Security Analysis and Portfolio Management
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Module No. # 01
Lecture No. # 20
Technical Analysis – II

Good morning. So, today we will be discussing about the different instruments or the tools what we use in technical analysis.

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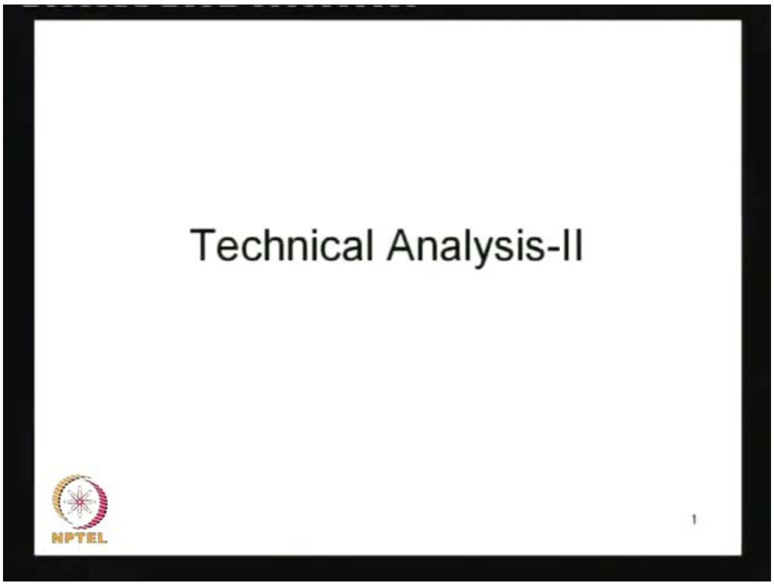

In the previous class, we talk about the logic or the theoretical concepts, which are related to the technical analysis and in what context or what situation the technical analysis can be used. And today, we will just see that how the investors or the technical forms or the equity resource forms are using the technical analysis to take their investment decision in the market.

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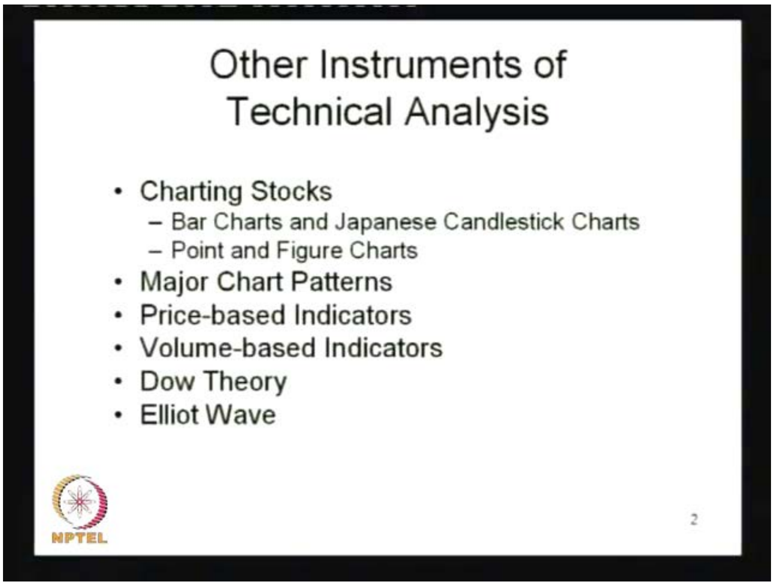

So, already as we discussed in the previous class, we have seen that there are various instruments we use in technical analysis, that includes basically the different charts and as well as the different price-based indicators, volume-based indicators, Dow Theory and the Elliot wave.

So, one by one today we will talk about the different types or different instruments what we use in the market or what we use in the technical analysis to know when to buy and when to sell. Or basically, it talks about that or it helps this investment decision process to the investors that when we can take the decision of buying a particular share and when we can take the decision of selling a particular share.

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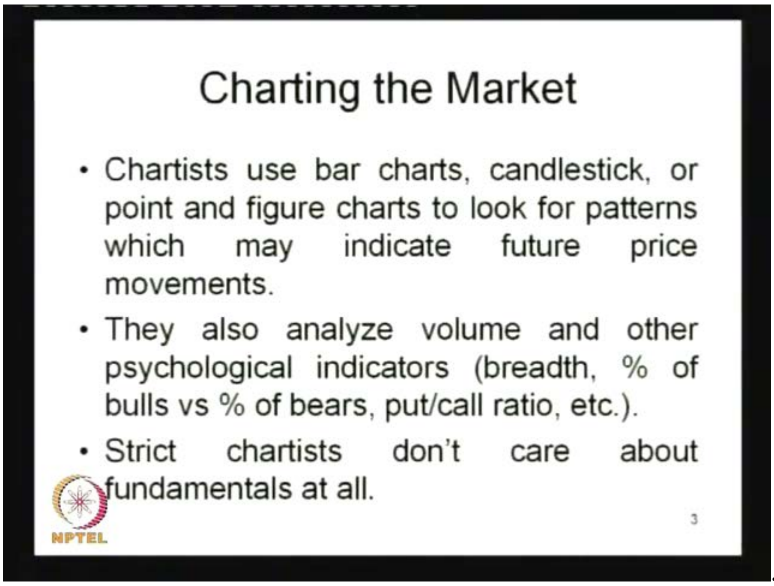

So, here if you see that, already what we have seen in the previous slide that, we talk about the bars and charts or in general, we call it the charting the market. What do we mean by this charting the market? Whenever we use this technique or this instrument to take the decision in the technical analysis, here in this charting or the chartists which you who are using this particular technique, basically use bar charts candlestick or point in figure charts to look for patterns, which may indicate the future price movements.

They also analyze volume and other psychological indicators that is the breadth or the percentage of bulls versus the percentage of bears or the put call ratio etcetera to know that when to buy the stock and when to sell the stock and the strict chartist do not care about the fundamentals at all. Coming back to the actual discussion, what basically we do in the technical analysis that, we have discussed in the previous class, basically here we use some kind of diagrams or some kind of charts or diagrams or charts bars or we can say that some kind of points or the different kind of graphs. To know that when we should buy, when you should sell and what is the basic logic behind that, basically we believe that the past trend always repeat repeats in the future.

And we believe that, once particular trend we analyze or one trend can be categorized or can be diagnosed from this particular trend analysis and we are expecting that the same trend will be followed in the near future for this particular security or for this particular asset. So, keeping this thing in the back up of the mind, the technical analysts plot the different types of the charts and the bars and they conclude that what to do with respect to that particular stock in the market.

And already what we have seen that, in the last point if you see that this strict chartist do not care about the fundamentals. Here, we refer to the fundamentals, means either it is specific to the company variables like the profit, like the liquidity or you can say market-to-book ratio or the we can say that this price to earnings ratio etcetera.

And as well as also they do not care about the fundamentals of the industry and as well as the fundamentals of the economy; that means, there is no macro economic factors or the industries specific factors or the company specific factors like a price-earnings ratio, market-to-book ratio, etcetera.

Never play the role for the decision making process in the market, that means, already we can repeat again that once we have analyze that trends in the particular price of the stock or price of the security, that reflects all the available information with respect to that particular stock. So, there is no need to again analyze the other variables to take the decision in the market, so keeping in the backup of the mind, the chartist or the technical analyst never bothers about the fundamentals of the economy, fundamentals of the industry or the fundamentals of the company.

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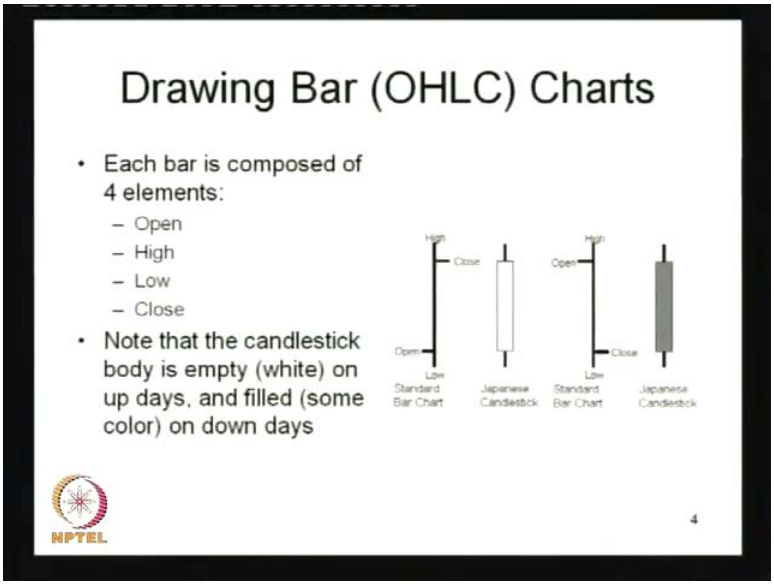

So, one by one if you analyze this thing, first of all you see this is the bar diagrams or bar charts what generally we make. In general, always it is named as the OHLC charts, because each bar is composed of four elements, one is open, then high, then low and close. What basically here we do, whenever we get this particular stock prices, we plot it as a bar diagram and this bar diagram basically shows that what is this in a particular time period, what is the particular stock price and how it is fluctuating about the period and what is the highest price in that particular time and at what price it closed and what price it started trading, means traded in the market. And as well as in a particular day or particular time period what was the low price. And accordingly we take the decision where this particular price is and how this movement is there for that particular asset or particular security, depending upon that movement the investor takes the decision that what to do with that particular asset.

Whether they want to buy this or they want to sell this. One thing here you note that the candlestick body is always empty on up days and filled in the down days. That means, whenever we make this, automatically whenever we find that there is a wide space, basically here we have seen that the price has gone down, gone up sorry, it has gone up and whenever it is filled or some kind of black thing will be available, it is gone down and looking into this this empty part and this filled part, we can say or we can conclude that how this particular stock or particular security is behaving with in that particular time period.

