TECHNICAL ANALYSIS

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Technical Analysis:
Support and Resistance

- A **support** level is a price level at which there appears to be substantial buying pressure to keep prices from falling further
  - As the price declines towards support and gets cheaper, buyers become more inclined to buy and sellers become less inclined to sell. By the time the price reaches the support level, it is believed that demand will overcome supply and prevent the price from falling below support.
  - Support can be established with the previous reaction lows.
- A **resistance** level is a price level at which there appears to be substantial selling pressure to keep prices from rising further
  - As the price advances towards resistance, sellers become more inclined to sell and buyers become less inclined to buy. By the time the price reaches the resistance level, it is believed that supply will overcome demand and prevent the price from rising above resistance.
  - Resistance can be established with the previous reaction highs.

Technical Analysis:
Common Technical Price Patterns

Technical Analysis:
Support and Resistance

- Another principle of technical analysis is that support can turn into resistance and visa versa.
- Once the price breaks below a support level, the broken support level can turn into resistance. The break of support signals that the forces of supply have overcome the forces of demand. Therefore, if the price returns to this level, there is likely to be an increase in supply, and hence resistance.
- The other turn of the coin is resistance turning into support. As the price advances above resistance, it signals changes in supply and demand. The breakout above resistance proves that the forces of demand have overwhelmed the forces of supply. If the price returns to this level, there is likely to be an increase in demand and support will be found.

Technical Analysis:
Support and Resistance

Technical Analysis:
Congestion Area – Trading Range

- A **congestion area** occurs when prices move sideways, fluctuating up and down within a well defined range for a considerable time period
- A **congestion area** signals that the forces of supply and demand are evenly balanced.
  - When the price breaks out of the congestion area , above or below, it signals that a winner has emerged - A break above is a victory for the bulls (demand) and a break below is a victory for the bears (supply).
  - When the price breaks out of the congestion area by penetrating the support it is a signal to ***sell***.
  - When the price breaks out of the congestion area by penetrating resistance it is a signal to ***buy***.

Technical Analysis:
Congestion Area – Trading Range

Technical Analysis:
Support and Resistance Zones

- Because technical analysis is not an exact science, it is sometimes useful to create support and resistance zones.
- Sometimes, exact support and resistance levels are best, and, sometimes, zones work better.
- Generally, the tighter the range, the more exact the level.
- If the trading range spans less than 2 months and the price range is relatively tight, then more exact support and resistance levels are best suited.
- If a trading range spans many months and the price range is relatively large, then it is best to use support and resistance zones.
- These are only meant as general guidelines, and each trading range should be judged on its own merits.

Technical Analysis:
Support and Resistance Zones

Technical Analysis:
Support and Resistance

- Identification of key support and resistance levels is an essential ingredient to successful technical analysis.
- Even though it is sometimes difficult to establish exact support and resistance levels, being aware of their existence and location can greatly enhance analysis and forecasting abilities.
- If a futures contract is approaching an important support level, it can serve as an alert to be extra vigilant in looking for signs of increased buying pressure and a potential reversal.
- If a futures contract is approaching a resistance level, it can act as an alert to look for signs of increased selling pressure and potential reversal. **If a support or resistance level is broken, it signals that the relationship between supply and demand has changed.**
- A resistance breakout signals that demand (bulls) has gained the upper hand and a support break signals that supply (bears) has won the battle.

Technical Analysis:
Trend Lines

- Technical analysis is built on the assumption that prices trend.
- A common trading strategy is to identify a price trend and then go with the trend.
- A trend line is a straight line that connects periodic highs or lows on a price chart and then extends into the future to act as a line of resistance or support.
- Two common types of trend lines
  - Uptrend lines
  - Downtrend lines

Technical Analysis:
Uptrend Lines

- An **uptrend line** has a **positive slope** and is formed by connecting two or more low points. The second low must be higher than the first for the line to have a positive slope.
  - **Uptrend lines act as support** and indicate that net-demand (demand less supply) is increasing even as the price rises.
  - A rising price combined with 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 imminent.
- **When price falls below the uptrend line, this is a signal to sell or go short.**

Technical Analysis:
Uptrend Line

Technical Analysis:
Downtrend Lines

- A **downtrend line** has a **negative slope** and is formed by connecting two or more high points. The second high must be lower than the first for the line to have a negative slope.
  - **Downtrend lines act as resistance**, and indicate that net supply (supply less demand) is increasing even as the price declines.
  - A declining price combined with increasing supply is very bearish, and shows the strong resolve of the sellers.
  - As long as prices remain below the downtrend line, the downtrend is solid and intact.
  - A break above the downtrend line indicates that net-supply is decreasing and that a change of trend could be imminent.
- **When price breaks above the downtrend line, this is a signal to buy or go long.**

