Pivot Points for CQG - Overview

By Brian Bell

Introduction

Pivot points are a well-known technique used by floor traders to calculate intraday support and resistance levels. This technique has been around for decades, yet is still in use today.

Pivot Points for CQG (PP) allows CQG for Windows users to display the support and resistance levels used by floor traders, highlighting critical areas for the day's trading before the session even opens.

The pivot points technique works well on highly liquid instruments that have a large daily range. The stock index futures are probably the best, but this technique can also be used on foreign currency futures and even on equities. Precious metals are another candidate.

Concept

Using a few simple formulas, intraday support and resistance levels can be calculated before the day's trading begins.

The most important level is the *daily pivot,* or *pivot point (PP).*

[Note that the *pivot point* is not related to the *swing pivot*, which is a high bar or low bar.]

There are four other support and resistance levels that are calculated, using the daily pivot as a starting point. There are two support levels,

Figure 1 – *Pivot Points for CQG.*

designated *S1* and *S2*, and two resistance levels, *R1* and *R2*.

There are three major variations on how to calculate the pivot point levels. The formulas for the traditional method are:

$$PP = (H + L + C)/3$$
$$S1 = (2*PP) - H$$
$$R1 = (2*PP) - L$$
$$S2 = PP - (H - L)$$
$$R2 = PP + (H - L)$$

The high, low, and close values used are *yesterday's* values.

The first variation can be used to compensate for overnight trading and opening gaps. It weights the *PP* level with today's opening price.

The *PP* formula for the first variation is:

$$PP = (H + L + C + O_{today})/4 \,.$$

All of the other formulas are the same as in the traditional method.

The second variation also compensates for overnight trading and opening gaps. It does this by substituting today's open for yesterday's close. The *PP* formula now becomes:

$$PP = (H + L + O_{today})/3 \,.$$

In my research, I have found that I prefer the first variation, but you should experiment and see what works best in the markets that you trade.

Pivot Points for CQG allows you to select which calculation method you wish to use. You can also use different methods on different instruments, if you wish.

Using Pivot Points for CQG

There are two basic techniques for daytrading using the daily pivot point and the associated support and resistance levels that are described in the references. A search of the Internet will yield a lot of good information on how to trade pivot points, and there have been at least three articles in <u>Technical Analysis of Stocks & Commodities</u> over the last few years.
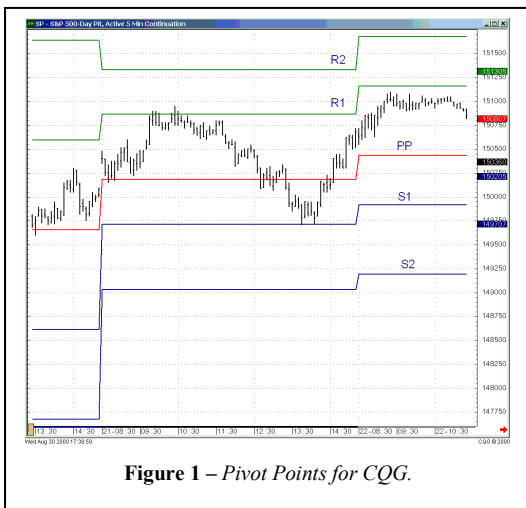
I have used these levels for longer-term (several days) trend detection and have been pleased with the results. My ideas for doing this are based on J. Gopalakrishnan's recent article in the aforementioned magazine. [1].

Daytrading with Pivot Points for CQG – Variation 1

There are two basic techniques for daytrading with *Pivot Points for CQG*. The first is best used by daytraders using very short-term charts (1-5 minutes), and has been described in [1] and [2].

In this technique, the main idea is to get long above the daily pivot point and get short below it. More precisely, though, **enter long when the pivot is violated in a bull move and enter short when the pivot is violated in a bear move.**

Use other techniques to filter these signals. The use of a simple tool like a simple moving average oscillator to filter for bullish and bearish market moves can be very effective.

After entering, set a stop-loss just below the daily pivot. When the market moves in your direction, aggressively move your stop up to breakeven, then use a trailing stop. As with most techniques, it is essential to limit losses when using this technique.

When long, R1 is your first profit objective. When the market reaches this level, you have a

choice. You can either take profits at this level, or you can pull your stop up to just below this level. If there were a lot of strength in the market, you would obviously want to choose the second alternative.

