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# **WHAT IS A FAIR PRICE FOR OIL AND WHAT MAKES \$75 A BARREL SEEM FAIR?**



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# Outline of presentation

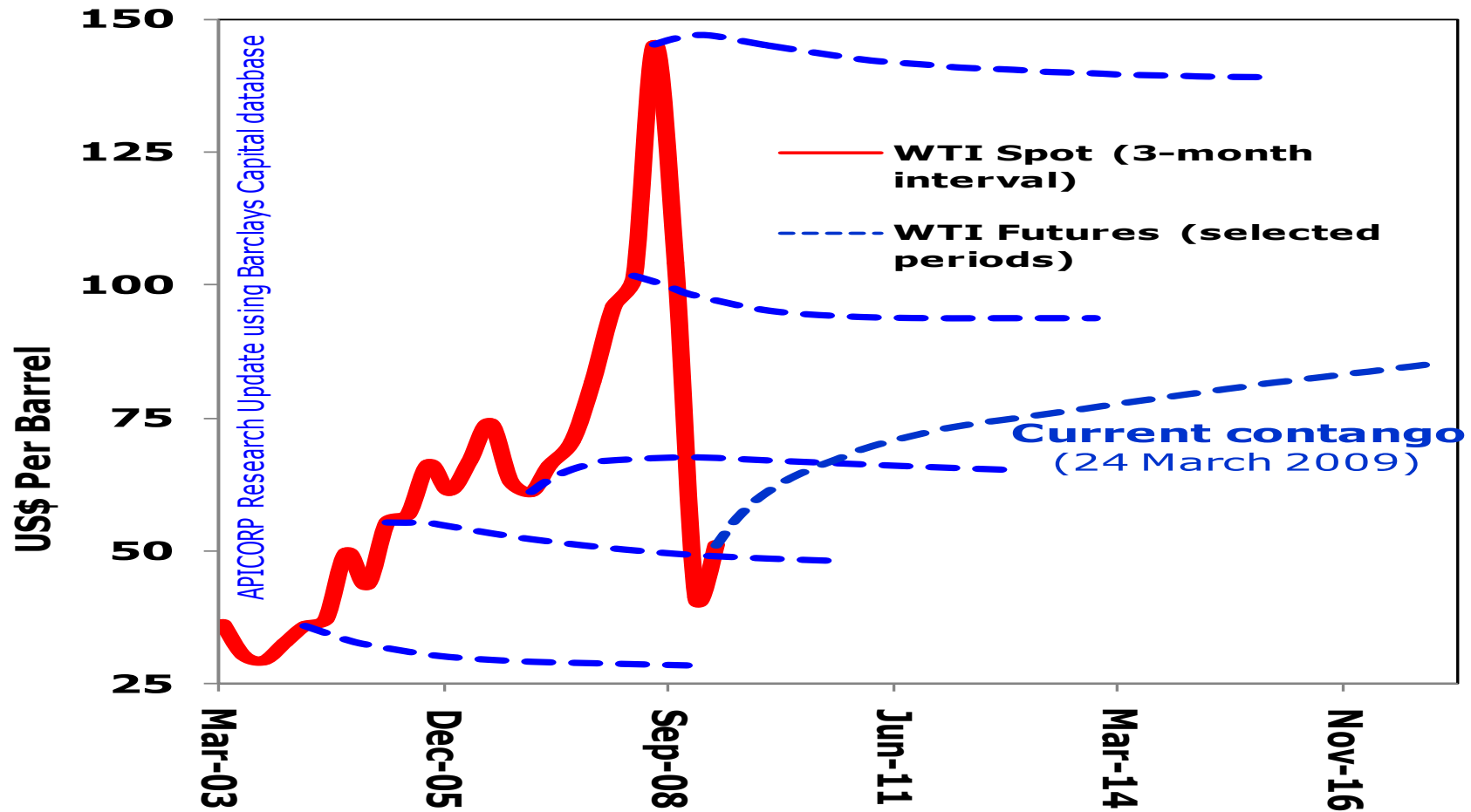
- **Is there a fair price in a market context?**
- **A framework beyond the market**
  - **The economic price of oil**
  - **The fiscal price of oil**
- **Is \$75 a barrel a fair price for oil?**

