

**Price NEAR the Median Line
What are the Probabilities?**

By Greg Fisher

Median-Line-Study.com

Median Line Study: Price NEAR the Median Line What are the Probabilities?

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One must always appreciate and acknowledge the work of giants who create and build upon knowledge in any field or area. Dr. Alan Andrews discovered the Median Line method of technical analysis of the markets and gave much credit to Roger Babson with applying Newton's theory of action and reaction to the financial markets. Roger Babson and Dr. Alan Andrews are the giants whose work lives on today.

One must also appreciate and acknowledge the work of those who graciously build upon and pass on knowledge in any field or area. My appreciation goes out to Gordon DeRoos and Timothy Morge for passing along the work and knowledge base of the Median Line method. Mr. DeRoos has been a gracious and patient teacher of the Median Line method to me and many others. His work and talent to teach has spurred continued interest in a very fascinating technique. Mr. Morge's extensive study of the method and willingness to share his knowledge has also spurred continued interest. His work has brought together a group of passionate Median Line students and traders who graciously share their ideas that have helped build my foundation of understanding as well.

I wish to thank my wife for putting up with endless hours of me staring at price chart after price chart. Her support and understanding has been a priceless asset to me.

I wish to thank my children for giving me the inspiration to write this book. I hope that in doing so, they see that anything is possible.

PART I

Introduction

History of the Median Line

Dr. Alan H. Andrews developed a trend line technical market analysis tool called the Median Line method, more commonly known today as “Andrews’ pitchfork”. Andrews reportedly made over a million dollars in a few years back in the 1920’s trading commodity futures after graduating from MIT with a degree in engineering. Andrews credited Roger Babson with the idea of applying Newton’s third law of motion to economics as the basis for much of his work. Babson graduated from MIT with a degree in engineering in the late 1800’s. Babson soon began work on adapting Newton’s law, “For every action, there is an equal and opposite reaction”, to the financial markets.

Later in life, Andrews created a course entitled the “Action-Reaction Course”. The Andrews course sold for \$1,500 in the 1960’s and 1970’s. The course was 60 pages in length and used a case study approach. Andrews stated in his course:

“...drawing a single line will enable you to know where the price of any stock or any future is now headed and the probable time it will reach there.”

~ Dr. Alan Andrews, *Action-Reaction Course*

Andrews called the line the Median Line – a line drawn on a price chart after three alternative pivots in price occur. The original course can be somewhat difficult to interpret, and not many who have encountered the method understand its application. However, tools for “Andrews’ pitchfork” can be found in many of today’s trading software. Several sources with basic information concerning the Median Line method can be found on the internet. But, what exactly is the method suppose to reveal? Andrews stated the method would:

“...enable the user to be one of the few who can tell where the prices are headed, and the place they will reach about 80% of the time, and when approximately that place will be reached.”

~ Dr. Alan Andrews, *Action-Reaction Course*

Andrews also stated in his course that not only was there a high probability price would reach the line, but a change in trend often occurred at or near the line. Do prices always return to the Median Line with that kind of accuracy, or do different conditions affect its accuracy? What is the probability of prices reversing at or near the line and changing direction? Has market behavior changed since the 1960's? Is market behavior different now than it was in the 1920's? Wouldn't that be a powerful thing to know?!!!

Is the Median Line Method Outdated?

Traders such as Andrews in the "pre-computer" era hand charted many commodities or securities often receiving charts in the mail only once a week. Traders would update the charts by filling in the price bars and using simple techniques such as trend lines to get a feel for the market.

Today's computers have made a variety of indicators derived from complicated mathematics accessible to technical traders. The indicators are designed to give the trader an idea of where prices could be headed and when a trend will end or begin based on price history. Today, many traders watch live data streamed to their computer and evaluate market action as it unfolds.

With today's technological advances, are the trend line techniques of the old days outdated and no longer useful? Have the markets advanced beyond the ability to use trend line methods such as the Median Line to gauge market movement?

Why Study the Median Line?

On the way to receiving an MBA, I read of the "random walks" of prices, and "efficient markets". The theories are based on the idea that the prices of securities reflect all information currently available, and prices adjust quickly and accurately. The theories, if correct, would effectively dismiss any sort of "edge" gained by technical analysis. Interestingly enough, the ideas became popular around the time Andrews offered his course. More recently, the idea of "behavioral finance" has risen to the scene, which suggests human emotions are factored into market behavior. Can you say

“fear” and “greed”? Are investors and traders rational or irrational? I don’t think that one will be answered for a while. Does it matter?

I was first introduced to the Median Line before learning of the theories listed above. Because the simplicity of the method intrigued me, I decided to write a basic research paper/empirical study on the Median Line method for an independent study course.

I decided to put the Median Line to the test. I wanted to know if today’s markets behave similarly to the markets of 40 years ago. Do prices return to the Median Line 80% of the time? What did I find? Giving the results of my work does you no good. Why? Because the conditions placed on a particular issue must be understood BEFORE a logical conclusion can be reached.

“When we speak of any scientific law, we mean a statement that a relationship has been observed among certain given conditions. We mean “if these conditions now, then those conditions follow, and can be expressed mathematically”. We have “order” through which we can know the outcome from these conditions. We can therefore take advantage of this knowledge, and thereby progress and profit.”

~ Dr. Alan Andrews, Action-Reaction Course

What are the different conditions behind applying the Median Line to a price chart?

To name a few of the basic and more obvious conditions:

1. From which pivots on the chart is the Median Line drawn?
2. The different markets themselves – do all of today’s markets act similarly?
3. The time frame being studied – monthly, weekly, daily, intra-day charts. Does it matter?

Good questions.

Let’s find out!

at

Median-Line-Study.com

**You now have an opportunity to prove to yourself the probabilities of price acting according to the observations Andrews made concerning the Median Line!
Read on!**

The Study

"I hear and I forget. I see and I remember. I do and I understand."

~ Chinese Proverb

Using the method I developed during my research, I created a simple Median Line study. The objective of the study is to provide a step-by-step process for you to determine the probabilities of price acting according to the basic observations set forth in Andrews' original course material concerning the Median Line. The objective is NOT to provide an in-depth analysis of all of Andrews' techniques, but a straight-forward study of the foundation of his work – the Median Line. The method can be applied to any of the financial markets such as individual stocks and futures. The markets are a game of probabilities. Thinking in terms of probabilities will enhance the trader's ability to play the game. Andrews definitely thought in terms of probability. In fact, in the chart-filled 60-page original course, the word "probability" shows up about 40 times! The following illustrates Andrews' view of probability and how it relates to the markets:

“While it is true that few things are certain to happen in the future at a definite time such as the time that a certain person will die in the future, this mathematical probability has made tremendous profits for the insurance concerns that use it, as well as similar profits for investing individuals who employed it.”

~ Dr. Alan Andrews, Action-Reaction Course

Every trader has their own way of interpreting data. We are all unique in how we see things and how we process what we see. Only by DOING can we truly understand. You can read all the information you can find on the Median Line method, but until you put pencil to paper or finger to mouse (computer that is), you will not truly understand. I know - I have been there.

**If you do not know what to believe –
believe in what you can prove to yourself!!!**

Requirements

When I conducted the study, I decided to use the method as intended - SIMPLE. A few pencils, a straight-edge and quite a little time behind price charts were the inputs necessary.

To conduct the study, access to price charts either from charting software or free charts available on the internet or other sources can be used. Many charting software packages have “Andrews’ pitchfork” as a drawing tool. For those of you who are not familiar with the term, the pitchfork is so named because its three parallel lines resemble a farmer’s pitchfork. The Median Line is the center line of the “pitchfork”. If you have experimented with or use “Andrews’ pitchfork”, I recommend you put the “fork” aside and focus only on the Median Line.

All you need is access to price charts, a few pencils, a straight-edge, and a willingness to learn. If you have access to charting software, it will more than likely have all the tools you need to conduct the study. The beauty of the Median Line is its simplicity. You do not have to be an engineer or a mathematician to apply the Median Line to price charts. Andrews did not have access to the fancy software packages that are available today. He did it the old-fashioned way!

Remember to come back and visit us at:

Median-Line-Study.com

Where members can submit the results of the studies they conduct, as well as have access to the accumulated results of all members.

Ready?

Let’s get to work!

PART II

The Median Line

The Median Line – A Definition

The creation of the Andrews' Median Line is quite simple, but first a definition of the terms involved is in order.

“Median Line (ML) – Used to signal change in trend when price touches or pass these lines, under specified conditions.

Pivot (P) – a turning point. It is the extreme on a bar chart where a change in trend takes place.”

~ Dr. Alan Andrews, *Action-Reaction Course*

To draw Andrews' Median Line, first identify three consecutive, alternative pivots on a price chart. Remember, pivots are extreme prices on a chart where a change in trend takes place.

The pivots used to create the Median Line follows the sequence: **high, low, high** or a **low, high, low**. To draw the Median Line:

STEP 1. Label the pivots in sequence P0, P1, P2

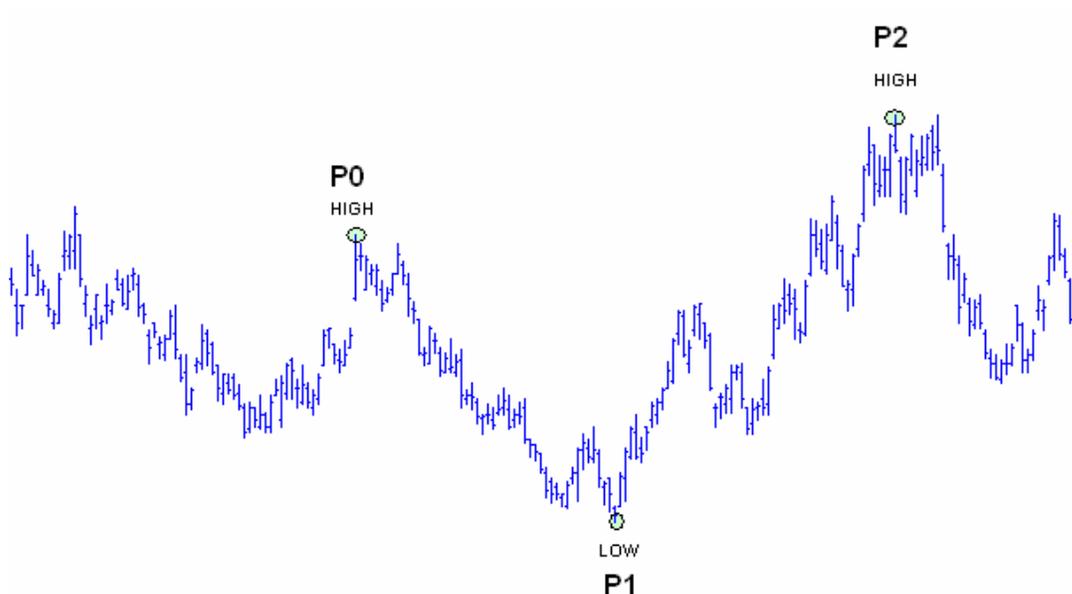


Figure 1. Identifying and labeling pivots.

STEP 2. Find and mark the midpoint of line P1-P2 with a dot or an “X”. If you are drawing the Median Line by hand, simply use a ruler to draw a light line between P1 and P2, and identify the mid-point between P1 and P2. Erase the line after you mark the midpoint with a dot or an “X”.

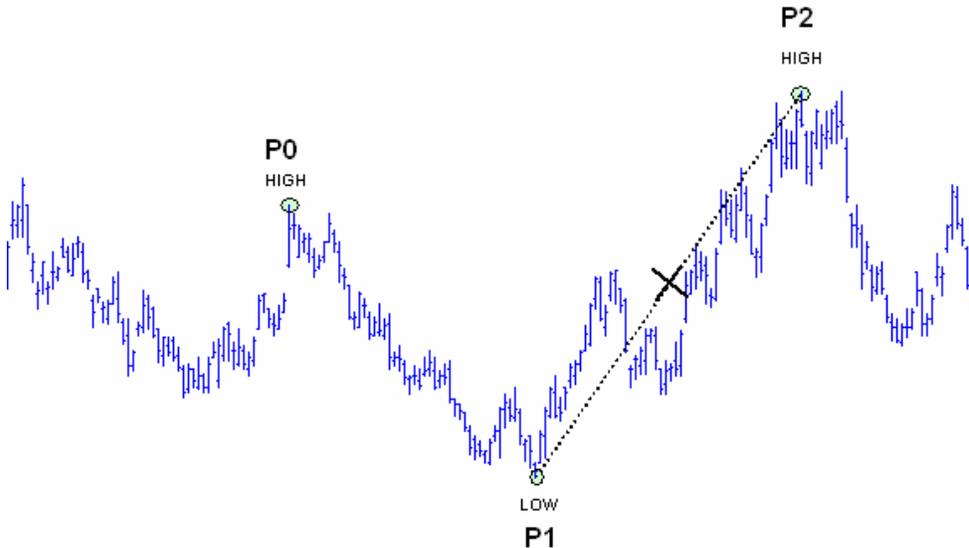


Figure 2. Finding the mid-point of P1 and P2 with a ruler.

If you have access to charting software, the mid-point can be found by drawing a line from P1 and P2 and by using a 50% tool or Fibonacci retracement tool, by starting at P1 (0%) and ending at P2 (100%), the 50% line will intersect the line between P1 and P2 at the midpoint. Mark the midpoint with a dot or an “X”. Erase the line and 50% tool.

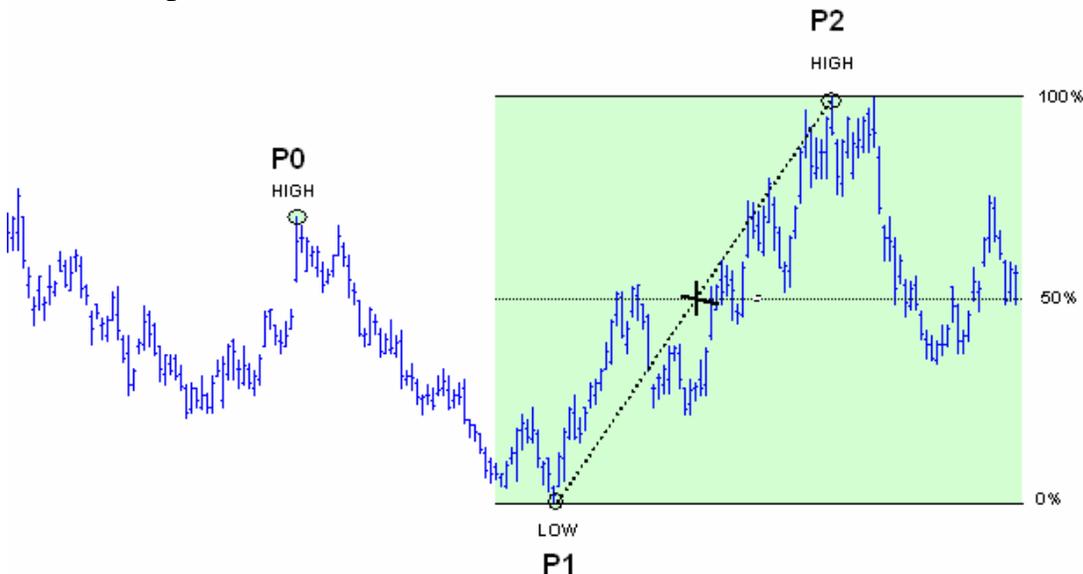


Figure 3. Finding the mid-point of P1 and P2 with charting software.

STEP 4. Draw a line from P0 through the midpoint between P1 and P2 and extend the line. This is the Median Line.

