

HPM | Module_7_Financial_Ratio_Analysis

Hi, class, welcome to this tutorial. We're going to be doing income statement, conditional analysis, and ratio analysis. And the problem that we're going to be working on is the exact problem for your Greenville Hospital case. You'll be able to use the work that we do here and drop this right into your case assignment.

Our thought process behind this is to make sure that you guys have a good start on your case assignment. And since we don't have a follow-up to this class, and your case assignment is due right after this, I want to make sure that everybody gets the correct numbers and correct calculations for this ratio analysis. And then you'll use this to help support the different analysis that you do within your case.

Again, everything for your case, the different techniques that we've learned, the cost allocation, the capital budgeting, the forecasting piece, the break-even analysis, all of that ties back to how well the organization is doing overall, how well Greenville is doing. And I want you to have kind of that thought process as you're working through your cases. How will these changes impact this ratio analysis that we have here?

Because that's an important thing. That's kind of tying everything together that we have been doing. And this is the final measurement for the overall organization. So how well we do with each of the techniques, either through the surgery department or PACU or those various frontline departments, is going to impact our bottom line for the hospital. So I want you to think of it in those terms.

Now for this here, let's just take a look at what we've got. So we've got an income statement, and then we've got projections for 2016 under some different conditions here. But 2015 numbers are the actuals and this is the income statement for Greenville Hospital. And we have the balance sheet here as well.

And so we're going to take a look here at the current ratios that we have, and then we're going to project for 2016 at these different conditions that we have set up. I would suggest as you work your way through the case too, if you think of different conditions than what we set up here that you run that analysis as well. But for right now, I think this is a good start.

And you can make changes to these. Again, this is set up just like the input tables that we've been using throughout the course. So you can easily change any of this stuff in blue, and it's going to ripple through here. And I would suggest that you do that.

This is a good way to do your what-if analysis. What if we were able to increase revenue? And what if we were able to decrease expenses and different changes in non-operating income?

So let's take a look first at the ratios that we have here, and this is for 2015. Our operating margin, which is

operating income divided by total revenue measures the amount of operating income that we're producing for-- in essence the amount of effort that we're putting into it, or the volume of business that we're doing. And I guess I'm always kind of surprised at how thin of a margin that a lot of these organizations, and specifically hospitals, work off of.

You know, 2.5% of total revenues is pretty slim. And there's not a whole lot of room there for mistakes if you are running a margin that's that close. So this is a function primarily of the operating income, which in this case is 1,206,000. And it's divided by the total revenue, which is 48,400,000.

So 2.49 is the percentage for this ratio. The industry average is 3.10. Oh Let's make this the same calculation for these different conditions that we have here. So for the 10% increase, we're going to take our operating income and divide that by our total revenue. And we also get 2.49.

What's interesting in this ratio, and what we're trying to demonstrate here is, because we had these changes equal across the board between revenue, salary, and non-salaried expenses, which are all captured in this operating income, the same increases on the revenue side percent-wise is what we have on the expense side, mean that our ratios are unchanged, OK? So unless you can improve in one of those areas, either on the revenue side or cutting expenses, this operating margin is not going to change. If you have the same increase in expenses that you had in revenue, you're not going to be able to make any headway on this. And that's kind of borne out here in this ratio.

We can now copy this across as well, and we can copy it as well here. And you'll notice that because we have operating incomes that are in deficit, that our operating margin is also underwater. So with an industry average of 3.10, Greenville is not doing well.

And if any of these conditions come to pass, 10% decrease in the volume of business or possibly a 20% decrease with some of the other variables decreasing as well that Greenville is going to have some tough times ahead with this. So this is a profitability margin, and we're measuring the amount of operating income over the amount of business that Greenville is doing.

So at some point, they need to either cut expenses or they need to increase their charge to the customer, but something to get this up. And I want you to think about, again, as you work your way through all of these different analysis that you're going to do, I want you to tie it back to these margins and how they can improve on those, and again, if they're able to do their cost allocation well, and if they're able to do their capital budgeting. How does it affect this margin, as well as these other ones that we're going to take a look at here?

Let's go down to their return on assets. So this one is the net income, which is again, on the income statement.

And then we use an entry on the balance sheet, which is total assets. And in this case here, we're measuring how well Greenville is using its assets to produce income, OK?

It's measuring their efficiency with the use of those assets, And clearly this one ties back to our capital budgeting exercises and decisions that are made in capital budgeting because those are using assets to generate net income. And if we're successful through that, then we should be able to move the needle on this and move it from the 3.98, which is under what the industry average is of 4.80 that we should be able to do better. If we're able to accept really positive projects that are going to produce a really good return, then we should be able to move that number. So let's take a look here, and when we calculate this under the 10% increase conditions, let's see what we get.

So again, this is net income divided by total assets. And in this case, it's not much off, but it's a little bit less than what we did the year before. And in this case here, again, we know this is going to be underwater because we have a negative net income. We find that to be a negative 5.02. And for this entry we are looking at negative 3.98.

Now for this example, we're only working with one balance sheet here. That would be too complicated if we added many different balance sheets. So for each of the conditions we have, we're projecting that our balance sheet is not going to change. But that's not to say that you can't think of ways that Greenville could reposition its balance sheet that would make these ratios better, OK? And as we kind of work our way down here, I'm going to have some suggestions as to maybe ways that we can change the makeup of the balance sheet to help our overall percentages here.

