

NATURAL GAS DRAWDOWNS AND DOWNTURNS

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November 9, 2010

“It never does to trust too much to foresight, for Fortune has her own way of doing things.”
Petronius, “The Satyricon”

A. INVENTORY DRAW SEASON

The following table details average, high, and low US natural gas inventories at end calendar month for the October/March draw seasons from 1990 through winter 2009/10. For January, February, and March, yearly highs and lows indicated in parentheses are for the season commencing with the October year. Thus the 2383bcf January high indicated in parentheses as “2006” refers to inventory at end January 2007 in the October 2006/March 2007 draw season. The 730bcf low noted as “2002” was reached in March 2003 during the October 2002/March 2003 period.

	<u>End Calendar Month</u> <u>Arithmetic Bcf</u> <u>Average</u>	<u>Bcf</u> <u>High (Season)</u>	<u>Bcf</u> <u>Low (Season)</u>	<u>End Calendar Month</u> <u>Days Coverage</u> <u>Average</u>
October	3195bcf	3807 (2009)	2732 (2000)	53.3 days
November	3087	3833 (2009)	2442 (2000)	51.5
December	2599	3131 (2009)	1719 (2000)	43.5
January	1934	2383 (2006)	1265 (2000)	32.4
February	1462	2063 (1990)	851 (2002)	24.5
March	1274	1912 (1990)	730 (2002)	21.4

The average drawdown from end October to end March is 1921bcf; days coverage declines about thirty-two days.

Some observers contend the 1990 February and March highs belong to ancient times. A recent February peak is the 2005/06 season’s 1886bcf. A calendar March plateau was achieved in 2009/10’s 1662bcf.

US natural gas inventory on 10/29/10 is 3821bcf. This elevation breaks 2009’s end October arithmetic record. Assuming the calendar 2010 demand level of 65.00bcf/day in the EIA’s November Short-Term Energy Outlook (released today), **days coverage at end October 2010 is around 58.8 days, over five days above average (1990-present).**

Let’s subtract the average draw of 1921bcf (1990-present) from 10/29/10 stockpiles. This leaves 1900bcf for end March 2011, around the record for March reached in the 1990/91 winter. Based upon 2010 calendar demand, a 1900bcf level at end March 2011 equals about 29.2 days coverage (1900bcf/65.00bcf/day), soaring 7.8 days over the long run end March

average. It exceeds numerous prior year lofty days coverage levels. For winter 2009/10, recall March 2010's 26.7 days coverage. For draw season 2005/06, March 2006 coverage was 28.1 days. That in March 1992 was 28.8 days. Since full year calendar 2010 demand exceeds that of twenty years ago by about 12bcf/day, days coverage will not match March 1991's sky-high 36.4 days.

The EIA's November STEO predicts end March 2011 natural gas inventories of 1776bcf (see p6 and Table 5a), below that of many other forecasters. This represents 27.3 days of coverage. Suppose, however, that stocks draw only modestly this winter, with end March 2011 levels around 2100bcf. Then days coverage of about 32.3 days would be mountainous. The EIA predicts calendar 2011 natural gas demand at 65.40bcf/day.

**B. NATURAL GAS- BIG BEAR MOVES
(1996- PRESENT; NYMEX NEAREST FUTURES BASIS)**

The big bear moves history for six large declines from 1996 to the present have an average decline of 70.7 percent and a duration lasting just over eight and one-half months. Start dates and end dates for bull and bear trends are matters of opinion.

