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Riding Sustained Price Trends

Trend Identification By Price And Time Filtering

Minimize the impact of random price movements by using this concise, combined price-and-time filter to identify trends, along with some unique ways to display it all on a chart.

Profitable trading hinges on a trader's skill in distinguishing between random market fluctuations and genuine trading signals. Traders employ diverse techniques to effectively filter data, such as using moving averages to sift through price data, using point & figure charts, and using more modern approaches like three-line break and renko charts, which seek to filter *time* dynamics.

The success of these methods varies, underscoring the nuanced nature of the trading landscape.

I use a concise, combined price and time filter to identify trends, designed to minimize the impact of random price movements. The rules are:

- If the most recently completed week's close is greater than the previous week's high, the trend is up.
- If the most recently completed week's close is less than the previous week's low, the trend is down.
- The trend remains in the same direction until changed by one of the above conditions.

The same logic can be applied to monthly bars for a longer-term view:

- If the most recently completed month's close is greater than the previous month's high, the trend is up.
- If the most recently completed month's close is less than the previous month's low, the trend is down.
- The trend remains in the same direction until changed by one of the above conditions.

Through my observation of the markets over the years, I have determined these rules to be most effective on the weekly and monthly timeframes. Longer timeframes lack fidelity, while shorter timeframes result in frequent and unpredictable whipsaws.

The sidebar titled "Price-Time Filtering In Weekly Or Monthly Timeframes, In EasyLanguage Code" presents code that formulates these rules for trend identification and plots a histogram of the result in TradeStation or MultiCharts.

Examples

Figure 1 shows NASDAQ-100 index futures daily bars with the weekly trend filter applied to the price bars. Subgraph 1 counts the number of bars in the uptrend and downtrend and subgraph 2 shows cumulative volume on each trend period.

The proficiency of the trend identification algorithm is evident as it follows the major uptrends and downtrends, marking the preliminary phase of our analysis. Subsequently, we turn our focus to the observation that *cumulative volume closely reflects price action*.

In other words, substantial trends are consistently accompanied by noteworthy volume, underscoring the symbiotic relationship between significant price movements and the corresponding level of trading activity.

Figure 2 shows NASDAQ-100 index futures daily bars with the weekly trend filter in the middle subgraph and the monthly trend filter in the bottom subgraph

by Alfred François Tagher

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FIGURE 1: DAILY NASDAQ FUTURES WITH WEEKLY TREND FILTER AND CUMULATIVE VOLUME. The price plot at top is daily bars of the NASDAQ-100 index continuous futures. Subgraph 1 is the weekly trend filter based on the NASDAQ futures daily bars; it's plotted by counting the number of bars in the uptrends and downtrends in the price plot. Subgraph 2 shows cumulative volume on each trend period. The trend identification algorithm clearly follows the major uptrends and downtrends.

FIGURE 2: DAILY NASDAQ FUTURES WITH WEEKLY & MONTHLY TREND FILTERS. Here you see both the weekly and monthly trend filters based on the NASDAQ-100 index continuous futures daily data. The weekly trend filter is displayed in the middle subgraph (the wedge-shaped graph; "AFT" is the author's initials). The monthly trend filter is displayed in the bottom subgraph, beneath a repeat of the daily NASDAQ futures price bars. You can see that the monthly trend filter remained in an uptrend from December 2022 to October 2023 while the weekly trend filter fluctuated through the same period.

I use a concise, combined price and time filter to identify trends.

Notice how the monthly filter remains in an uptrend from December 2022 until the end of October 2023, but has just turned down because October's close was less than September's low. Meanwhile, the weekly trend filter fluctuated through the same period.

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A PLOT BASED ON THE CONCEPT OF POINT & FIGURE CHARTING

Continuing with the NASDAQ example, I aim to present the weekly and monthly trend filters in a format resembling a point & figure (P&F) chart. In Figure 3, you see a chart of NASDAQ futures data modified by the weekly trend filter. Uptrends are represented by blue bars, while downtrends are denoted by red bars; the length of each bar corresponds to the duration of the respective trend.