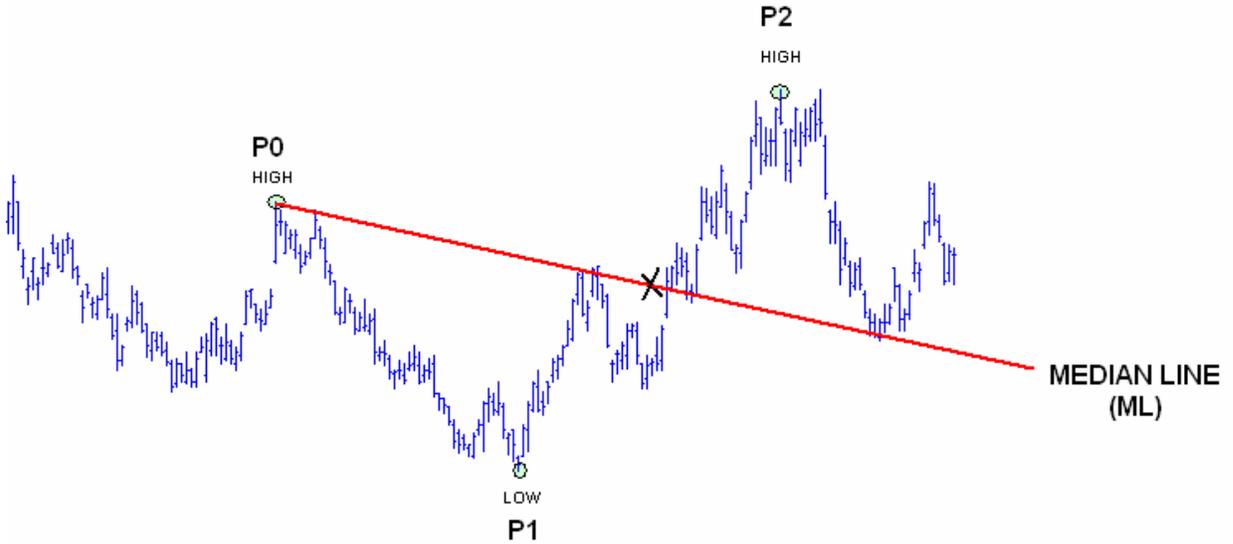


Figure 4. Drawing the Median Line.

The Median Line is complete. It is really that simple! The Median Line is described by referring to the pivots used to create it. For example, the Median Line drawn from P0, P1, and P2, is referred to as P0 ML P1-P2. As more ML's are drawn on the same chart the ability to distinguish between them is important. The above is a down-sloping Median Line. The figure below illustrates an up-sloping Median Line. Dr. Andrews stated there is a high probability that prices will return to the Median Line, and a high probability prices will change trend near the Median Line. Will it here?

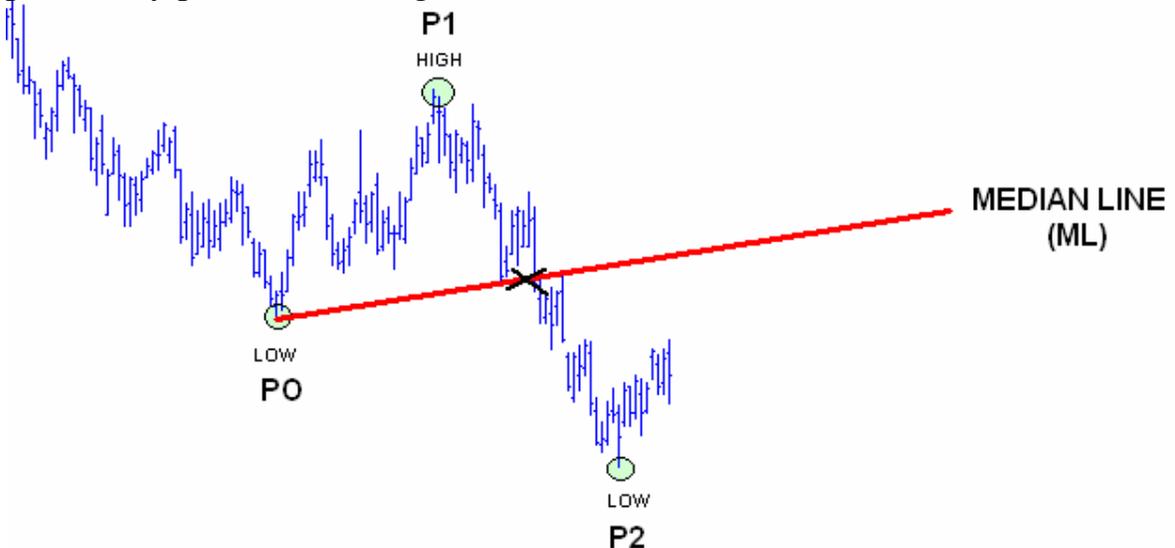


Figure 5. Drawing an up-sloping Median Line.

Defining Pivots and Trend lines

Now you know how to draw the Median Line. Now, how do we determine the proper pivots to anchor the Median Line? This is an often asked question, and the first difficulty imposed by the method. In hindsight, pivots are fairly easily identified on a chart by clear changes in trend. But in real-time, what are the IMPORTANT pivots? Many methods can be used to determine important pivots. Personal preference after much PRACTICE and OBSERVATION is often the best.

Major pivots and minor pivots occur on price charts. For the purposes of this basic study we will be concerned with pivots which are true reversals in trend – prices go up, stop, and head back down, or prices go down, stop, and head back up. Major reversal pivots are typically very noticeable changes in price direction that occur at the beginning of a price trend and are typically easy to spot when studying past price data. Minor pivots occur within a price trend due to price fluctuations and are not as easy to “see”. For the purpose of simplicity, major pivots will be the focus of this study. The easiest way to determine major pivots on price charts is by using basic trend lines.

A trend line is an indication of levels of support and resistance. Trend lines are helpful in determining acceptable valuation levels based on the perception of the market players. As the perceptions of value change, the support and resistance levels created by trend lines can be penetrated. Penetration of a trend line can result in a trend reversal.

Drawing a trend line is one of the most basic tools for the technical trader. Two basic trend lines are possible; an up-trend line in the case of rising prices, and a down-trend line in the case of declining prices. If prices are not going up or down, they are going sideways, or consolidating.

Trend line penetration – a simple, straight-forward way

A pivot can be determined by observing occasions where price penetrates a previous trend line. A pivot in this sense can be described as:

A high or low point created by a reverse in price direction that supersedes the previous trend by penetrating the previous trend line.

Drawing an up-trend line where price is consistently rising

1. Draw a line from the lowest low, up to the highest minor low point preceding the highest high (green line on figure 6 and 8).
2. Make sure the line does not pass through prices in between the two low points just drawn.
3. Finish the up-trend line by extending the line.

Drawing a down-trend line where price is consistently falling

1. Draw a line from the highest high down to the lowest minor high point preceding the lowest low (blue line on figure 6 and 8).
2. Make sure the line does not pass through prices in between the two high points just drawn.
3. Finish the down-trend line by extending the line.

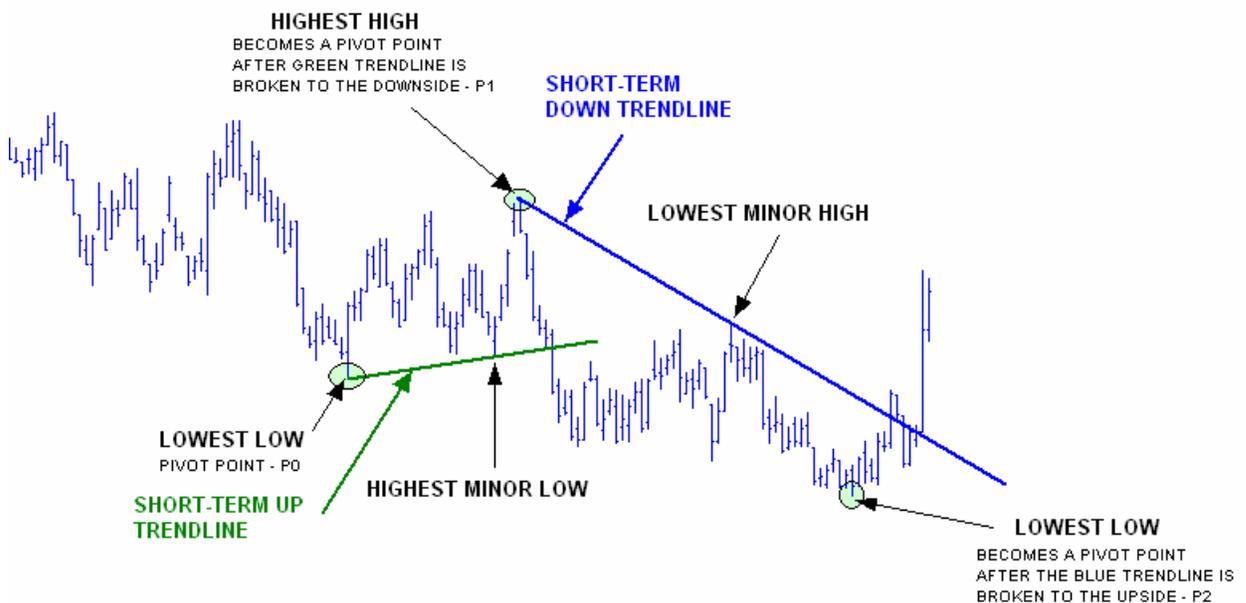


Figure 6. Up and down trend lines.

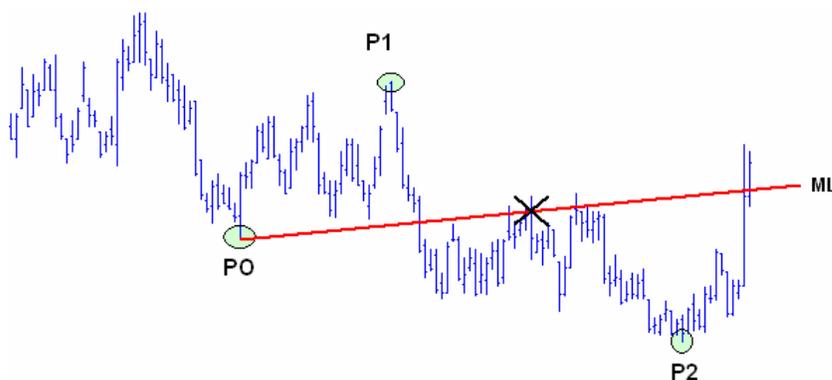


Figure 7. Figure 6 with Median Line.

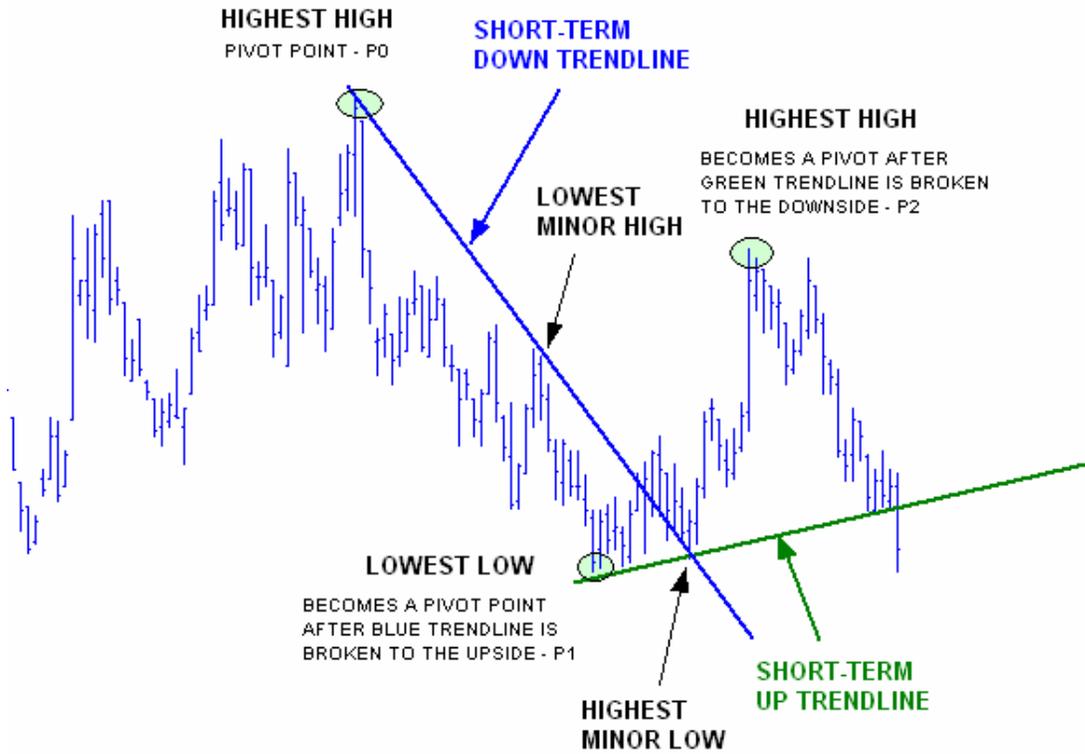


Figure 8. Up and down trend lines.

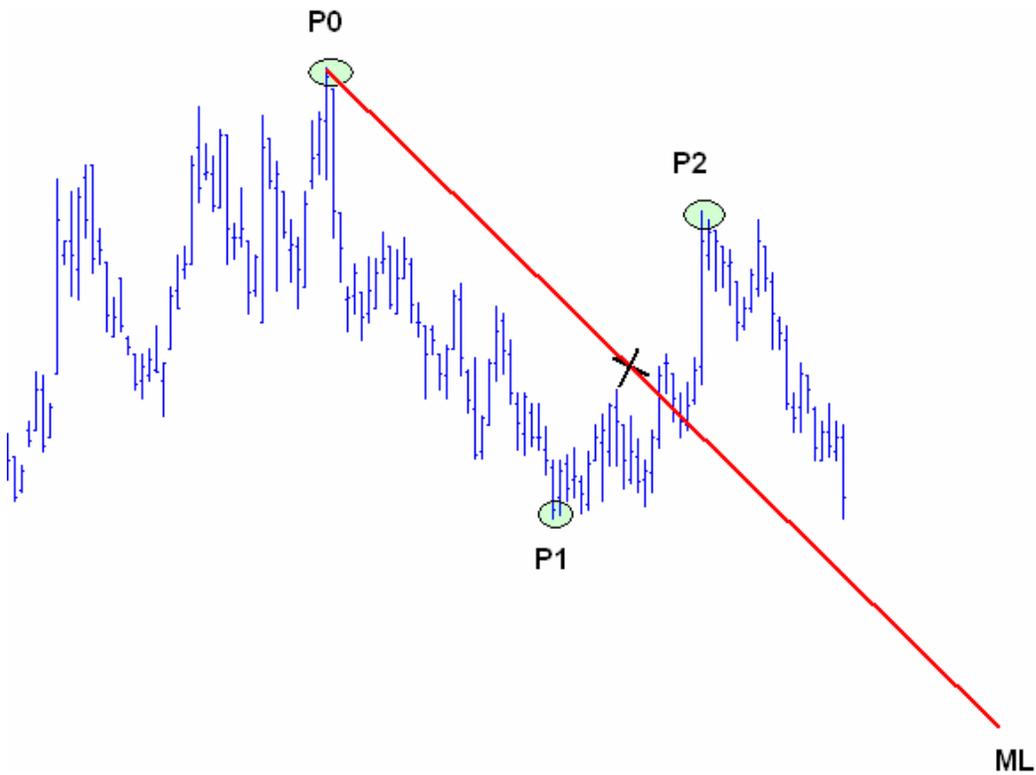


Figure 9. Figure 8 with Median Line.

The time frame under study is an important consideration when drawing trend lines. For any chart under study, typically three different time frames apply: short-term, intermediate-term, and long-term. Trend lines for each time frame are apparent on nearly every chart whether it is a monthly, weekly, daily, or intra-day chart. When drawing trend lines, you must first choose what time frame you intend to study.

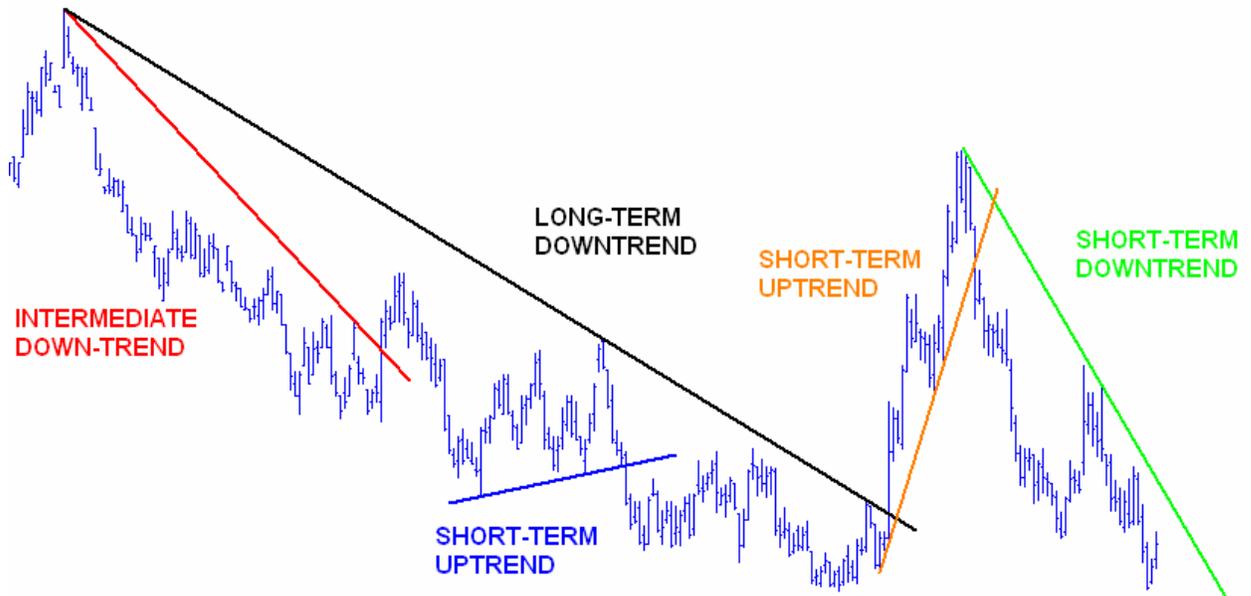


Figure 10. Trend lines of different time frames.