Technical Analysis:
Downtrend Line

Technical Analysis:
Trend Lines - Conclusions

- **The general rule in technical analysis is that it takes two points to draw a trend line and the third point confirms the validity.**
- It can sometimes be difficult to find more than 2 points from which to construct a trend line.
- Even though trend lines are an important aspect of technical analysis, **it is not always possible to draw trend lines on every price chart. Sometimes the lows or highs just don't match up, and it is best not to force the issue.**
- Trend lines can offer great insight, but if used improperly, they can also produce false signals
- **Trend lines should not be the final arbiter, but should serve merely as a warning that a change in trend may be imminent.**

Technical Analysis:
Double Tops or Bottoms

- Double tops or bottoms are frequently used to identify a price reversal.
- In an uptrend, the failure of prices to exceed a previous price peak on two occasions is considered a ***double top***.
  - This is a warning signal that the uptrend may be about to end and a downtrend to commence
  - However, the formation of a double top is not considered confirmed until falling prices penetrate the previous low from the above.

- A double bottom is just the mirror image of a double top.
- In a downtrend, the failure of prices to penetrate previous support levels on two occasions is considered a ***double bottom***.
  - This is a warning signal that the downtrend may be about to end and an uptrend to commence

Technical Analysis:
Double Tops

Technical Analysis:
Double Tops

- **Prior Trend**: In the case of the double top, a significant uptrend should be in place.
- **First Peak**: The first peak should mark the highest point of the current trend.
- **Trough**: After the first peak, a decline takes place that typically ranges from 10 to 20%.
- **Second Peak**: The advance off the lows usually occurs with low volume and meets resistance from the previous high. Resistance from the previous high should be expected. Usually a peak within 3% of the previous high is adequate.
- **Decline from Peak**: The subsequent decline from the second peak should witness an expansion in volume and/or an accelerated descent, perhaps marked with a gap or two.
- **Support Break**: Breaking support from the lowest point between the peaks completes the double top. This too should occur with an increase in volume and/or an accelerated descent.
- **Support Turned Resistance**: Broken support becomes potential resistance and there is sometimes a test of this newfound resistance level with a reaction rally. Such a test can offer a second chance to exit a position or initiate a short.
- **Price Target**: The distance from support break to peak can be subtracted from the support break for a price target. This would infer that the bigger the formation is, the larger the potential decline.

Technical Analysis:
Double Bottoms

Technical Analysis:
Double Bottoms

- **Prior Trend**: In the case of the double bottom, a significant downtrend should be in place.
- **First Trough**: The first trough should mark the lowest point of the current trend.
- **Peak**: After the first trough, an advance takes place that typically ranges from 10 to 20%.
- **Second Trough**: The decline off the reaction high usually occurs with low volume and meets support from the previous low. Support from the previous low should be expected. While exact troughs are preferable, there is some room to maneuver and usually a trough within 3% of the previous is considered valid.
- **Advance from Trough**: Volume is more important for the double bottom than the double top. There should be clear evidence that volume and buying pressure are accelerating during the advance off of the second trough.
- **Resistance Break**: Breaking resistance from the highest point between the troughs completes the double bottom. This too should occur with an increase in volume and/or an accelerated ascent.
- **Resistance Turned Support**: Broken resistance becomes potential support and there is sometimes a test of this newfound support level with the first correction. Such a test can offer a second chance to close a short position or initiate a long.
- **Price Target**: The distance from the resistance breakout to trough lows can be added on top of the resistance break to estimate a target. This would imply that the bigger the formation is, the larger the potential advance.

Technical Analysis:
Double Tops and Bottoms

- 60-70% reliable
- Frequently seen in grains and livestock commodities
- On 2 consecutive days or across several weeks

Technical Analysis:
Head-and-Shoulders Tops or Bottoms

- Head-and-Shoulders formations are among the most frequently used technical patterns for identifying a price reversal.
- Head-and-Shoulders formations consist of four phases:
  - The left shoulder
  - The head
  - The right shoulder
  - The penetration of the neckline
- A head-and-shoulder reversal pattern is complete only when the neckline is penetrated, either in an upward or downward direction.
  - **Head-and-Shoulder top**: The formation is complete when price penetrate the neckline from above indicating a **reversal from a uptrend to a downtrend**.
  - **Head-and-Shoulder bottom**: The formation is complete when price penetrate the neckline from below indicating a **reversal from a downtrend to an uptrend**.