When a market violates resistance, that level generally becomes support. If the market exceeds R1 and you didn't take your profits at that level, you can now place your stop just below R1, since we now expect R1 to become support. You could also simply keep moving your trailing stop until it gets filled.

If you remain in the trade and the market has continued upward, R2 is your second profit objective. When the market reaches this level, you have the same choice as before – either take your profits or pull your stop up to just below R2.

Figure 2 illustrates an example of this type of trade. In this case the market found strong resistance at R1 and failed to move higher. If you had taken this trade and selected to move your stop up to just below R1 instead of taking profits, you still would have made a nice little profit.

The chart shown here is a 2-minute bar chart of the S&P futures. The use of higher-resolution bar charts can lead to better entries and exits, but it can also lead to more whipsaws (depending on your entry and exit techniques). My research indicates that this technique can be effective when used with charts that range anywhere from 1 to 5 minute bars. Personally, I feel that this technique is probably better used on the shorter-term charts – 1, 2, and possibly 3-minute charts.

The first violation of the day is considered the most important. Each succeeding violation is more and more indicative of a market that is wandering in the area of the daily pivot, and this is *not* the right type of market to trade with this technique.

Figure 3 shows another example of how helpful the pivot points levels can be. This 5-minute chart is the December 2000 S&P futures on September 11, 2000.

At 0915 (Chicago time), the market shot up through the daily pivot level (PP). If you were using this technique you would have gotten long on this bar, with your initial stop just below PP.
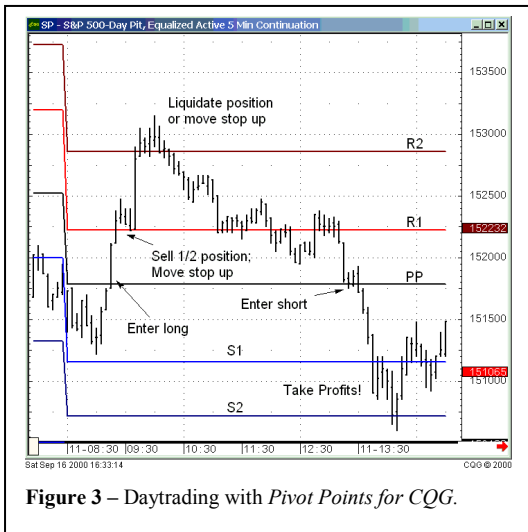

Figure 2– Enter long on a bull move violation of the daily pivot. You can take profits at the resistance levels or set a sell-stop order just below it in an attempt to let your profits run.

Figure 3 – Daytrading with *Pivot Points for CQG.*

In the very next bar you got a chance to take some quick profits. You could either take the profits, or move your stop up to just below R1.

Whenever you have a trade where there is more than one logical profit objective, it can be a good strategy to take a quick profit on part of the position, while keeping the other part of the position in case the second objective is reached. [3]

Just a few bars later, in the 0940 bar, the market breached R2. Assuming you kept part or all of the position after R1 was violated, you could either liquidate the position immediately when R2 is violated, or you could move the stop up to just below R2. In either case, you're out with a nice profit of about 10 S&P points before lunch!

The market turned around after this, moving down steadily until 1315, when it broke convincingly, finding support at PP for about 15 minutes. Then it broke through PP in a convincing fashion at 1330.

If you were inclined to trade this second violation, you could have entered short at this point, again liquidating part of the position at S1 and the other part at S2, nearly equaling your profit of the morning.

Now of course all days aren't like this – trading just isn't that easy! I selected this example for educational purposes, but it does show the potential in using these support and resistance levels for daytrading.

In his recent article, J. Gopalakrishnan describes how he filters days based on the trend to determine whether he wants to trade long or short that day. *Pivot Points for CQG* includes conditions that allow the user to perform the same filtering.