Additionally, cumulative volume for each uptrend and downtrend is graphically represented. It is noteworthy to observe the two price bars positioned at the extreme right of the chart (pointed out by down arrows) and the accompanying blue volume bars. Despite these two blue volume bars being the largest on the chart, the upward price progress in the NASDAQ is minimal.

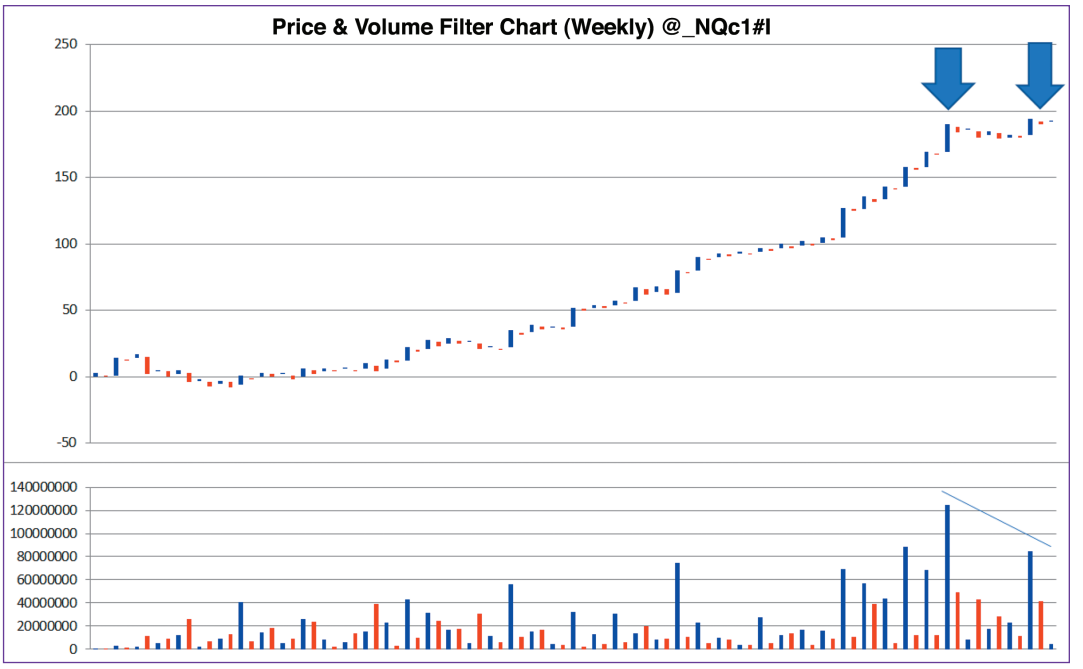

FIGURE 3: WEEKLY TREND FILTER APPLIED TO NASDAQ FUTURES, WITH CUMULATIVE VOLUME. This chart of filtered data, plotted from a spreadsheet, is based on the concept of the point & figure chart in that it is not a time-based chart; uptrends in the NASDAQ futures daily data are represented by blue bars and downtrends are denoted by red bars. The length of each bar corresponds to the duration of the respective trend. In the subgraph, cumulative volume for each uptrend and downtrend is plotted. You can see here that despite the tall size of the two blue volume bars toward the right of the chart, upward price movement is minimal.