	<u>High; Date</u>	<u>Low; Date</u>	<u>Decline (Percent)</u>	<u>Duration (Months)</u>
1.	460; 12/20/96	168; 2/24/97	63.5pc	Two
2.	385; 10/28/97	161; 8/27/98	58.2	Ten
3.	1010; 12/27/00	176; 9/26/01	82.6	Nine
4.	1190; 2/25/03	439; 9/22/03	63.1	Seven
5.	1578; 12/13/05	405; 9/27/06	74.3	9.5
6.	1369.4; 7/2/08	240.9; 9/4/09	82.4	Fourteen

Venturing back before 1996 does not alter the perspective significantly. The 53.4pc erosion from 372 on 12/21/95 to 173.5 on 9/5/96 lasted about nine and one half months. The 60.0pc slump from 11/26/90 at 265 to 106 on 6/25/91 ran seven months. The bear move from 11/25/91 at 214 to 1/24/92 at 102 was 52.3pc and two months.

Is the current natural gas marketplace still within a major long run bear trend that began in July 2008? Perhaps, but probably not. A break of the September 2009 low around 241 would confirm that major downturn. However, from the July 2008 high to the September 2009 bottom, underline the long decline in time terms relative to other bear moves. Also note the percentage extent of that bear move (matching that of the 2000/01 collapse). This indicates that the 9/4/09 bottom probably was a major and final one.

The 611 high on 1/7/10 is a key top, perhaps even a major one. After all, before 2000, people would have exclaimed that six dollars was really high. The advance from the 9/4/09 low to the 611 high on 1/7/10 was significant although not extraordinary, around 154pc and four months.

History is not destiny, yet one can paint a picture of further declines under the October 2010 nearest futures low. The retreat from the 611 January 2010 high to the bear low to date, 10/27/10's 321.2, is about 47.4pc. This is less than bear moves in the table as well as those prior to 1996. A fifty pc move from 611 (compare the 52.3pc and 53.4pc pre-1996 bear moves) is about 305. The duration of the decline from 1/7/10 to end October is in line with several other bear moves, and briefer than the deterioration from July 2008 to September 2009. Thus the fall to date has not been "too long" in time terms. Very high end winter 2010/11 inventories obviously will encourage price slumps.

But if natural gas suffers an average decline of 70.7pc from 611, that nearest futures would sag to around 179. Though possible, most observers (at least going into winter 2010/11) would deem this price unlikely. There is at least some US economic growth, and note the Federal Reserve's additional recent monetary easing. Moreover, there probably will be some natural gas production shut-ins if prices sustain a fall under 300 (and especially 250). If prices venture to and stay below 300, won't there be some fuel switching to natural gas from coal? Thus a sustained breach of the September 2009 low around 240 is unlikely. Also, keep in mind alternative "investment" in commodities.

Yet rallies must surmount supply obstacles. "Low gas prices are largely a result of the influx of new, low-cost shale gas, which has revolutionized the natural gas industry... Shale gas development has turned the economics of drilling for gas on its head. The cost of developing shale has declined and well productivity has increased as drillers gained experience with the new technology. In some instances, the time needed to drill a shale gas well has plunged from weeks to just days. **This has driven down breakeven costs for most gas shales to less than \$4/MMBtu, and even lower where natural gas liquids such as propane, ethane and butane are present.**" (See Federal Energy Regulatory Commission, "Winter 2010-11 Energy Market Assessment", 10/21/10, pp3-4).

So what conclusions should one draw relative to the future? The natural gas marketplace probably has been and will remain in a broad sideways trend (NYMEX, nearest futures continuation). The 240/250 level represents the very low side, 300/325 the low side. Around 380/450 is a mid-range, with 500, 550, and 600/610 noteworthy high levels.

Mean and standard deviation review tends to confirm this sideways natural gas price pattern. The mean (nearest futures) since trading began in 1990 is about 404. Since the 7/2/08 major high at 1369, the mean is around 500, with the mean less one standard deviation about 327 (compare the October 2010 low). From the 1/7/10 top at 611, the mean is 439; the mean less one SD is 381, the mean less two SD 323 (near the recent low), and the mean less three SD 265 (above the 9/4/09 low). Since the 9/4/09 bottom, the mean is 447, the mean minus one SD 382, the mean less two SD 317, and the mean less three SD 252.