# **1. Is there a fair price in a market context?**

# **The Saudi assertion has rekindled an old debate that has tended to fade away with the dominance of competitive markets**

- **Standard economics: focus on whether or not a price is efficient**
- **The concept of price fairness: foreign to most economists**
- **Behavioral economists: a fair price is the one that is “emotionally okay”**

# Can the answer then reveal itself by the way the oil market functions and oil prices are determined?



# Obviously, whatever a fair price might be, its determination seems to lie beyond the market

## "In real life, such matters [relevant to the determination of a fair price for oil] are decided not on the basis of abstract considerations but on an interplay of technology, economics, and politics"

- Philip H. Abelson, "What Is a Fair Price for Oil", Science, Vol. 171 No. 3972, dated 19 February 1971

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What Is a Fair Price for Oil?

The current militancy of the Organization of Petroleum Exporting Countries is of special concern to western Europe and Japan. A key ingredient in their property has been the availability of large quantities of cheap energy, mainly in the form of petroleum and its products. Western Europe and Japan have inferior supplies of coal, and nuclear energy accounts for only a tiny fraction of their needs. Sharply increased costs for oil or a scarcity of it will be a burden to them.

Petroleum has been found in all the continents and in most of the continental slopes. Recent discoveries of oil on the north slope of Alaska, in the North Sea, off western Africa, and off southern Australia have drawn press attention. These pools, though useful, are dwarfed by those in the Persian Gulf. There an ideal combination of geological events has led to the accumulation of enormous quantities of readily accessible petroleum. With less than 2,500 wells, the Persian Gulf states in 1969 produced more oil (nearly 4,600 million barrels) than did the United States with about 538,000 wells. Oil reserves in the Middle East amount to around 300,000 million barrels (46,000 million cubic meters), about ten times those of the United States exclusive of Alaska.

The oil of the Persian Gulf states accumulated as a result of events that took place over a time span of more than 100 million years. It represents a major source of income for the oil exporting countries, and its exhaustion in the future would probably return many of them to primitive poverty. Under such circumstances, what is a fair price for oil?