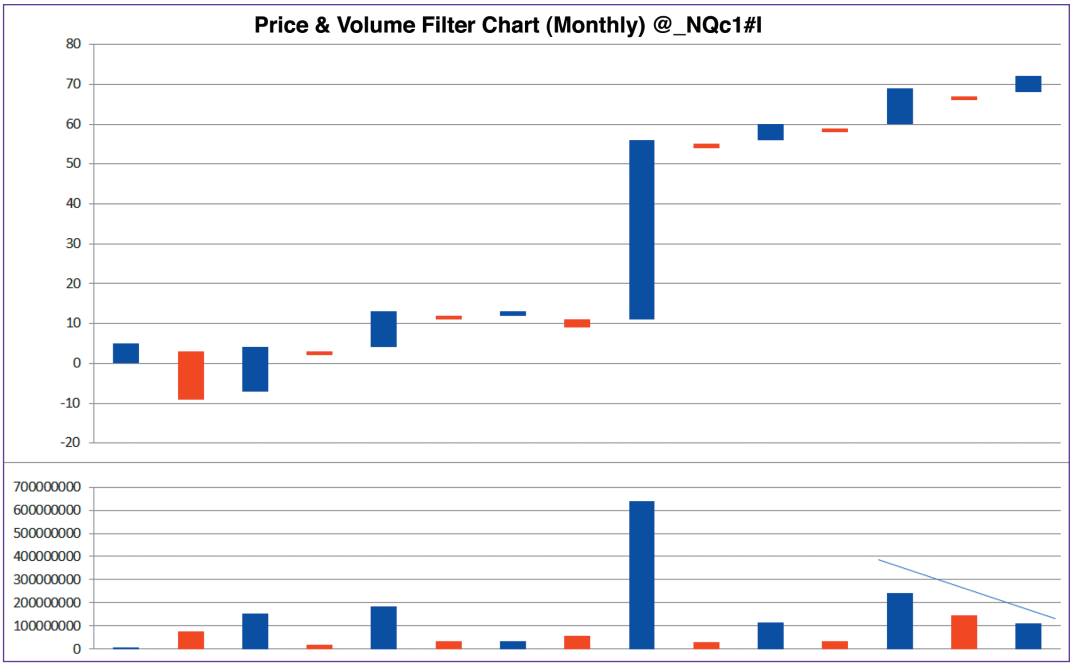

FIGURE 4: MONTHLY TREND FILTER APPLIED TO NASDAQ FUTURES, WITH CUMULATIVE VOLUME. As in Figure 3, data is plotted from a spreadsheet, this time filtered by the monthly trend filter: Uptrends in the NASDAQ futures data are represented by blue bars and downtrends are denoted by red bars. The length of each bar corresponds to the duration of the respective trend. Cumulative volume for each uptrend and downtrend is in the subgraph. At right you see a divergence as price makes higher highs but volume is not confirming.

This underscores one of Richard D. Wyckoff's fundamental principles—that the interplay between *effort expended*, signified by the volume, and *reward* represent the extent of price movement resulting from that effort.

Figure 4 is a chart of NASDAQ futures data with the monthly trend filter applied. Cumulative volume is in the subgraph. Again, note the price action at the extreme right of the chart, where price is making higher highs with volume

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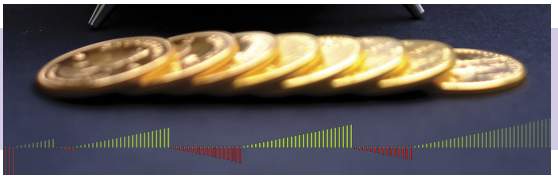
PRICE-TIME FILTERING IN WEEKLY TIMEFRAME, IN EASYLANGUAGE CODE

```
{ Price-Time Filtering }
{ copyright 2023 Alfred François Tagher }

{AFT Strong Trend Weekly - Format as Histogram, Scaling: same as price }

{ If Friday's close is greater than last week's high then the trend is up.
  If Friday's close is less than last week's low then the trend is down.}

Inputs: UpColor(Green), DnColor(Red);
Vars:WeekHi(0), WeekLo(0), WeekCl(0), WeekKnt(0), PriorWeekHi(0), PriorWeekLo(0), PriorWeekCl(0), Trend(0);

If (DayOfWeek(date)<DayOfWeek(date[1]) and DayOfWeek(date[1])<>5)
   or (DayOfWeek(Date)=5) then Begin

  {this uses Monday if there was no Friday}

 If DayOfWeek(Date)=5 then begin
  Value1=C;

    If H>WeekHi then WeekHi=H;
    If L<WeekLo then WeekLo=L;
 End
  else Value1=C[1];

  {Need to check if Close exceeds prior Week}

  If Value1>PriorWeekHi then  Trend=+1;
  If Value1<PriorWeekLo then  Trend=-1;

  PriorWeekHi=WeekHi;
  PriorWeekLo=WeekLo;
  WeekKnt=WeekKnt+1;
End;

If DayOfWeek(date)<DayOfWeek(date[1]) then begin
 WeekHi=H;
 WeekLo=L;
End;

If H>WeekHi then WeekHi=H;
If L<WeekLo then WeekLo=L;

If WeekKnt>1 then begin
  If Trend=+1 then Plot1(High,"Week UP",UpColor);
  If Trend=+1 then Plot2(Low,"Week UP",UpColor);
  If Trend=-1 then Plot1(High,"Week Up",DnColor);
  If Trend=-1 then Plot2(Low,"Week Up",DnColor);
End;
```

