 600 dolls in February, the right to collect \$18,000 in cash in March is listed as an asset, *Accounts Receivable*, on Total Toy's balance sheet at the end of February.

Revenues v. Receipts

Look at the following table showing the difference between cash receipts and revenues:

³ As we have discussed, cash flows are connected to value when we consider the value of the enterprise, Total Toy.

Table 12 Total Toy Comparison of Cash from Customers to Revenues				
Month	Cash Received from Customers	Revenue	Difference	Phase
January	-	\$-	\$0	Growth
February	-	\$18,000	\$(18,000)	
March	\$18,000	\$36,000	\$(18,000)	
April	\$36,000	\$54,000	\$(18,000)	Steady State
May	\$54,000	\$54,000	\$0	
June	\$54,000	\$54,000	\$0	
July	\$54,000	\$54,000	\$0	
August	\$54,000	\$54,000	\$0	
September	\$54,000	\$54,000	\$0	Decline
October	\$54,000	\$36,000	\$18,000	
November	\$36,000	\$18,000	\$18,000	
December	\$18,000	\$-	\$18,000	
Total	\$432,000	\$432,000	\$0	

Over the course of Total Toy's life, cash collected from customers is equal to revenue. But what about in February? Revenue of \$18,000 was recognized, but no cash was collected. This generated Accounts Receivable of \$18,000. Total Toy starts February with \$0 in Accounts Receivable, and ends it with \$18,000 because revenue recognized exceeds cash collected from customers. Now look at March. Total Toy does collect some cash in March: \$18,000. But it recognizes \$36,000 in revenue. Again, revenue recognized exceeds cash collected from customers by \$18,000. Total Toy starts March with \$18,000 in receivables and adds \$36,000 through new sales, an increase of $\$36,000 - \$18,000 = \$18,000$. So Accounts Receivable will increase by \$18,000. The difference between cash collected from customers and revenue recognized is reflected in an increase in Accounts Receivable when revenues exceed collections. We will not take the space to present the details, but it is worth going through this table month by month. You will see that as collections catch up to sales, the balance in Accounts Receivable remains steady. As collections outpace sales, the balance in Accounts Receivables falls. Stating these in the different direction, the balance of Accounts Receivable grows with revenues exceed collections, remains constant when revenues equal collections, and decreases when revenues are less than collections. This is reflected in the following table:

Table 13 Total Toy Cash Customers, Revenues and the Change in Accounts Receivable					
Month	Cash Received from Customers	Revenue	Difference	Change in Accounts Receivable	Phase
January	-	\$-	\$-	\$-	Growth
February	-	\$18,000	\$(18,000)	\$18,000	
March	\$18,000	\$36,000	\$(18,000)	\$18,000	
April	\$36,000	\$54,000	\$(18,000)	\$18,000	Steady State
May	\$54,000	\$54,000	\$0	\$0	
June	\$54,000	\$54,000	\$0	\$0	
July	\$54,000	\$54,000	\$0	\$0	
August	\$54,000	\$54,000	\$0	\$0	
September	\$54,000	\$54,000	\$0	\$0	
October	\$54,000	\$36,000	\$18,000	\$(18,000)	Decline
November	\$36,000	\$18,000	\$18,000	\$(18,000)	
December	\$18,000	\$-	\$18,000	\$(18,000)	
Total	\$432,000	\$432,000	\$-	\$-	

Notice that, because we are dealing with revenues, an increase in Accounts Receivable means that *less cash was collected* than revenues recognized.⁴

Expenses v Disbursements

Now let's do the same exercise with cash disbursements. Here is the table:

⁴ More generally, we will have to work with revenues and expenses and related asset and liability account increases and decreases. Keeping track of signs gets tricky. (For a striking example of the mistakes this can lead to in practice, see Antle and Garstka, *Financial Accounting: Questions, Exercises, Problems and Cases, Masters Edition* (2nd Edition: 2004) Case 16-5 on page 402. That is one important function of the worksheet we introduce later.