Technical Analysis:
Head-and-Shoulders Top

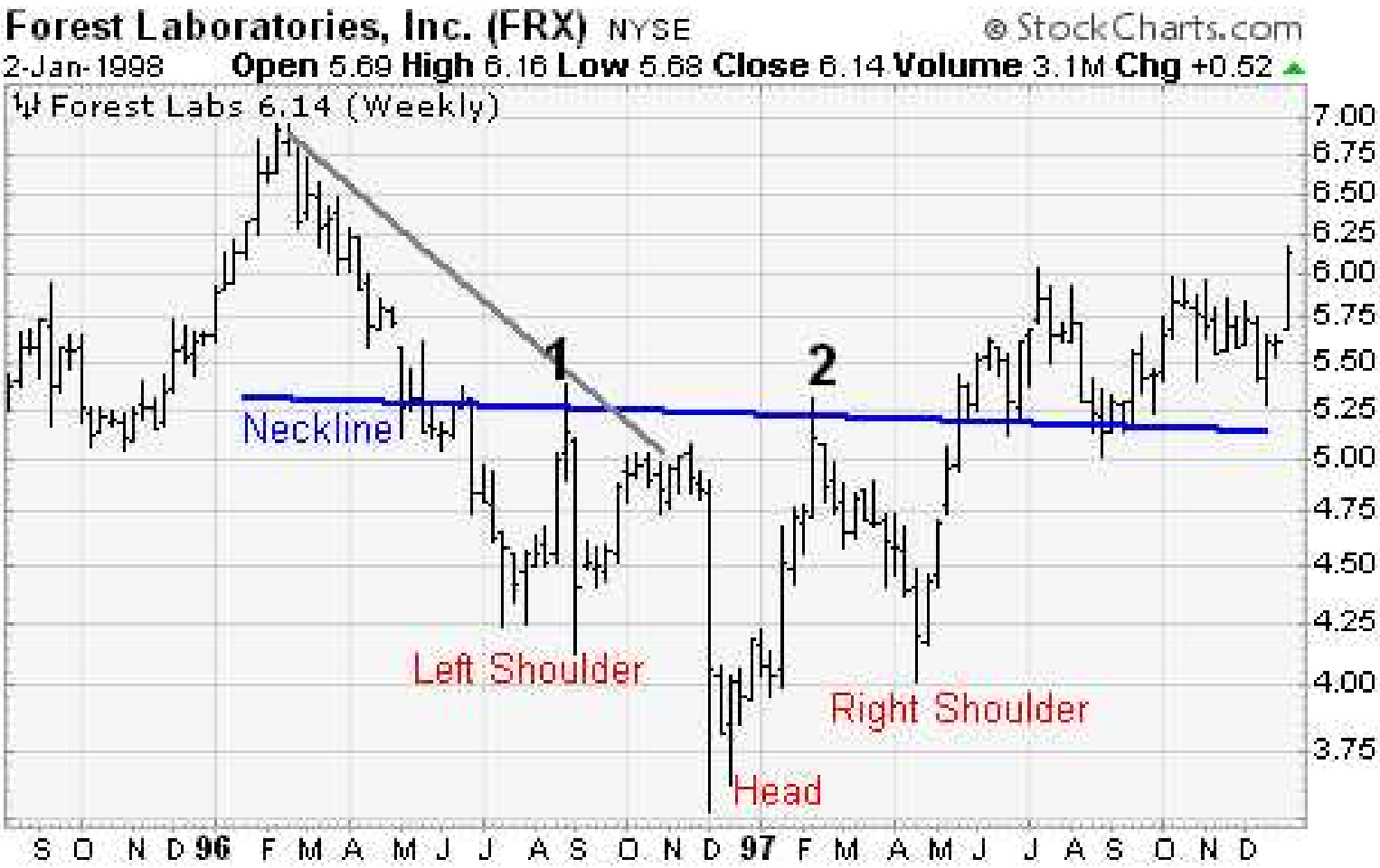
Technical Analysis:
Head-and-Shoulders Tops