PRICE-TIME FILTERING IN MONTHLY TIMEFRAME, IN EASYLANGUAGE CODE

```
{AFT Strong Trend Mo }

Inputs:Lkbk(500), UpColor(Green), DnColor(Magenta);
Vars:WeekHi(0), WeekLo(0), WeekCl(0), WeekKnt(0), PriorWeekHi(0), PriorWeekLo(0), PriorWeekCl(0), Trend(0), NumBarsUp(0), NumBarsDn(0);
Vars: Cnt(0), Dir(0);


If Month(date)<>Month(date[1]) then begin

  Value1=C;
    If H>WeekHi then WeekHi=H;
    If L<WeekLo then WeekLo=L;

 Value1=C[1];


  If Value1>PriorWeekHi then  Trend=+1;
  If Value1<PriorWeekLo then  Trend=-1;

  PriorWeekHi=WeekHi;
  PriorWeekLo=WeekLo;
  WeekKnt=WeekKnt+1;
End;


If Month(date)<>Month(date[1]) then begin
 WeekHi=H;
 WeekLo=L;
End;
If H>WeekHi then WeekHi=H;
If L<WeekLo then WeekLo=L;

If WeekKnt>1 then begin

NumBarsUp = MRO(Trend = +1,Lkbk,1);
NumBarsDn = MRO(Trend = -1,Lkbk,1);

Plot1(-NumBarsUp,"NumBarsUp");
Plot2(NumBarsDn,"NumBarsDn");

End;
```



The divergence between rising prices and lower volume is readily apparent.

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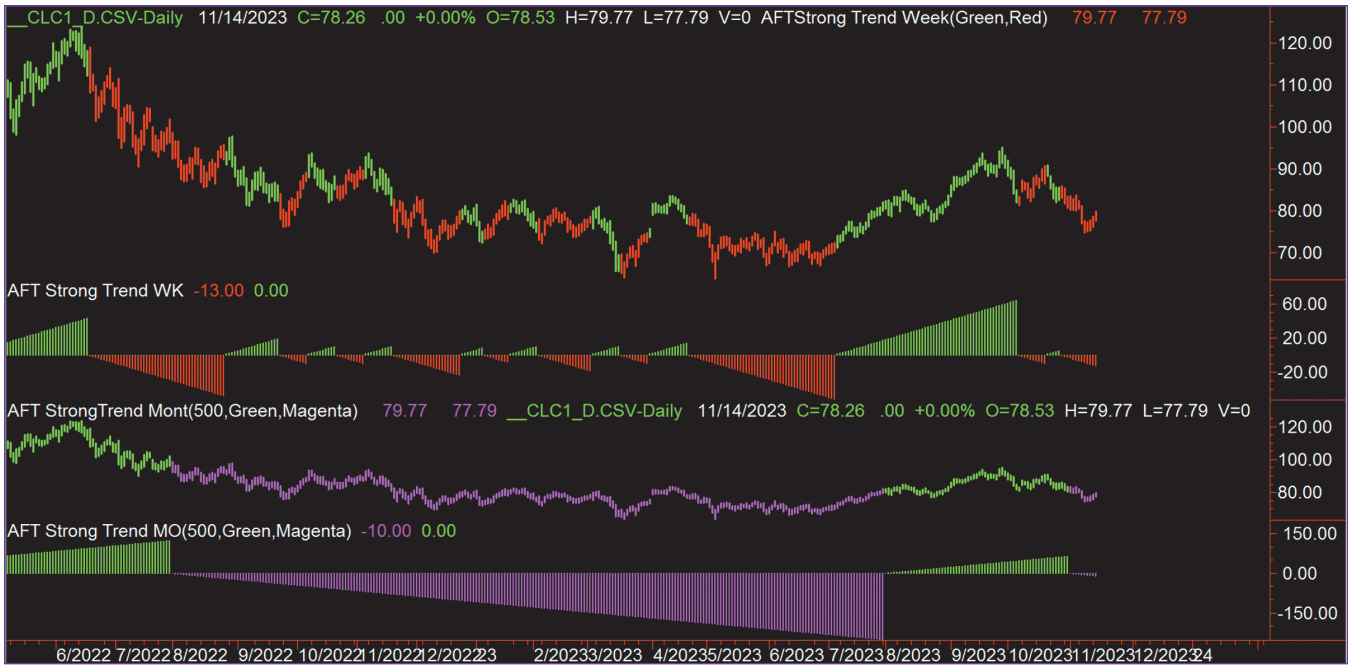