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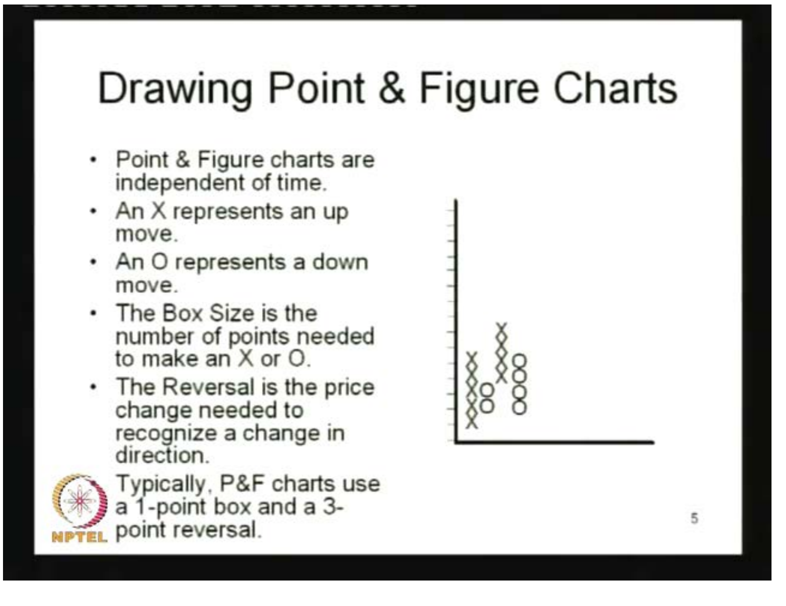

Then, if you see this points and figure charts, what basically the point and figure chart shows they are independent of the time. Basically if you see this diagram what we have shown here and whenever we talk about this cross, it basically represents on up movement and whenever you see this circle, it basically or the O kind of picture or the circle it represent the down movement.

So, we can count that number of points to make an X or to number of points what we need to make an o and the reversal is the price change needed to recognize this change in this direction. Typically this point and figure charts use a 1 point box and 3 point reversal, generally this is the general trend always we use in the market.

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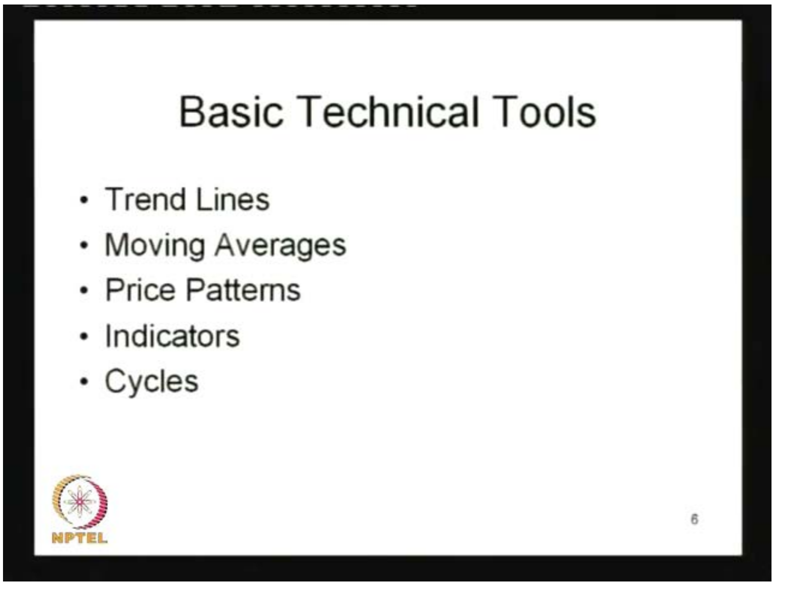

Then there are another tools, there are various tools also the technical analysts use in the market that includes your trend lines that moving averages, price patterns, indicators and the cycles, which are very much consistent and very much popular in that technical analysis or most of the equity research or the consultant firm, always try to use these instruments to take the decision in the equity market or the stock market.

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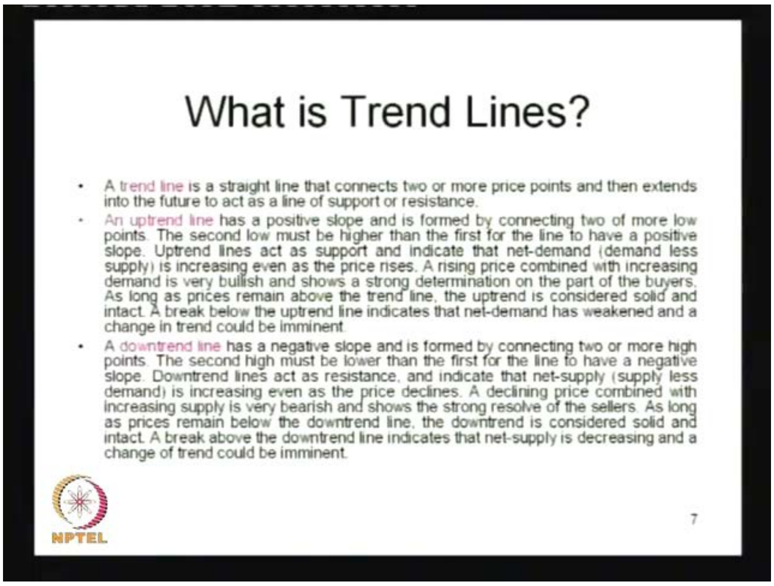

So, if you see the trend lines, what basically the trend line means, basically a trend line is a straight line that connects two or more price points and then extends into future to act as a line of support or resistance. It is basically the forecasted line or we can say the predicted line what you have to draw, on the basis of the price points of that particular asset and accordingly we can decide the support and resistance lines and what exactly this support and resistance lines are that we will be discussing further.

Here, another two things you have to observe, when we can say that there is uptrend line and we can say that there is a down trend line. Basically if you talk about the uptrend line, it has a positive slope and is formed by connecting two or more low points, that means, you are expecting that if the price has gone down, in the near future there is a chance the price will go up. Accordingly in the backup of the mind, predicting that there is an upward movement of that particular price in the future the upward trend line can be drawn.

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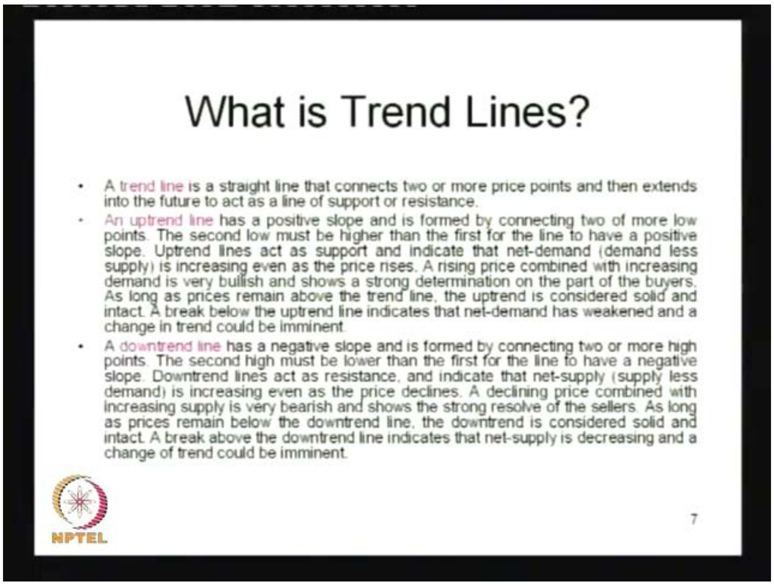

So, the second low must be higher than the first, which basically shows the trend. For the line to have a positive slope obviously, then the uptrend lines act at support and indicate that net demand, net demand in the sense we talk about the demand less supply is increasing even as the price rises. A rising price combined which increasing demand is very bullish and shows a strong determination on the part of the buyers. As long as prices remain above the trend line, the uptrend is considered solid and intact.

A break below the uptrend line indicates that net-demand has weakened and a change in trend could be an imminent. What basically it means? Whenever we have seen that with the rise in price this particular trend or the demand of that particular stock is increasing, which generally clearly reflects the bullish sign of the market. That means, there are more number of buyers are available in the market and most of the buyers are demanding or interested to buy that particular stock, because of that the demand of the particular stock has gone off.

That's why even if the price is going up, people are demanding that stock and still that if the still the demand continues for a definite period of time, the price will go up. So, here, this investor or the particular manager can conclude that definitely there is a bullish situation is prevailed in the market, so that is why they can advise the investor or the investor can take their decision accordingly, that now the market is a bullish market. So, it is always you should buy this particular stock that is why again in the future the price may go up.

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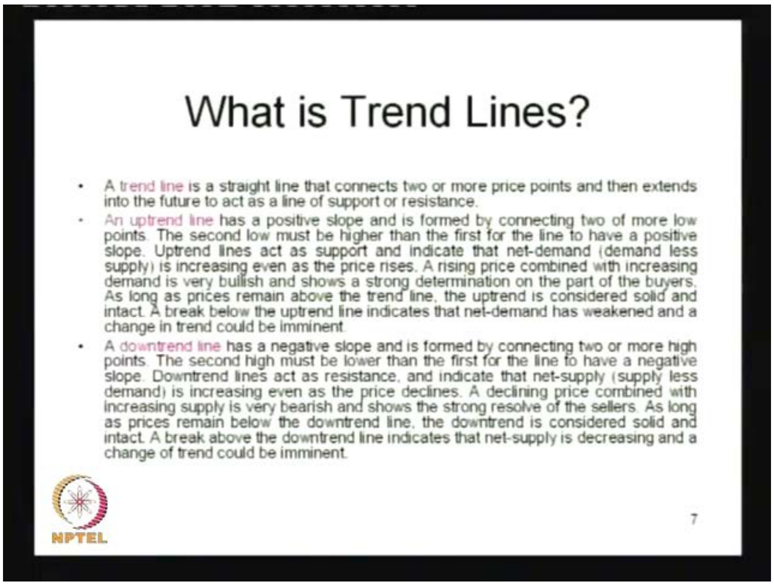

But whenever we talk about the down trend line, it has a negative slope and is formed by connecting two or more high points. That means, already the price has gone up and that is why it definitely in the near future it will show and decline, it will show a declining trend. The second high must second high must be lower than the first definitely for the line to have a negative slope and the down trend lines, acts as the resistance and indicate that the net supply, that means supply less than demand is increasing even as the price declines

A declining declining price combined with increasing supply is very bearish and shows the strong resolve of the sellers. As long as prices remain below the down trend line, the down trend is considered solid and intact, a break above the down trend line indicates that the net supply is decreasing and its change of trend could be imminent. So, it is just opposite of this uptrend line, whenever we draw the down trend line obviously the there is a decline trend of this particular price. And always remember if you join these two points of a particular stock and to obviously the second point should be lower than in the first point.