Median Line as a Price Magnet

Now you have an idea of how to select pivots and how to draw the Median Line. Now, what does this tell us about potential price action concerning the Median Line?

Andrews theorized the Median Line acts as a magnet and often draws price towards it. This means that after a P2 forms in a P0 ML P1-P2 Median Line configuration, price will often return to the newly drawn Median Line. At times price will fluctuate around the Median Line.

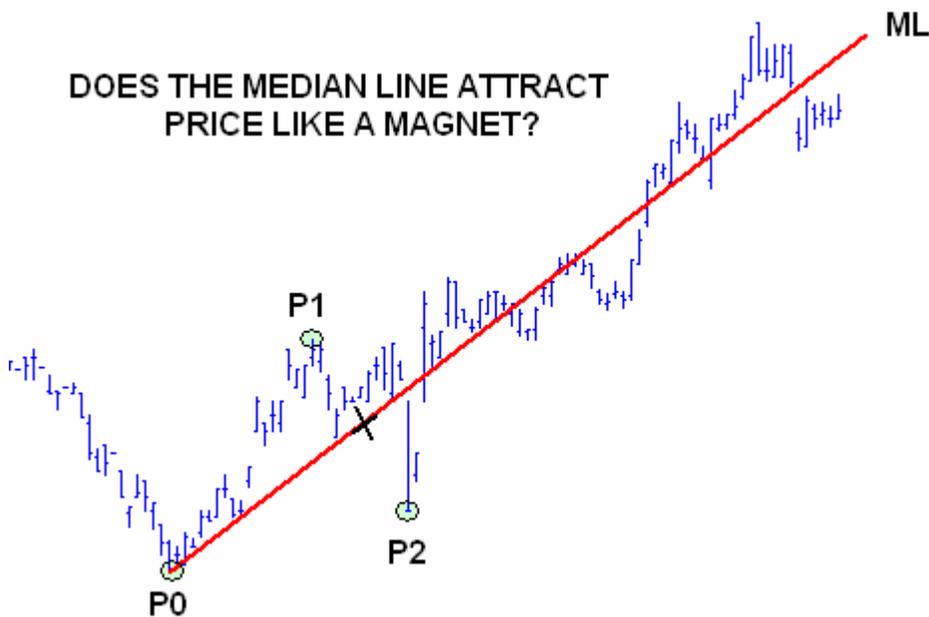


Figure 11. Median Line as a price magnet.

Andrews' Median Line Observations

Andrews observed certain phenomena when prices were near the Median Line. Andrews was clear that these were observations of the tendency of prices – NOT a hard and fast rule that price must abide by.

Andrews' original course states five primary observations concerning the Median Line. This study will be concerned with the first four observations. The first three observations concern the ability of the Median Line to attract prices and will be discussed here.

“There is a high probability that:

- 1. prices will reach the latest ML**
- 2. prices will either reverse on meeting the ML or gap through it**
- 3. when prices pass through the ML, they will pull back to it”**

~ Dr. Alan Andrews, Action-Reaction Course

Andrews estimated the probability of prices returning to the Median Line after forming a P2 in a P0 ML P1-P2 configuration was about 80%. Is this true? Wouldn't that be a powerful thing to know! Under what conditions did Andrews draw the lines? The purpose of this study is for YOU to determine the probability according to the conditions you set forth!

PART III

Price Action NEAR the Median Line

According to Andrews' definition, price will likely either reverse at the Median Line, or gap through the Median Line and then revisit the Median Line before continuing in the original direction.

A price gap occurs when price does not trade within a specific range during a specified time period, effectively leaving a "space". A price gap often indicates strength (gap up), or weakness (gap down) of the market. Andrews also described a gap occurring:

"...when no price action on today's range is opposite any of yesterday's range. Technically and empirically the price at one extreme of a days range may be opposite the extreme of the next day's range, and still have the properties of a true gap."

~ Dr. Alan Andrews, Action-Reaction Course

Andrews also mentions a price "plunge" as a possible outcome when prices near the Median Line. It is possible he was referring to a price plunge with the last statement in the above quote. For the purposes of this study, we will consider a price "plunge" as similar to a price "gap" because of their similar natures.

A price plunge is a large price move indicated by a long price bar. A large move where prices open near the low of the bar and close near the top of the bar indicates strength of the market. A large move where prices open near the high of the bar and close near the low indicates weakness of the market.

At times, price simply fluctuates around the Median Line; this is called price "consolidation", and will be another outcome when prices near the Median Line.

To summarize, three outcomes are possible when prices near the Median Line:

- 1. Reversal**
- 2. Gap or Plunge**
- 3. Consolidation**

Andrews' observation also states prices will likely return to the ML after passing through it with a price gap or price plunge. We will define this as a Median Line revisit. A Median Line revisit occurs when prices pass through the Median Line with a gap or plunge and then return to the Median Line before proceeding in the direction previous. In the words of Andrews:

“The Penetration Rule is that whenever prices gap past, or plunge through any ML, there is a high probability that they will quickly return to it temporarily, and then resume the trend they had before they gapped or plunged through.”

~ Dr. Alan Andrews, Action-Reaction Course

The three outcomes are illustrated in the following figures.

Price Reversal NEAR the Median Line

A price reversal occurs when price meets the Median Line (or within a reasonable distance near the Median Line) and reverses direction. A “reasonable distance” must be defined by the user. The important point is to remain consistent throughout the study. Remember the lines are rarely drawn perfectly. A little bit of forgiveness must be considered.

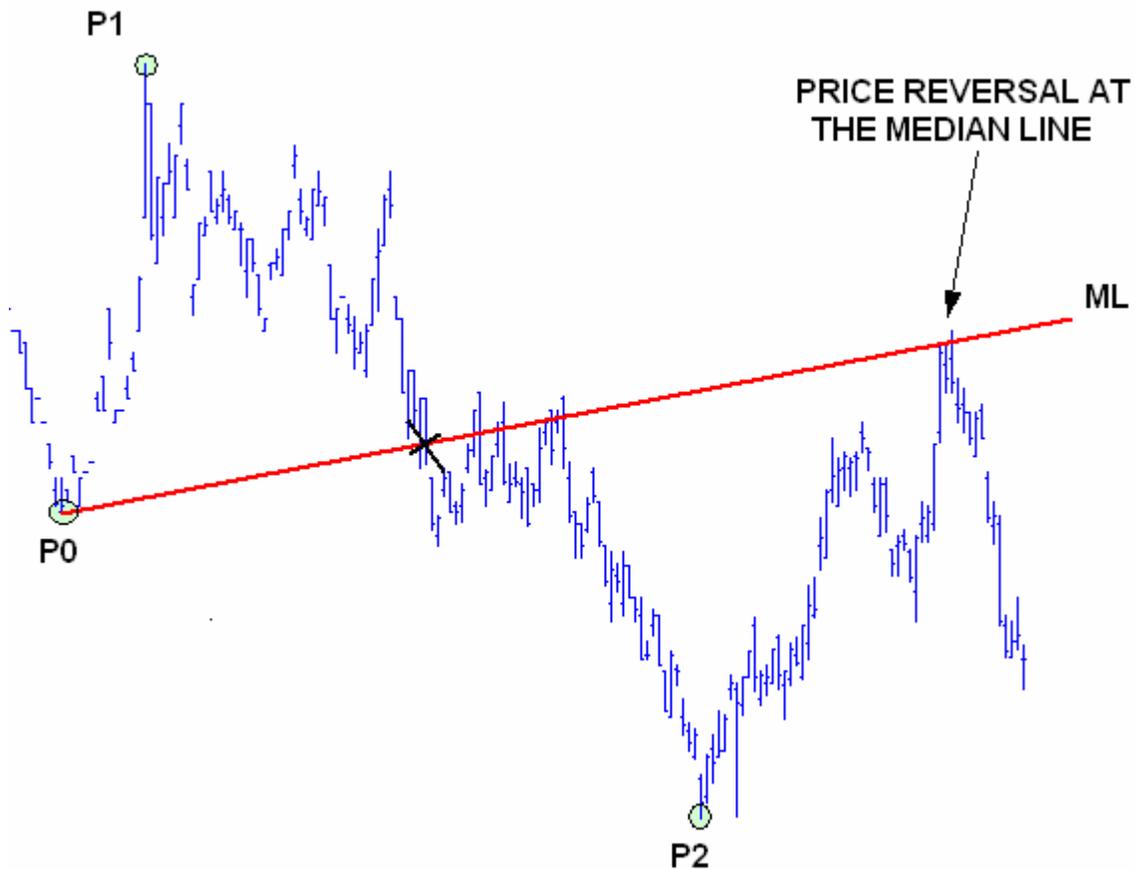


Figure 12. Price reversal at the Median Line.

Price Gap and Revisit NEAR the Median Line

A price gap occurs when price “skips” over the Median Line leaving a space that is not filled within that particular time frame of trading. Notice that price revisits the Median Line by coming back to touch it after the gap and proceeds in the direction prior (up, in this case).



Figure 13. Price gap and revisit.

Price Plunge and Revisit NEAR the Median Line

A price plunge occurs when price passes through the Median Line with a large price move. Notice that price revisits the Median Line by coming back to touch it after the price plunge and proceeds in the direction prior (up, in this case).

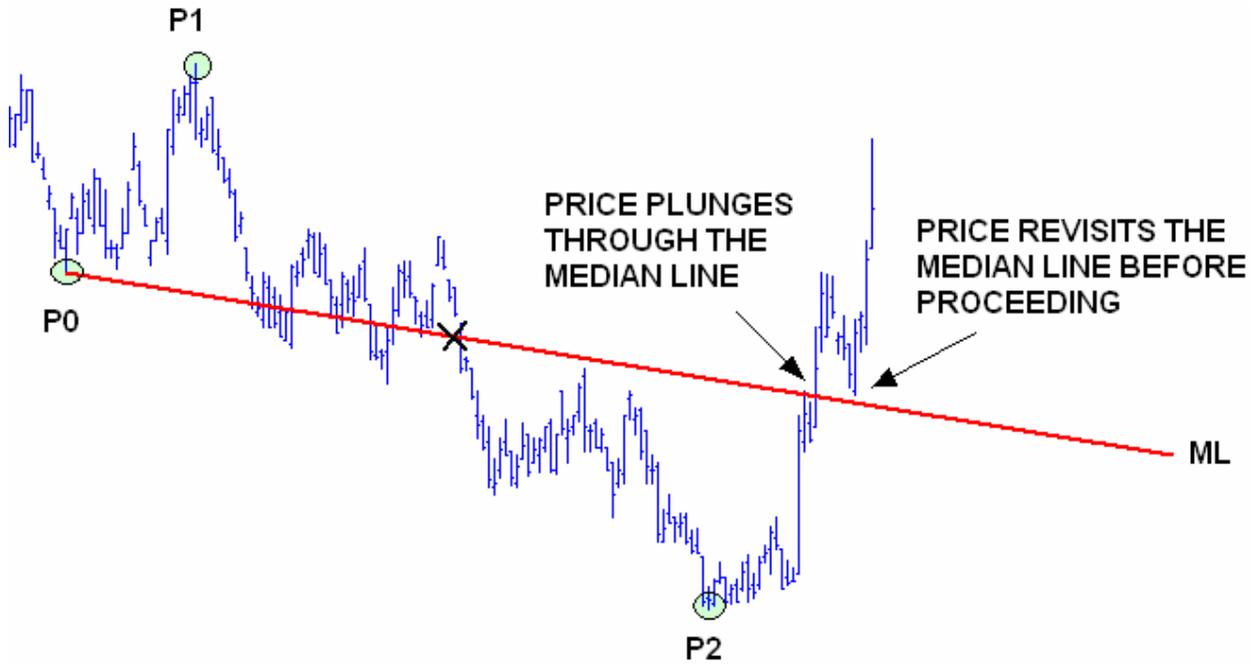


Figure 14. Price plunge and revisit.

Price Consolidation NEAR the Median Line

Price consolidation occurs when price appears to “dance” around the Median Line without clear direction as to if it will reverse, gap, or plunge through. The Median Line is truly acting as a magnet to price.

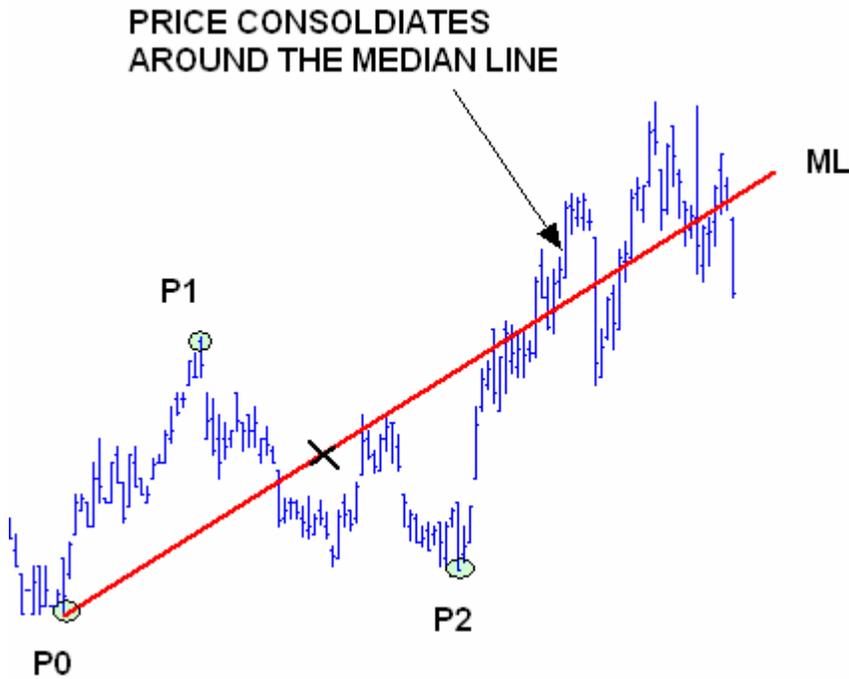


Figure 15. Price consolidation around the Median Line.

PART IV

Price Failures

Andrews estimated price returns to the Median Line more often than not. He also realized that when this did not occur, he needed methods for trading when price did not act as expected. He called these situations “price failures”. Andrews stated in his original course:

“When prices fail to reach the ML as shown by a space between the P of reversal and the ML, the probability is that this price reversal will go further than it did on its approach toward the ML.”

~ Dr. Alan Andrews, Action-Reaction Course

The fourth observation Andrews made concerning the Median Line addresses price failures.