- **Prior Trend**: Without a prior uptrend, there cannot be a Head and Shoulders reversal pattern.
- **Left Shoulder**: While in an uptrend, the left shoulder forms a peak that marks the high point of the current trend. After making this peak, a decline ensues to complete the formation of the shoulder (1). The low of the decline usually remains above the trend line, keeping the uptrend intact.
- **Head**: From the low of the left shoulder, an advance begins that exceeds the previous high and marks the top of the head. After peaking, the low of the subsequent decline marks the second point of the neckline (2). The low of the decline usually breaks the uptrend line, putting the uptrend in jeopardy.
- **Right Shoulder**: The advance from the low of the head forms the right shoulder. This peak is lower than the head (a lower high) and usually in line with the high of the left shoulder. While symmetry is preferred, sometimes the shoulders can be out of whack. The decline from the peak of the right shoulder should break the neckline.
- **Neckline**: The neckline forms by connecting low points 1 and 2. Low point 1 marks the end of the left shoulder and the beginning of the head. Low point 2 marks the end of the head and the beginning of the right shoulder. Depending on the relationship between the two low points, the neckline can slope up, slope down or be horizontal.

Technical Analysis:
Head-and-Shoulders Tops

- **Volume**: As the Head and Shoulders pattern unfolds, volume plays an important role in confirmation. Ideally, but not always, volume during the advance of the left shoulder should be higher than during the advance of the head. This decrease in volume and the new high of the head, together, serve as a warning sign. The next warning sign comes when volume increases on the decline from the peak of the head. Final confirmation comes when volume further increases during the decline of the right shoulder.
- **Neckline Break**: The head and shoulders pattern is not complete and the uptrend is not reversed until neckline support is broken. Ideally, this should also occur in a convincing manner, with an expansion in volume.
- **Support Turned Resistance**: Once support is broken, it is common for this same support level to turn into resistance. Sometimes, but certainly not always, the price will return to the support break, and offer a second chance to sell.
- **Price Target**: After breaking neckline support, the projected price decline is found by measuring the distance from the neckline to the top of the head. This distance is then subtracted from the neckline to reach a price target. Any price target should serve as a rough guide, and other factors should be considered as well. These factors might include previous support levels, Fibonacci retracements, or long-term moving averages.

Technical Analysis:
Head-and-Shoulders Bottom



Technical Analysis:
Head-and-Shoulders Bottoms

- **Prior Trend**: Without a prior downtrend, there cannot be a Head and Shoulders Bottom formation.
- **Left Shoulder**: While in a downtrend, the left shoulder forms a trough that marks a new reaction low in the current trend. After forming this trough, an advance ensues to complete the formation of the left shoulder (1).
- **Head**: From the high of the left shoulder, a decline begins that exceeds the previous low and forms the low point of the head. After making a bottom, the high of the subsequent advance forms the second point of the neckline (2).
- **Right Shoulder**: The decline from the high of the head (neckline) begins to form the right shoulder. This low is always higher than the head, and it is usually in line with the low of the left shoulder. When the advance from the low of the right shoulder breaks the neckline, the Head and Shoulders Bottom reversal is complete.
- **Neckline**: The neckline forms by connecting reaction highs 1 and 2. Reaction High 1 marks the end of the left shoulder and the beginning of the head. Reaction High 2 marks the end of the head and the beginning of the right shoulder. Depending on the relationship between the two reaction highs, the neckline can slope up, slope down, or be horizontal.

Technical Analysis:
Head-and-Shoulders Bottoms

- **Volume**: While volume plays an important role in the Head and Shoulders Top, it plays a crucial role in the Head and Shoulders Bottom. Without the proper expansion of volume, the validity of any breakout becomes suspect.
  - Volume on the decline of the left shoulder is usually pretty heavy and selling pressure quite intense.
  - The advance from the low of the head should show an increase in volume
- **Neckline Break**: The Head and Shoulders Bottom pattern is not complete, and the downtrend is not reversed until neckline resistance is broken. For a Head and Shoulders Bottom, this must occur in a convincing manner, with an expansion of volume.
- **Resistance Turned Support**: Once resistance is broken, it is common for this same resistance level to turn into support. Often, the price will return to the resistance break, and offer a second chance to buy.
- **Price Target**: After breaking neckline resistance, the projected advance is found by measuring the distance from the neckline to the bottom of the head. This distance is then added to the neckline to reach a price target. Any price target should serve as a rough guide, and other factors should be considered, as well.

Technical Analysis:
Head-and-Shoulders Tops or Bottoms

- 70-80% reliable in terms of significant move after neckline is broken
- Time required to complete can be days or up to several weeks
- Frequently seen in grains and livestock commodities
- Easy to recognize
- Low trading volume on each side of the “head” confirms the formation