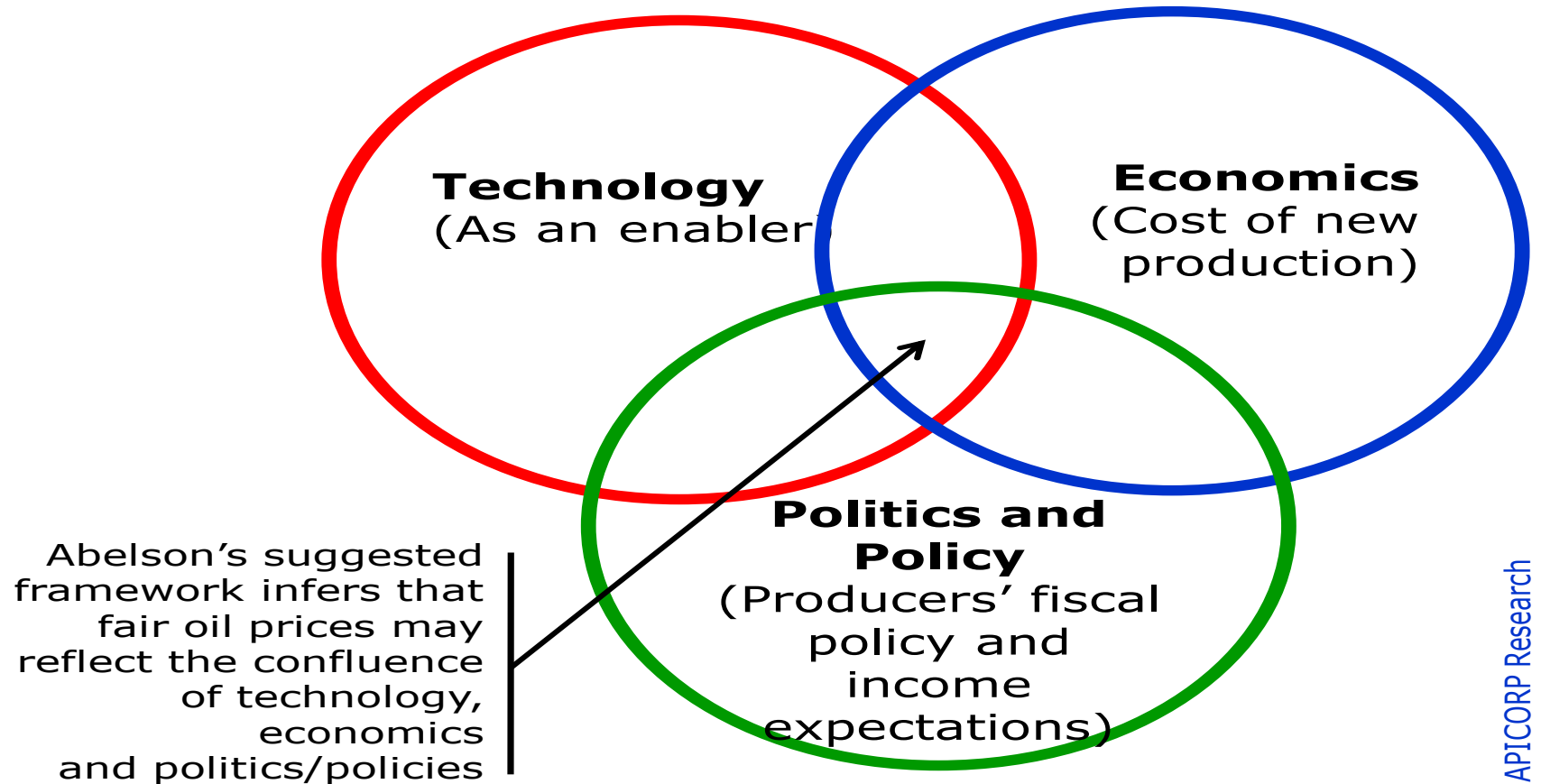
In real life, such matters are decided not on the basis of abstract considerations but on an interplay of technology, economics, and politics. Most of the world's petroleum was discovered and is being produced by American companies, with the British and Dutch also important participants.

In the Persian Gulf, the bare cost of production is tiny—about 10 cents per barrel (42 U.S. gallons per barrel). Profits are large, and most of them go to the producing countries. The producing countries naturally seek to expand their take by increased taxes and prices, and they are tempted to expropriate the oil concessions.

During the past decade, however, the bargaining position of the exporting countries was poor. They did not cooperate effectively. They did not have sufficient technical and financial resources to operate the oil fields efficiently, nor did they have tanker fleets, refineries, and distributing networks. Mainly through American initiative, additional oil fields were discovered and developed in Libya and West Africa. This new oil on the market exerted a depressing force on prices. During the decade of the sixties, the cost of oil remained stationary and, in constant dollars, declined. Attracted to this cheap energy source, western Europe and Japan adapted their industries to its use, and their oil consumption and dependency increased rapidly. The bargaining position has recently changed drastically, largely as a result of tough actions by Libya. The other producing countries, seeing that they can win, are cooperating as never before; they can demand sharply higher prices for their oil and get them. They can engage in oil diplomacy. In the long run, excessive pressure would be unwise. But, since most people are interested mainly in the here and now, we can expect a continuing series of crises and confrontations and much higher prices for oil, both here and elsewhere, which will result in crash programs to develop alternative energy sources.—PHILIP H. ABELSON

## **2. A framework beyond the market**

# Abelson's suggestion, rests on three interrelated elements: technology, economics and politics, the latter understood to include policy