So clearly, we're not doing well on our return on assets, and we're not doing even in the current year, or in 2015, we didn't meet the industry average. And then with a 10% increase, we weren't able to make much headway on that as well. A return on equity is an interesting calculation.

And in 2015, we had a return on equity of 30.33%. The industry average is 8.40. So we're going to ask ourselves, well, how is it that they're doing so well, it appears on the surface with this return on equity?

Well, it turns out, because we know that we've already measured the operating margin and the return on assets, so we know that the net income and operating income are not that high for either 2015 or for projection in 2016. So what that leaves us with is the denominator on this equation must be relatively low, and it turns out that it is. So our equity position, when we look at it, is, of the total assets that we have or the total liabilities and equity, equity only makes up 6,452,000, OK? So that's a relatively low position in the overall balance sheet, OK. Which this is going to be even more clear when we work through the rest of these ratios, and the ratio analysis that we're going to do.

But of the assets that are funded up here, which are all of these, this 49,198,000, only 6,452,000 of those are funded through equity, or ownership in the company. Now owners may look at that favorably and the return is favorable, but I'm not sure that outside creditors would see it that way, OK? Because what that means is that all those assets are funded by some other means. We're going to find that out in just a second here.

So let's figure this under the other conditions that we set here, these different increases and different conditions. So in this case again, so we're going to take the net equity or net income and divide that by our total equity. And when we do that, we get a similar return. That's what we had in 2015. And again, both of these numbers will be underwater because we have a loss projected.

And these entries for these ratios shows something interesting too. And that is, when a company goes from being profitable to losing money, that transfers directly to the equity as well. And it shows who is really being hurt here.

Because although these appear to be positive for the shareholders when the business starts losing money because you have such a low equity position, it's immediately transferred to the ownership of this company and through that equity line, which is pretty significant. So it could be looked at positively, maybe by the shareholders here. But it turns quickly once the company starts losing money.

Now, this next ratio is what we call the current ratio. And this one tells us how likely the company is to be able to pay their bills. Now in this case here, the current ratio for 2015 is 0.88, and the industry average is 2.0. So what this 2.0 means is that typically a company would have twice the number of current assets-- which is this entry here-- as they have current liabilities. And that would give them the opportunity to be able to make payments and to not have any trouble being able to make these current obligations that they have.

In the case of Greenville, they actually have more liability, current liabilities than what they have in current assets. So they're way behind here, and they put themselves in a position that it's going to be difficult to make payments on these assets. They're going to have difficulty making payments on these liabilities as they become due. So again, creditors would look at this, and they would look at it pretty unfavorably.

Now for the debt ratio, we're not going to have any entries here because these are both only balance sheet entries. So for this entry here, we're measuring the total liabilities over the total assets, which is what we call the debt ratio. And now this really starts to tell the story of what's going on here.

Now the industry average year is 42.3%. But for Greenville, their percentage is 87%. And what this means is that 87% of these assets here, 87% of that 49 million is funded through liabilities, OK? Which is long-term debt and the short-term debt that they have there.

Creditors would look at this very unfavorably. This is a very highly leveraged position to be in, OK? They're going

to have a lot of additional interest expense that's associated with this and chances are their cost of capital is going to increase because creditors are going to look at this and they're going to say, this is a high risk business.

And if you're going to borrow money, you're going to pay a very high interest rate to do that. Which means it's going to put a lot of stress on their capital budgeting because that cost of capital is going to increase. And they may not be able to meet some of those thresholds because of that high cost of capital, which is linked back to this debt ratio that they're looking at.

So the industry average is 42.3. They're looking at 87%. So the question is, what can Greenville do? Again, when we look at the assets here, this is really the bread and butter. The lifeblood of the company is through this net property plant and equipment, OK?

The more that can be shifted there, possibly these long-term investments either need to be retired or need to be moved down into this net property, plant, and equipment to give them the opportunity to generate additional income through projects. Because all the capital budgeting projects that we looked at flow directly through this line right here, OK? And this is the opportunity for a company to generate additional business, additional revenue streams, put additional projects on their books. So it's important that that funding gets put here.

The other thing is, if possibly they want to add additional equity, either through an initial public offering, they're not generating a lot of retained earnings, so equity coming in from the income statement and through retained earnings is probably not that likely. So it's possible that they may want to issue additional debt and retire some of the liabilities that they have and try to put a better balance on the balance sheet that we're looking at here. But I want you guys to think through the case and all the stuff that we're doing, all the different techniques that we're using, and how can the enhance Greenville's balance sheet and income statement and affect these ratios that we're looking at here?

So we're giving you these, OK? We're giving you this worksheet here. But what we're asking for is we're asking for you to analyze this and then to potentially make some changes. Because right now, you can easily make changes through here like this. If we decided that the revenue change for this particular line, instead of being 10% down, what if that was 20% up.

You see the dramatic effect it had on this line, incredible effect on this, OK? And to go from where we were, which was 10% down to a 20% increase in the revenue change is incredible. Or maybe they believed that they could actually cut salary expenses by 10%. You know, what does that do to our bottom line?

Well, they're still underwater. But they're not nearly as bad as what they were. They're getting fairly close to this break even. So what we're asking for is we're asking you as you go through your case and stuff, is to do your

analysis and stuff and base it back on how all of those changes are going to affect this ratio analysis and how changes in both the balance sheet and income statement can work to improve our performance here and try to at least get back to something that's close to the industry average on this.

So this completes this tutorial here. And again, you're going to have this sheet that's supplied to you. And you have this tutorial to kind of review and to help you navigate through the final case study.