“There is a high probability that:

1. prices will reach the latest ML
2. prices will either reverse on meeting the ML or gap through it
3. when prices pass through the ML, they will pull back to it
- 4. when prices reverse before reaching the ML, leaving a “space”, they will move more in the opposite direction than when prices were rising toward the ML”**

~ Dr. Alan Andrews, Action-Reaction Course

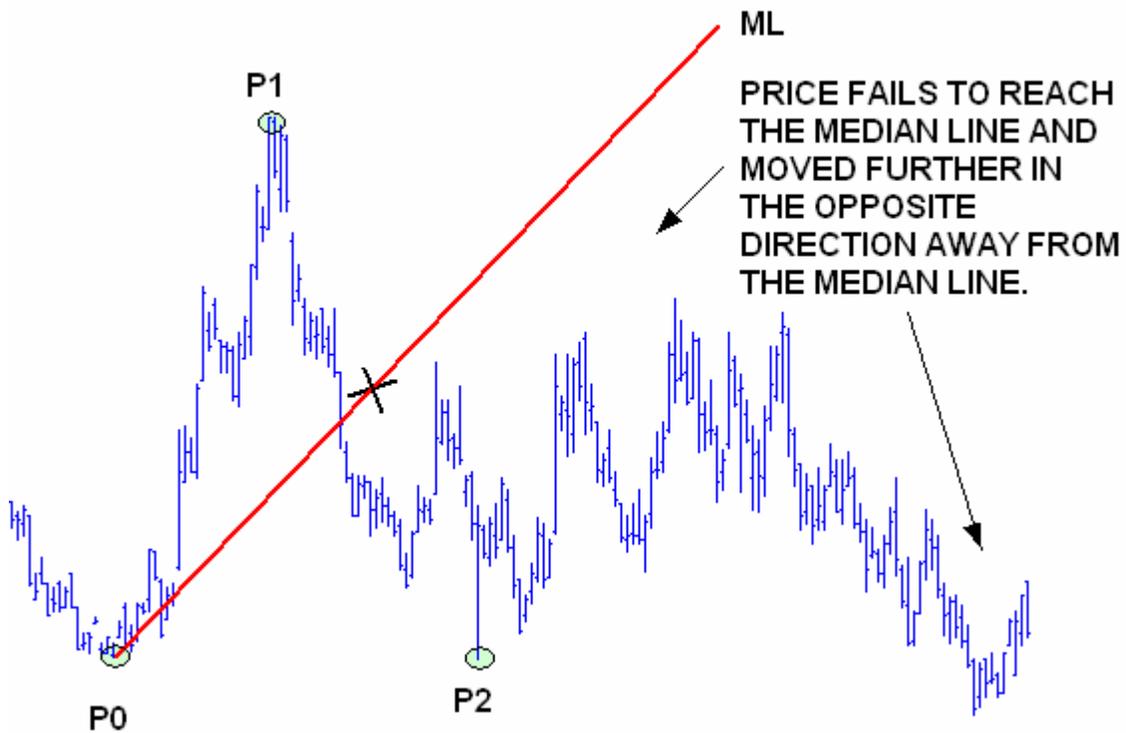


Figure 16. Price failure.

Now you have the basics. The rules and observations have been described. How do we determine if the rules and observations have merit? Time to get to work! The study follows.

PART V

The Study

To set the tone for the study, keep the following quote in mind:

“Three Rules of Work:

- 1) Out of clutter – find simplicity.
- 2) From discord – find harmony.
- 3) In the middle of difficulty lies opportunity.”

~ Albert Einstein

The study will involve the basic observations Andrews made when prices were NEAR the Median Line:

- 1) **Prices reach the latest Median Line (drawn from three consecutive, alternative pivots).**
- 2) **Upon meeting the Median Line, prices will reverse, gap/plunge through or consolidate.**
- 3) **Upon gapping or plunging through the Median Line, price will revisit the Median Line before continuing in the prior direction,**
- 4) **If price fails to meet the Median Line, price will move further in the other direction than it did on the approach to the Median Line.**

The process of conducting the study follows the logic illustrated in Figure 17 below:

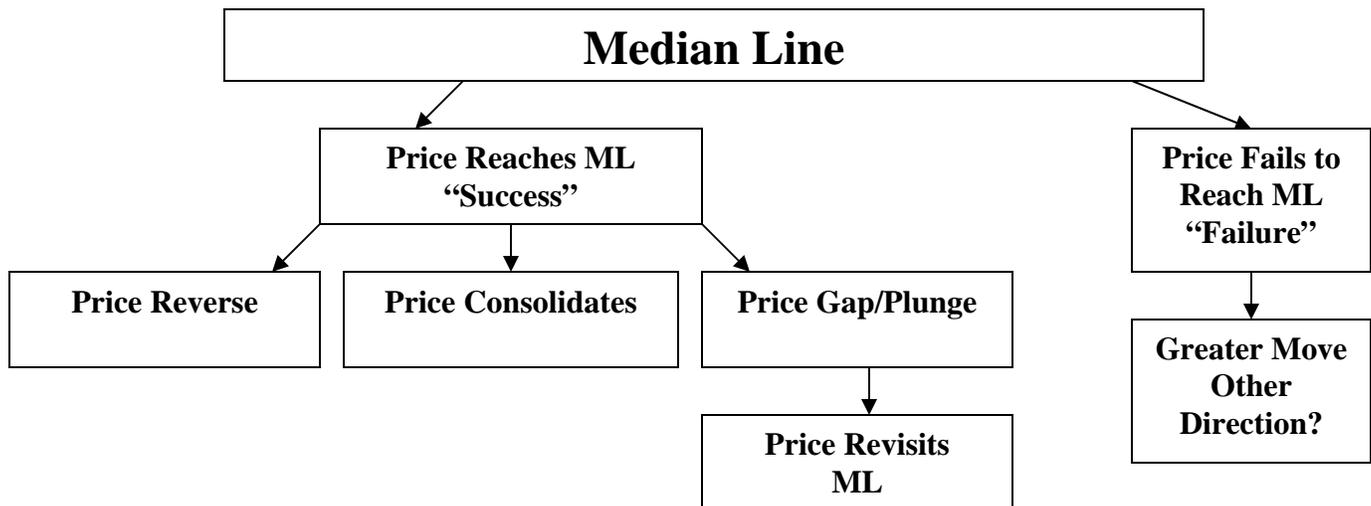


Figure 17. Flowchart of Possibilities.

The results of the study will be recorded in the results sheet shown in Table 1 below:

Market or Stock: _____

Time Frame: _____

	Total #	%
Median Lines		
Median Line successes		of total Median Lines
Reverse		of successes
Gap/Plunge		of successes
Revisit ML		of Gap/Plunge
Consolidate		of successes
Median Line failures		of total Median Lines
Greater move		of failures

Table 1. Results sheet.

Where:

- % Median Line successes = (# of ML successes)/(total # of ML) x 100%
- % Reverse = (# of reverse)/(# of ML success) x 100%
- % Gap/Plunge = (# of gap/plunge)/(# of ML success) x 100%
- % Revisit ML = (# of revisit ML)/(# of gap/plunge) x 100%
- % Consolidate = (# of consolidate)/(# of success) x 100%
- % Median Line failures = (# of ML failures)/(total # of ML) x 100%
- % Greater move = (# of greater move)/(# of ML failures) x 100%

Don't worry, the math may look scary, but it is intuitive. Basically what we want to know is the percentage of occurrences where prices succeed in reaching the Median Line. And out of those successes, what percentage resulted in a price reversal, price gap/plunge, and price consolidation. We also want to know the percentage of occurrences where prices failed to reach the Median Line and out of those failures, what percentage resulted in greater price moves in the opposite direction away from the Median Line. Examples are given later.

Sample Size

As with any study, the sample size must be determined in order to get reliable results. Obviously, the more charts studied will give a better indication of the overall probabilities. However, not everyone has time to pour over hundreds of charts. I have typically done studies on particular markets and time frames where there are about 40-60 Median Lines drawn and probabilities calculated. Obviously, only drawing a couple Median Lines is not going to give you a very convincing probability. The level of understanding will come with the amount of effort put into it!

For example, I have done studies in the past on the grain markets on daily charts. I chose the new crop contract for each grain and studied fifteen years worth of data (ex. July wheat for years 1990-2005). I did not chart consecutive months because the price patterns would tend to overlap. I found that for each chart (about a years worth of data), an average of six major pivots occurred using short-term trend lines, resulting in about four Median Lines per chart. Not always – some times only three major pivots were observed, sometimes 8 pivots occurred. But, the average number of pivots for a years worth of data for each new crop month was around six for those particular markets.

You may choose to study a group of daily charts for individual stocks. Some stocks will likely cycle enough to reveal about 6 major pivots in one year of daily charts using short-term trend lines. However, some stocks will require two years worth of data to identify around six major pivots because price does not cycle enough and fewer short-term trend lines are present. I have found that charting individual stocks using 2 years worth of data per stock will generally yield about 6 major pivots per chart resulting in about four Median Lines per chart.

You may choose to use monthly, weekly, or intra-day charts as well. Whatever your time frame of study, I would suggest finding charts that have about six major pivots, which result in about four Median Lines per chart.

The more pivots and Median Lines on the chart, the messier things get. If too few pivots are on a chart, it will be difficult to determine anything useful. There are times when only three major pivots will show up on a chart – just enough to draw one Median Line. There must be enough price data on the chart to determine where price is going after the Median Line is

drawn. It is a matter of experimentation. The road to discovery is experimentation! Each market has its own “personality”, so the time period of study may need to be adjusted from market to market or stock to stock. You will soon find a comfortable time frame to study with a little practice.

Conducting the Study

To conduct the study follow the steps outlined below:

STEP 1. Determine the time frame of the chart to be studied (monthly, weekly, daily, or intra-day) and the market or stock to be studied and record in the Results sheets (pg. 51-53).

a. (example - daily wheat charts)

STEP 2. Determine the significant pivots in the time frame under study using the trend line technique. The example will consider short-term trend lines and will be shown individually for clarity.



Figure 18. Identifying P0.

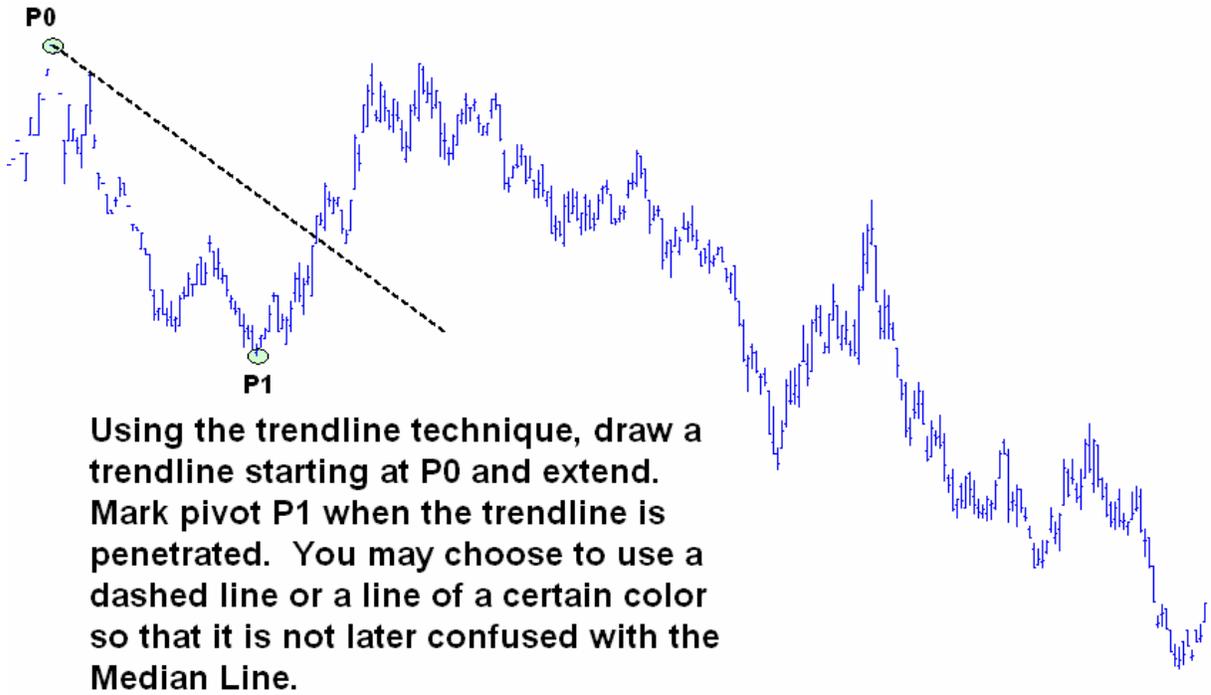


Figure 19. Identifying P1.

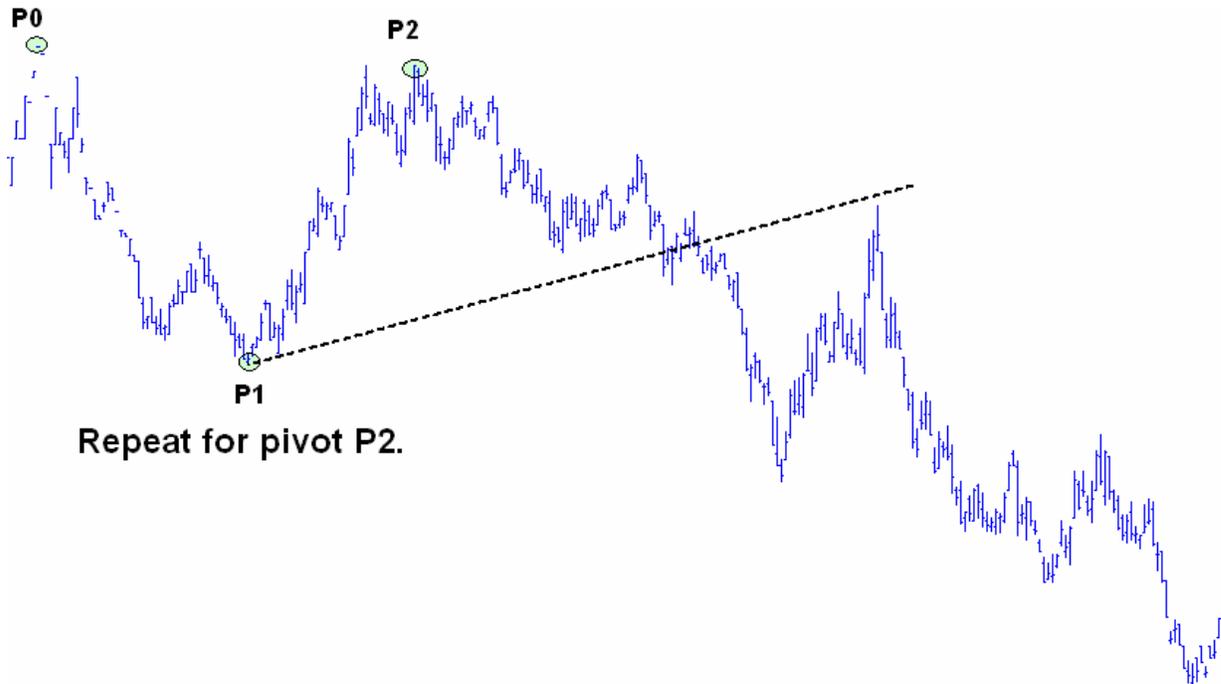


Figure 20. Identifying P2.

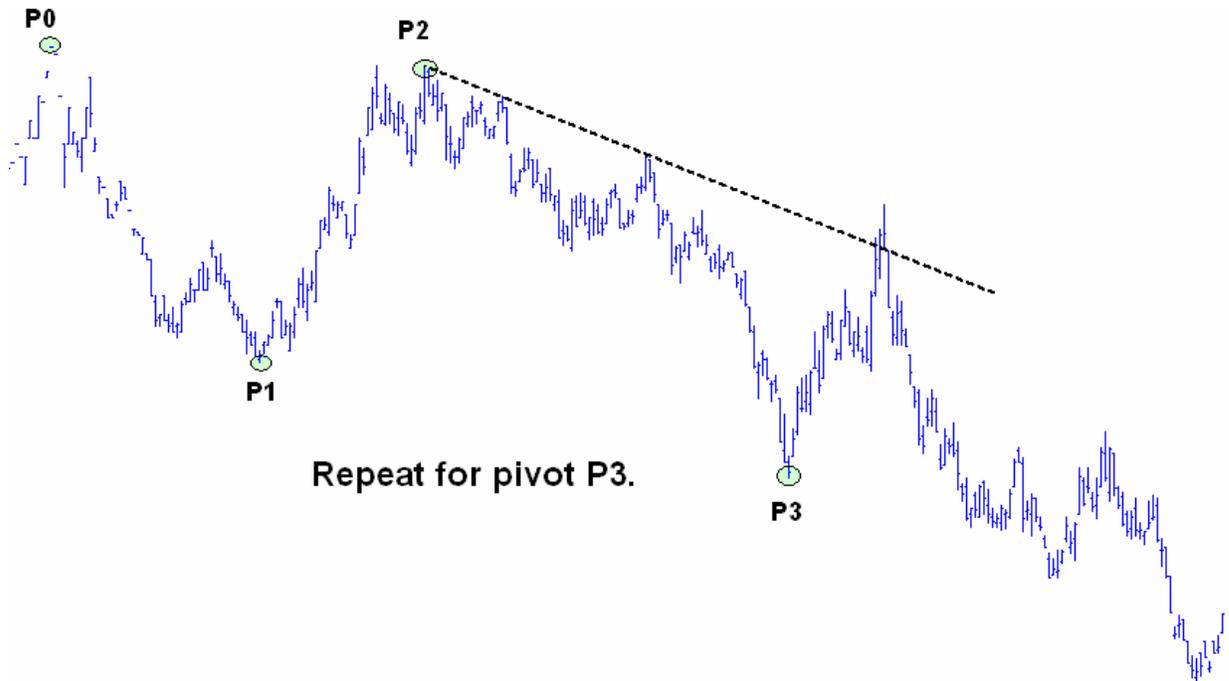


Figure 21. Identifying P3.