Table 14				
Total Toy				
Comparison of Cash Paid to Suppliers to Cost of Goods Sold				
Month	Cash Paid to Suppliers	Cost of Goods Sold	Difference	Phase
January	\$14,400	\$-	\$14,400	Growth
February	\$28,800	\$14,400	\$14,400	
March	\$43,200	\$28,800	\$14,400	
April	\$43,200	\$43,200	\$0	Steady State
May	\$43,200	\$43,200	\$0	
June	\$43,200	\$43,200	\$0	
July	\$43,200	\$43,200	\$0	
August	\$43,200	\$43,200	\$0	
September	\$28,800	\$43,200	\$(14,400)	Decline
October	\$14,400	\$28,800	\$(14,400)	
November	-	\$14,400	\$(14,400)	
December	-	\$-	\$-	
Total	\$345,600	\$345,600	\$0	

In January, cash paid to suppliers is \$14,400, while cost of goods sold is \$0. If Total Toy spent cash to purchase dolls but still has those dolls on hand at the end of the month, the asset account, Inventory, will reflect this. Inventory is \$0 at the beginning of January, and increases to \$14,400 by the end of January. Why? Total Toy bought \$14,400 more dolls than it used in the value-creation process.⁵ In the long run, the total value of dolls sold equals the total value of dolls purchased, but that does not necessarily occur month-to-month. In the growth phase, Total Toy buys more dolls than it sells, and inventory grows. In steady state, it will buy and sell the same number of dolls and inventory remains constant until the decline is anticipated. In decline, the number of dolls sold exceeds the number of dolls purchased, and inventory decreases. In a perfectly managed decline, the last doll sold will be the last doll remaining in inventory and, as it was at the start of Total Toy, inventory will be \$0. Here's the table:

⁵ Total Toy uses dolls in the value-creation process by selling them.

Table 15 Total Toy Cash to Suppliers, Cost of Goods Sold, and the Change in Inventory					
Month	Cash Paid to Suppliers	Cost of Goods Sold	Difference	Change in Inventory	Phase
January	\$14,400	\$-	\$14,400	\$14,400	Growth
February	\$28,800	\$14,400	\$14,400	\$14,400	
March	\$43,200	\$28,800	\$14,400	\$14,400	
April	\$43,200	\$43,200	\$0	\$0	Steady State
May	\$43,200	\$43,200	\$0	\$0	
June	\$43,200	\$43,200	\$0	\$0	
July	\$43,200	\$43,200	\$0	\$0	
August	\$43,200	\$43,200	\$0	\$0	
September	\$28,800	\$43,200	\$(14,400)	\$(14,400)	
October	\$14,400	\$28,800	\$(14,400)	\$(14,400)	Decline
November	-	\$14,400	\$(14,400)	\$(14,400)	
December	-	\$-	\$-	\$-	
Total	\$345,600	\$345,600	\$0	\$0	

Notice that, because we are dealing with expenses, an increase in Inventory means that *more cash was spent* than cost of goods sold recognized.

Putting It All Together

Only two steps are required to operate Total Toy: buying dolls and selling dolls. Therefore, if we put the revenue/receipts and expense/disbursements stories together, we should have an explanation of the difference between net income and operating cash flows. The following table verifies this intuition:

Table 16 Total Toy Reconciling Net Income with Operating Cash Flows					
Month	Net Income	Change in Accounts Receivable	Change in Inventory	Operating Cash Flow	Phase
January	\$-	\$-	\$14,400	\$(14,400)	Growth
February	\$3,600	\$(18,000)	\$14,400	\$(28,800)	
March	\$7,200	\$(18,000)	\$14,400	\$(25,200)	
April	\$10,800	\$(18,000)	\$0	\$(7,200)	Steady State
May	\$10,800	\$0	\$0	\$10,800	
June	\$10,800	\$0	\$0	\$10,800	
July	\$10,800	\$0	\$0	\$10,800	
August	\$10,800	\$0	\$0	\$10,800	
September	\$10,800	\$0	\$(14,400)	\$25,200	Decline
October	\$7,200	\$18,000	\$(14,400)	\$39,600	
November	\$3,600	\$18,000	\$(14,400)	\$36,000	
December	\$-	\$18,000	\$-	\$18,000	
Total	\$86,400			\$86,400	

Even though Total Toy is a very simple example, we see from the table that keeping signs straight is not easy. The trouble is that we have both inflows and outflows of cash and revenues (increases) and expenses (decreases), so there are a lot of cases. In this simple case we can reason our way through, but we will want a tool to make our work easier in more complicated cases. Think about the month of January. Cash *disbursements* exceed cost of goods sold, so we should *subtract* the increase in inventory. Now think about December. Cash *receipts* exceed revenues recognized, so we should *subtract* the decrease in inventory.