FIGURE 5: DAILY CRUDE OIL FUTURES WITH WEEKLY & MONTHLY TREND FILTERS. Here, the weekly and monthly trend filters (in the subgraphs) are applied to a daily chart of WTI Crude Oil. Both trend filters capture and ride important trends.

not confirming. This is classic divergence.

CRUDE OIL EXAMPLE

Last, I would like to show an example of price action in crude oil futures. Figure 5 shows WTI Crude Oil daily bars along with the weekly and monthly trend filters.

In this chart, we can see, as with the NASDAQ chart, how both filters capture and ride important trends.

During the sideways price action of August 2022 to June 2023, the weekly trend filter alternates between uptrend and downtrend, while the monthly trend remains down throughout the entire period.

Figure 6 shows a weekly point & figure–type chart for crude oil, with cumulative volume in the lower pane. Prices are making higher highs with volume not confirming.

Figure 7 shows a monthly point & figure–type chart

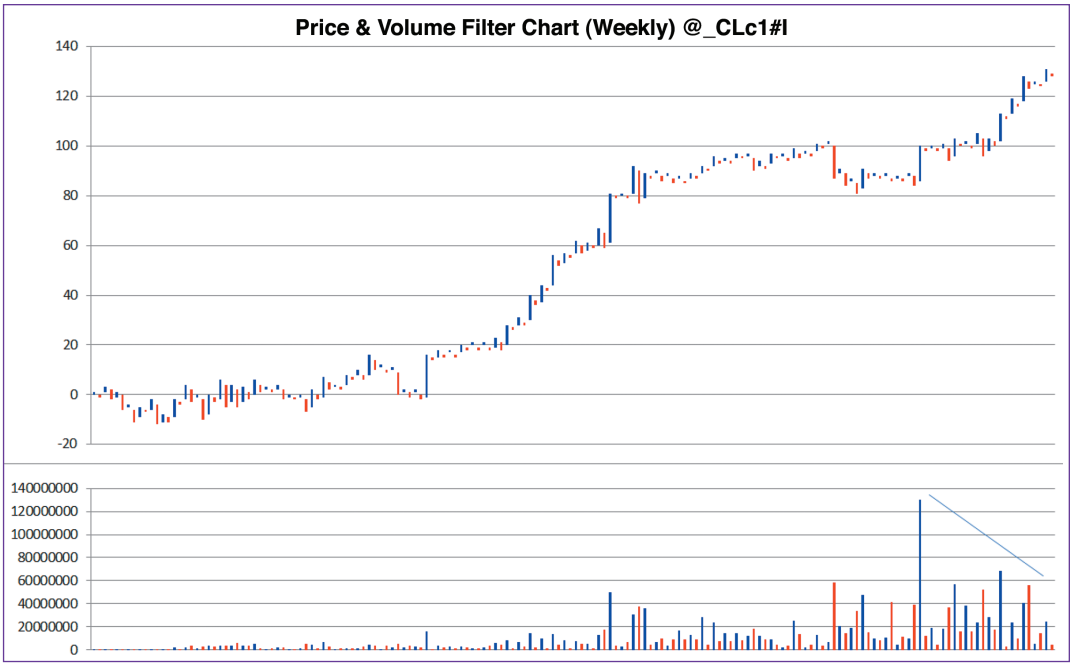
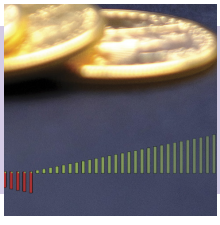