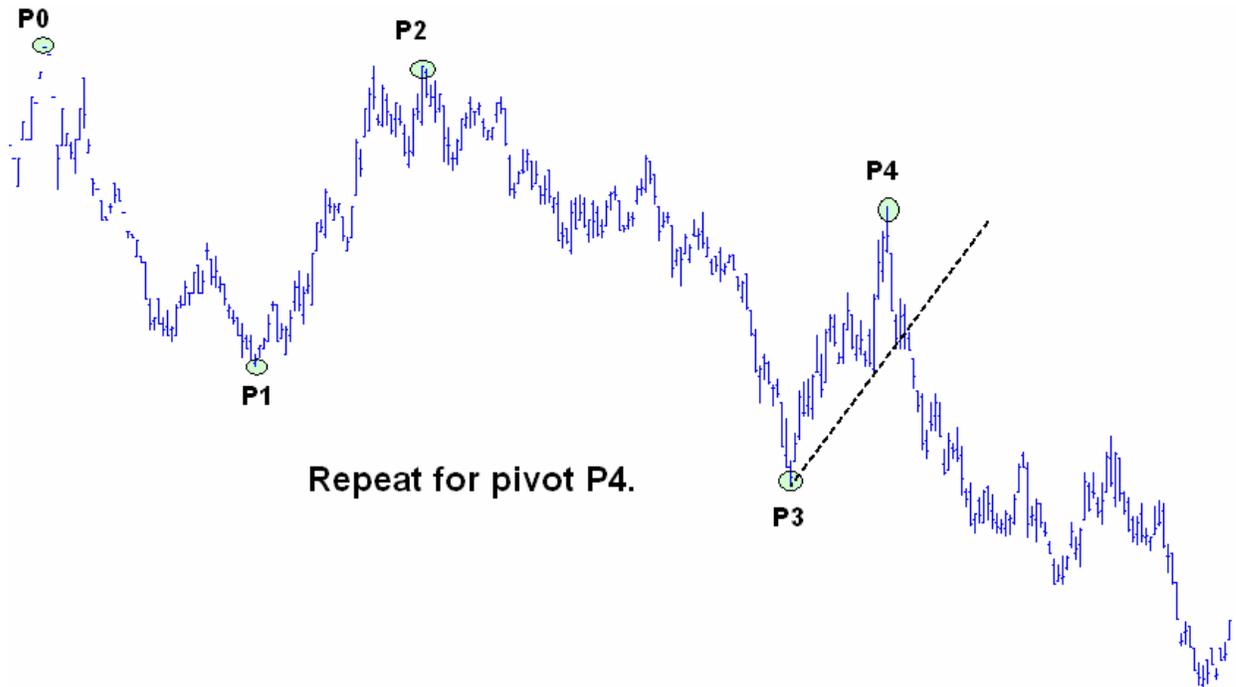


Figure 22. Identifying P4.

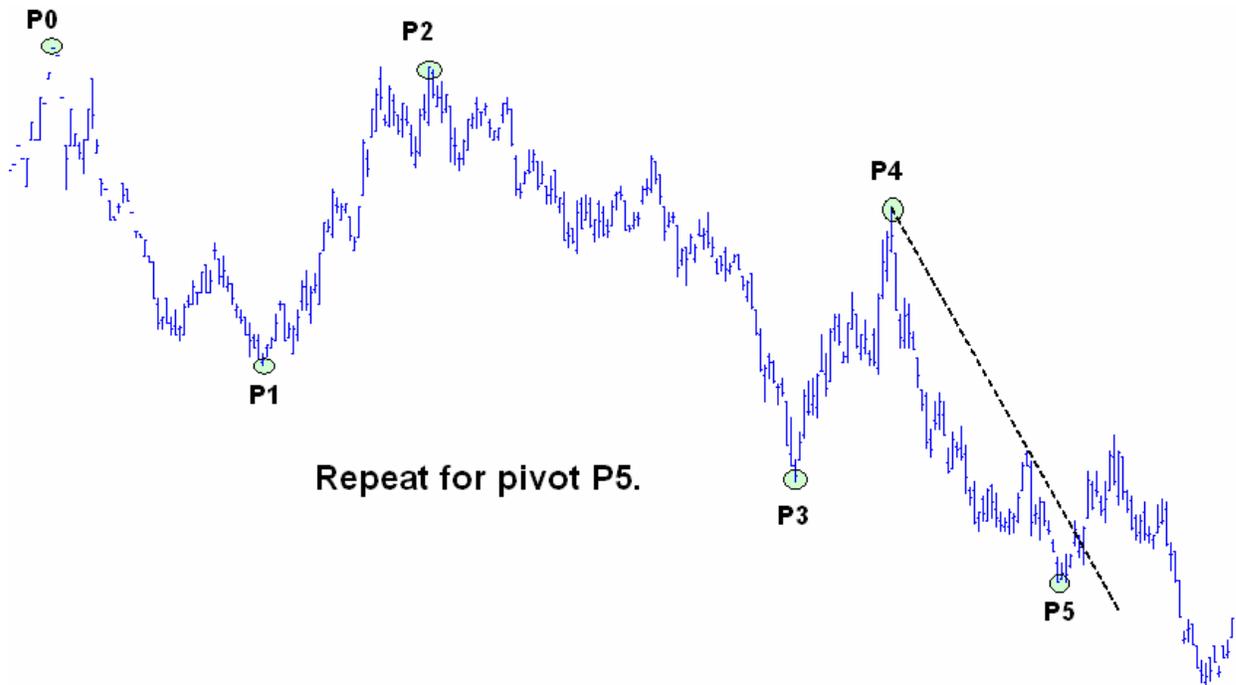


Figure 23. Identifying P5.

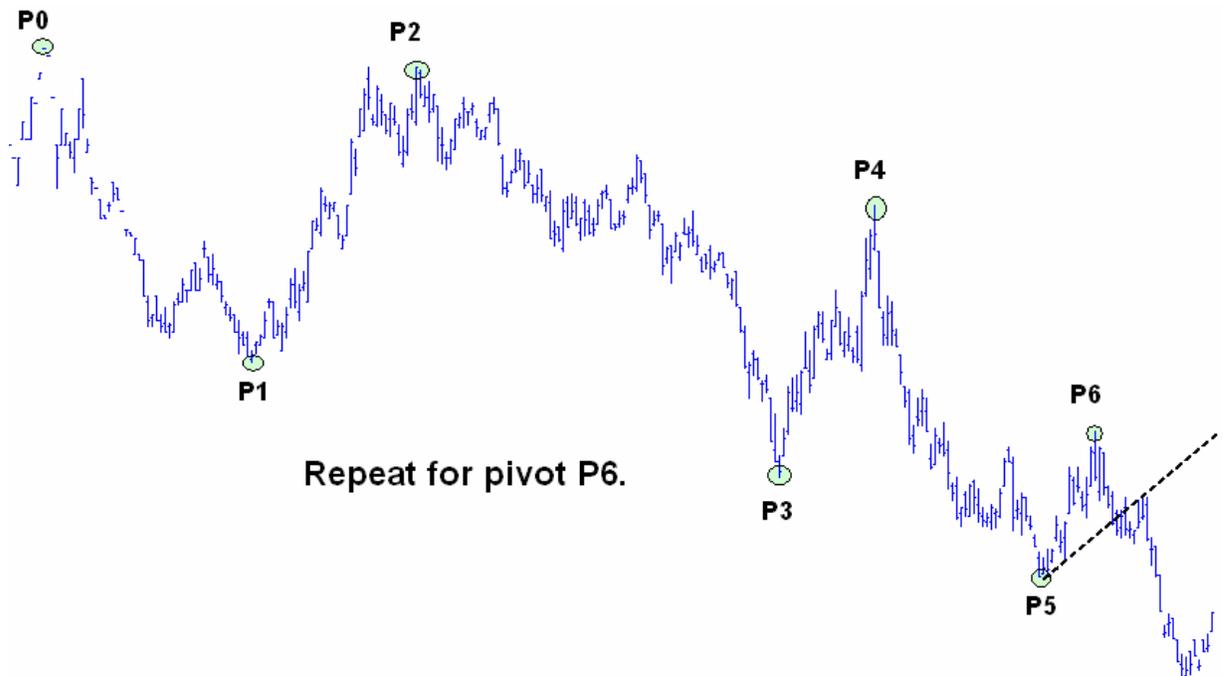


Figure 24. Identifying P6.

STEP 3. Draw the Median Lines as described earlier. Extend the Median Line slightly past the area where the next pivot is labeled. You may wish to use different colors to draw the different Median Lines, or you may wish to label the Median Lines, or perhaps both. It can get confusing otherwise. The Median Lines will be shown individually for clarity.



Figure 25. Drawing P0 ML P1-P2.

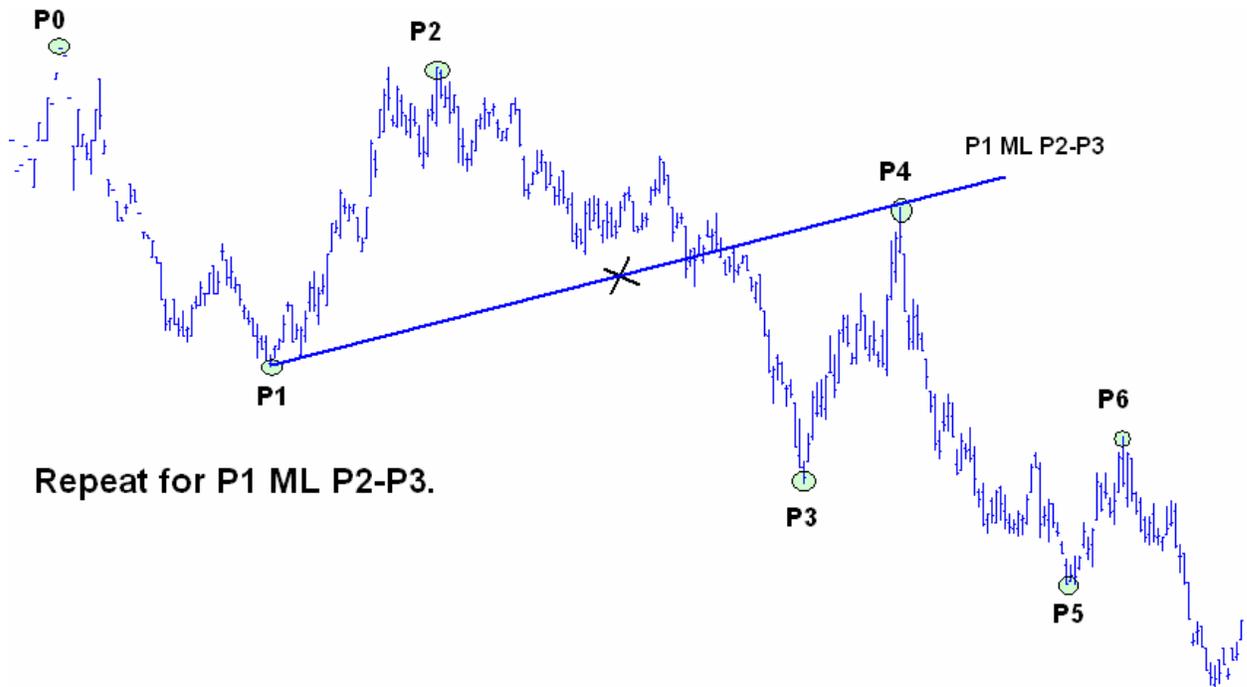


Figure 26. Drawing P1 ML P2-P3.

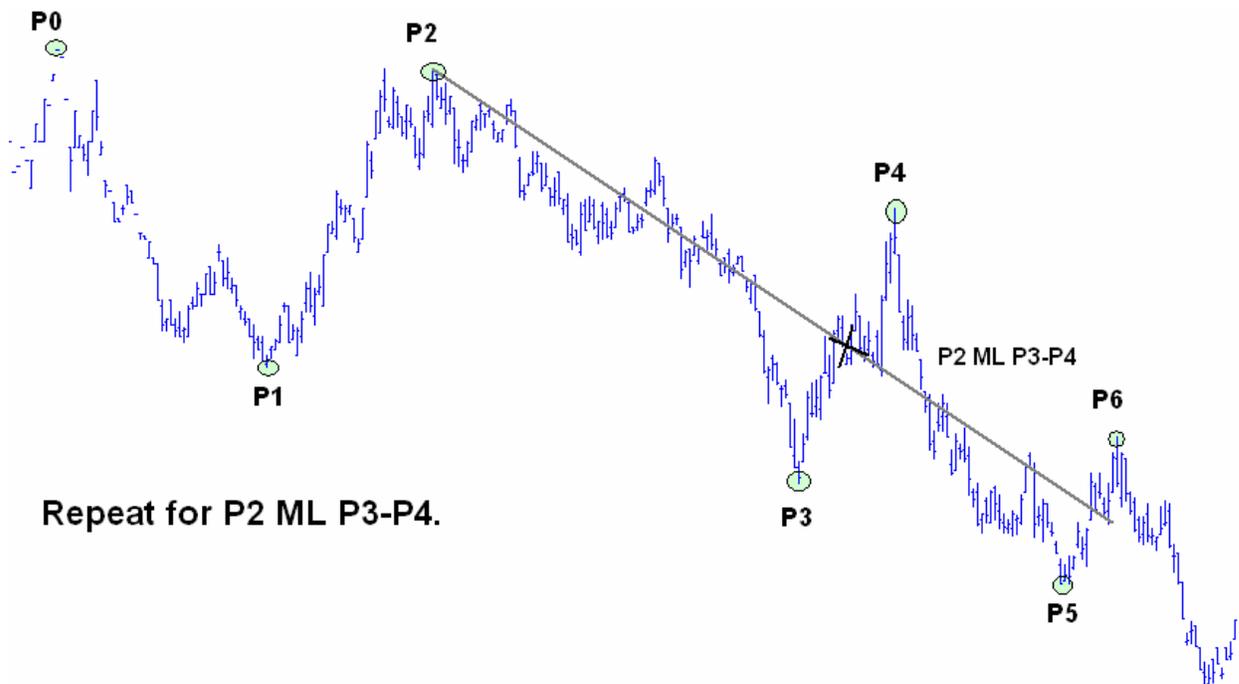


Figure 27. Drawing P2 ML P3-P4.

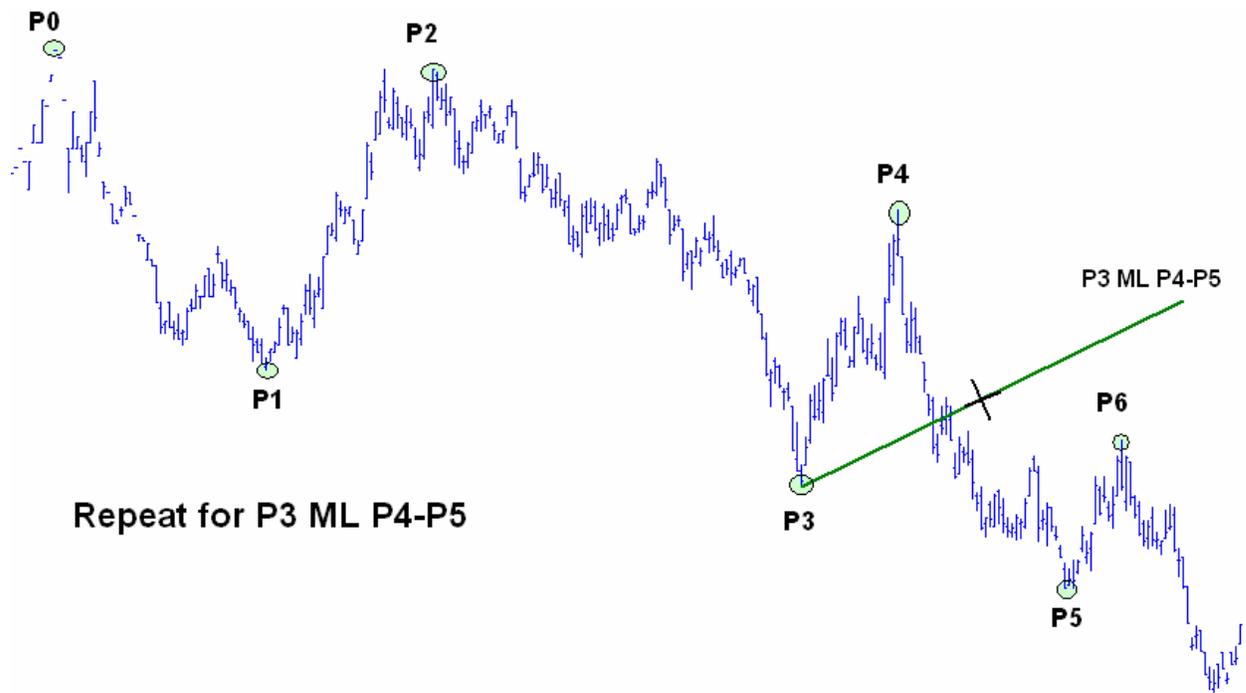


Figure 28. Drawing P3 ML P4-P5.

