Express Video Transcript
What Do I See on Income Statements

Topics

- Owners' equity change map (OEC Map)
- Income statement hierarchy:
  - Level 1: comprehensive income
  - Level 2: major categories
  - Level 3: significant subcategories
  - Level 4: line items
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Transcript

Introduction

Welcome to the What Do I See on Income Statements express route. Like balance sheets, income statements can be rather daunting if you don't have a strategy to navigate them. In this regard, what you see on an income statement depends on how you structure your analysis. In this video, you're going to learn how to analyze income statements hierarchically, just as we did with balance sheets.

Recall that we started our analysis on balance sheets by focusing on three numbers and three numbers only: total assets, total liabilities, and total owner equities. And then we progressively dug deeper until we had drilled down four levels to line items. Similarly, we will be analyzing four levels of income statements starting with a single performance measure, comprehensive income, and then dissecting comprehensive income into more and more parts as we work our way through four levels.

Before we begin this hierarchical analysis, we're going to develop the Owners' Equity Change Map. This map links income statement terms and concepts to balance sheet changes and to management's performance goal. This link to a performance goal is essential. Performance refers to progress towards a goal so you need to understand a company's performance goal to interpret the financial statements. By way of analogy, college grades measure, albeit imperfectly, students' performance towards their goal of advancing their learning. Our agenda then is the Owners' Equity Change Map followed by the income statement hierarchy.

OEC Map

So here's the Owners' Equity Change Map, the OEC map. It's rather large, and we're going to go through it slowly. So we begin to think about what does it mean for a company to perform, and our focus is going to be down here on the change in owners' equity. So let me build that part of the map first to get to this position.

We start with the balance sheet at the beginning of a performance period, and that is a one-year period here in our example. And we're looking at Bischoff which is our fictitious company that goes throughout *Navigating Accounting.* Now, if you take the balance sheet equation at the beginning of the year, and that would be at the end of 2012 because we're looking at the performance over 2013, there it is right there, and we got that off the balance sheet. Total assets, total liabilities, total owner's equities, and here it is at the end of the year.

And now what we're going to go in order to get the income statement is we're going to take the change in the balance sheet. For example, the assets went from $746 to $940. So they went up by $194. This triangle right here is called delta, and it means change, so that's measuring the change in the assets. So change in liabilities, change in the owners' equity. And our focus is going to be right here on the change in the owners' equity, and that's going to be critical.

Now, to give you a little bit of a sense of what we mean here, let's look at a little example. Suppose you started a company, and you began with a zero owners' equity right here at the start of the year. So your beginning owners' equity was zero. And then the first day that you started the company you put $100 in and we call that invested capital. So your invested capital is $100, and that would be really easy to record, right? Because we have seen the entry for that. What you're doing is giving cash to the company, and the company is issuing common stock to you. So cash goes up by $100 and owners' equity goes up by $100, and that's what we're focusing on, owners' equity.

Now, suppose you're in the year that the company managed to generate $10 of - well, let's call it income because that's where it's going to be - by selling products and doing other things that are part of the ordinary business. And we'll be discussing what income is here very shortly. So we're going to have income, and that's going to go on owners' equity. And what is income then? Well, income is the return on the capital that's in the company. Now, in this case, the capital that's in the company is just the capital you invested. But at the end of the year, you've got $110. And if you leave all that in the company, well then the total capital becomes not just the invested capital, the $100 you put in, but the amount that was reinvested essentially by not distributing the money through a dividend.

It certainly means something to perform when a company raises invested capital. Talk to any startup company who's out there trying to get venture capitalists to give them cash and I'll guarantee it, by the time they convinced the venture capitalists to give them cash they thought they performed quite well. But that's not the type of performance we're getting on an income statements. The critical thing about income statements is they measure the return on the capital. And so that gets us down to $110 down here of total capital at the end of the year. So the change in the owner equity at the end of the year is $110, and that would be in our little example.

Now, you know, for Bischoff we have different numbers here. Okay. Owners' equity went up in our little example by $110. Let's break that down into a couple of parts. And this is critical

because this is where the change map really starts to pay off, and it's important that you realize it goes back to the performance goal of the company. The management's goal on behalf of the owners is to try to make a return on the capital. And more precisely, management seeks to maximize return the owners earn on the investments they make in the company relative to what the owners could have earned had they put that money into an equally risky alternative investment. And of course, all of this is subject to abiding by the laws and the norms of society.