And here what we are observing is that obviously the supply of that particular stock still goes down, it is because even if the price is going down, that means even if the price is going down, people are not interested to invest in that particular stock or they do not want to buy that particular stock, which predicts or which generally assumes that the there is a bearish signal in the market. May be they are expecting in the future this particular stock price may decline, it will not go up, accordingly this people or the investor will be interested to sell that particular stock at that movement.

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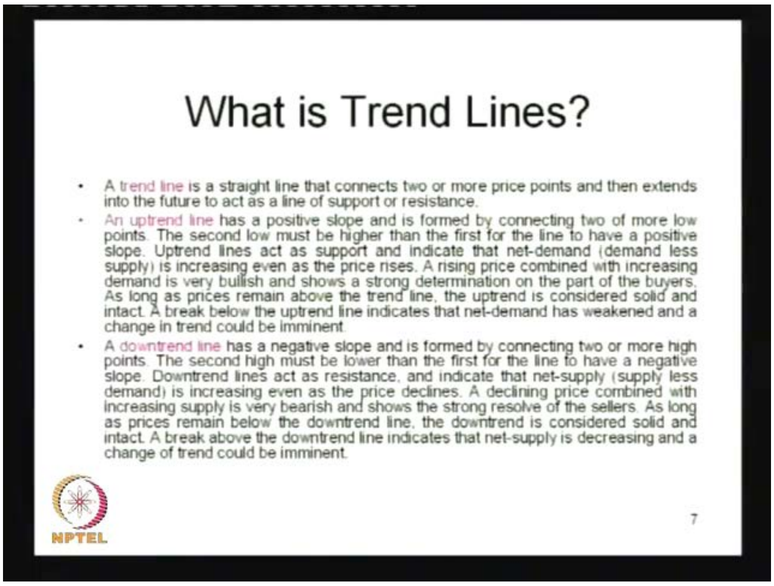

Here, this second point if you see, that if you see that there is a break in between in the down trend, that means the impact or the net supply is decreasing or we can say that there is weak this break above the down trend indicate the net-supply is decreasing and basically what we can say is that this change of trend could be imminent.

That means, there is a possibility that the trend may change, but if does not happen, then we can conclude directly that the market is going to be bearish and in the bearish market, everybody will not be interested to the buy the stock, because there is no probability or there is no expectation in the market that the price will go up in the near future. So, that is why this basically always people will be interested to invest in a stock in terms of the selling whenever a down trend line will be observed for a particular stock.

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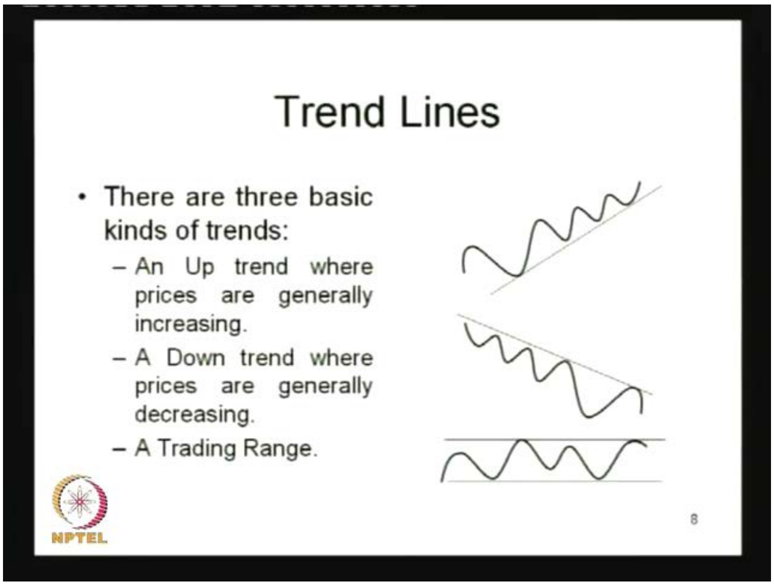

Here, what we have seen, this thing, there are three basic kinds, three basic kinds of the trend, one is your uptrend, but we have observed here and second one is your down trend, for the prices are generally decreasing and finally, trading range where you are observing the prices behaving very randomly, but it does not follow a particular pattern. So, in that particular phase or in that particular region, the investors will be always ready to be, in the always want to invest in the market.

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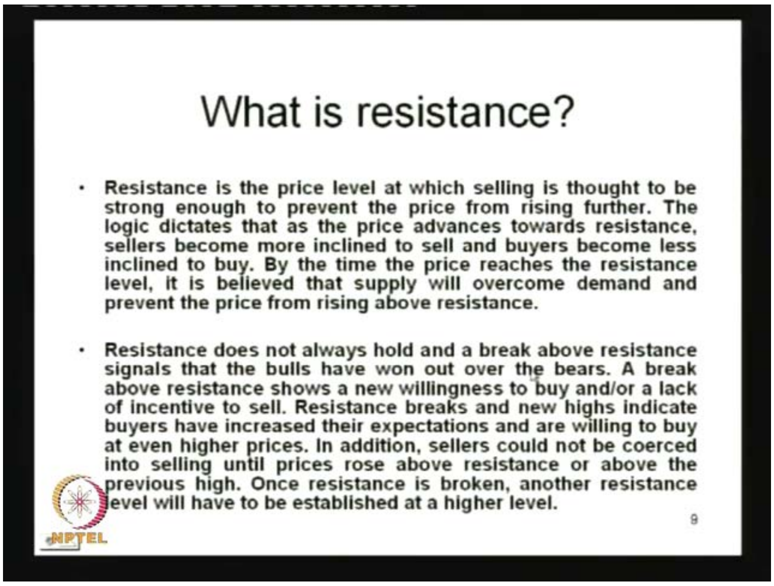

So, here, we have used these two concepts, about the resistance line and the support line. What basically the resistance line is, basically the resistance is the price level at which selling is thought to be strong enough to prevent the price from rising further. The logic detects that as the price advances towards the resistance, sellers become more inclined to sell and buyers becomes less inclined to buy, by the time, the price reaches the resistance level, it has believed that supply will overcome demand and and prevent the price from rising above resistance.

Basically the resistance line is drawn above the expected level of the price rise or the investor always feels that the price of the particular stock will not go up the resistance line what he has drawn on the basis of the trends of or the trends in the price behavior of that particular stock. The trends in price change of that particular stock basically detects the investor that once this particular price has reached or has reached near to the resistance line, then definitely we should expect that the price may not go up further, so this is the position or this is the time we should sell the stock immediately, because there is no expectation that the price will go up further.

So, that is why it is one of the parameter, one of the indicators in the market or the resistance line is the indicator of the market, the investor always takes into account to invest in a particular stock. Once the stock price closes near to the resistance line, then the investor may not be interested to buy that stock, definitely he will be interested to sell that stock, because it is expected that a price will not go up further if it is closes to the resistance line.

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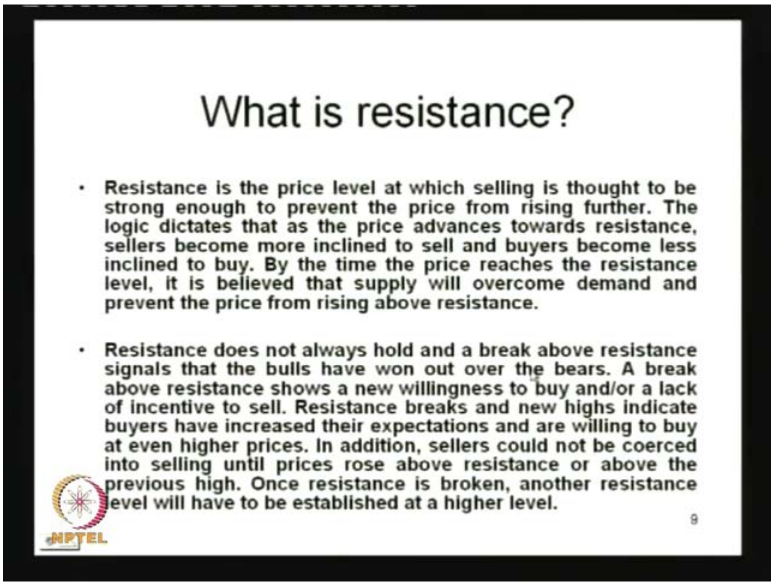

So, then, the resistance also does not always hold and a break above resistance signals, that the bulls have won out over the bears, a break above resistance shows a new willingness to buy or a lack of incentive to sell. Resistance breaks new highs indicate at even higher prices indicate buyers or increase their expectations and are willing to buy at even higher prices. In addition, sellers could not be coerced into selling units price rose above the resistance or above the previous high, once resistance is broken, another resistance level will have to be established at a higher level, this is very important.

Just now we talked that the investor expects that the price will not go of the resistance level or we should not expect that one price will be prevailed for this particular stock and that price will be above this resistance level of this particular stock. But here, what we have seen, sometimes also we have observed and it may happen that the resistance line can be braked. If the resistance line can be break, that means it it implies that investors are still interested to buy that stock, may be because of certain uses or because of certain other external or peripheral factors still there is a demand of this particular stock and most of the investors are ready to buy that particular stock even if that particular stock reaches to or is the resistance level or close to the resistance level.

So, once it will exceed that still or we can or we can see that this particular price of the stock has exceeded the resistance level, which concludes that there is a clear bull signal in the market. That means all the investors which are bullish in nature are cleanly betting the bearish sentiments of the market, that means there is no such kind of bearish sign will be reflected from these. So, here, we can say that in that particular point, it is very difficult to take a decision further what to do with that stock, but most of the cases what we have seen that people will be interested or the investors will be interested to go for another resistance line, which is higher than the previous resistance line.