FIGURE 6: WEEKLY TREND FILTER APPLIED TO CRUDE OIL FUTURES, WITH CUMULATIVE VOLUME. Here, WTI Crude Oil continuous futures daily data is filtered by the weekly trend filter and plotted from a spreadsheet. Cumulative volume for each uptrend and downtrend is in the subgraph. You can see that prices are making higher highs but volume is not confirming.

Substantial trends are consistently accompanied by noteworthy volume.



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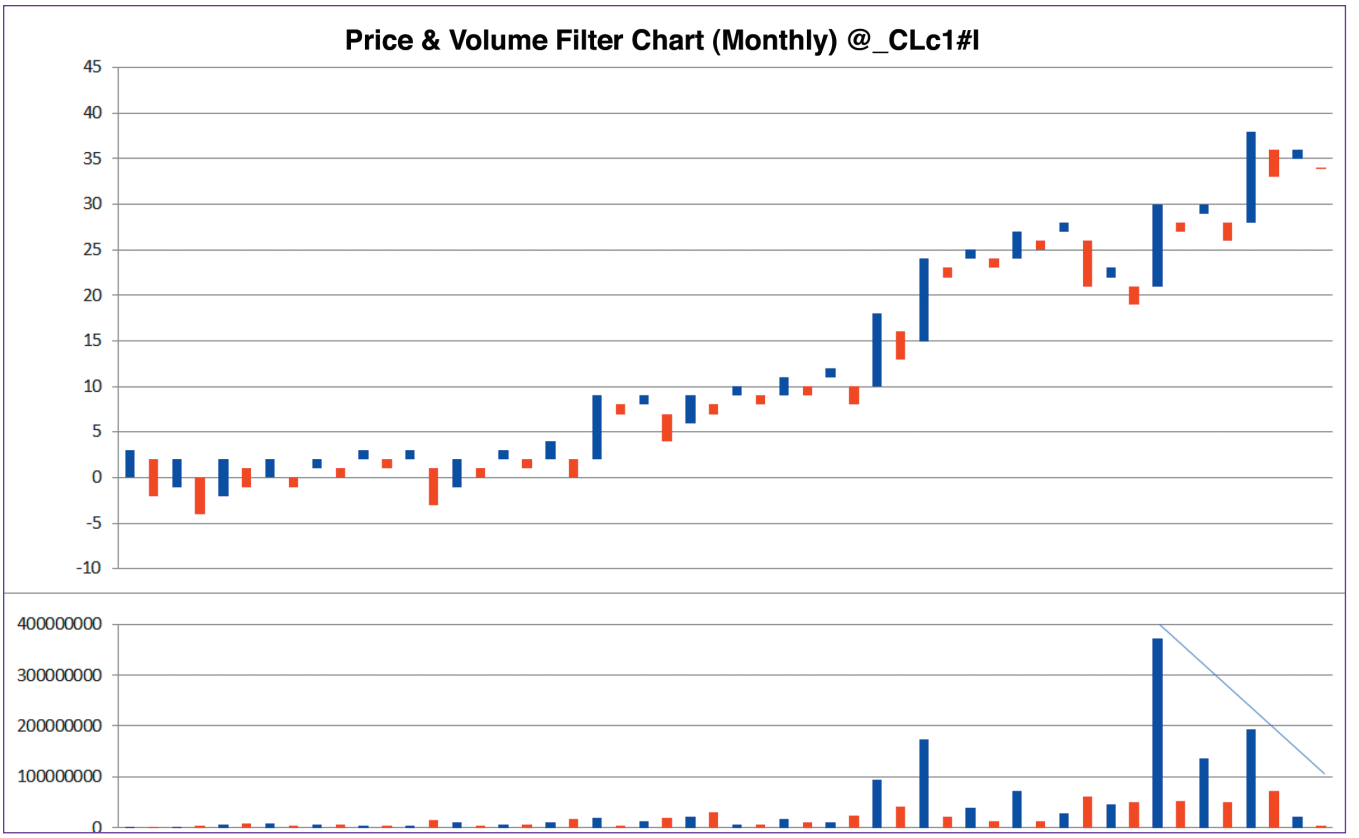