So that's what the objective of a company is, and that's really important, right, because we're trying to develop an income statement. So when we get down to the income statement which is a performance measure, we want to be focusing on returns on capital. So let's look at how that breaks down.

Well, we have two boxes here, right? We're going to go this way or we're going to go this way with our total change of $110. Now, what's the transactions with owners during the period that changed the value of the net assets? Well, transactions with owners - that's you in this example we're looking at. And the transaction with you is you gave $100. That's where $100 would go. Now, more generally, what we see is that transactions with owners generally involve contributions from owners which the $100 was in this case and distributions to owners. So for example, paying a dividend which we didn’t do in our little example here, but which Bischoff did.

Now, everything else goes over here into other. So that's where the $10 goes, and this is going to be the main line for developing the income statement over here. So this is where our return on equity is going to be. Now, as we look at that $10, or in Bischoff's case $113, everything else but transactions with owners that affected owners’ equity during the period. Now, that's the critical concept in developing our map.

As it turns out, this can be divided into something called comprehensive income, and that's the broadest measure of performance and changes in accounting policies and restatements. We can just X this out. It's relatively insignificant. It's only been around for a few years, and we're not even going to look at it for numerous chapters, way out in the future. So you don’t have to worry about it right now.

What we know now then is we can actually think of, for all practical purposes, comprehensive income is the change in owners’ equity during the period except for those changes that deal with transactions with owners and, more formally, transactions with owners in their role as owners. So for example, if an owner was to do some work for the company well they’d be an employee as well as an owner, and that would be a different role and that would affect expenses over here that we'll get to that later. But for right now just think of it as transactions with owners, and over here we have everything else.

So comprehensive income is this really broad income measure. Now, we're going to take that, and we're going to break it up into two parts. One part is going to be net profit (loss), and the other part is going to be other comprehensive income. This is also called OCI, other comprehensive income. How important is it? Well, it's not near as important as net profit (loss). You have to have an awareness of it because you're going to see it on income statements all the time, but it deals with accounting issues that are a little bit complex, and we're not going to see them for several chapters. So for right now just try to get an awareness of what it is.

Part of other comprehensive income has to do with three or four different areas where the amount of income that's generated during the year is affected by swings in market factors. So for example, foreign exchange rate changes; now, the relative value of currency changes or changes in stock prices on investments that company owns or changes in value of what's called derivative instruments, so rather esoteric topics.

And here's what's really critical that you understand about those. If a stock market goes up one year, it's just as equally likely to go down the next year. So OCI income which is part of comprehensive income, it's kind of important, but it's what's called transient. It's not really good for predicting the future. Let me give you a really simple example that you can identify with.

Suppose you went out you won a million dollars in the lottery. Wow! That's good news, right? And so you'd feel pretty good about that, and that would give you wealth for this year. But you wouldn't expect to win a lottery the next year, would you? You might get lucky again, but you probably wouldn't expect it. Other comprehensive income is the same way.

Now, why is that important? Well, suppose you're an investor or an owner, and you're following this company, and you see that essentially the company won the lottery this term or lost value this term. So OCI can go up or it can go down. It does. It goes all over the place. Foreign currency for exchange rates, for example, very widely. If you were down here this year, you wouldn't know whether you're going up or going down further.

And so it's not very good for predicting the future, but what investors really care about you see is what is persistent change. That is they're trying to forecast the future. And it turns out that while net profit and loss over here which is going to be where most of our focus is, well net profit (loss) has got some transient effects, it's got good deal persistent effects. And so all of our emphasis in the early chapters is going to be on net profit or loss, and that's also called net income or net earnings.

And you probably heard of companies releasing their earnings, and so you'll see that in the Financial Times or in the Wall Street Journal. And what they're getting at then is net profit (loss). So that's what's called the famous bottom line of income statements. What's net profit (loss)? How do we divide that up? It divides up into income elements. Under IFRS there are two primary elements, income and expenses, and we're going to see income statements are full of those.

Let's look at what they are intuitively and to do that you want to go back to the equations because all of this map over here is on the right-hand side of the equation. But now I want you to focus on the entire equation. So income is a positively signed element. Now, what would make income increase on the right-hand side of the balance sheet, abstracting from transactions with owners for a moment? What would do that? Well, if assets went up and liabilities didn't change, that would do it or if liabilities went down because they're negatively signed, well that would push up income.