STEP 4. Determine if prices reach the Median Line or not AT or BEFORE prices reach the next pivot and record the result as a “success” or “failure”. For example, in Figure 29, we can see that prices met the Median Line almost EXACTLY at P3, and is considered a success. Later, you will see an example where prices DO NOT reach the Median Line before the next pivot is formed and will be considered a failure.

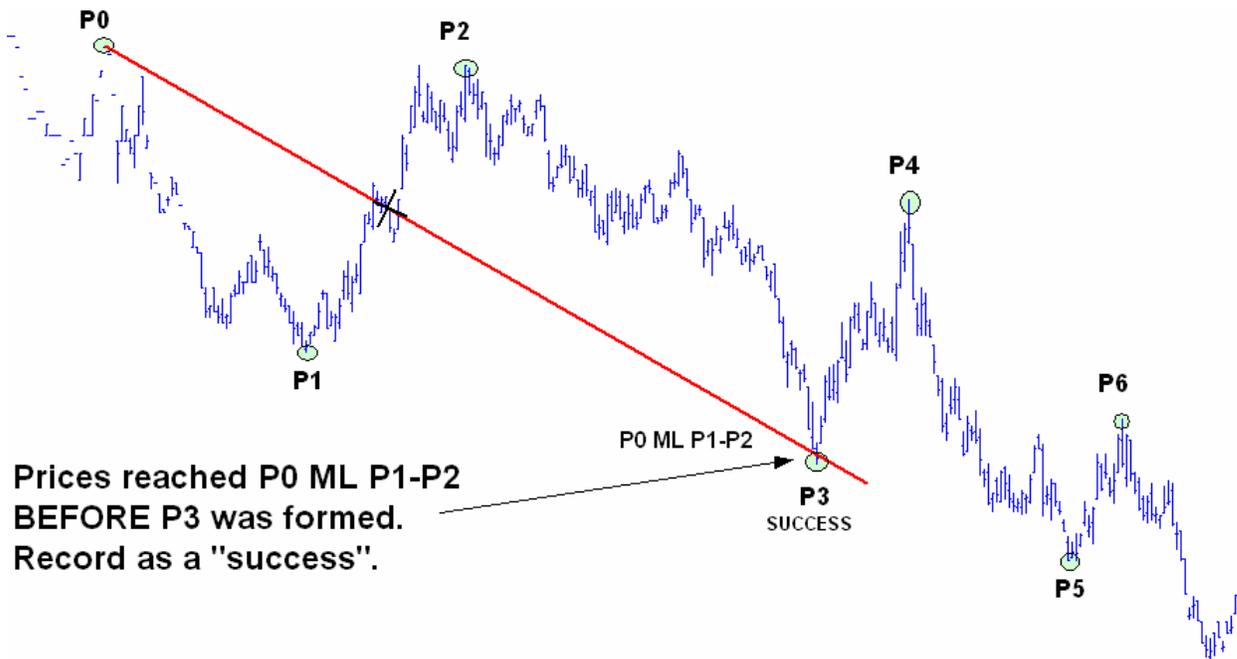


Figure 29. Determining success or failure of P0 ML P1-P2.

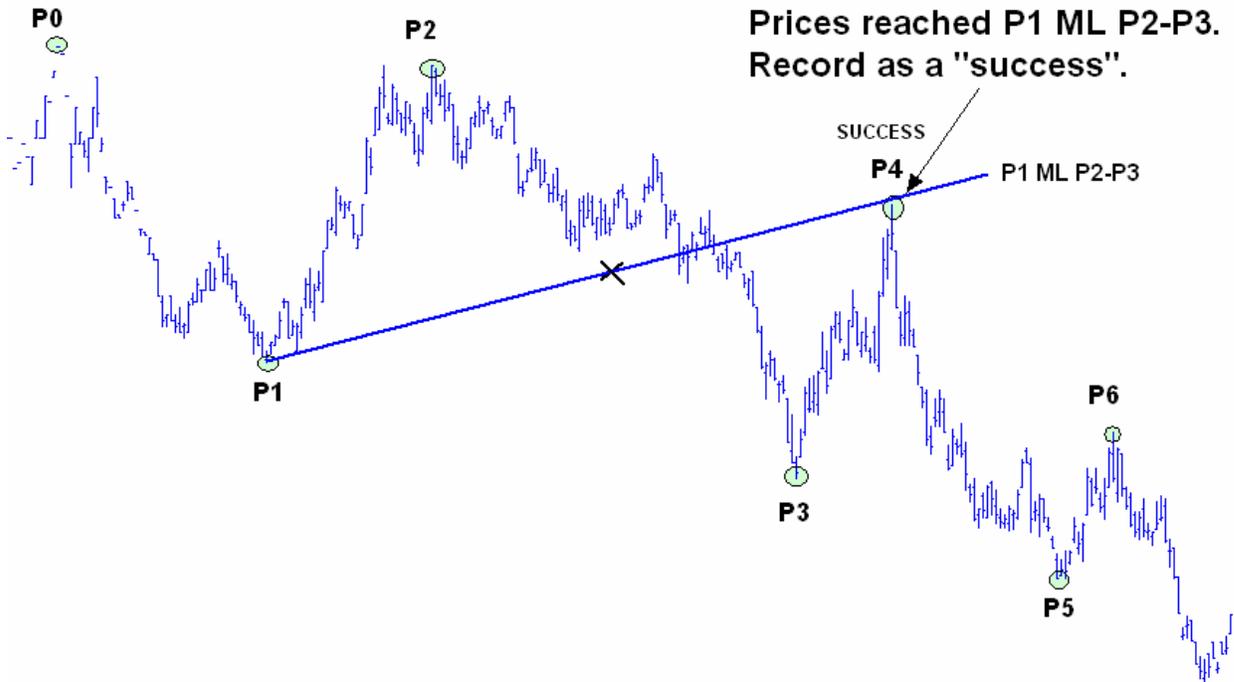


Figure 29. Determining success or failure of P1 ML P2-P3.

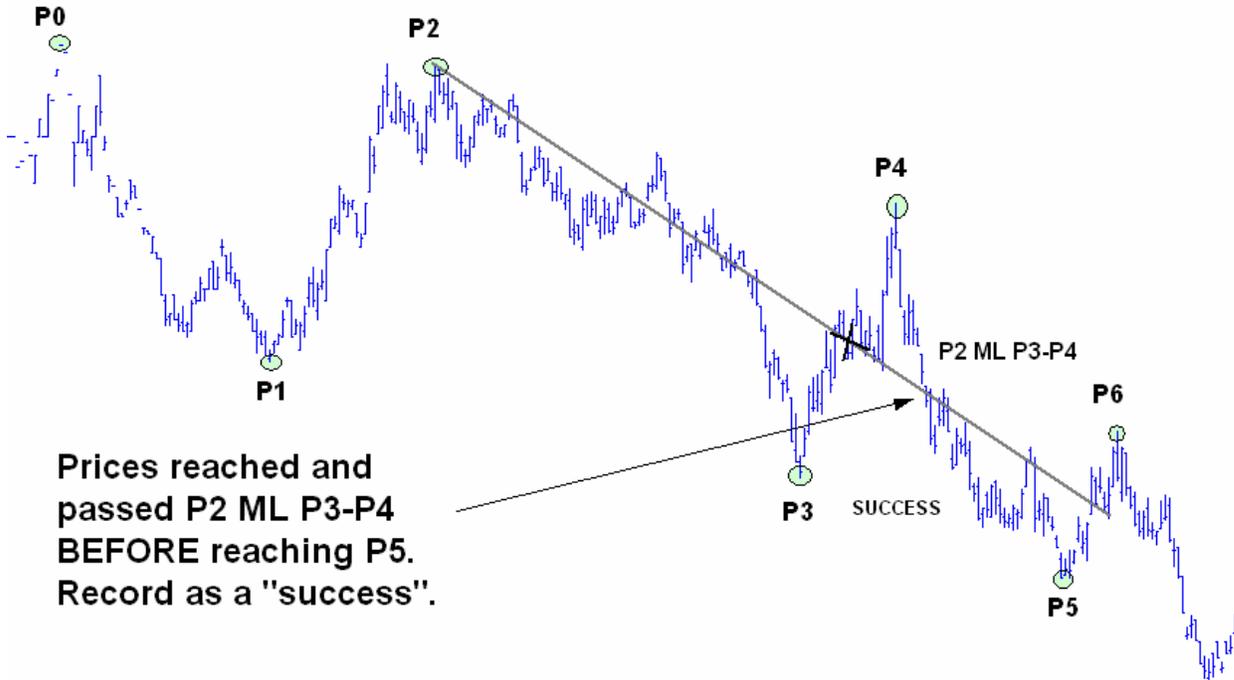


Figure 30. Determining success or failure of P2 ML P3-P4.

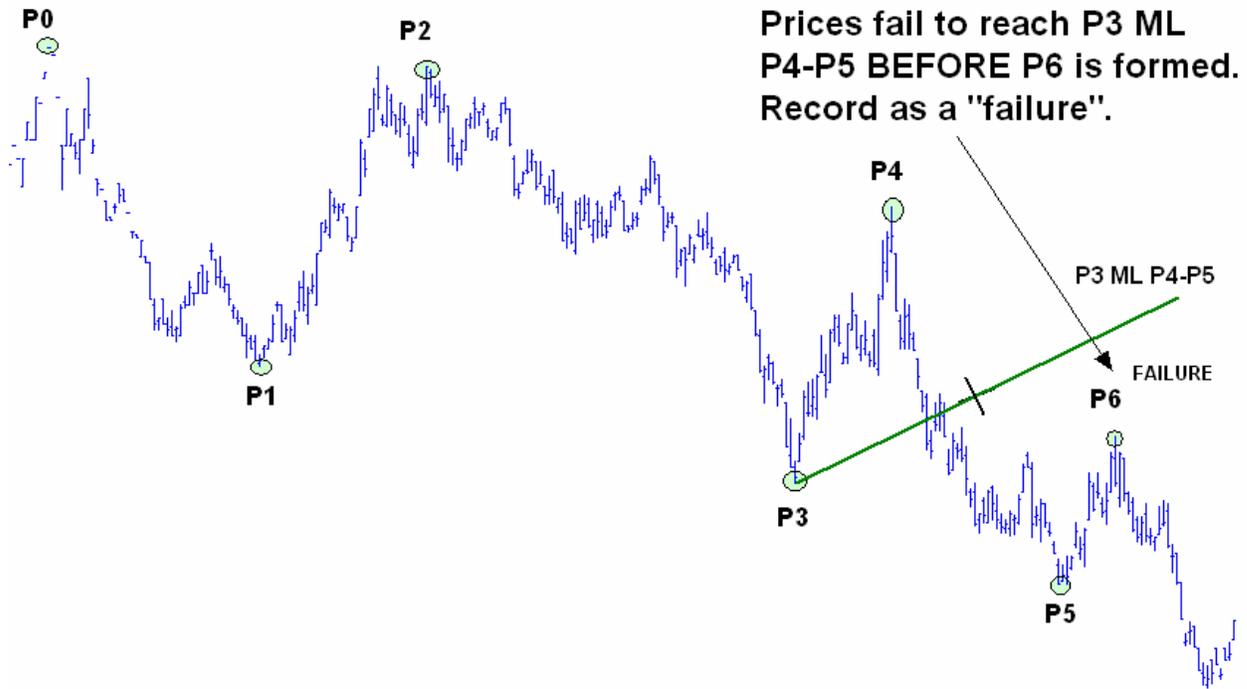


Figure 31. Determining success or failure of P3 ML P4-P5.

- STEP 5. In the case of price reaching the Median Line, “Success”:
- a. Determine if prices reverse, gap/plunge through, or consolidate around the Median Line
 - i. Record the result as “Reverse”, “Gap/Plunge”, or “Consolidate”.
 - ii. If prices “Gap/Plunge” through the Median Line and revisit the Median Line before continuing on in the direction previous, record the result as “Revisit”.

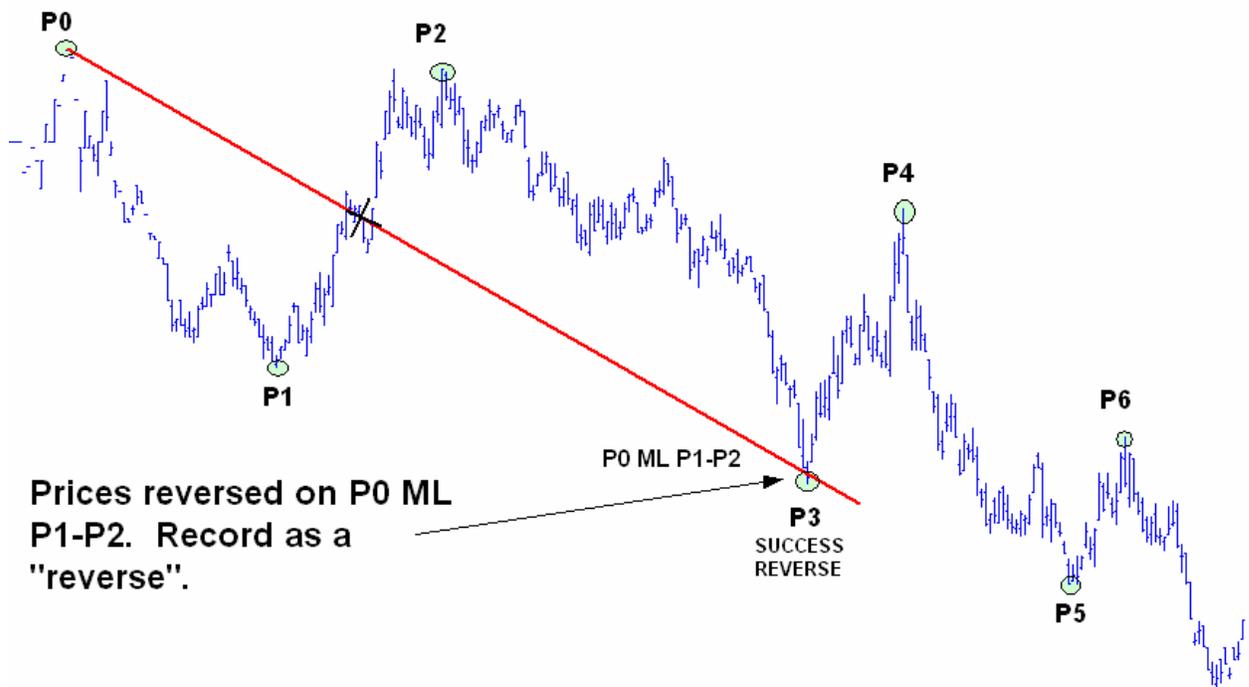


Figure 32. Determining reversal at P0 ML P1-P2.

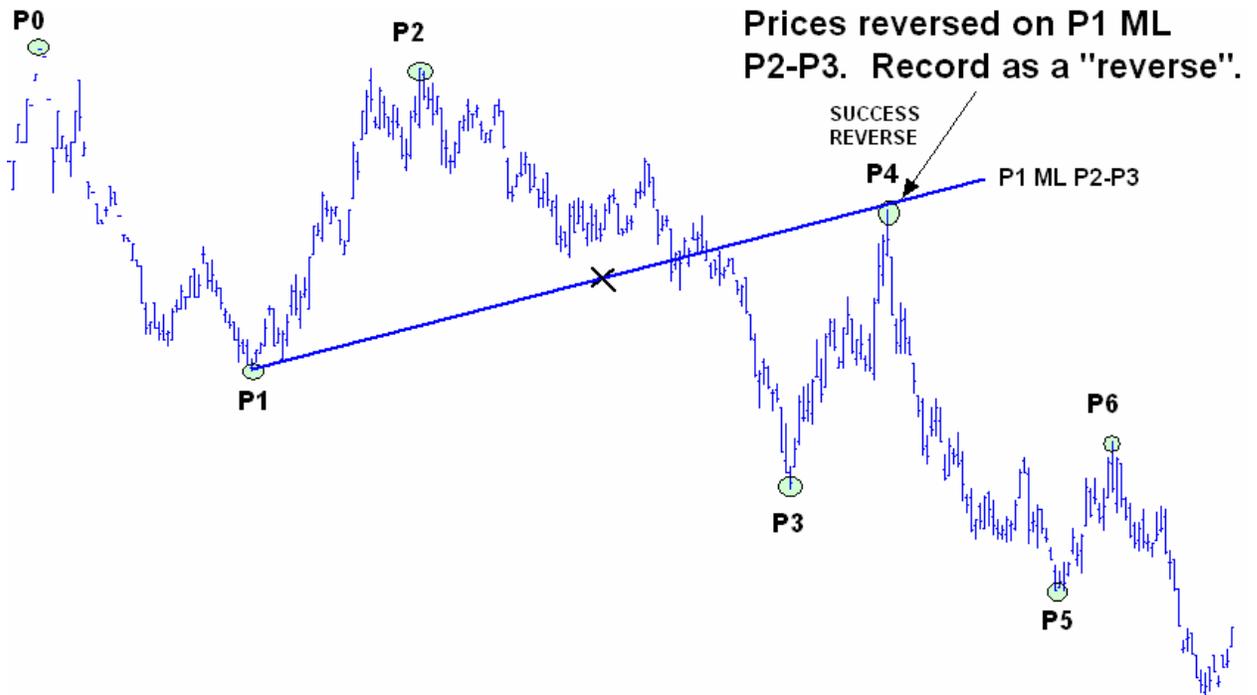


Figure 33. Determining reversal at P1 ML P2-P3.

