

PEAK OIL AND THE NYMEX FUTURES MARKET: DO INVESTORS BELIEVE IN PHYSICAL REALITIES?

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Peak oil recognition is growing both among the oil experts and the generalist media. However the world crude oil markets and in particular the NYMEX futures market seem to point to prediction of long term inexpensive crude. In this paper we analyse the price curve of the NYMEX crude oil futures contracts for different dates and we compare the results with Peak Oil projected time frames as presented by several researchers. From this study we conclude that, at present, the market traders don't expect a future rise in the crude oil prices. This way, the market investors seem to be at odds with the – by now clearly accepted – peak of oil production.

I. INTRODUCTION

Crude oil futures contracts for distant time horizons are the main quantitative measure to ascertain the perspectives of the economic entities interested in this commodity (for example oil companies, large oil consumers – e.g., air transport companies – and investors). The most important of the markets that trade these futures contracts is NYMEX.

This way, considering the growing awareness of the incoming peak of oil production (usually known as *Peak Oil*) it seemed reasonable to expect that the market participants would recognize a future supply problem through higher prices for long term contracts.

In this work we use the NYMEX futures prices distribution over time and the Peak Oil date projections of several authors to evaluate the awareness of the market participants to this important phenomenon that seems certain to happen in a not distant future.

II. PEAK OIL DATE PREDICTIONS

There are multiple date predictions for Peak Oil. In this paper, instead of searching independently for this kind of predictions, we used a table indicating

the most important recent predictions for this date from a February 2005 report sponsored by an agency of the United States Government [1]. This table (Table 1 in this paper) is used because it seems to be a reliable information source to study the time distribution of the most relevant Peak Oil predictions.

Author	Date
Bakhtiari, A.	2006-2007
Simmons, M.	2007-2009
Skrebowski, C.	After 2007
Deffeyes, K.	Before 2009
Goodstein, D.	Before 2010
Campbell, C.	Around 2010
World Energy Council	After 2010
Laherrere, J.	2010-2020
EIA – reference case	2016
CERA	After 2020
Shell	After 2024
Lynch, M.	No peak

Table 1. Peak oil projected dates from several authors (table extracted from [1]).

It should be noted that Campbell's estimate (around 2010 in Table 1) was recently brought forward to 2008 [2].

The data in Table 1 shows that the majority of the experts in this field point to a peak occurring before 2010 and the most optimistic predictions point to a date between 2010 and 2025 (with greater incidence in dates up to 2020). Our personal perspective agrees with the average point of view referenced in this table and points to a peak between 2008 and 2012.

III. NYMEX PRICES ANALYSIS

In Table 2 we present the closing prices (in USD) and the number of open contracts for the 2005-03-11 session for several future contracts traded in NYMEX. This data was obtained from the NYMEX website [3]. The number of open contracts up to December 2010 is clearly significant and so should

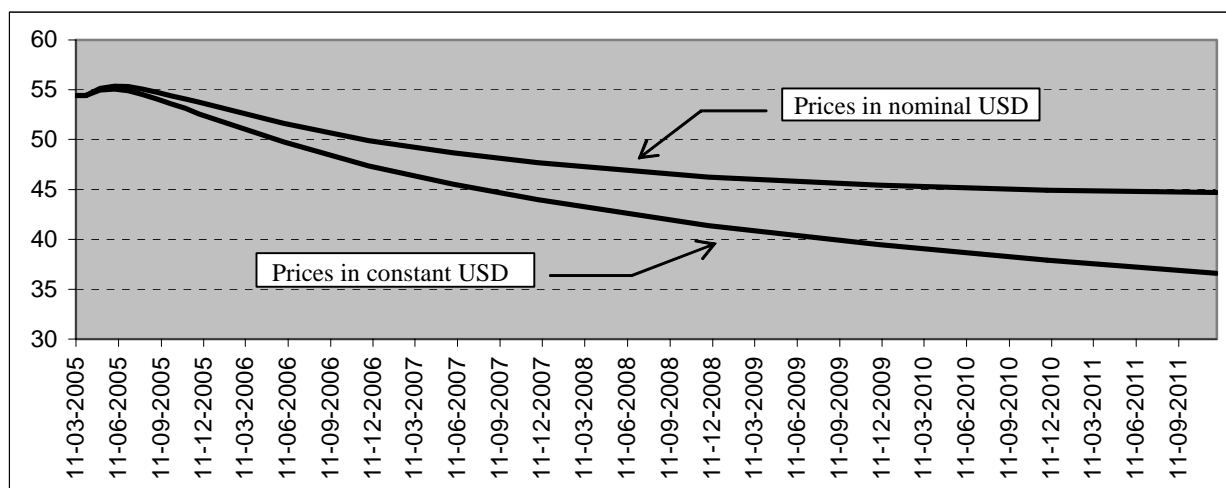


Figure 1. Price in USD of crude oil futures contracts for different time frames

represent a consistent market perspective. The open interests for December 2011 are significantly lower. This is due to the fact that the trading of this contract has begun very recently.

Contract	Last	Open Int.
Cash (CLY00)	54.43	0
April '05 (CLJ05)	54.43	133313
May '05 (CLK05)	55.12	179552
June '05 (CLM05)	55.35	90462
July '05 (CLN05)	55.31	37394
August '05 (CLQ05)	55.07	28379
September '05 (CLU05)	54.75	24223
October '05 (CLV05)	54.41	19905
November '05 (CLX05)	54.07	18153
December '05 (CLZ05)	53.75	68297
June '06 (CLM06)	51.62	19948
December '06 (CLZ06)	49.88	44912
June '07 (CLM07)	48.65	9067
December '07 (CLZ07)	47.67	27562
December '08 (CLZ08)	46.22	26860
December '09 (CLZ09)	45.42	14498
December '10 (CLZ10)	44.93	17670
December '11 (CLZ11)	44.68	4238

Table 2. NYMEX crude oil future contracts: close values in 2005-03-11, in USD.

Figure 1 presents two curves that illustrate the prices of the contracts listed in Table 1. The first represents the nominal USD prices as they appear in Table 1. The second represents the same prices but corrected (at a very conservative rate of 3% per year) to reflect the usual contango situation of futures markets (due to the value of the postponement of the payment and

of the cost of the commodities storage).

These curves show that the market participants expect crude prices to drop significantly in the long term in relation to today's prices. However, accepting the reality of the Peak Oil and the prediction dates shown in Table 1, one could expect for December 2011 a significant rise in crude prices. In fact even if the market participants adopted an optimistic perspective about the peak date (for example in line of EIA's prediction for 2016) several reasons would still imply that the December 2011 prices should already be at a higher level. So, the prices evolution shown in Figure 1 clearly points to a 'business-as-usual' ignorance of the Peak Oil problem from the part of the market participants.

IV. CONCLUSIONS

This work shows that even the persons and companies directly involved in crude oil trading have a deficient understanding of the supply problems that should be expected to happen in a not distant future. However, considering the recent crude price increases and the recent media awareness for this problem, we believe that this market misconception will tend to be corrected relatively fast.

REFERENCES

- [1] R. Hirsch, R. Bezdek, and R. Wendling. Peaking of World Oil Production: Impacts, Mitigation & Risk Management. February 2005. Report available at www.hilltoplancers.org/stories/hirsch0502.pdf.
- [2] <http://www.peakoil.net>
- [3] <http://www.nymex.com>