Discussion

Those familiar with cash flow statements will recognize that we have just presented cash flow from operations using the *indirect method*. The indirect method starts with net income and shows the steps required to get to cash flow from operations. Some things to note:

1. When Total Toy is in the midst of steady state, there is nothing to explain because cash flow from operations and net income are equal. All the action takes place when Total Toy is either growing or declining (or transitioning between one of those phases and steady state).
2. The indirect method of stating cash flows from operations relies on the links between the asset accounts, Accounts Receivable and Inventory, and the income statement accounts, Sales and Cost of Goods Sold, respectively. In general, liability accounts will also be involved. For example, if the supplier is willing to extend credit on Total Toy's doll

purchases, the liability account, Accounts Payable – Inventory, would be tied to Cost of Goods Sold. The indirect method would then involve tracking changes in Accounts Payable related to doll purchases.

3. The growth, steady state, and decline phases of Total Toy are hypothetical ideals. Any business that survives for very long likely went through a growth phase fairly early in its life, but real organizations may go through various phases several times.
4. The information in these cash flow from operations calculations is completely redundant given the income statement and balance sheets. That is, while intuitively appealing, anyone with access to the income statements and balance sheets could reproduce the information in the indirect method cash flow from operations statements.
5. Given the simple transactions in which Total Toy engaged, the links between the balance sheet accounts and the income statement are particularly simple. In fact, they are deceptively simple. For example, the *only* reason Accounts Receivable changed over a period is that Sales were not equal Cash Collected from Customers over that period. This *is not true for almost every company in almost every period*. It is true that the difference between Sales and Cash Collected from Customers is *one* reason Accounts Receivable can change, but it is not the *only* reason. There are usually other transactions that affect Accounts Receivable that must be sorted out before we can find the *part* of the change in Accounts Receivable reflects the difference between Sales and Cash Collected with Customers.

Adding an Investment Decision

After the initial financing, Total Toy has only operating activities. For completeness, we now add an investing decision. This will have two effects: there is an additional cash outflow and the net income calculations will include depreciation expense.

Suppose Total Toy has to purchase a display case for its dolls. The case costs \$12,000 and must be purchased before business commences. At the end of 12 months, it will be hauled away for free by a scrap dealer. Everything else proceeds as before.

Table 17 updates the cash flows given in Table 9 by adding an Investing Cash Flow column.

Table 17 Total Toy Cash Flows with Financing, Investing and Operating Cash Flows Separated					
Month	Financing Cash Flow	Investing Cash Flow	Operating Cash Flow	Total Cash Flow	Phase
January	\$90,000	(\$12,000)	\$(14,400)	\$75,600	Growth
February			\$(28,800)	\$(28,800)	
March			\$(25,200)	\$(25,200)	
April			\$(7,200)	\$(7,200)	Steady State
May			\$10,800	\$10,800	
June			\$10,800	\$10,800	
July			\$10,800	\$10,800	
August			\$10,800	\$10,800	
September			\$25,200	\$25,200	
October			\$39,600	\$39,600	Decline
November			\$36,000	\$36,000	
December	\$(164,400)		\$18,000	\$(146,400)	
Total	\$(74,400)	\$(12,000)	\$86,400		

The income statement now includes depreciation expense, as shown in Table 18.

Table 18 Total Toy Income Statements					
Month	Revenue	Cost of Goods Sold	Depreciation Expense	Net Income	Phase
January	\$-	\$-	\$(1,000)	\$(1,000)	Growth
February	\$18,000	\$14,400	\$(1,000)	\$2,600	
March	\$36,000	\$28,800	\$(1,000)	\$6,200	
April	\$54,000	\$43,200	\$(1,000)	\$9,800	Steady State
May	\$54,000	\$43,200	\$(1,000)	\$9,800	
June	\$54,000	\$43,200	\$(1,000)	\$9,800	
July	\$54,000	\$43,200	\$(1,000)	\$9,800	
August	\$54,000	\$43,200	\$(1,000)	\$9,800	
September	\$54,000	\$43,200	\$(1,000)	\$9,800	
October	\$36,000	\$28,800	\$(1,000)	\$6,200	Decline
November	\$18,000	\$14,400	\$(1,000)	\$2,600	
December	\$-	\$-	\$(1,000)	\$(1,000)	
Total	\$432,000	\$345,600		\$74,400	