The technique he describes is this. Calculate the 3-day average (the *daily* average, in his parlance) and the 5-day average (the *weekly* average) of the daily pivot levels (PP).
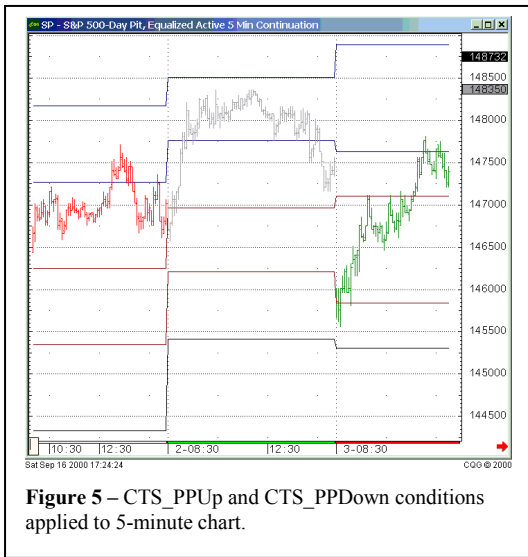
If today's PP is greater than both of the averages, then the short-term trend is up and he will trade long only. On the other hand, if today's PP is less than both averages, he will trade short only.

Figure 4 shows the CTS_PPUpDouble (green) and CTS_PPDownDouble (red) conditions used to color bars on a daily chart. These conditions combine the 3-day and 5-day averages used by Mr. Gopalakrishnan. These conditions have parameters that allow you to change the moving average periods and the pivot points calculation method.

Figure 4 – CTS_PPUpDouble and CTS_PPDownDouble conditions.

Figure 5 – CTS_PPUp and CTS_PPDown conditions applied to 5-minute chart.

Figure 6 – A good example of how R1 and S1 can be used to fade the market.

As shown in Figure 5, these conditions can also be applied to intraday charts. The calculations are performed on daily bars, so each intraday bar within a day will be colored the same.

Pivot Points for CQG also includes conditions that test for the PP level to be above or below a single moving average.

## Daytrading with Pivot Points for CQG – Variation 2

This technique is based on the theory that, in absence of any outside news or other influence, the market is controlled by the locals, and that their "zone of control" is between S1 and R1.

Thus if the day's trading is listless and there isn't much activity, S1 and R1 can be used as entry points to fade the market.

The theory additionally states that if the market convincingly violates either S1 or R1, this should bring in activity from off the floor and there is then a short-term intraday trend in affect, in the direction of the violation.

If prices should continue in the same direction and violate S2 or R2, this should bring in more off-floor activity, piquing the interest of longer-term traders and signaling the beginning of a longer-term trend (longer-term in this case meaning longer than a single day).

Figure 6 shows a good example of how these trades can be made. Assume that there is no significant news and volume is relatively light.
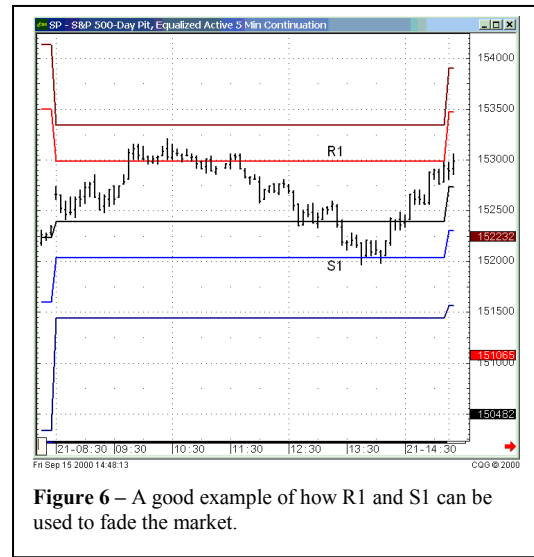
When the market finds resistance at R1, enter a short trade, with a stop just above R2 or a recent high. Use a trailing stop as the market moves down in your favor. Take profits and reverse the position when the market finds support at S1, with a stop just below S2 or a recent low.

With a few enhancements, this technique is the basis of Wilder's Reaction Trend System, which I will describe next.

Summary

Pivot Points for CQG allows CQG users to see the support and resistance levels that have been used by floor traders for decades. Daytraders can actively use these levels in their trading. Even position traders can derive benefit from these levels by tracking the movement of the daily pivot in relation to its moving average.

Pivot Points for CQG – **Reference**

Common Parameters

The following parameters are common to all *Pivot Points for CQG* studies and conditions:

PPType: The method used in calculating the daily pivot:

HLC – The traditional method is used. The daily pivot is

$$PP_i = (H_{i-1} + L_{i-1} + C_{i-1})/3.$$

HLCO – The first variation is used. The daily pivot is

$$PP_i = (H_{i-1} + L_{i-1} + C_{i-1} + O_i)/4.$$

HLO – The second variation is used. The daily pivot is

$$PP_i = (H_{i-1} + L_{i-1} + O_i)/3.$$

ContType: Due to the mixing of time frames, the continuation type of the chart must be specified. This parameter is used as follows:

None – No continuation. Use this option on all non-continuation charts.