Because again they have to calculate, they have to estimate their predicted resistance line once the old resistance line has been braked. So, here what we have seen even, if the investors which are bullish in nature are clearly gaining out of this market, they still have to determine another resistance line to invest further in this particular market or in this particular stock. So, therefore, what we can say, once the break happens, the investor has to build, has to draw another resistance line and accordingly he should behave or he should invest in this particular stock in the financial market.

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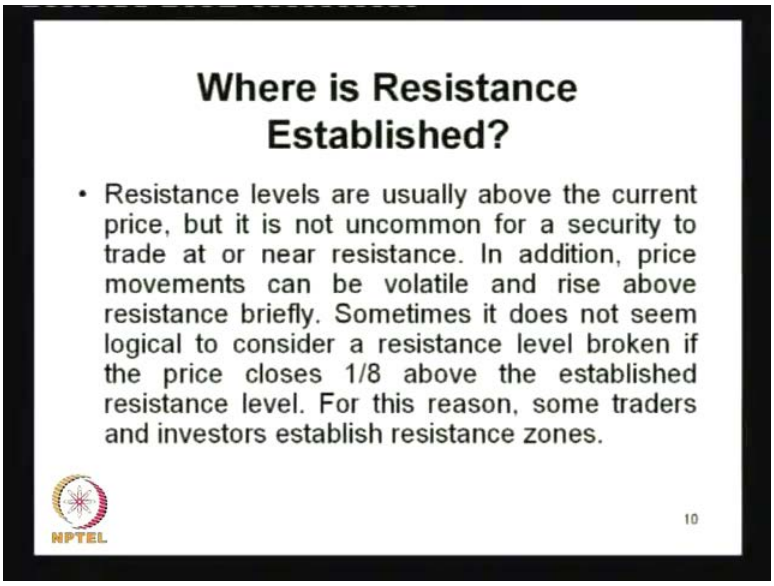

Where is this resistance basically established? In general, in practice, what we have seen, the resistance levels are usually above the current price obviously, always because we always expect that there is a inclining trend, that is why we have drawn that resistance line which is above the current price prevailing in the market for that particular asset, but it is not uncommon for a security to trade at or near the resistance.

In addition, price movements can be volatile and rise above the resistance briefly what we discussed now. Sometimes it does not seem logical to consider a resistance level broken if the price closes 18th above the established resistance level, for this reason, some traders and investors establish resistance zones. So, instead of whenever we are expecting that the resistance line can be broken or we can say that still this bullish sentiment will be prevailed in the market and therefore, the investors will be interested to invest still in the market even if it is closest to the resistance line.

Some of the investors always prefer to draw or prefer to identify the resistance zone instead of identifying only a resistance line at a particular level. So, once we have identified the resisted this resistance zone, what will happen that always the price movement of this particular stock will be confined to that resistance zone only, that is the expectations the investor will have, because by analyzing very long period of data or long period of pass data of that particular asset, sometimes what they will find that this same trend has been prevailed for last 10 years.

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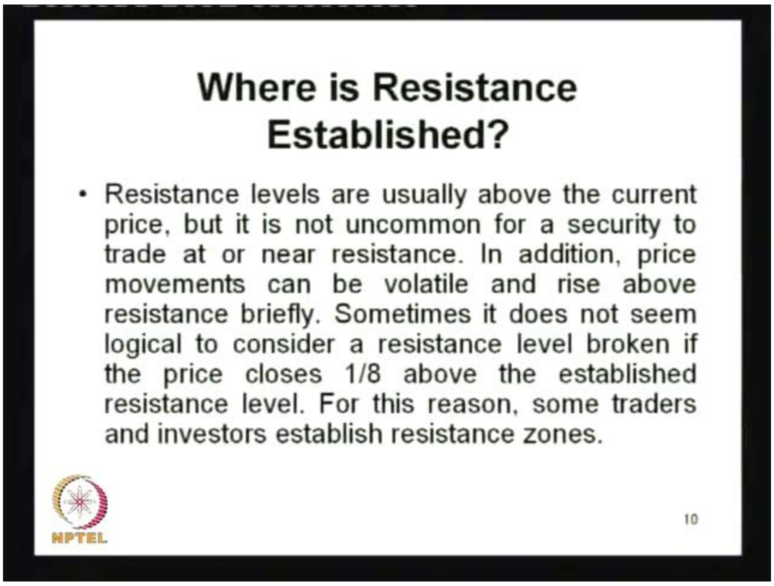

So, definitely the price may not go up further, unless there is no such kind of structural changes are happening or any kind of big changes are happening in the market and once according to the technical analyst, what generally they feel that, even if there is a structural change happening or there is a huge sense which is occurring in the financial market, still that will be reflected immediately in the stock price. If that will be reflected immediately in the stock price, then obviously the price fluctuation will not be that much or will not be enough to cover up or to break the resistance zone.

Therefore, most of the investors sometimes feel that instead of calculating or instead of drawing a resistance line, they should consider, they should act upon to identify a resistance zone and they will expect that in the future the prices will never exceed or never go beyond this resistance zone. So, this is the logic or this is the way how this resistance has been established in a particular, for a particular security in the financial market.

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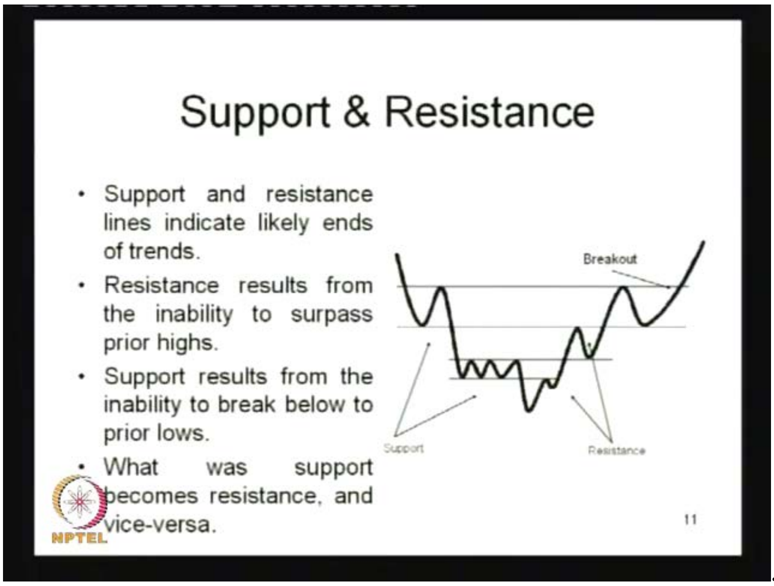

So, here if you see that this is your support and resistance line, so here if you see that this is the, upper curve is your resistance line and this lower, one basically if you see this is your here there is a resistance line in the beginning, first of all this is your support line, this is your resistance line, one sometimes we have seen across over the time period, we have, what we have seen that the price is moving and moving, that is why the new trends has been decided. So, this again it has become resistance line and this was the support line in the beginning, so sometimes what we have seen that this resistance line can also become a support line in the future if the same bullish trend will be prevailed in the market for a reasonably long period of time.

So, that is why here we have seen there is a break, so once the break has been prevailed here, so what generally we can see that one new one new line can be drawn on these or new resistance line can be drawn on these, where this investor can expect that the prices may go up further depending upon the price trend which was prevailed in the future, that is why the resistance result from the inability to surpass prior heights. Support results from the inability to break below the prior lows and what was the support becomes resistance and vice versa, so this kind of probability always happens in the market depending upon the trend analysis of that particular stock.

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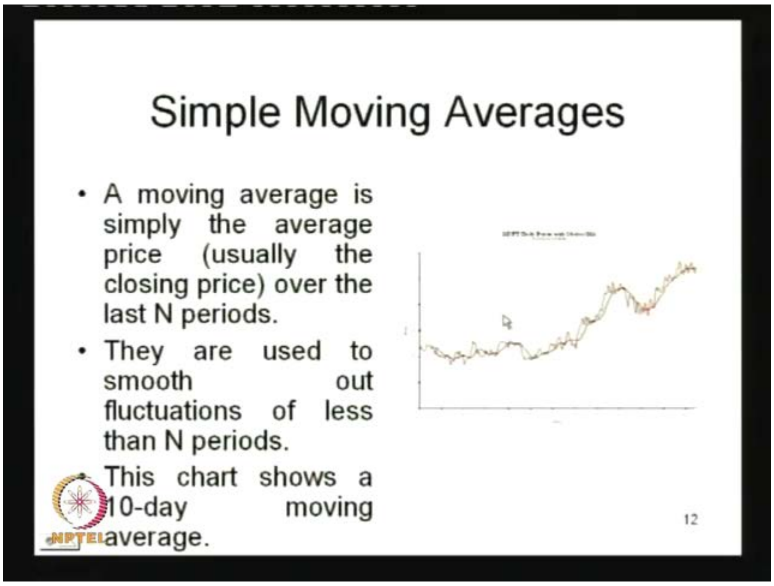

Then coming to the this second instrument, the another instrument what always we use, that is our moving average. There are various types of the moving averages generally we use in the market to take the decision or to analyze this price of the stock or to analyze the trends in the price of the stocks and we can say that when the price will go up and the when the price will go down.

But what exactly the moving average is? A moving average is basically the average price, usually the closing price over the last N periods, N is basically the number which cannot reflect the number of periods and they are used to smooth out fluctuations of less than N periods. This charts shows a 10 day moving averages, that a various types of the moving averages we have, it basically smooth out this fluctuations in this particular period. Here, if you see that one particular stock price is showing this behavior and we have drawn a trend line above that and you from these we can compare how this moving average line is behaving over these by adjusting this particular fluctuation in this particular stock price.

So, here what we have seen that, that if you talk about the 10 days closing price data and you plot it and you draw this moving averages line and here you have seen how these price trends is there and how the prices are fluctuating and depending upon the price fluctuation you can decide how particular the price of the stock is behaving over this particular period. So, this moving average line can be your 10 days moving average line, it can be of a 15 days moving average line, it can be also the 200 days moving average line and most of the market the 200 days moving average line is a very popular indicator to conclude or to take the decision in the market.