Now, that presumes nothing else happens, right? I mean assets and liabilities could both change and there would be no change in owners' equity. For example, if you bought inventory on account. We did that transaction in an earlier chapter. There would be no effect on owners' equity. But if assets just went up by themselves and there was no change in

liabilities, well then income would go up. And what might lead to that? Suppose you bought merchandise from a supplier for $5 and you turned around and sold it for $8. Well, then you have $3 worth of profit. And how would that work? Well, you bought it for $5 so let's say cash goes down by $5 over here and then it goes up by even more, $8 when you sell it to a customer. So overall, your assets go up, and that's income.

Now, we're going to have to develop that a lot more, and we will, and we will. Expenses of course are just the opposite. Expenses pull down owners' equity. Just how does that happen? And it's just the opposite. Assets go down or liabilities go up. Now, of course you can have some combination of assets and liabilities going up or down, and we'll see that when we do entries.

Now, for now we don't want you to hung up on what's income, what's expenses because when you go behind the numbers we're going to look at so many entries and we're going to develop these concepts in so much richness that you're going to have a great understanding of these concepts. Now, one more thing before we go on. Both IFRS and U.S. break down income and expenses into revenues, gains, ordinary expenses and losses. These are considered the primary elements up here, income and expenses, just two of them for IFRS. Under U.S. GAAP the primary elements are considered the next level down.

So what's the difference between them? Not much. This distinction, here, is absolutely not that important, but let's look at what revenues are and gains are as different types of income. Revenues are income that has to do with the ordinary activities going on in a business. For example, if Intel sells a microprocessor chip, that's revenue because that's the business that Intel is in. Gains, on the other hand, are outside the ordinary activities of the business, so for example, if Intel was to sell its corporate headquarters. Now, the same thing with expenses and losses, expenses generally deal with things in the ordinary business.

So now we have our full map. It's all completed, and that's the major concepts. Now, all of those concepts, by the way, are developed in much more detail in the scenic routes. So here we've just given you an overview, but this map is a powerful tool because virtually all the concepts you need to know about an income statement, well they're right here. Now, let's see how we apply these concepts as we begin to analyze the income statements hierarchically.

IS HIERARCHY

1. Comprehensive Income

At the first level, we're just going to focus on comprehensive income. So this is our first view of an income statement, and we're looking at Bischoff's income statement. The comprehensive income statement is reported by all IFRS companies. Sometimes they'll split into two statements and will be reported by all US GAAP companies starting in 2012.

Comprehensive income is a relatively new concept. It's only been around for a few years as has other comprehensive income. Until quite recently, neither other comprehensive income nor comprehensive income were concepts in accounting. As a matter of fact, everything ended right here. And so the bottom line in the old income statements was net profit and loss or net income. And so that became known as the famous bottom line. So when you hear somebody talk about the bottom line, they're actually talking about net profit (loss). Well, that's not so bad, right? Because we said OCI, which is down here, tends to get less emphasis.

How does an analyst think about analyzing comprehensive income? Well, remember the performance goal. They're looking out for their investors. So what is this ratio ROE-CI? Well, it's got to tie back to what it is that means to perform and what does that mean? Return on equity. Well, what this ratio is going to be is it's going to be comprehensive income. So for this year it would be $113 down here, all divided by - and I'm going to use the shortcut here - average owners' equity and by average owners' equity I'm going to put a bar over this. Now, all these formulas are developed in the scenic routes in much more detail and we'll be discussing that later.

So it's comprehensive income over average owners' equity. What does that mean? Intuitively. Well, think about the components here that we have. Comprehensive income is how well you perform during the year but for every dollar's worth of owners' equity that was in the company. So if we put $100, in as we did in our little example, and we got $10 back, well then we made a 10% return for the owners. That's great. If we had more comprehensive income on a relatively smaller base of owners' equity, that would be even better, and that's what this ratio measures.

So what's neat about the ratio is we can compare across companies, right? Because companies might have different amounts of owners' equity, and we can say how much comprehensive income did you generate per dollar of owners' equity? Well, the owners' equity is measured on average during the year because you could be changing that during the year. That's our first level of analysis. Let's go to our second.