Standard – Standard continuation. Use this option on all standard-continuation charts: ",DC", "5C", ",30C", etc.

Active – Active continuation. Use this option on all active-continuation charts: ",ADC", "A5C", ",A30C", etc.

The Studies

Study: CTS_PP

Summary: Displays the *Pivot Points for CQG* study.

Abbreviation: CTS_PP

Number of curves: 5

CTS_DP: The daily pivot (DP).
CTS_R1: The first resistance level.
CTS_S1: The first support level.
CTS_R2: The second resistance level.
CTS_S2: The second support level.

Number of parameters: 2

PPType: The method used in calculating the daily pivot. See **Common Parameters**.

ContType: The continuation type of the chart. See **Common Parameters**.

Remarks

The calculation of the daily pivot and the support and resistance levels depends on daily data. Unfortunately, it is not possible for the study to know whether it has been applied to a continuation chart or not. This is the reason for the ContType parameter.

For most users this will not be a problem, since most do not mix continuation and non-continuation charts. For those users who do, however, I recommend setting up personal pages that are dedicated to non-continuation, standard continuation, and active continuation charts. Then you can place the Pivot Points study on the chart, set the ContType parameter to the appropriate value, and save the page. Then whenever you return to the page, the study will be setup properly.

The Conditions

Condition: CTS_PPDown

Summary: True when the daily pivot (PP) is less than its moving average.

Number of parameters: 3

    PPType: The method used in calculating the daily pivot. See **Common Parameters**.

    ContType: The continuation type of the chart. See **Common Parameters**.

    Period: The period of the moving average.

Remarks

    This condition is true when the daily pivot (PP) is less than its moving average, indicating a short-term downtrend is in affect.

Condition: CTS_PPDownDouble

Summary: True when the daily pivot (PP) is less than both of two moving averages.

Number of parameters: 4

    PPType: The method used in calculating the daily pivot. See **Common Parameters**.

    ContType: The continuation type of the chart. See **Common Parameters**.

    Period1: The period of the first moving average.

    Period2: The period of the second moving average.

Remarks

    This condition is true when the daily pivot (PP) is less than both of two moving averages, indicating a short-term downtrend is in affect.

    Use this condition to replicate the strategy described by J. Gopalakrishnan [1]. By setting **Period1 = 3** and **Period2 = 5,** this condition will be true on days when short trades are allowable.

Condition: CTS_PPUp

Summary: True when the daily pivot (PP) is greater than its moving average.

Number of parameters: 3

    PPType: The method used in calculating the daily pivot. See **Common Parameters**.

    ContType: The continuation type of the chart. See **Common Parameters**.

    Period: The period of the moving average.

Remarks

    This condition is true when the daily pivot (PP) is greater than its moving average, indicating a short-term uptrend is in affect.

Condition: CTS_PPUpDouble

Summary: True when the daily pivot (PP) is greater than both of two moving averages.

Number of parameters: 4

    PPType: The method used in calculating the daily pivot. See **Common Parameters**.

    ContType: The continuation type of the chart. See **Common Parameters**.

    Period1: The period of the first moving average.

    Period2: The period of the second moving average.

Remarks

This condition is true when the daily pivot (PP) is greater than both of two moving averages, indicating a short-term uptrend is in affect.

Use this condition to replicate the strategy described by J. Gopalakrishnan [1]. By setting **Period1 = 3** and **Period2 = 5,** this condition will be true on days when long trades are allowable.

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1 Gopalakrishnan, Jayanthi. "Pivot Points", <u>Technical Analysis of Stocks & Commodities</u>, Vol. 18, No. 2, February 2000, pp. 16-22.
2 Greenspan, William I. "The Pivot Point for Trading", <u>Technical Analysis of Stocks & Commodities</u>, Vol. 12, No. 8, pp. 16-22.
3 Eng, William F. <u>Trading Rules – Strategies for Success</u>. Dearborn Financial Publishing, Inc., 1990.