Here is the comparison of Net Income and Cash Flow from Operations:

Table 18				
Total Toy				
Comparison of Cash Flows from Operations to Net Income				
Month	Operating Cash Flow	Net Income	Difference	Phase
January	\$(14,400)	\$(1,000)	\$(13,400)	Growth
February	\$(28,800)	\$2,600	\$(31,400)	
March	\$(25,200)	\$6,200	\$(31,400)	
April	\$(7,200)	\$9,800	\$(17,000)	Steady State
May	\$10,800	\$9,800	\$1,000	
June	\$10,800	\$9,800	\$1,000	
July	\$10,800	\$9,800	\$1,000	
August	\$10,800	\$9,800	\$1,000	
September	\$25,200	\$9,800	\$15,400	
October	\$39,600	\$6,200	\$33,400	Decline
November	\$36,000	\$2,600	\$33,400	
December	\$18,000	\$(1,000)	\$19,000	
Total	\$86,400	\$74,400	\$-	

Example from Practice – Apple Inc.

It might be helpful at this point to look at an example from practice. Figures 1, 2 and 3 below give Apple's statement of cash flows, income statement and balance sheet, respectively.⁶ Focus on the section of the cash flow statement titled: Operating activities. Note that the calculation starts with Net income of \$48,351. You should immediately look at the income statement to verify that this is Apple's bottom line net income.⁷ We see that it is.

⁶ These are available at <https://investor.apple.com/investor-relations/sec-filings/default.aspx>.

⁷ Companies sometimes start the calculation from a number closely related to, but not exactly, their bottom line net income. So you want to be sure about exactly what you're looking at.

Figure 1: Apple Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years ended		
	September 30, 2017	September 24, 2016	September 26, 2015
Cash and cash equivalents, beginning of the year	\$ 20,484	\$ 21,120	\$ 13,844
Operating activities:			
Net income	48,351	45,687	53,394
Adjustments to reconcile net income to cash generated by operating activities:			
Depreciation and amortization	10,157	10,505	11,257
Share-based compensation expense	4,840	4,210	3,586
Deferred income tax expense	5,966	4,938	1,382
Other	(166)	486	385
Changes in operating assets and liabilities:			
Accounts receivable, net	(2,093)	527	417
Inventories	(2,723)	217	(238)
Vendor non-trade receivables	(4,254)	(51)	(3,735)
Other current and non-current assets	(5,318)	1,055	(283)
Accounts payable	9,618	1,837	5,001
Deferred revenue	(626)	(1,554)	1,042
Other current and non-current liabilities	(154)	(2,033)	9,058
Cash generated by operating activities	63,598	65,824	81,266
Investing activities:			
Purchases of marketable securities	(159,486)	(142,428)	(166,402)
Proceeds from maturities of marketable securities	31,775	21,258	14,538
Proceeds from sales of marketable securities	94,564	90,536	107,447
Payments made in connection with business acquisitions, net	(329)	(297)	(343)
Payments for acquisition of property, plant and equipment	(12,451)	(12,734)	(11,247)
Payments for acquisition of intangible assets	(344)	(814)	(241)
Payments for strategic investments, net	(395)	(1,388)	—
Other	220	(110)	(26)
Cash used in investing activities	(46,446)	(45,977)	(56,274)
Financing activities:			
Proceeds from issuance of common stock	555	495	543
Excess tax benefits from equity awards	627	407	749
Payments for taxes related to net share settlement of equity awards	(1,874)	(1,570)	(1,499)
Payments for dividends and dividend equivalents	(12,769)	(12,150)	(11,561)
Repurchases of common stock	(32,900)	(29,722)	(35,253)
Proceeds from issuance of term debt, net	28,662	24,954	27,114
Repayments of term debt	(3,500)	(2,500)	—
Change in commercial paper, net	3,852	(397)	2,191
Cash used in financing activities	(17,347)	(20,483)	(17,716)
Increase/(Decrease) in cash and cash equivalents	(195)	(636)	7,276
Cash and cash equivalents, end of the year	\$ 20,289	\$ 20,484	\$ 21,120