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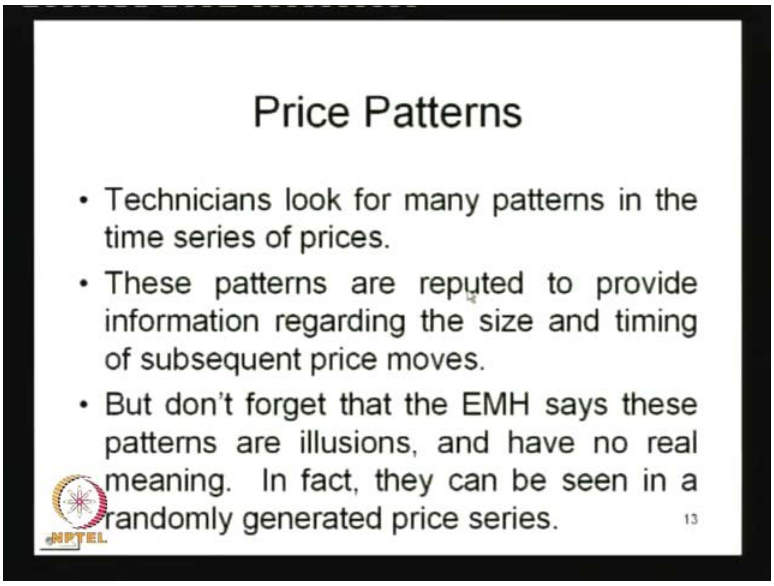

Then, another indicator is the price patterns, what basically the price patterns are. Always the technicians look for many patterns in the time series of the prices, these patterns are reputed to provide information regarding the size and timing of subsequent price moves. How the price will move in the future, what is the better timing to buy and what is the better timing to sell that can be exhaust that can be concluded from the price patterns of that particular stock. But one thing you should not forget, that the efficient market hypothesis says these patterns are illusions and have no real meaning.

Infact, they can be seen in the randomly generated price series; extensively we have discussed about this whenever you talk about the efficient market hypothesis. Here, what we have seen that, we find that the stock price does not follow any pattern or we can say by analyzing the past data, you cannot conclude something or you cannot take any decision regarding the future prices.

But, here, that is why this is efficient, the advocator of efficient market hypothesis basically assumes that the price behavior or the price patterns is basically an illusion and from there you cannot conclude anything, but the technical analyst are the strong believer of this price pattern and they generally conclude, they generally say by analyzing the price patterns we can say that how this particular stock is going to behave in the particular time period for the investors.

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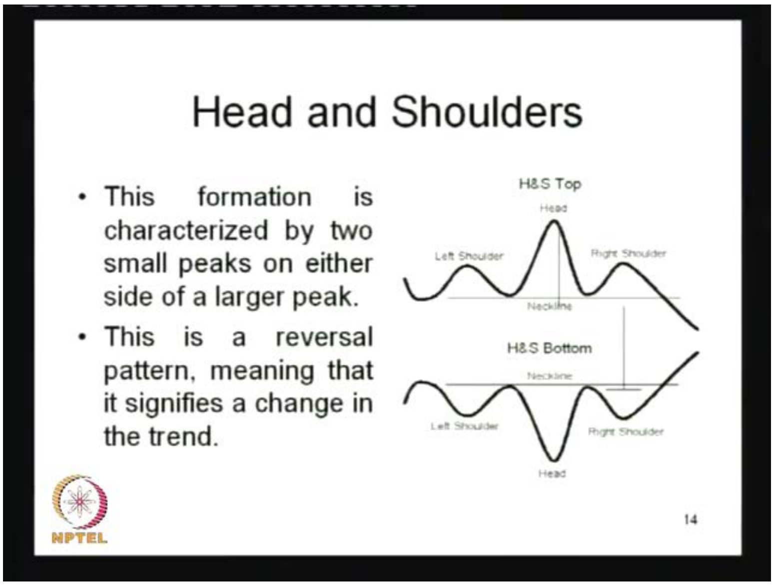

So, here, there are some of the indicators from this price patterns generally people use or the investors use, one of them is the basically the head and another is the soldiers. This is one of the approaches generally this investors use in the market to take a buying and selling decision. Here if you see, it is your it is the base line and if you see this is the price movement of this particular stock, here we have seen that there is a shoulder, here there is a there is a peak, there is a peak that is why we call it the soldiers and here there is a head.

So, if this particular trend will be prevailed or we call it the total graph or the total particular this particular figure is defined as the head and shoulder top, here there is a two small peaks and one, the larger peak and the two, small peaks are either side of the larger peaks. So, this trend if you observe, this is basically reversal pattern, meaning that yes it signifies a change in the trend. Here you have seen, here what you have seen that, here whenever we see that there is a price pattern or there is a left shoulder, there is a right shoulder and in between there is a top shoulder, definitely we can conclude from that, that there is a reversal pattern will be prevailed from this.

But here it is just opposite, here what we have seen, that two small peaks are above this head, so that is why this diagram is defined as the head and shoulder bottom. And what it basically shows that once this particular shoulder happens and the prices gone up, so that is why it definitely shows another reversal trend and we are expecting that the price will go up. And once it is here, what we can expect that again the price will go down.

So, that is why from this the investor can see that how this particular stock market will behave in a particular period, whether there is a head and shoulder top and the head and shoulder bottom and accordingly he can expect that whether the price will go up or the price will go down. So, once you can conclude that the expectation or the prediction about the price trend or change in the price, he can take the decision that when to whether we should sell the stock and whether we should buy the stock.

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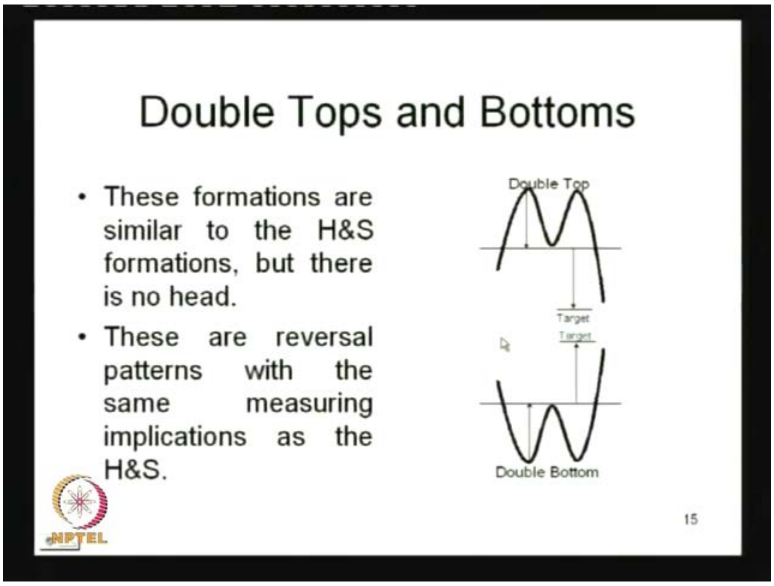

Another is your double tops and bottoms, what do you mean by this double tops and bottoms? These are basically the similar to the head and shoulder formations, but here there is no head, you can observe there is no head, here only one double top and here there are two double bottom. So, these are also shows this, again this reversal pattern with the same measuring implications as the head and shoulders, because this is your target, what generally we are expecting, so once this there are two tops here, we have seen that here the price movement is going down and we are expecting that again it will reach here.

Then finally again it will start increasing, but like that if there is, if the double bottom is happening, then the price will be here, then definitely we are expecting the price will go up and if you expect there is price will go up, so here if there is a double bottom situation, definitely the investor will be interested to buy the stock, because still there is a chance that the price may go up to certain level, which is more than the existing level.

Here, in this case what we have seen, that in the double top case, once it has double top and it has going down, so there is a chance that, there is a sure chance according to the technical analyst the price will go down. So, it is better once this price has reached this level, we should sell this stock at that particular movement, so this is basically defined as the double tops and the bottoms.

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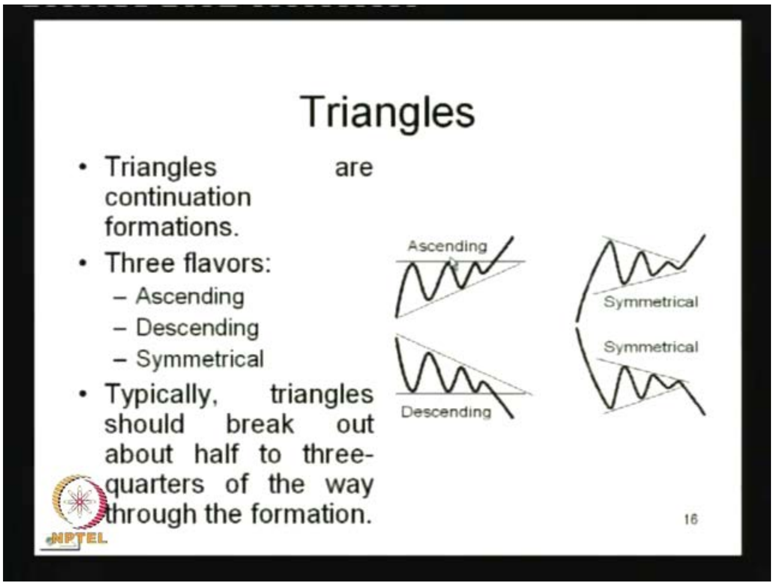

Then another type of instrument we use, that we called the triangles. Triangles are basically the continuous formations, if you plot these triangles in a particular stock price pattern of a particular security, then you will find these are the continuous formation.

There are three flavors, one is your ascending pattern, then one another are the descending pattern, then you have a symmetrical pattern. What basically this ascending, descending or symmetrical pattern shows, it shows the typically the triangle should break out about half to three quarters of the way through the formation. Typically the triangle should break out about half to three quarters of the way through the formation, so if this trend will prevailed, we are expecting that the price will go up and this trend is prevailing the prices go down and here there is a trading zone, always the price behavior is symmetrical.

So, here from this also, the investor always says that what to do with that particular stock, whether we should buy this or whether we should sell this.