FIGURE 7: MONTHLY TREND FILTER APPLIED TO CRUDE OIL FUTURES, WITH CUMULATIVE VOLUME. Here, WTI Crude Oil data is filtered by the monthly trend filter, with cumulative volume in the lower pane. The divergence between rising prices and lower volume is readily apparent.

for crude oil, with cumulative volume in the lower pane. Again, the divergence between rising prices and lower volume is readily apparent.

CONCLUSION

With the preceding examples, I have shown that using a price and time filter based on weekly and monthly price action can eliminate a considerable amount of market noise in order to capture, ride, and profit from sustained price trends.

Alfred F. Tagher is an independent trader with 32 years of market experience. He is currently based in Austria. He can be reached by email at fredtag@club-internet.fr.

The author wishes to thank Scott Bunny for the Microsoft Excel tools used in this article. Scott Bunny can be contacted at solutions@wabbit.com.au.

The Excel spreadsheet used to create Figures 3, 4, 6, & 7 is available free of charge by contacting the article's author at fredtag@club-internet.fr.

*The code given in this article is available in the **S&C Article Code** section of our website, Traders.com.*

*See the **Traders' Tips** coding section of this magazine beginning on page 48 for translation of Alfred Tagher's coding to various technical analysis programs and trading platforms. Code from the Traders' Tips section is also posted at Traders.com.*

FURTHER READING

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‡TradeStation, ‡MultiCharts

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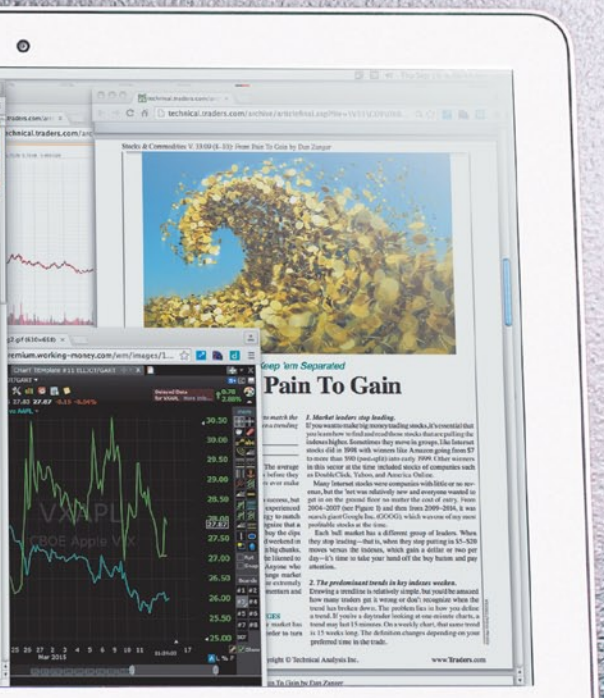

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