Figure 2: Apple Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS

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

	Years ended		
	September 30, 2017	September 24, 2016	September 26, 2015
Net sales	\$ 229,234	\$ 215,639	\$ 233,715
Cost of sales	141,048	131,376	140,089
Gross margin	88,186	84,263	93,626
Operating expenses:			
Research and development	11,581	10,045	8,067
Selling, general and administrative	15,261	14,194	14,329
Total operating expenses	26,842	24,239	22,396
Operating income	61,344	60,024	71,230
Other income/(expense), net	2,745	1,348	1,285
Income before provision for income taxes	64,089	61,372	72,515
Provision for income taxes	15,738	15,685	19,121
Net income	<u>\$ 48,351</u>	<u>\$ 45,687</u>	<u>\$ 53,394</u>
Earnings per share:			
Basic	\$ 9.27	\$ 8.35	\$ 9.28
Diluted	\$ 9.21	\$ 8.31	\$ 9.22
Shares used in computing earnings per share:			
Basic	5,217,242	5,470,820	5,753,421
Diluted	5,251,692	5,500,281	5,793,069
Cash dividends declared per share	\$ 2.40	\$ 2.18	\$ 1.98

Figure 3: Apple Inc.

CONSOLIDATED BALANCE SHEETS

(In millions, except number of shares which are reflected in thousands and par value)

	<u>September 30, 2017</u>	<u>September 24, 2016</u>
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 20,289	\$ 20,484
Short-term marketable securities	53,892	46,671
Accounts receivable, less allowances of \$58 and \$53, respectively	17,874	15,754
Inventories	4,855	2,132
Vendor non-trade receivables	17,799	13,545
Other current assets	13,936	8,283
Total current assets	<u>128,645</u>	<u>106,869</u>
Long-term marketable securities	194,714	170,430
Property, plant and equipment, net	33,783	27,010
Goodwill	5,717	5,414
Acquired intangible assets, net	2,298	3,206
Other non-current assets	10,162	8,757
Total assets	<u>\$ 375,319</u>	<u>\$ 321,686</u>
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 49,049	\$ 37,294
Accrued expenses	25,744	22,027
Deferred revenue	7,548	8,080
Commercial paper	11,977	8,105
Current portion of long-term debt	6,496	3,500
Total current liabilities	<u>100,814</u>	<u>79,006</u>
Deferred revenue, non-current	2,836	2,930
Long-term debt	97,207	75,427
Other non-current liabilities	40,415	36,074
Total liabilities	<u>241,272</u>	<u>193,437</u>
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 12,600,000 shares authorized; 5,126,201 and 5,336,166 shares issued and outstanding, respectively	35,867	31,251
Retained earnings	98,330	96,364
Accumulated other comprehensive income/(loss)	(150)	634
Total shareholders' equity	<u>134,047</u>	<u>128,249</u>
Total liabilities and shareholders' equity	<u>\$ 375,319</u>	<u>\$ 321,686</u>

There are two subsections:

1. Adjustments to reconcile net income to cash generated by operating activities; and,
2. Changes in operating assets and liabilities.

We will get to the Adjustments later, so at this point, let's focus on the Changes in operating assets and liabilities. In fact, let's focus only on the Changes related to asset accounts:

1. Accounts receivable, net;
2. Inventories;
3. Vendor non-trade receivables; and,
4. Other current and noncurrent assets.

Table 17 shows the amounts included in the "Changes in operating assets and liabilities" section of the cash flow statement compared to the changes in the respective balance sheet accounts for these four items.

Table 17						
Comparison of Changes in Balance Sheet Accounts						
with Changes Reported in Cash Flow Statement						
Apple, Inc.						
Fiscal Year Ended September 30, 2017						
	Amount on balance sheet		Change	per	Change per	Difference
	at:					
	September	September	sheets	Change		
	30, 2017	24, 2016		per		
Accounts receivable, net	17,874	15,754	(2,120)	(2,093)	27	
Inventories	4,855	2,123	(2,723)	(2,723)	0	
Vendor non-trade receivables	17,799	13,545	(4,254)	(4,254)	0	
Other current assets	13,936	8,283				
Other noncurrent assets	10,162	8,757				
Total: Other current and Other noncurrent assets	24,098	17,040	(7,058)	(5,318)	1,740	

Right away we can see that the change per the statement of cash flows is sometimes the same as the change in the balance sheet account and *sometimes it is not*. The amounts reported for changes in Inventories and Vendor non-trade receivables in the two statements are the same. However, they are not the same for *Accounts receivable, net* and *Other current and noncurrent assets*.