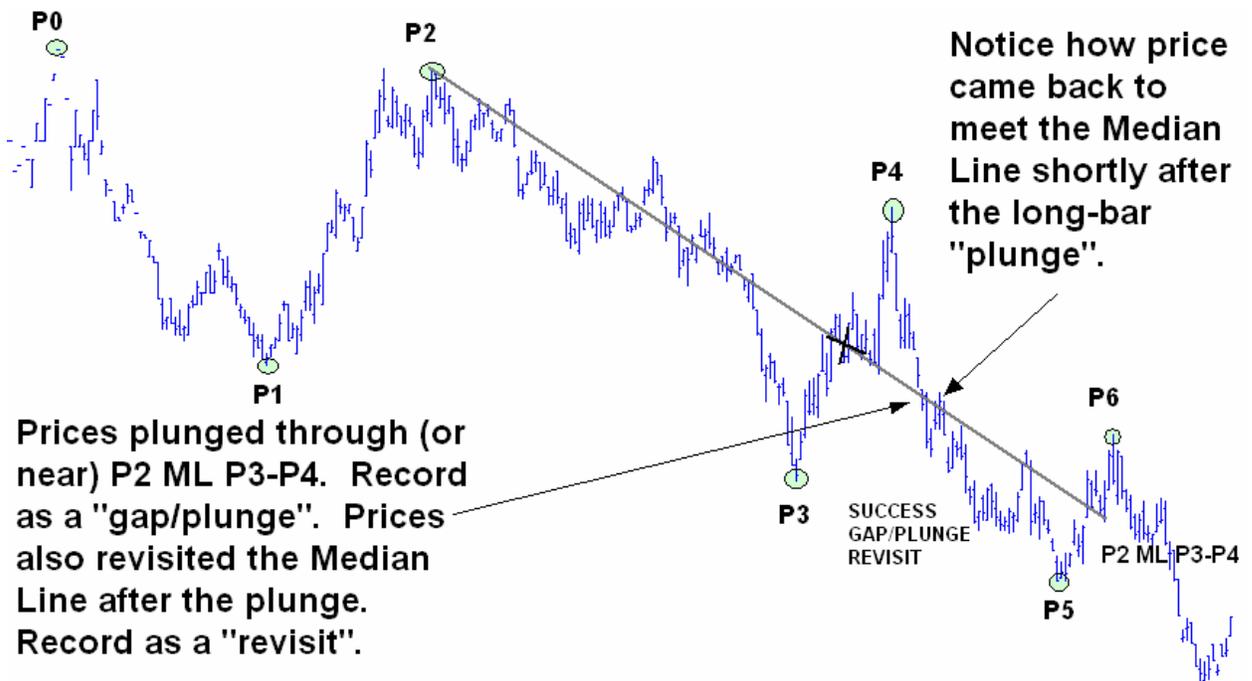


Figure 34. Determining gap/plunge and revisit at P2 ML P3-P4.

- STEP 6. In the case of price failing to reach the Median Line “Failure”:
- a. Measure the distance prices moved toward the Median Line before the price failure and then measure the distance price moved in the opposite direction as it did on approach to the Median Line
 - i. If the distance is greater record the result.



Figure 35. Determining greater move of prices away from P3 ML P4-P5.

The finished chart with trend lines, Median Lines, and notes will get a little messy, but would look like this:

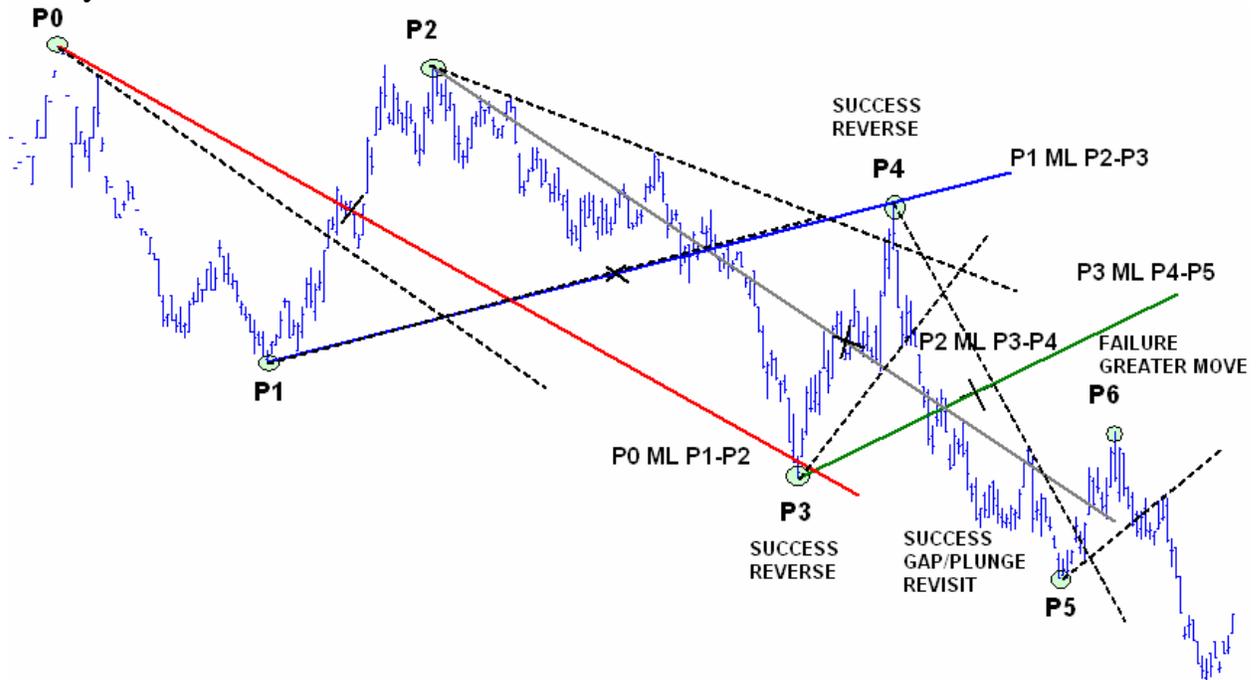


Figure 36. The complete chart under study.

After identifying the successes and their outcomes, reverse, gap/plunge and revisit, and consolidate, and the failures and greater moves, simply accumulate all the results of your study and record in **Part VIII Results** on page 51 and perform the calculations.

For example, the results of this short example study on the chart just completed would look like this:

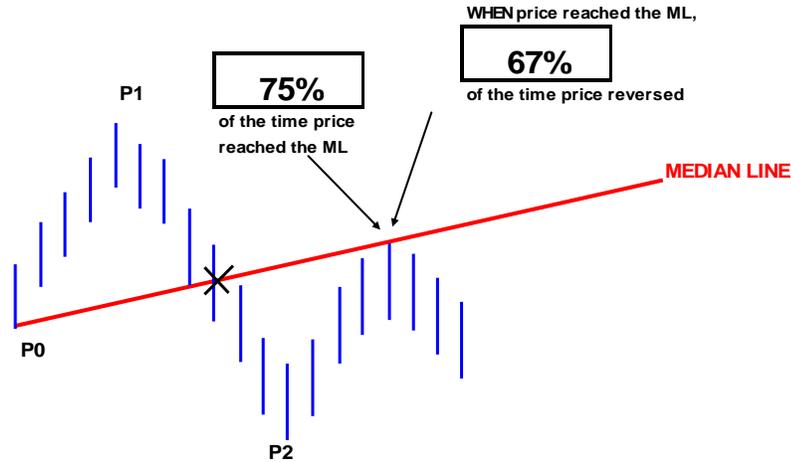
Market or Stock: Wheat
 Time Frame: Daily

	Total #	%	
Median Lines	4		
Median Line successes	3	75%	of total Median Lines
Reverse	2	67%	of successes
Gap/Plunge	1	33%	of successes
Revisit ML	1	100%	of Gap/Plunge
Consolidate	0	0%	of successes
Median Line failures	1	25%	of total Median Lines
Greater move	1	100%	of failures

Or, more visually:

Median Line Reversal Probabilities

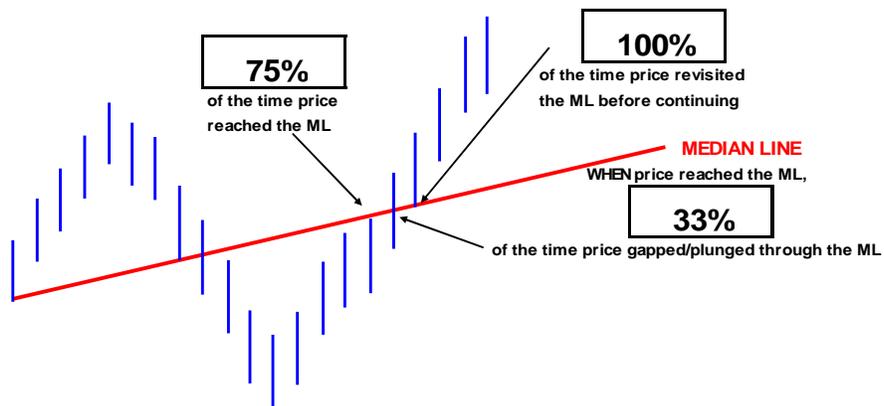
Market or Stock: Wheat
Time Frame: Daily



Now we know based on the conditions we placed on our example study, that when we drew Median Lines from MAJOR pivots on daily wheat charts, price reached the Median Line 75% of the time. WHEN price reached the Median Line, price REVERSED 67% of the time NEAR the Median Line.

Median Line Gap/Plunge Probabilities

Market or Stock: Wheat
Time Frame: Daily

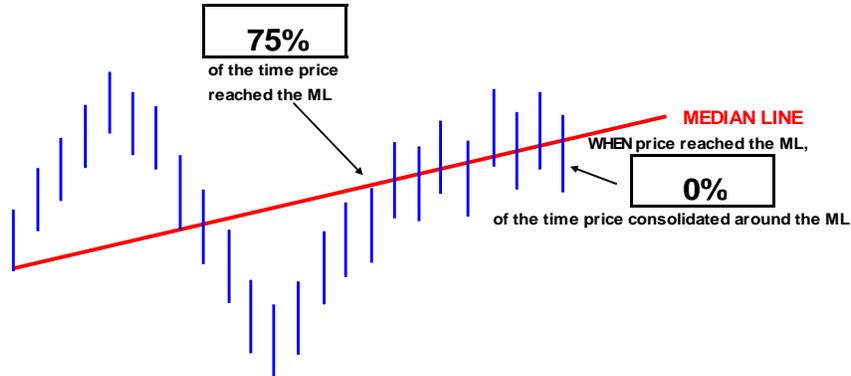


We also know that WHEN price reached the Median Line, price GAPPED or PLUNGED through the Median Line 33% of the time.

Median Line Consolidation Probabilities

Market or Stock: Wheat

Time Frame: Daily

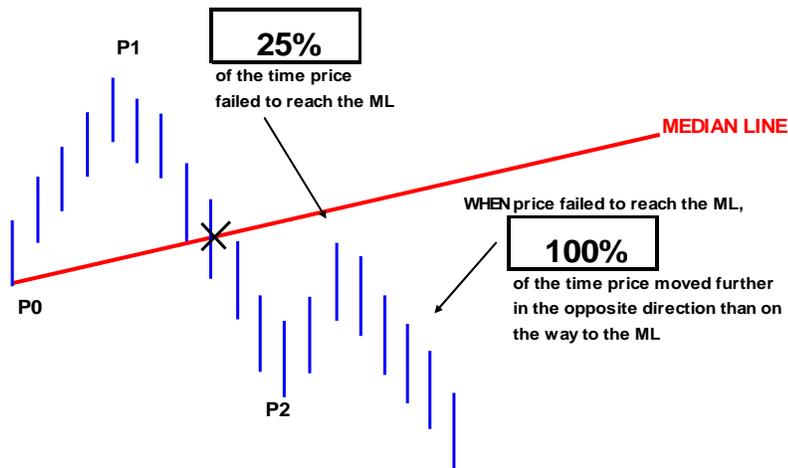


We also know that WHEN price reached the Median Line, price CONSOLIDATED around the Median Line 0% of the time.

Median Line Failure Probabilities

Market or Stock: Wheat

Time Frame: Daily



We also know that price FAILED to reach the Median Line 25% of the time, and WHEN price failed to reach the Median Line, 100% of the time price moved further in the opposite direction.

Obviously, we probably would not put much faith in a study that only consisted of 4 Median Lines. The more Median Lines applied to the conditions under study, the more reliable of a probability can be attained. The level of your understanding will also coincide with the number of Median Lines studied.

Undoubtedly, in some instances you will question which outcome applies. Is it a gap and revisit or simply consolidation? Is it a plunge through and did price come back to the Median Line close enough to consider it a revisit? The purpose of the examples is not to provide a hard and fast definition to each of the outcomes – but a guideline. You will have to put more specific definitions on the outcomes as you see fit.

One may consider an outcome a plunge through where another would consider the outcome consolidation. We all see and interpret things in our own way. The important point is to define the outcomes as YOU see them and then consistently apply that to the charts.

You will find the study of price charts is as much art as it is science, and therefore imposing strict rules and definitions is not an easy task.

PART VI

The Trend line Median Line

Improving the Probabilities?

Andrews observed the Median Line acted as a magnet to prices. You may have observed that in a few of the charts under study, that the Median Line was drawn on top of or NEARLY on top of the original trend line drawn to determine pivots. The trend line essentially BECOMES the Median Line.

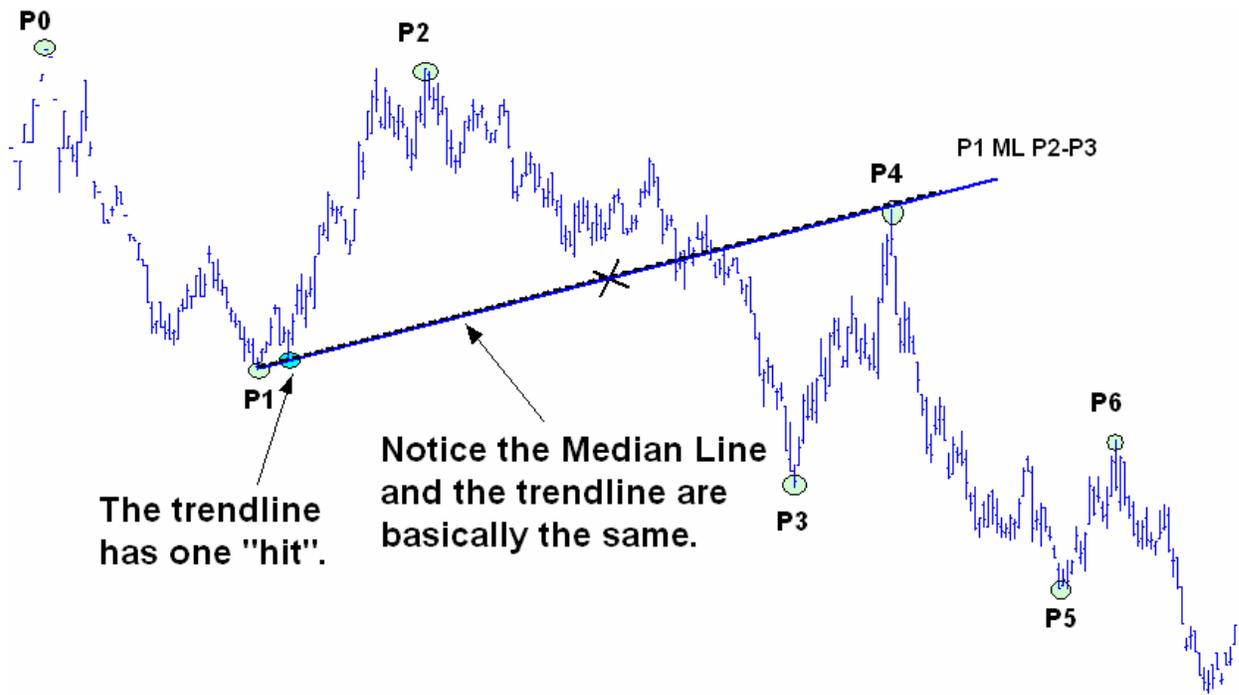


Figure 37. The trend line Median Line.