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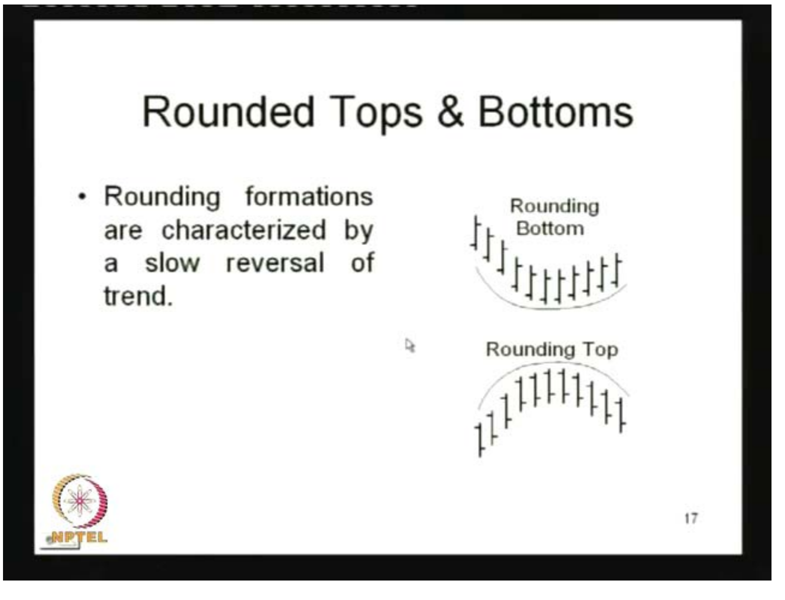

Then another type of instrument also we use, that is the rounded tops and the bottoms. What do you mean by this rounded tops and bottoms? If this kind of behavior we are or this kind of trend is reflected from that particular security prices, then we can characterize this as a slow reversal of the trend, you can observe here gradually this particular trend is going down and obviously again it is going up. So, here, it is definitely, what we can conclude here, slowly the price is going up. But here if you see, this price is slowly going down, so if this kind of pattern we will observe by particular stock, we are expecting that slowly it will go down in the near future, so that is why better to… Whenever if you talk about a rounding top, in the rounding top concept, it is better to sell the stock in this movement, there is no need to wait that whether the particular stocks should be bought in the near future.

But, here, if you talk about the rounding bottom, in this case, you can expect that the price will go up at least slowly after certain period. So, here, generally what you can see the reversal trend is reflected from this, but the slowly and we cannot see that definitely how fast this particular price is going to be changed, but clearly it shows that a trend is changing, if the trend is changing we can reflect from these or from the rounding bottom or the rounding top, then we can take any decision whether to buy it or sell it.

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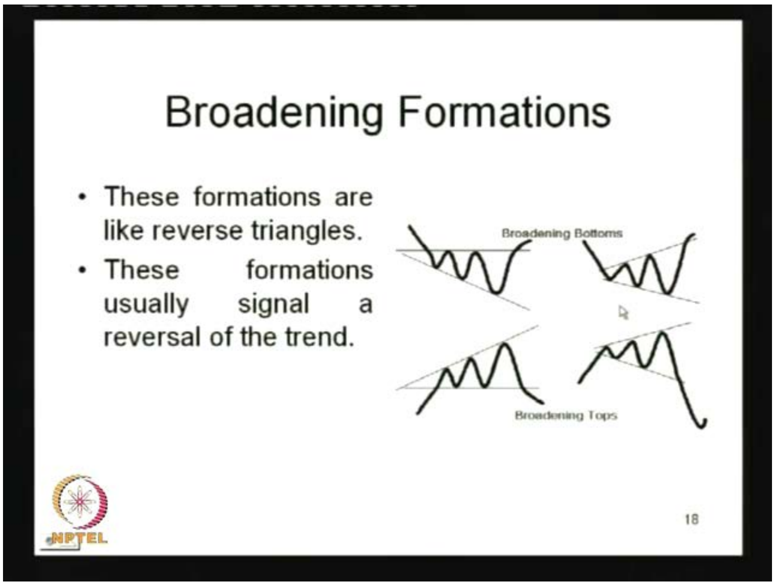

Then another thing is your broadening the formation, what this broadening the formation? Here, it basically are the just like the reverse triangles and this formations usually signal a reversal of the trend, any trend which is prevailing we are if this kind of shape we find of the broadening bottoms or broadening tops we will find, we are reflecting or we can conclude from there that there is a reversal trend will be happening in the near future.

For example, here if you see this particular price movement is like this, so here definitely you can observe that in the near future the price may go up. So, here again if it is going down, we are expecting this price go up, wherever it is going up, we are expecting that in the near future the price will go down. So, depending upon the shape of these particular charts, we can take the decision that whether we should buy this stock or we should sell this stock.

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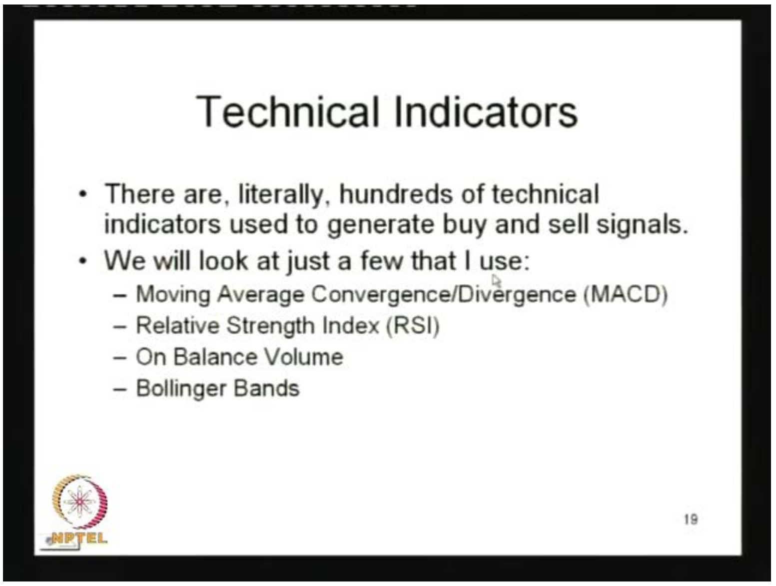

Then, there are some technical indicators we always use, that these are basically literally the 100s of technical indicators we have, are to know that or to generate the buy and sell signals in the market. That what generally basically always we use that this is the moving average convergence or divergence method, another one indicator are we called the relative strength index, then another one on balance volume, then another is the Bollinger bands.

These are very popularly used technical indicators in the market to know that whether we should buy the stock or whether we should sell the stock.

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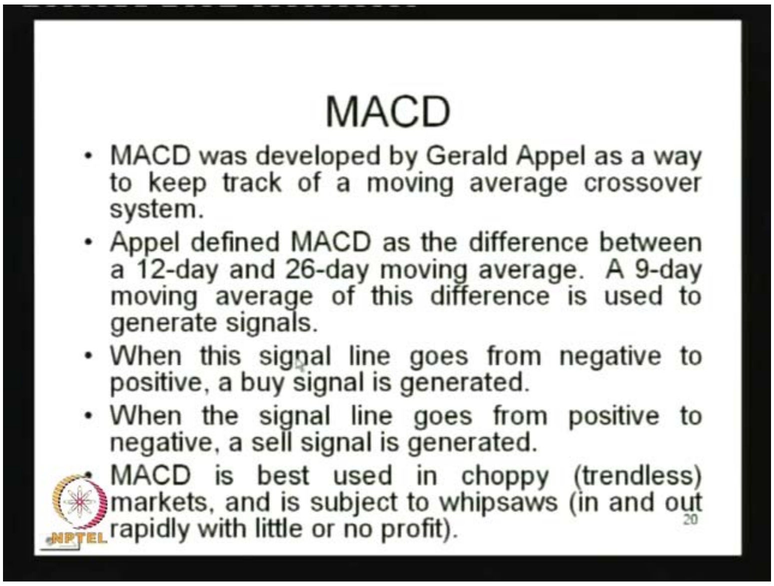

One by one if you see that this MACD, what generally this moving average is convergence or the divergence; here it is basically developed by the Gerald appel to keep track of a moving average cross over system, he has defined this MACD as the difference between a 12 day and 26 day moving average. The difference between the 12 day and 26 day moving average is defined as the MACD and a 9 day moving average of this difference is used to generate signals, when this signal lines goes from negative to positive, if the nine day moving average is going from negative to the positive, then a buy signal is generated, but when a signal line goes from positive to the negative, a selling signal is generated, which is very much definite in nature.

So, once we plot this, from there we can conclude according to the technical analyst approach whether we should sell it or whether we should buy it. MACD is the best, it is basically best used in choppy, basically the trendless market and is subject to whipsaws in and out rapidly with little or no profit. It is one of the popular method or popular indicator in the technical analysis, always we use to know that when we should sell and when we should buy.

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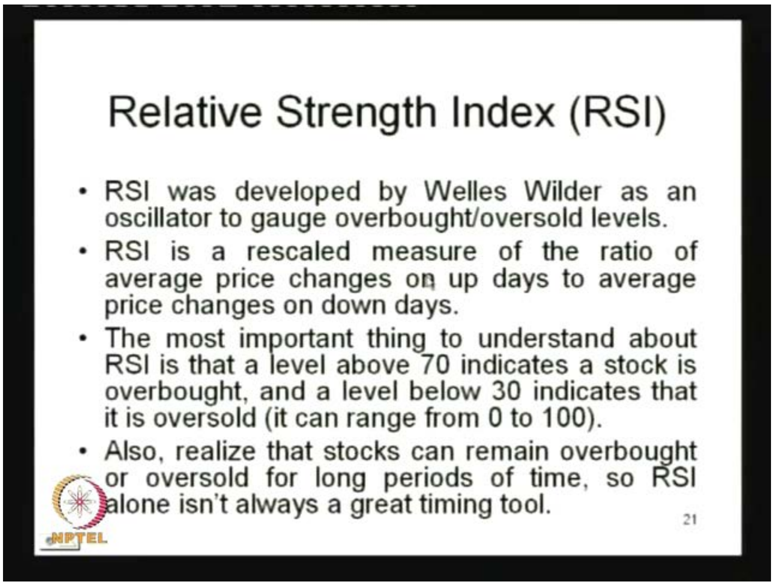

Then another thing is which is also very popular, which is called the relative strength index, very much definite in nature. What do you mean by this relative strength index and who was generally the advocator of this, it is basically the relative strength index was developed by wells wilder as an oscillator to gauge overbought or the overall sold levels.