So what does this mean? Of the (\$2,120) change in the current asset account, *Accounts receivable, net*, only (\$2,093) was required in the reconciliation of net income with cash flow from operations. The difference, \$27, was not due to the activities whose results were reflected in net income. In other words, \$27 on the change *was not related to operations*. The same could be said for the \$1,740 difference related to *Other current assets* and *Other noncurrent assets*. Some of the changes in these accounts flowed from operations, and some of the changes did not.

The important point is the Apple's cash flow statement, and in particular its cash flow from operations, is not derived simply from its balance sheets and income statements. *This fact is why cash flow statements hold the potential to convey useful information*. It is also a hint that *the articulation of balance sheets, income statements, and cash flow statements* is pretty complicated. So complicated, that a tool to help structure, visualize and organize the information in all these statements and that can be used to work through the articulation in a step-by-step fashion is essential. Fortunately, such a tool is available.⁸

The remainder of this note is devoted to presenting this tool and using it in increasingly complex examples.

The Worksheet – Back to Total Toy

The tool we need is a *worksheet*. In the old days, accountants prepared worksheets to accomplish complicated tasks. What we really want from it is to aid in visualization and structuring our learning process. Figure 4 below shows the worksheet for the month of October for Total Toy. Focus first on the top part of the worksheet. All the balance sheet accounts *except cash* are named in the first column. The next two columns give the beginning balances in the accounts according to whether the balance is debit or credit. The far right two columns give the ending balances in the accounts. The middle is the space in which our work will take place. Whatever “Explanations” we put into the worksheet in the middle two columns, each noncash account must add-up across the rows. For example, if we enter an amount of \$10,000 in the debit column in the Accounts Receivable row, we know we have more work to do, since it does not add up: $\$54,000 + \$10,000 \neq \$36,000$. Further, we know we have net credits of $\$54,000 + \$10,000 - \$36,000 = \$28,000$ yet to find.

Now look at the Cash T-account at the bottom of the worksheet. This Cash T-account is where we will collect the information for the Cash Flow Statement. It lays out the task of explaining what happened to cash over the period; i.e., how and why it got from the beginning balance of \$82,000 to the ending balance of \$122,400. In fact, we know that there will be three parts of our explanation of the change in the cash balance: Cash Flows from Operations, Cash Flows for Investing, and Cash Flows from Financing. Table 19 shows the worksheet with these sections clearly labeled.

⁸ We use the worksheet proposed in Mann, Harvey, “A Worksheet for Demonstrating the Articulation of Financial Statements,” *The Accounting Review*, Vol. 59, No. 4 (Oct. 1984) pp. 669-673.

Table 18
Total Toy
Cash Flow Worksheet
Month of October

	Beginning Balance		Ref	Explanations		Ref	Ending Balance	
	dr	cr		dr	cr		dr	cr
Accounts Rec.	54,000						36,000	
Inventories	28,800						14,400	
Common St.		90,000						90,000
Ret. Earnings		75,600						82,800
				Cash				
			BB	\$ 82,800				
			EB	<u>\$ 122,400</u>				

Table 19
Total Toy
Cash Flow Worksheet with Operating, Investing and Financing Sections Labeled
Month of October

	Beginning Balance		Ref	Explanations		Ref	Ending Balance	
	dr	cr		dr	cr		dr	cr
Accounts Rec.	54,000						36,000	
Inventories	28,800						14,400	
Common St.		90,000						90,000
Ret. Earnings		75,600						82,800
				Cash				
			BB	\$ 82,800				
				Operations				
				Investing				
				Financing				
			EB	<u>\$ 122,400</u>				

Figure 4
Total Toy
Worksheet Insures Cash Flow Statement is Consistent with Both Beginning and Ending Balance Sheets
Month of October