2. Major Categories

At the second level of analysis, what we do is we break comprehensive income into two parts. And we've seen those two parts: net profit which we've already said is critical and other comprehensive income. And then what are our two ratios? Well, we simply take return on equity based on comprehensive income and we break it up into two parts. One called return on equity which more formally is based on net profit (loss) plus ROE based on OCI. Remember what this was? Over here, this was comprehensive income over owners' equity on average, and over here what we're going to do is going to say, well, this is going to be net profit over owners' equity on average plus OCI over owners' equity on average.

Here's the critical thing you need to get from this though. This is arguably, some people believe, the most important ratio in analyzing a company. Why? Because we said, if you're trying to predict the future, net profit is a much better predictor of the future, not perfect, not perfect, but a much better predictor than OCI. So if you're trying to predict where the company is going to go, you really want to predict its future ROE. How much are you going to earn for me in the future based on the amount of capital is in the company right now? Well, that's a critical ratio. They'll be several opportunities for you to analyze that ratio in the future.

3. Significant Subcategories

Now, we move on one more level and notice that we're working our way up from the bottom up. So we actually started at the bottom of the statement and work our way up. And the next thing we have is level 3 of our analysis, and if level 2 was these two major categories, OCI and net profit. On a real income statement, by the way, there will be multiple line items for OCI that's why it's called the category. This is the category up here for net profit (loss) because all these numbers are going to net profit (loss).

Now, we want to look at significant subcategories within this net profit (loss) category. And so that's really intuitive, and you could see it right here. If we take net profit, it was $89 and the first thing we're going to do is say, well, let's divide that into two different pieces. One is profit before taxes, and the other is taxes. That's what we have right here profit before taxes and taxes. And then we're going to break that down into operating profit is profit before taxes but so does non-operating profit so we have operating and non-operating. Here we've called this other income and expenses, and that's what it is for Bischoff, but it's generally operating and non-operating.

Now, why is that important? Well, again you're trying to get a better understanding of the company. How did it perform? And what really counts for a company critically is its operating performance. How well is it doing at the things that it has to do that are part of its core business? That's what it means, its operating performance. By way of contrast, the non-operating items include things like finance cost, for example, interest they pay, amount they make an investments.

So what are the ratios we look at here? Well, there are two critical ratios. There's profit margins, and there's the DuPont model. There are several profit margins, but let's look at one that's very popular. Pretax profit margin, and I'll use the term generically here. It's going to be profit before taxes, profit before taxes, PBT over net revenues. Profit before taxes was $129, and revenues are up here and they're $505. Well, what it means intuitively is, hey, somebody out there is running your company, they're generating profit before taxes. That's good. How much of that profit before taxes are they making on every dollar of sales? So if they're making like 25 cents on every dollar sales which is approximately, well, that's really good news, and that's going to help contribute towards the overall performance.

Now, let's see how that fits into the broader context though of what's called the DuPont model because the DuPont model is really important linkage because it links back and it takes ROE and it links it into profit margins, among other things. So let's look at the DuPont model, and this is something you're going to study in more detail by looking at the scenic routes.

So let's look at ROE and break it up into four parts, that's what the DuPont model does. It expresses it as a product to four things: the profit margin, times what's called turnover times financial leverage times let's call it a tax factor. Now, this is developed in the scenic routes, and you're going to want to go through it. But here's the neat thing about it. You can take a company's ROE which is net profit over average owners' equity and you can express it as profit before taxes over net revenues times net revenues over average assets. So average assets times average assets over average owners' equity times let's just call it a tax factor for now. This measures profitability; we've already said that, per sales dollar.

So if you're trying to figure out how well a company is performing for its owners, its ROE, or will in the future, then you say, "Well, first of all, how well are you doing on every dollar's worth of sales? How much profit are you making?" And that's what this gets at, right? That's your profitability. And then you say, "Oh, well, that's good news." But what if you only had $1 worth of sales? Well, that wouldn't be good news. So that gets at profitability. Turnover gets at your ability to generate sales from your assets, so net revenue over average assets.

So for every dollar's worth of assets I've got in the company, and remember if I'm an owner I've essentially invested capital or allowed you to retain capital in the company if you're

management, in order to try to generate sales. Well, how many sales are you generating on all those assets? And so that's an efficiency measure, your ability to generate sales. So if you're generating a lot of sales off of all my assets and then you're making a good deal of profit off all those sales, well that's double good, and that's what these two factors pick up.