Does the fact the “magnetic” trend line attracted prices to it BEFORE it became the Median Line contribute to the “magnetic” power of the Median Line once it is established?

What if multiple hits of the trend line occur before the line BECOMES the Median Line?

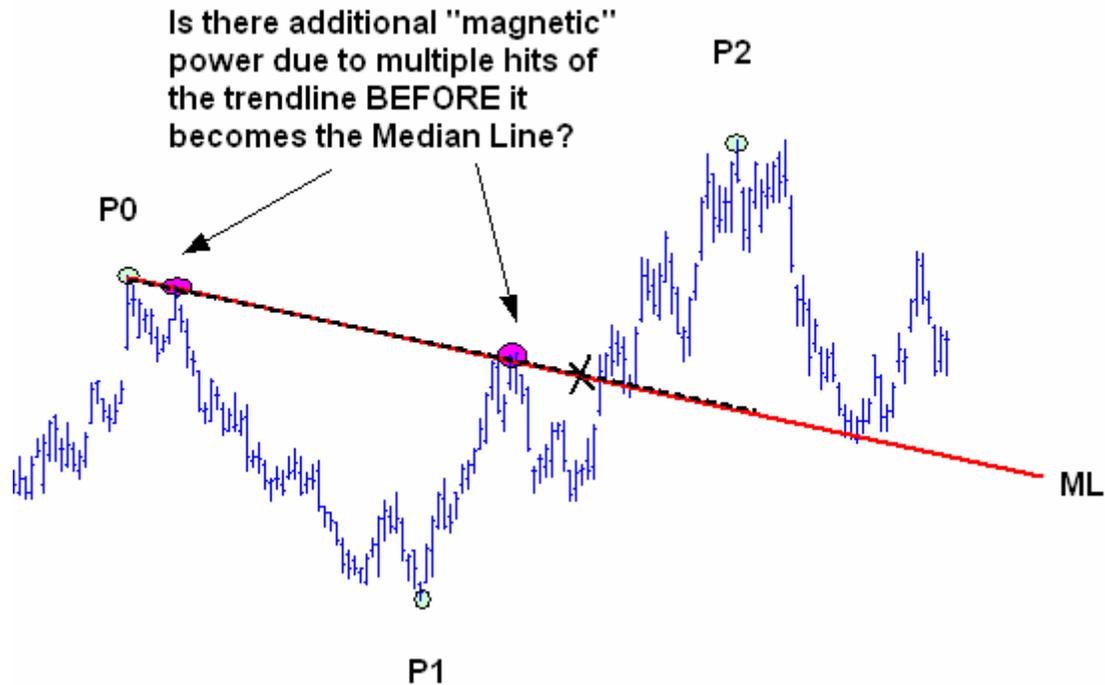


Figure 38. The trend line Median Line with multiple price hits.

Does the trend line Median Line yield improved probabilities? Go back through your charts and find out. Does the probability of price reaching the Median Line increase? Does the probability of price reversing at the Median Line increase?

PART VII

Practice Chart

Try out the method on this chart. Start by drawing trend lines and identifying pivots followed by drawing the Median Lines and finally identifying the outcomes. Possible answers are on the following page.

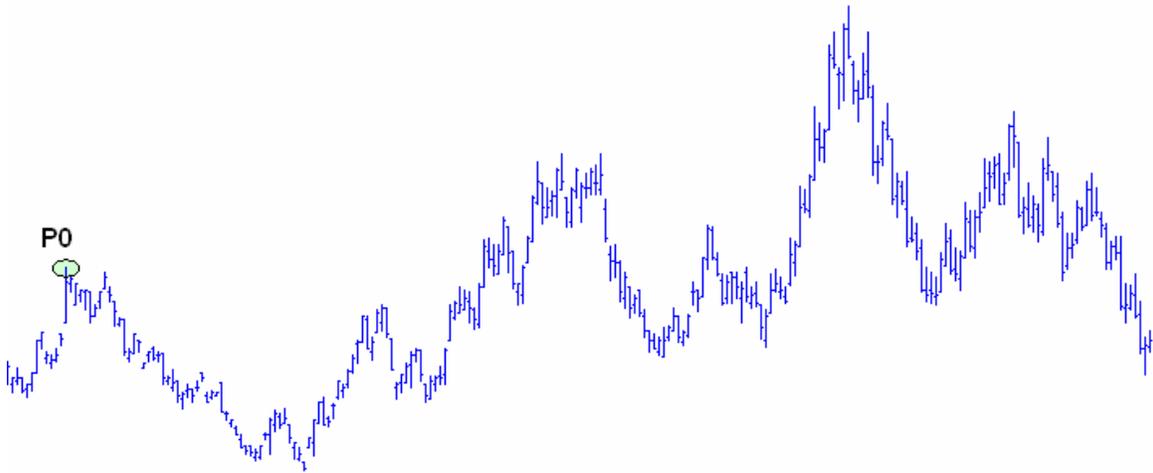


Figure 39. Practice chart.

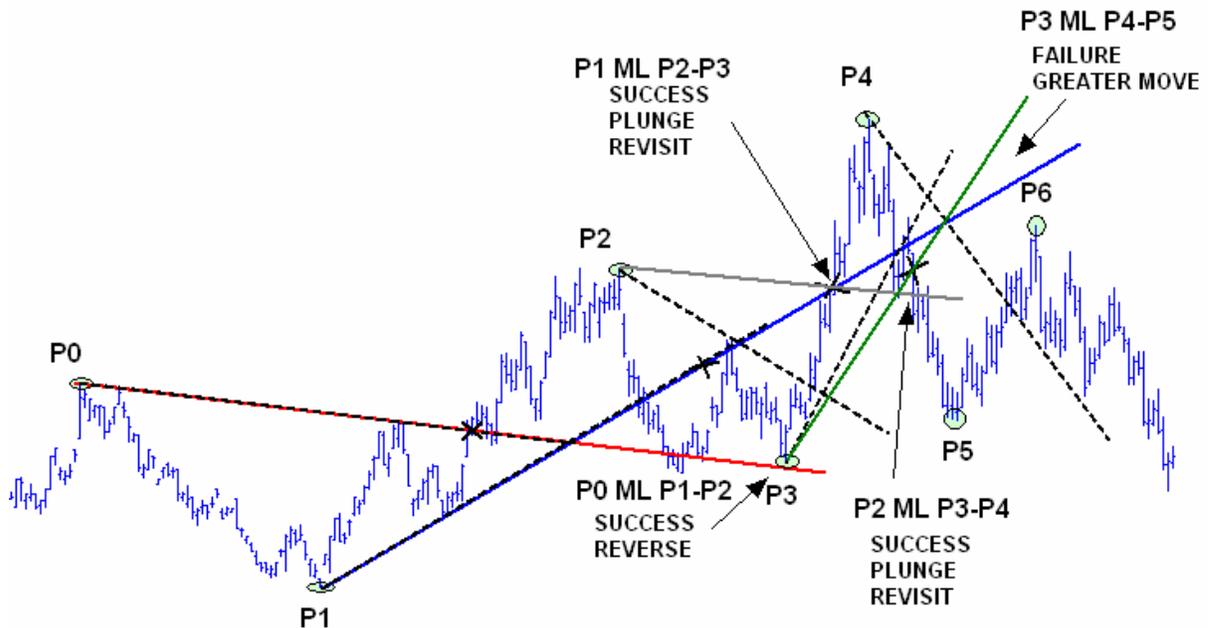


Figure 40. Possible solutions.

You may notice P3 was chosen at a point that was not the absolute low of the down move from P2. Why? Notice the P1 ML P2-P3 was drawn over the dotted trend line making it a trend line Median Line. If the trend line Median Line truly has more “magnetic” power, the Median Line could give us better results.

Maybe the most important “condition” to understand is the experience of the person drawing the Median Line. You may find the pivots used in drawing the Median Line can have a big impact on the effectiveness of the method and the outcome probabilities. The method is learned best by drawing and drawing over and over again. With patience and practice, you will likely find the method will “reveal” itself. As with anything, experience is gained only through practice.

PART VIII

Results

Market or Stock: _____

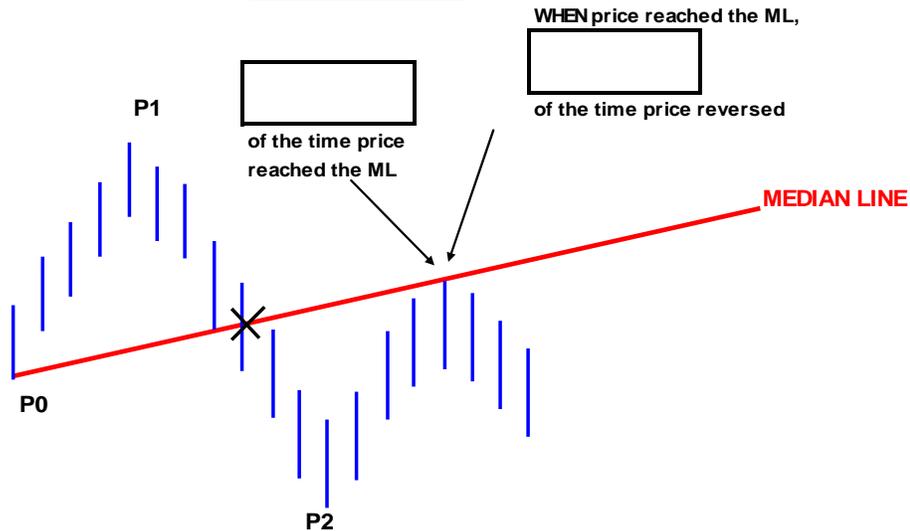
Time Frame: _____

	Total #	%	
Median Lines			
Median Line successes			of total Median Lines
Reverse			of successes
Gap/Plunge			of successes
Revisit ML			of Gap/Plunge
Consolidate			of successes
Median Line failures			of total Median Lines
Greater move			of failures

Median Line Reversal Probabilities

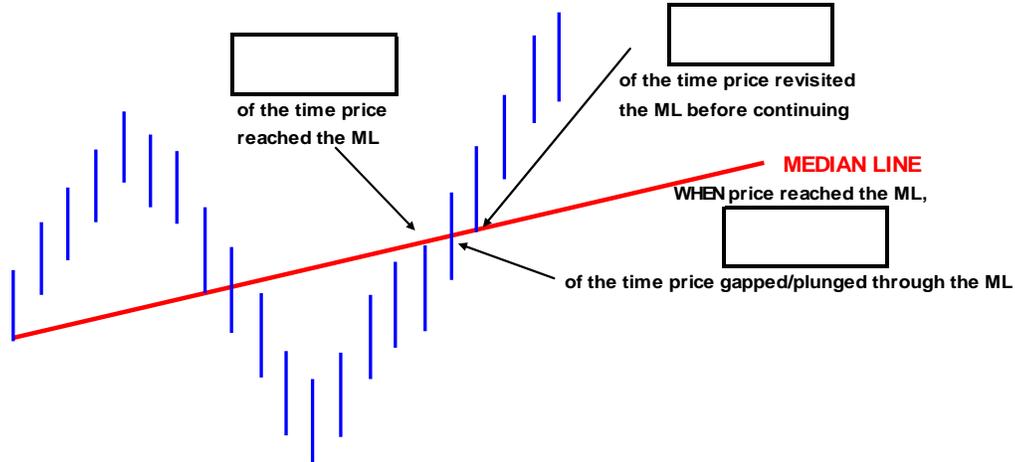
Market or Stock: _____

Time Frame: _____



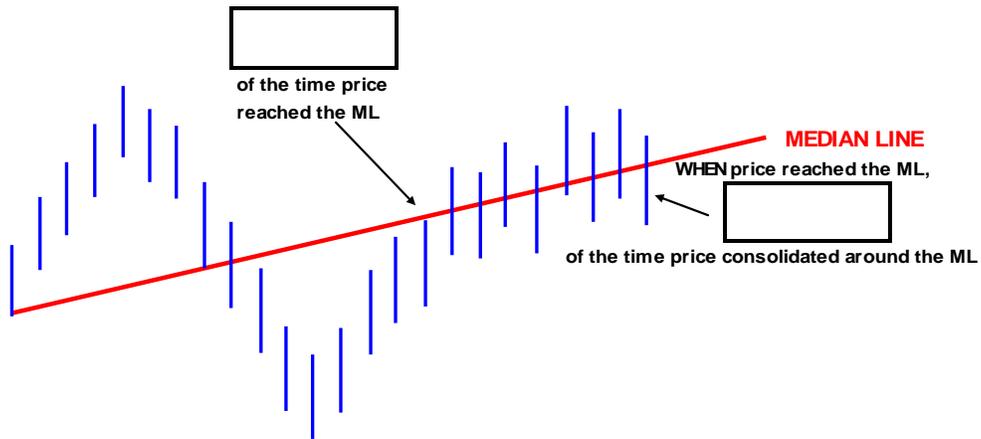
Median Line Gap/Plunge Probabilities

Market or Stock: _____
 Time Frame: _____



Median Line Consolidation Probabilities

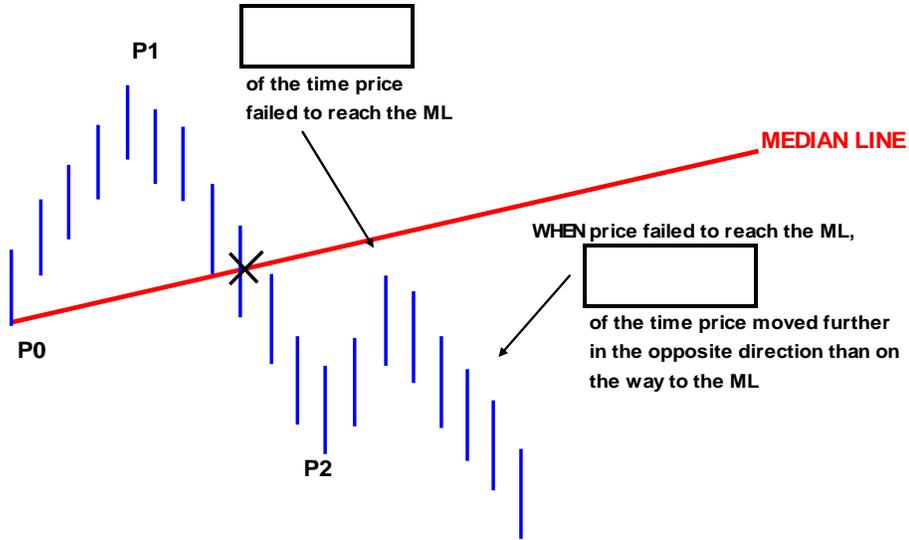
Market or Stock: _____
 Time Frame: _____



Median Line Failure Probabilities

Market or Stock: _____

Time Frame: _____



PART IX

Conclusions and Observations

As with any study, it is important to draw conclusions and make observations.

Did you find that prices returned to the Median Line about 80% of the time as Andrews suggested? If not, what are the possible reasons why?

Do different markets behave differently? Do different time frames have an affect on the results?

Feel free to copy off the results sheets and do a number of different studies on different markets or stocks and different time frames.

Could it be possible Andrews' statement applied to the way he "saw" price charts and chose pivots from which to draw the Median Lines?

Andrews states in his course,

"ML's between P2 and P3 can start from nearby or remote P1's."

~ Dr. Alan Andrews, Action-Reaction Course

How important is the selection of pivots? You now know the probabilities associated with the particular markets or stocks and the time frame of study that you chose using MAJOR pivots. You have a starting point. Is it possible to improve the probabilities by choosing pivots other than those chosen for your study?

If you would like to submit the results of your studies and have access to the accumulated results of the Median Line studies of other members, please visit the members-only area of our website:

Median-Line-Study.com

You will also find additional valuable information throughout the website concerning Andrews' techniques along with links to more quality information on Andrews' work.