	Beginning Balance		Ref	Explanations		Ref	Ending Balance	
	dr	cr		dr	cr		dr	cr
	Accounts Rec.	54,000						
Inventories	28,800					14,400		
Common St.		90,000					90,000	
Ret. Earnings		75,600					82,800	
				Cash				
			BB	\$ 82,800				
				Operations				
				Investing				
				Financing				
			EB	<u>\$ 122,400</u>				

Cash Flow Statement

Must be consistent with all information in beginning and ending Balance Sheets

Figure 5
Total Toy
Role of Income Statement in Worksheet
Month of October

	Beginning Balance		Ref	Explanations		Ref	Ending Balance	
	dr	cr		dr	cr		dr	cr
Accounts Rec.	54,000						36,000	
Inventories	28,800						14,400	
Common St.		90,000						90,000
Ret. Earnings		75,600						82,800
				Net Income				
				Cash				
			BB	\$ 82,800				
				Operations				
				Net Income				
				Investing				
				Financing				
			EB	\$ 122,400				

Net Income helps explain the change in Retained Earnings

Net Income is the starting point for Cash Flow from Operations in the indirect method

Figure 4 shows how the worksheets disciplines our analysis to make sure that the Cash Flow Statement is consistent with the beginning and ending Balance Sheets. That is, our explanation of how cash went from \$82,800 to \$122,400 *must be consistent with our explanation of how the Balance Sheet went from its beginning to its ending values.*

So the worksheet helps insure that the Statement of Cash Flows, beginning Balance Sheet and ending Balance Sheet are consistent, but what about the income statement? The indirect method of showing Cash Flows from Operations incorporates the income statement by making it the starting point of the Operations section. This is shown in Figure 5.

In the case of Total Toy, we don't really need the worksheet to understand what is going on in its indirect method: that is done intuitively in Table 16. Total Toy, however, is an extremely simple example. Before we go further, let's briefly consider what the worksheet would look like for Apple. It is shown in Table 20. In the top part of the worksheet, there are 21 different lines for various (non-cash) assets and liabilities. In mathematical terms, that means there are 21 different equations (beginning balance + additions – subtractions = ending balance) we must satisfy in the top part of the worksheet. Adding the cash equation to the list makes 22 equations. That is too many to do without a tool to structure the work.

Now look at Apple's Consolidated Statements of Cash Flows in Figure 1. Note how many lines there are in each section of the Cash Flow Statement: 12 under Operating activities, 8 under Investing activities and 8 under Financing activities. That is 28 pieces of the explanation of how and why cash changed from \$20,484 to \$20,289. Further, of the twelve lines under Operating activities, 5 items are increases and 7 are decreases. You may now see why we need a worksheet to guide our analysis of anything other than an illustrative, simple example. Figure 6 portrays these observations visually.

In a companion note, we work through a series of examples of increasing complexity to demonstrate how the worksheets helps us understand the information in the cash flow statement. Before we do, however, we present the completed worksheet for Total Toy for the month of October in Table 21. Keep in mind that this is deceptively simple for many reasons, including:

1. The small number of balance sheet accounts means that we don't have that much detail to keep track of.
2. The absence of Investing and Financing activities means that all changes in the balance sheet accounts relate only to Operating activities.
3. The simple nature of the transactions in which Total Toy engages. It buys dolls. It sells dolls on credit. It collects cash. That's all.

The Total Toy example does, however, illustrate the basic structure of the relationship between the income statement, cash flow statement and the beginning and ending balance sheets.

When we turn to more complicated cases, you will see, that the worksheet becomes essential.

Table 21
Total Toy
Cash Flow Worksheet with Operating, Investing and Financing Sections Labeled
Month of October

	Beginning Balance		Ref	Explanations		Ref	Ending Balance	
	dr	cr		dr	cr		dr	cr
Accounts Rec.	54,000				18,000	a	36,000	
Inventories	28,800				14,400	b	14,400	
Common St.		90,000						90,000
Ret. Earnings		75,600			7,200	NI		82,800
					Cash			
			BB	\$ 82,800				
					Operations			
			NI	\$ 7,200				
			a	18,000				
			b	14,400				
			CFO	\$ 39,600				
					Investing			
					Financing			
			EB	<u>\$ 122,400</u>				

Notes:

a Change in Accounts receivable due to operations.

b Change in Inventories due to operations.

CFO Cash flow from operations.

There were no cash flows from Investing or Financing activities.

END of THIS DRAFT