Energies **2010**, *3*, 940-942; doi:10.3390/en3050940

OPEN ACCESS

energies

ISSN 1996-1073

www.mdpi.com/journal/energies

Commentary

Oil and the Best Brain of the 20th Century

Ferdinand E. Banks

Department of Economics, Uppsala University, Uppsala, Sweden; E-Mail: ferdinand.banks@telia.com

Received: 8 April 2010 / Accepted: 29 April 2010 / Published: 30 April 2010

If you meet someone at a party who says that he is Napoleon,
you don't start discussing cavalry tactics at Waterloo
—Professor Robert Solow

Well that depends, Robert. If he is the gentleman who gave the party, and you would like to receive another invitation from him some day, you might feel it wise to suggest that if his boys had been riding elephants or dinosaurs instead of horses, he might have enjoyed another few years in swinging Paris instead of being turned over to that nasty Sir Hudson Lowe on St. Helena.

Until about 2008 it was the oil optimists who gave most of the parties – or at least supplied the music. It is highly significant – and enjoyable – that we only encounter a few of those people at the present time, although it continues to be annoying when we suddenly find ourselves confronted with humorless pundits who reject mainstream economics, geology, and statistics, and denounce the oil market realism that is occasionally showcased by our sterling media.

Notice the term "realism", because you might still be told that even if the discovery of oil were *passé* (*i.e.,* terminated), there was still 40 years of comparatively inexpensive oil in our future. This is because 40 years, or thereabouts, was (or is) the global reserve-production (R/q) ratio. However, for reasons described in my textbook [1], I conclude that the R/q ratio is mostly irrelevant, and the same is true of the anticipated year in which the global output of oil will peak. When the price of oil can touch 147 dollars a barrel ($147/b), as it did in the summer of 2008, and during this period distinguished commentators were talking about it going to $200/b or higher, then it is clear that some kind of *geopolitical* peak has already been reached.

The explanation for *that* geopolitical summit is the apparent peaking (or 'flattening') of conventional non-OPEC oil production several years earlier, as well as the kind of sophistication that I expected OPEC countries to show when I published my oil book [2]. Fortunately, I was about 30 years off target, because at one time a shortage of oil could have resulted in a very ugly political and/or economic scene, particularly if large oil consuming countries elected to compete for a piece of the remaining supplies with the aid of military assets.

The question can thus be asked how John von Neumann – often called the best brain of the 20th century – might have approached this issue. This is not the place to elaborate on game theory, but I happen to believe that if von Neumann had thought that the later contributions of e.g., game theorist and Nobel Laureate John Nash were of great import, he might have devoted a few minutes of his time to deriving them for the book he wrote with Oscar Morgenstern [3]. (Nash's life and work were turned into a moronic burlesque in the film called 'A Beautiful Mind', to which he apparently gave his approval).

Accordingly, I can picture von Neumann saying that the present day oil market game is something where a transfiguration of his famous maximin theorem might be applicable. A misinformed student once grandly informed me that the maximin theorem strictly applied to two-person conflict-like situations in which the interests of players were in strict opposition, but it happens to be true that von Neumann intended his two-person scheme to be the cornerstone of a comprehensive theory in which there were many players, and in addition there could be a certain amount of cooperation. Some of this thinking can be found in the latter part of his book.

More important, as William Poundstone brilliantly noted, von Neumann's game theory was only "tangentially about games in the usual sense" [4]. Simple games featuring a well-defined form of computation are what you might confront in your Economics 201 textbook – or at least in its first half – but according to Poundstone, von Neumann once said that "Real life consists of bluffing, of little tactics of deception, of asking yourself what is the other man going to think I mean to do. And that is what games are about in my theory."

If he had added something about 'irrationality, hype and unvarnished lies', he would have provided the perfect conceptual framework for busy academics to discuss the present oil market, instead of the usual resort to what Professor Ken Binmore calls "Colonel Blotto games", in which most market actors are prisoners of circumstances, and not expected to do any really creative thinking.

In the summer of 2008, as I was presenting a lecture on oil at the Ecole Normale Superieure (Paris) [5], the oil price appeared to be on the verge of moving off the Richter Scale. Neo-classical or orthodox explanations of oil price formation had been provided some years earlier by the Chicago Nobel laureates Milton Friedman and Gary Becker, but as usual they completely misunderstood the economic and historical forces that were at work, and would soon coalesce. First and foremost the Middle East producers of oil intended to extend the 'life' of oil reserves, which logically meant restricting the amount removed as the oil price escalated. Instead, as much oil as possible would be left in the ground, and when eventually extracted, used to produce oil products and petrochemicals. As simple as this is, it was not widely understood by governments of the oil importing countries and their experts, nor was it made clear to these governments by the large oil producing firms (*i.e.* 'The Majors').

Like von Neumann, the Middle East producers dismissed (or ignored) the short-run supply-demand *equilibria* familiar to beginning and advanced students of mainstream economics, and instead formulated and eventually began to follow an elaborate strategy for economic development. The key word here is strategy, and to paraphrase Antoine de Exupery, "a goal without a strategy is a dream". In the first part of your economics book, 'strategy' consists of automatically reacting to existing prices, while the strategy which Middle East producers have now apparently adopted is primarily concerned with determining oil prices.

Spin-offs of von Neumann's work are too extensive to take up in this short paper, but a careful reading of his work makes it clear that the only sensible thing for producers of oil to do is to collude, assuming that it is legally possible, and that the rewards of collusion are *coalitionally* rational: *i.e.* rational in the sense that in the long run all coalition members receive a payoff at least commensurate with their contribution (or value). Coalitionally rational quotas of the kind theoretically practiced by OPEC constitute the *core* of a game, and in theory imply stability. This is why, incidentally, it is not certain that Iraq will live up to some of the curious predictions now being liberally circulated by *ad hoc* oil-market connoisseurs.

I conclude by noting that as important as game theory is, and despite its snob appeal, what it amounts to is a highly-developed extension of common sense. Some years ago four millionaires were cited by Richard Teitelbaum [6] as going 'long' in oil properties. They were Philip Anschutz, Marvin Davis, Carl Icahn and Richard Rainwater. Those gentlemen became billionaires, and earlier one of them, Richard Rainwater, said "the price of oil is going to have to come up", to which the late Marvin Davis added "you don't have to be a cockeyed genius to see this coming." Or for that matter, enjoy the best brain in the world.

References

1. Banks, F.E. *The Political Economy of World Energy: An Introductory Textboo*k. World Scientific Publishing: London, UK, 2007.
2. Banks, F.E. *The Political Economy of Oil*. D. C. Heath & Company: Lexington, MA, USA, 1982.
3. Von Neumann, J.; Morgenstern, O. *The Theory of Games and Economic Behaviour*. Princeton University Press: Princeton, NJ, USA, 1944.
4. Poundstone, W. *Prisoners Dilemma*. Oxford University Press: Oxford, UK, 1993.
5. Bezat, J.-M. Les marches spéculent désormais sur une pénurie de pétrole en 2016. *Le Monde* **2008**.
6. Teitelbaum, R.S. Your last big play in oil. *Fortune* **1995**.