COLLEGE OF ACCOUNTING

FINANCIAL MANAGEMENT | BASIC

Video Transcription: The Intrinsic Value of Financial Instruments

Hi, I am Nuria. In this video we will have a look at how to determine the intrinsic value of a financial instrument. This is the value an individual investor will place on owning a financial instrument.

The concept of a financial instrument may seem very abstract to many students. Have you ever bought an ordinary share in a company or a debenture? While many of you may not have participated in such a transaction you would have participated in other transactions, such as purchasing clothes. Therefore the mechanics around such a transaction will be well-known to you. On the other hand, the mechanics around a transaction involving a financial instrument is not as familiar. Let us see how these two compare.

When we purchase clothing: a transaction takes place. There is a contractual agreement, which involves the exchange of cash and the receipt of the clothing. Two parties are involved in this transaction namely the seller and the buyer. From the buyer's perspective the pair of clothing is something that can be used; the buyer obtains value from buying the clothing in the form of being able to use the clothing. Finally this transaction takes place in a shop.

Now let us consider a transaction involving a financial instrument. A transaction takes place. There is a contractual relationship, which involves the exchange of cash in exchange for a promise of future cash flows, in return. Two parties are involved in this transaction namely, the issuer, who is the seller in this case, and the investor who is the buyer.

From the investor's perspective the financial instrument gives the investor a contractual right to receive certain cash flows in the future. This transaction takes place in a marketplace, more formally known as an exchange and in South Africa this exchange is known as the Johannesburg Stock Exchange. The JSE is considered to be the "shop" of financial instruments.

The reality is that the mechanics of the two transactions are not that different. The two major differences are, firstly, the products involved namely a physical product, clothing, compared to an intangible product, the financial instrument. Secondly, the space in which this transaction takes place, a shop compared to a financial market/exchange. As a result of these differences the terminology used, is different.

However, the laws of supply and demand applies as much to a financial instrument as to any normal product found in a store. Also, the process of comparing what needs to be paid for the product to the value received from owning the product happens for both the clothing transaction and the financial instrument transaction.

When you consider which cellphone to buy you will take into account the value that phone will give you. What do we mean by this value? The value you receive from owning the cellphone is the ability to use the phone and the different functionalities the phone offers such as a camera, the ability to use the internet and the ability to communicate. Once you have determined the value you would derive from owning the phone you will compare this to the price of the phone and whether you are getting enough value for the money you would need to pay. You might even consider going to different stores to see if the phone is cheaper somewhere else

The process of considering whether to purchase a financial instrument is very similar. The investor is paying money now and in return expects to obtain value from it. What is that value? It is the future cash flows you will get in return for your investment today. Why would anyone want to make this exchange? Many people invest in financial instruments to increase their wealth. Others invest in financial instruments to ensure that they receive an income once they retire.

The value the investor receives from owning the financial instrument involves future cash flows and we know that the purchase power of money changes over time. The investor will need to use Time Value of Money principles to determine the present value of the future cash flows – what is the value of the future cash flows, today?

This is the intrinsic value one would compare to the purchasing price, often referred to as the market value, to determine whether the financial instrument is a worthwhile purchase. If the intrinsic value is less than the market value, the investor will not be buying the financial instrument. This would be the same as paying too much for a phone. If the intrinsic value is higher than the market value, the investor *will* buy the financial instrument.

So, the exact inputs needed to determine value are:

- Cash flows: Amount and timing
- Discount rate
- Appropriate Time Value of Money formula

For some instruments the cash flows can be determined easily, because there is a contractual arrangement. An example of this would be a government bond with a fixed interest rate. For other instruments it is more difficult as the cash flows are not that easily determined and there will be a great deal of estimation involved. Take for instance investing in the shares of a company. The future cash flows in the form of dividends and increase in the share price are not as easily determined as they are dependent on how well the company is able to grow.

Let us look at an example: You are considering whether to invest in debentures of a company. These debentures were issued three years ago with a coupon rate of 10% and a par value of R100 and are currently trading on the JSE bond market at R113 per debenture. The redemption date is 31 December 2010 at face value and the coupon payment occurs on 31 December each year. The current date is 1 January 2005. What is the value of each debenture? Other debentures on the JSE, with a similar risk profile and maturity term, currently offers a yield of 7%.

What are the future cash flows:

- Annual interest/coupon payments: This will be 10% of the face value so R10 per year.
- Return of principle amount (payment of capital at redemption date), which is R100.
- Required rate of return (discount rate): Identify bonds with similar characteristic (market rate).

Remember that identifying the exact timing of the cash flow is important as this will impact the time value of the cash flow. It is for this reason that it is best to draw a timeline. Once the amount of cash flows and exact timing of the cash flows are established we can use the discount rate to determine the total present value of these. You can either use a financial calculator or the present value formula.

We have valued the debentures at R114.40 and we only have to pay R113 per bond. As such the price:value ratio is favourable and therefore it is a worthwhile investment.

So, understanding financial instruments and how to value them are dependent on what value it gives to the buyer of it and how to calculate that value. As we have seen, this process is similar to the process of buying clothing, or a phone.