So what does the financial leverage figure out? Well, it's assets over owners' equity, which is one is the leverage measures we discussed in the last chapter. And so the higher your leverage, well that just means the more on behalf of the owners you're using other people's money and namely the creditors' money. And so that we know from prior discussions in the balance sheet chapter, what leverage does is it accentuates the effect of these two factors. The better our profitability and the more we add leverage, well the more we leverage up, we accentuate the value of that profitability and of that efficiency gain here.

Of course, the opposite is true, right? Leverage is risky. So if this was a loss over here instead of profit, well, then we'd be leveraging up the loss. And so that's a two-edged sword in terms of predicting ROE or in terms of what happens to current ROE, and the tax factor just takes care of the government gets a share. And the more the government gets its share over your profitability and of all your leverage benefits and of your efficiency, the more the government gets its share, well, the less the owners get a share. So this is a powerful, powerful model, and you want to study that as much as you can.

4. Line Items

The fourth level of the analysis is line items just as it was for balance sheets. If you go through the scenic routes or the exercises, you're going to learn more about revenues versus cost of goods sold versus SG&A [selling, general & administrative expenses]. Revenues, we've already examined. What is net revenues? Well, net revenues just means the gross revenues for a sale less any discounts you might have for giving customers a break on the price or product returns and things like that.

What's cost of goods sold? Well, cost of goods sold is an expense. It's all of the costs that are directly tied to the revenue, to the sale. For example, if you sell merchandise to a customer and the merchandise costs you $4, well that cost of that merchandise as well as the cost to have that shipped to you and the cost for you to ship it to the customer, all those costs go into cost of goods sold.

Now, what about SG&A? Well, SG&A is more context-specific. What it means can depend on what company you're looking at, and again that's explained in the scenic routes. If you look at the label, it just says selling. Well, that's pretty straightforward. But what about general and administrative? Well, those are fairly generic, and what you'll see is companies put different things in SG&A and with a little practice you're get a pretty good feel for what's in there. And then there are some other things but that's more an issue around Bischoff because you might recall from the balance sheet chapter, Bischoff doesn't show everything on their income statement to start with. As we progress through the chapters we'll bring more and more into these line items.

Now, how do you analyze those? Well, the way you analyze them is through what's called common size statements. To make a common size income statement, you just take the income statement that's reported and you divide every line item on the income statement by revenue. So the top line item is 100% because it's $505 over $505, and the next one is $253

over $505 so it's around 50%, say, somewhere in that neighborhood, and that would be subtracted, and that would give a gross profit of around 50%.

What's the advantage of doing this? Well, lots of advantages that you'll see if you go analyze the scenic routes because there we're looking at three telecommunications companies that are from different countries and using different currencies. And if you would just compare the revenues, well that's apples and oranges. But if you compare their common size statements, well the currency effects disappear.

So that's the way we go about analyzing income statements hierarchically, four different levels. Start with comprehensive income, then break it down and go into two major categories, then take net profit and break it down into profit before taxes and tax expense which are qualitatively different, by the way, because companies have more control over profit before taxes than over income tax expense, and then we go to operating profit and non-operating profit and then down line items.

Take-aways

So what would we have you know now? Well, first of all, the Owners' Equity Change Map, which will get reinforced throughout the chapter, is the main concept map for everything that's going on in this chapter. It gives you items on the income statement. Here we have, for example, comprehensive income bottom line, net profit (loss) right here and then other comprehensive income right here. But it also defines the primary elements of which these are all examples.

But equally important, and this we didn't emphasize much, it connects the balance sheet over here to the income statement. As a matter of fact, everything that you know about the income statement, all these concepts, all these critical concepts, they flow from changes in the balance sheet. And that means everything we learned about balance sheets in the earlier chapter is going to affect income statements. So any uncertainty we have about measurements on the balance sheet, for example, affect the income statement.