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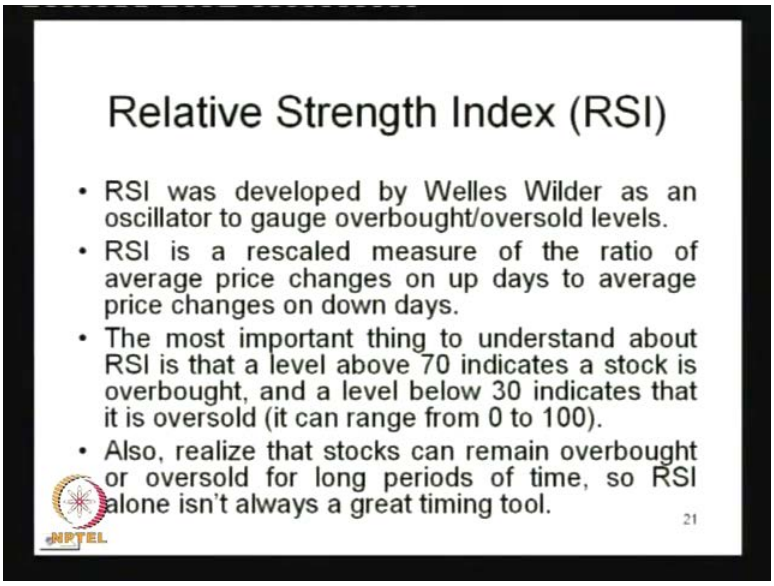

And the relative strength index is a rescale measure of the ratio of average price changes on up days to average price changes in down days, which is very definite in number.

That average price changes in the up days divided by the average price changes in the down days. Most important thing is to understand about the relative strength index is that, a level above 7 indicates the stock is overbought and a level below 30 indicates that it is oversold.

It can range from 0 to 100, also realize that stocks can remain overbought or oversold for a long period of time, so the related strength index alone is not always a great timing tool, but here what basically we see that whenever this is overbought or oversold, if it is overbought, that means demand of the stock is quite high, that means there is a chance the price will go up.

But once this thing particularly happening, so we have to see the trend whether there is a reversal trend is going to happen in this particular stock or still this investors are demanding this particular stock, that is why there is an overbought situation is prevailing in the market. So, because of that, generally sometimes we are in the confusion whether really it can be used as a tool or not,

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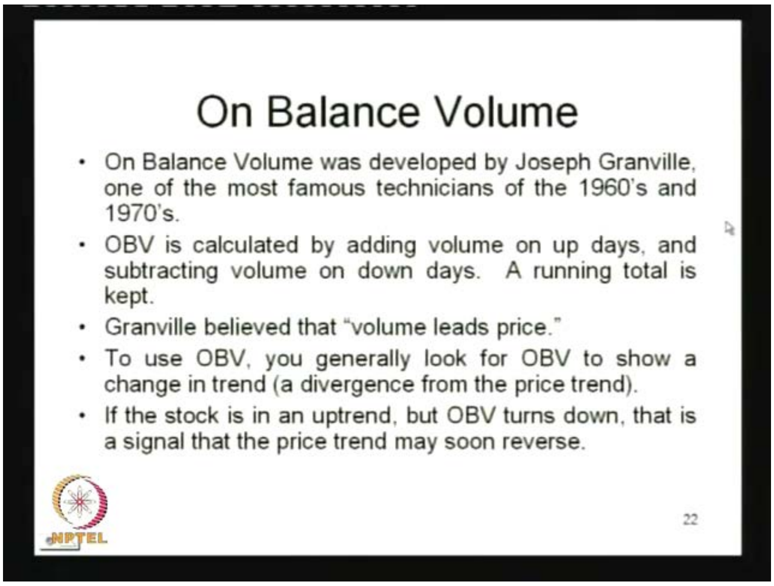

Then another indicator is basically the on balance volume, what basically the on balance volume is, on balance volume was developed by the Joseph Granville, he was one of the famous technicians in 1960s and 1970s, and this on balance volume is basically calculated by adding volume on up days and subtracting volume on down days and a running total is kept always.

And according to this Granville what he believes that volume leads price. If volume is more obviously this, we can expect that it will lead this price level of this particular asset. So, to use this on balance volume, what generally we generally do, we should look for the on balance volume to show change in trend, which is a divergence from the price trend and if the stock is on uptrend, but the unbalance volume turns down, that is a signal that price trend may soon reverse.

Here, if this the last point is use of C, it is quite important in this context what basically this on balance volume says. If the stock is an uptrend, you plot this particular diagram of this particular security prices and you are observing there is a uptrend, but this on balance volume turns down, that means the adding the volume on up days and minus the volume on down days it is going down, that signal, that the price trend may soon reverse.

That means, here what you have seen, in the previous case what we have seen, if we have seen that there is upper trend is the happening this or this particular stock, we are concluding from that or we are implicating from that particular signal, that the particular price may go up in the future. But whenever we compare with the on balance volume and we have seen there is a upward movement of the price, but there is a downward movement or the on balance volume is falling, then we are reflecting that in the near future the stock prices may not go up, the stock price may go down.

So, this is one of the innovative idea what this Granville was explained, that if you compare the price trend with the on balance volume, then it will be giving the more clear picture to the investor, that even if you are observing there is upward trend of this particular stock, still there is a chance in the near future the price may go down.

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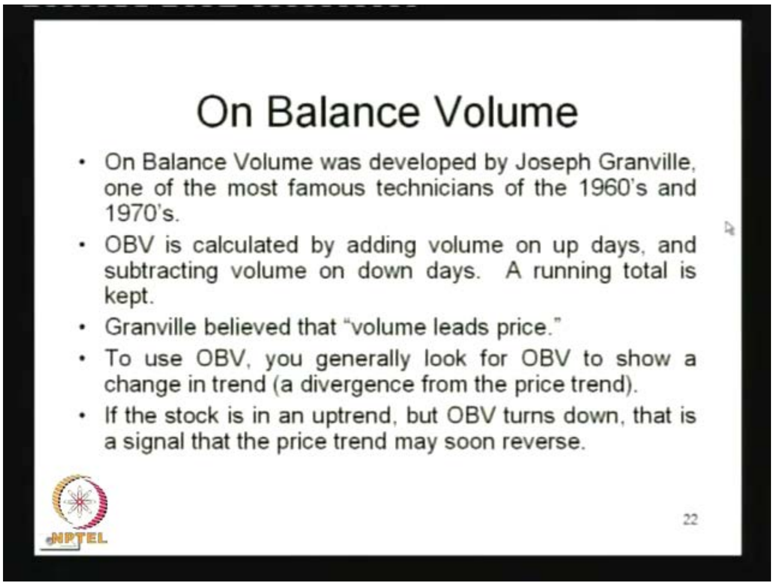

Then, the another one is the your Bollinger bands, what basically the Bollinger bands are. The Bollinger bands who are basically was basically developed by the john Bollinger, he was a technical analyst in FNN and regular guest on CNBC. And the Bollinger bands are based on a moving average of the closing price, there two standard deviation above and below the moving average. There is a measurement of the Bollinger bands, it the two standard deviations is above and below the moving averages. A buy signal is given when the stock price closes below the lower band and a sell signal is given when the stock price closes above the upper band.

When the bands contract, there is a signal that a big move is coming, but it is impossible to say if it would be up or down. The buy signals are far more reliable, then the sell signals, if you use this Bollinger bands as one of the techniques for the technical analysis here, if you observe one thing, what the Bollinger has done. Bollinger has tried to calculate this band by using the moving averages, in the previous slides what we have seen that moving averages is one of the methods which can be used to identify the trends in the stock prices.

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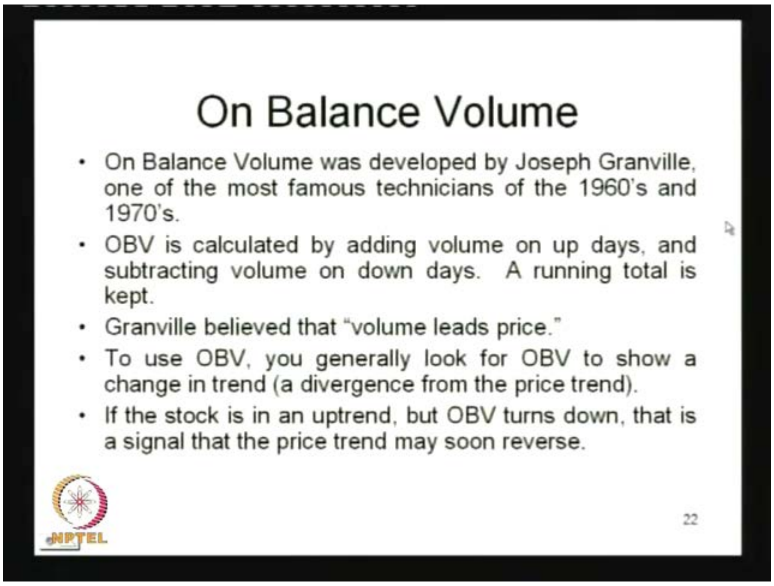

But, here, this Bollinger has calculated some of the indicator by using the moving average method and that indicator you can use or you can from, that indicator you can conclude that whether we should buy the stock or whether we should sell the stock. Then, what exactly here we do, here we do that, basically the Bollinger bands is nothing but, it is two standard deviations above and below the moving average. From there we can say that if a buy signal is, if you want to if you see that the stock prices closes below the lower band, that means there is expectation that the price will go up in the future, that is why you should buy the particular stock. But, if the stock prices closes above the upper band, that means already this upward movement is reflecting, so in the future we we can guess that the price may go down.

So, the Bollinger band can give you definite figure that if the stock price closes to this, then there is a probability that the price may go up and there is a probability that price may go down. So, by using the moving average method, is one of the technique through which we can identify the trends in the stock prices, here the Bollinger band explains that what is this definite point and above that this there is a buying signal and above and or at what level there is a buying signal and what level there is a selling signal.

So, here, what we have seen in practice, what always we see that the buy signals are far more reliable then the sell signals if you use this Bollinger bands. Another thing also we have seen that if they are the two bands contract, then we can see that there is something going to be, very big changes is going to be happen, there is something coming, very very big thing coming into this particular trend, but what is the trend that cannot be identified by the Bollinger band.

So, which is dilemma? Which is one of the limitations or we can say very confusing dilemma by the investor, that if that contract happens then what to do, because we cannot, the Bollinger band cannot conclude, whether the price is going down or there is an expectation that the price will go up. So, if that particular trend cannot be realized from there, then the Bollinger band cannot be used for that, so in that case there is one of the limitations we can say that if there is a contract between the two bands, then we cannot say that whether there is a upward movement of the stock or whether there is a downward movement of this particular stock. So, that is another conclusion or another phenomenon what you can draw from this Bollinger band.

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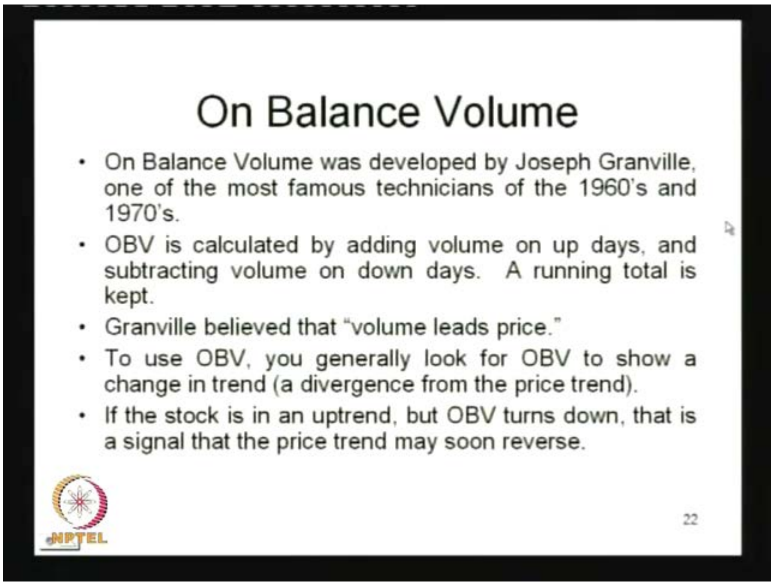

Then the famous theory what we discussed always is this technical analysis, that it is defined as the Dow Theory, basically the Dow Theory was first stated by the Charles Dow in a series of columns in this period of 1900 and 1902. Basically the Wall Street journal he was writing those columns Charles Dow is one of the very early technical analyst in the investment process and the investment in the in this area. So, Dow basically believed that the market trends, forecast trends in the economy, a change in the trend of the stock index must be confirmed by a change in the index in order to generate a valid signal. Very important in this case a change in the trend of the stock index must be confirmed by change in the trend in the index, in order to sense, in order to generate a valid signal, whether to buy this or sell this.

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So, Dow Theory has explained the three types of the trends, basically the two trends, but one, another one is the nor trend, it is basically the day to day fluctuation. What is this primary? They they fined as the primary trend and the secondary trend, what do you mean by the primary trend? Primary trend is basically the tide by Dow, this is the trend that defines the long term direction up to the several years and others are called this, the secular bull or the bear market.

Secondary trend will be prevailed, which is called as the waves by Dow, this is shorter term departure from the primary trend, it is basically the corrections which is happening in the market, which basically varies from weeks to months. And day to day fluctuations, which is not reflected in the day Dow theory, so Dow theory basically talks about the price fluctuations of at particular store up to the months, it can start from a year wise analysis, rate can go up to the weeks or the months.

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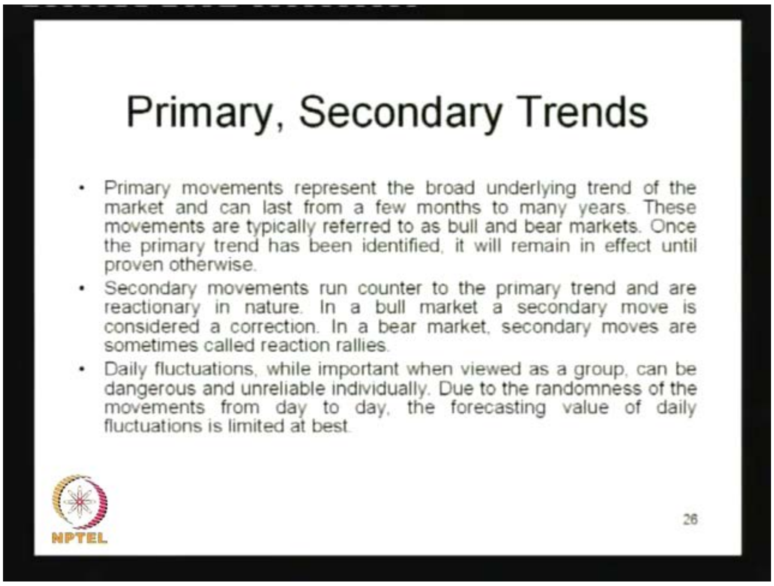

So, the primary movements basically what according to Dow represent the broad underlying trend of the market and can last from a few months to many years. These movements are typically referred to as bull or bear markets, once the primary trends has been identified, it will remain in effects until proven otherwise. If the primary trend is prevailing, then we can expect that whether it is a bullish trend or the bearish trend, this trend will be prevailing, will be prevailed in a particular time period in the market. For the reasonabe time period, you can the rely on that and accordingly you can take your decision in the market.

But, the secondary movements run counter to the primary trend and are reactionary in nature, because it generally it deals with the this samples, which are basically this the frequency of the data is more, so in a bull market, the secondary move is consider a correction, in a bear market, secondary moves are sometimes called reaction rallies. Already I told you, if it is a bull market, you are reflecting this, there is a secondary movement or that is secondary trend is prevailing, we are observing that what we have observed in the primary market is the second trend. If you observe that that in in case of bullish trend, we are observing there is a correction in the market, which is reflected in the shorter version of the time period, but if it is a bearish market, then the secondary moves are sometimes called the reaction rallies.

So, day fluctuations while important when viewed as a group can be dangerous and non replicable individually due to the randomness of the movements from day to day, the forecasting value of daily fluctuations is the limited at best. That means, the prediction of our using the daily data is little bit difficult in this trend analysis, but the Dow Theory has explained.

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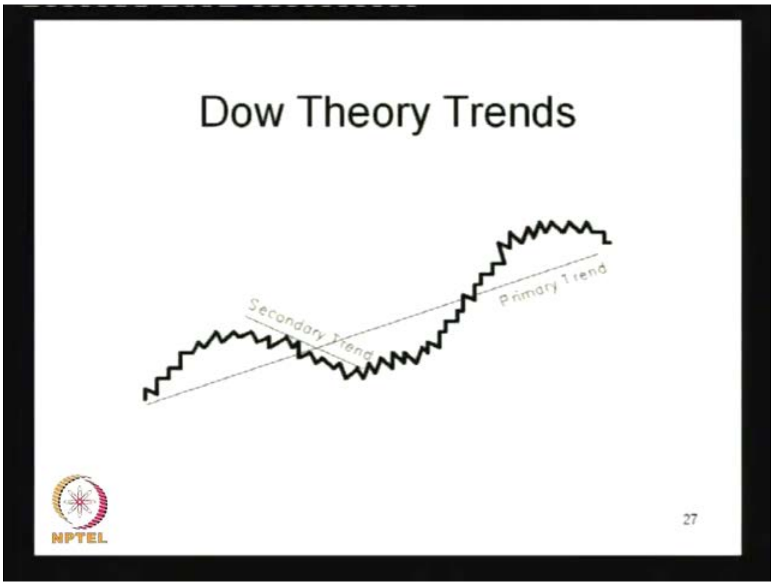

So, this is basically the Dow theory, this is your primary trend and this is your secondary trend, which is the already we told that if you take the this particular data, if you take a yearly data or little bit the data, what we can say that, we can say that little bit in the longer version of the data or the frequency of data is is little bit less.

We can say that, here we have seen that here there is a primary trend we can observe, but here if you see, once you reduce your time period or time slot, what we are observing that the there is a secondary trend movement and this is basically what according to do, this is basically the corrections which is happening, may be in the primary trend it is nullifying somewhere. So, this is the trend what Dow has explained in the 1900, that is why the technical analysis one of the oldest approach we use to take the decision in the market.

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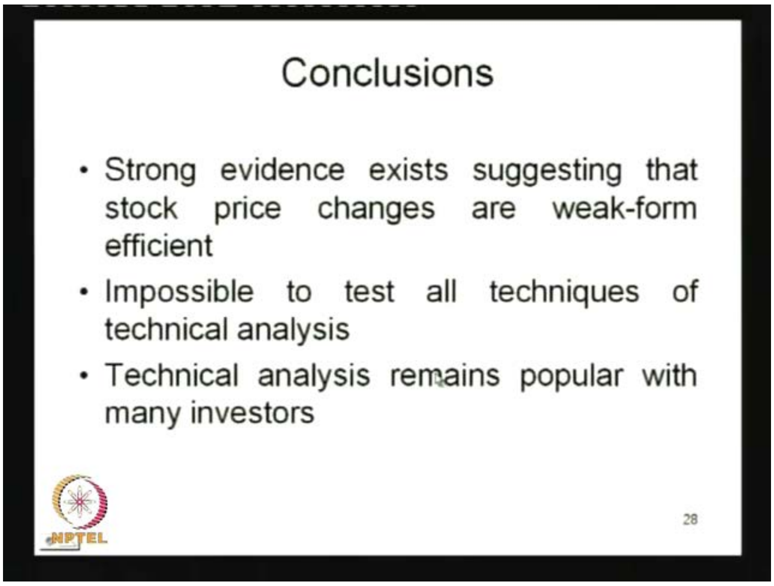

That is why if you conclude this, what we can say that there is strong evidence exists suggesting that stock price changes are weak-form efficient, but still if it we believe in this, then it is impossible to test all the techniques of technical analysis.

But still the technical analysis is quite popular with the investors, its speakers, it is convenient, it deterministic and as well as it can convince the investor in a very definite manner to conclude when to invest, when not to invest. So, in the coming sessions, we will be talking about the different aspects of the investment management, which deals with a portfolio theories and as well as the other things. But, today, what we have discussed is that, it basically this the first area of equity research, which in practice really the investors or the brokers or the consultant funds always use to take any investment decision in the financial market; thank you.