What should you do next? Well, I want to spend a few minutes here talking about where students mess up when they're trying to learn accounting because we don't want that to happen to you. The biggest thing students do wrong is they don't figure out what they don't know in time. If you take a timeline, right, and we take a topic and we teach the topic during here and then we have an exam right here and then student says, "Why do I do so bad on the exam?" Well, the first time they discovered what they didn't know was when they got back to the exam. That's way too late, and we don't want that to happen. And more importantly, you don't want that to happen on the job. That's worse than not doing well on the exam.

So how do we fix that? Well, it turns out the key to learning is not getting the right answer right away. Some people think, "I couldn't do the homework. I couldn't get the right answer." Wrong, wrong, wrong. The key to learning is to know what you don't know. So how do you learn that? Well, you don't learn it by simply going through all the scenic routes, watching all the videos. That's like saying, "I want to learn how to play tennis," and you watch the Wimbledon final. Well, you may understand the game, but you're not playing the game and you may not know how to play the game.

So how do you do that? Well, the first thing you do is you tackle the exercises. Get ready to start them, by the way, based just on this overview we gave you, and then you check your answers against the solutions, and then you identify the things you don't know, and then you take corrective actions. Now, all along you need to get additional information. Now, where are all the places where you can go wrong? Well, one, students will often tackle an exercise, and they'll look at the solution and they're not looking carefully at the solution. There are little mistakes they've made, and they're not picking them up.

So when you check a solution, make really sure it's precisely the same as what you did when you tried the exercise. And try the exercise without looking at the solution. Some students just read the solution and say, "Oh, I can do that." No, you can't. You've got to discover the problems first on your own. So that's all really important. And as you're doing this, go get additional information.

Let's say you have a problem and the problem deals with the DuPont model which is down here. You say, "Well, how can I learn more about the DuPont model?" Well, some of you may think, "Well, I know enough already." And others may say, "No, before I start this exercise, I should go down here to scenic route 4, and I see that there's a good deal of information and these are all menu items." So I can just click on this menu item right here for assessing performance in the DuPont model and the profit margins, and I can learn all about that. Now, I'll learn the concepts there, but I can actually go down and look at the company's disclosures and we'll see ratio comparisons. So we'll find information that goes into the DuPont model and how to analyze it. And you can learn that and then go back up here, try the exercise, check your solution or maybe you're the kind of learner that likes to tackle the exercise first and then go down and get the information later if you need it.

But the point that's critical is you're going to go back and forth. This is a recursive process, and you don't need to sit down and watch all the scenic route videos. If you do that, by the time you start the exercise that pertains to the first scenic route, all right, you'll have forgotten everything you learned. So what you want to do instead is on an on-demand basis, go get extra information as you need it.

Now, what is the extra information? Well, real quickly, I'm just going to outline what's in the scenic routes. Scenic route 1 gets to the performance goal, and it's got a neat feature in there about Intel and how Intel has performed over the last 40 years. Scenic route 2 is all around comprehensive income and look at all the things you can learn. We barely talked about comprehensive income. So you can look more at Intel, you can see the development of phase 2 of the map if that was too fast for you, and you can learn about a concept called controlling interest that we didn't even discuss, but you're going to see on income statements a lot. Do you need to know that? That's not critical, but you maybe want to learn about it. And then you can look at the development of those ratios we discussed earlier, and you can look at where to find the inputs for those, and you could see multiple companies with real statements which are much more complex than those for Bischoff and learn how to navigate them. That's really important.

What's scenic route 2? Well, it's just based on the next level of the analysis level 2, same sort of stuff. And then scenic route 3, here it is over here with the DuPont model, 4 - line items. And so we'll go through a good deal of the line items that are developed in much more detail. Here's revenues, cost of sales, SG&A, and then common size statements developed nicely and then applied to all these companies. And along the way you'll learn about some other

line times that aren’t quite as common, but you need to understand a little bit about in order to analyze these companies.

And then finally, and this may be the one you want to watch upfront, is income statement formats. There are some subtle differences as you look at these real companies in their formats relative to Bischoff and relative to each other, and you want to learn those if you can.

So the key is you've got to start doing it on your own. You can't keep looking at the videos. You got to do it on your own, and this is a strategy for doing it on your own. It will work. If you identify what you don’t know way back here in the learning process and you take corrective actions way back here, well you’ll shine on the job or shine on the exam. And how can you do that? By using all the resources that we've provided for you on a just-in-time basis. You need this to solve a problem. That's when you go watch the video.

Well, I hope you enjoyed the movie.