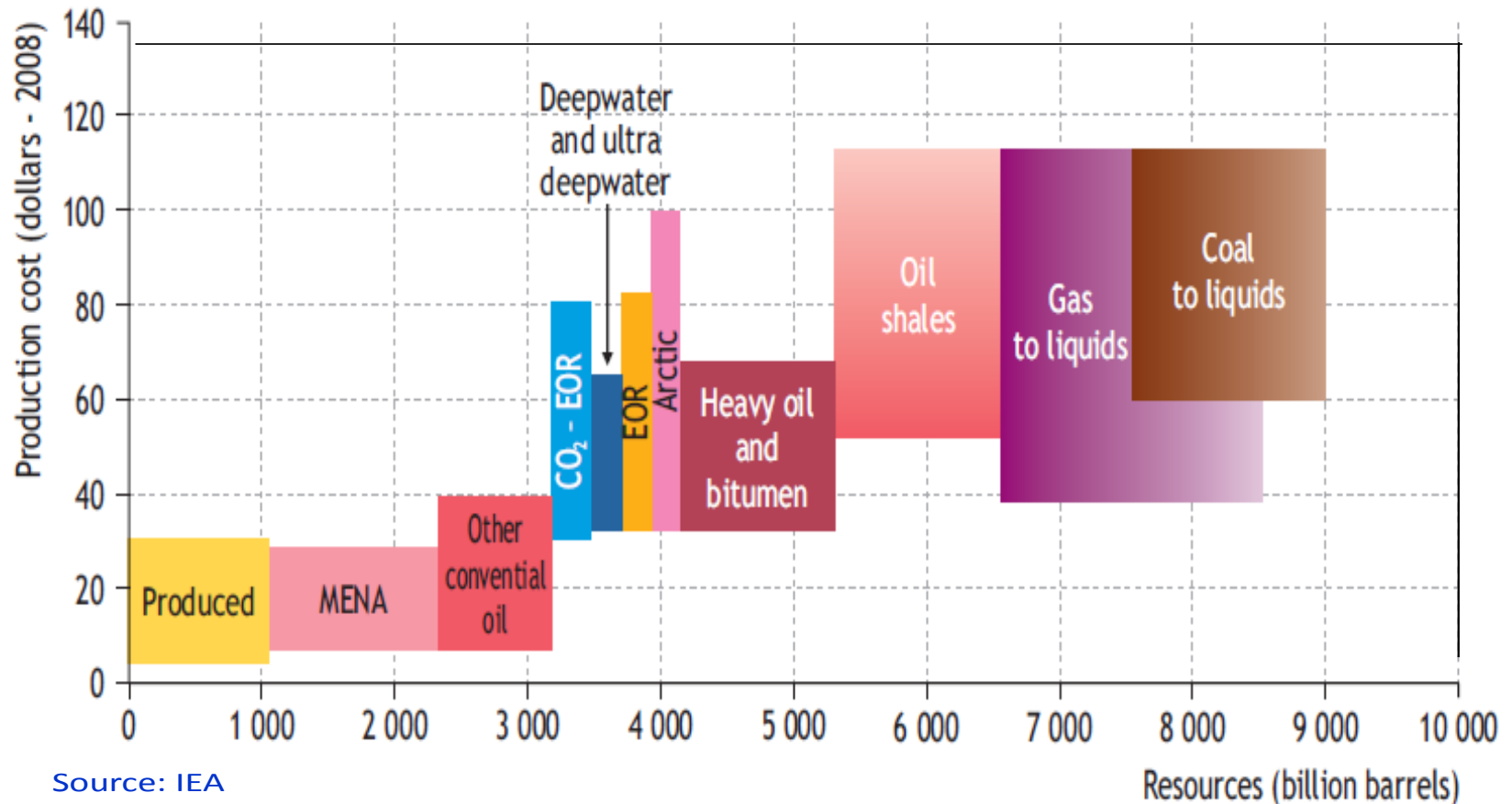
# Description of each of the three components and its outcome

- ***Technology*** enables oil to be produced cost-effectively.
  - **Outcome:** Industry experts' perspective on the impact of future technologies
- ***Economics*** emphasizes the viability of E&D projects.
  - **Outcome:** Long-term economic cost of producing a barrel of crude oil
- ***Politics and policy*** focus on producers' fiscal policies.
  - **Outcome:** A long-term oil price that meet their income expectations

# Weakness of the framework

- The *Technology* components cannot be addressed with precise analytical methods
- We assume that the cost curves on which we build our argument factor in the industry's experts' view
- This allows us to focus on the empirics of the two other components: *economic* and *policy*

# The economic price of oil: We build our arguments on long term oil-supply cost curves (the IEA's in this case)



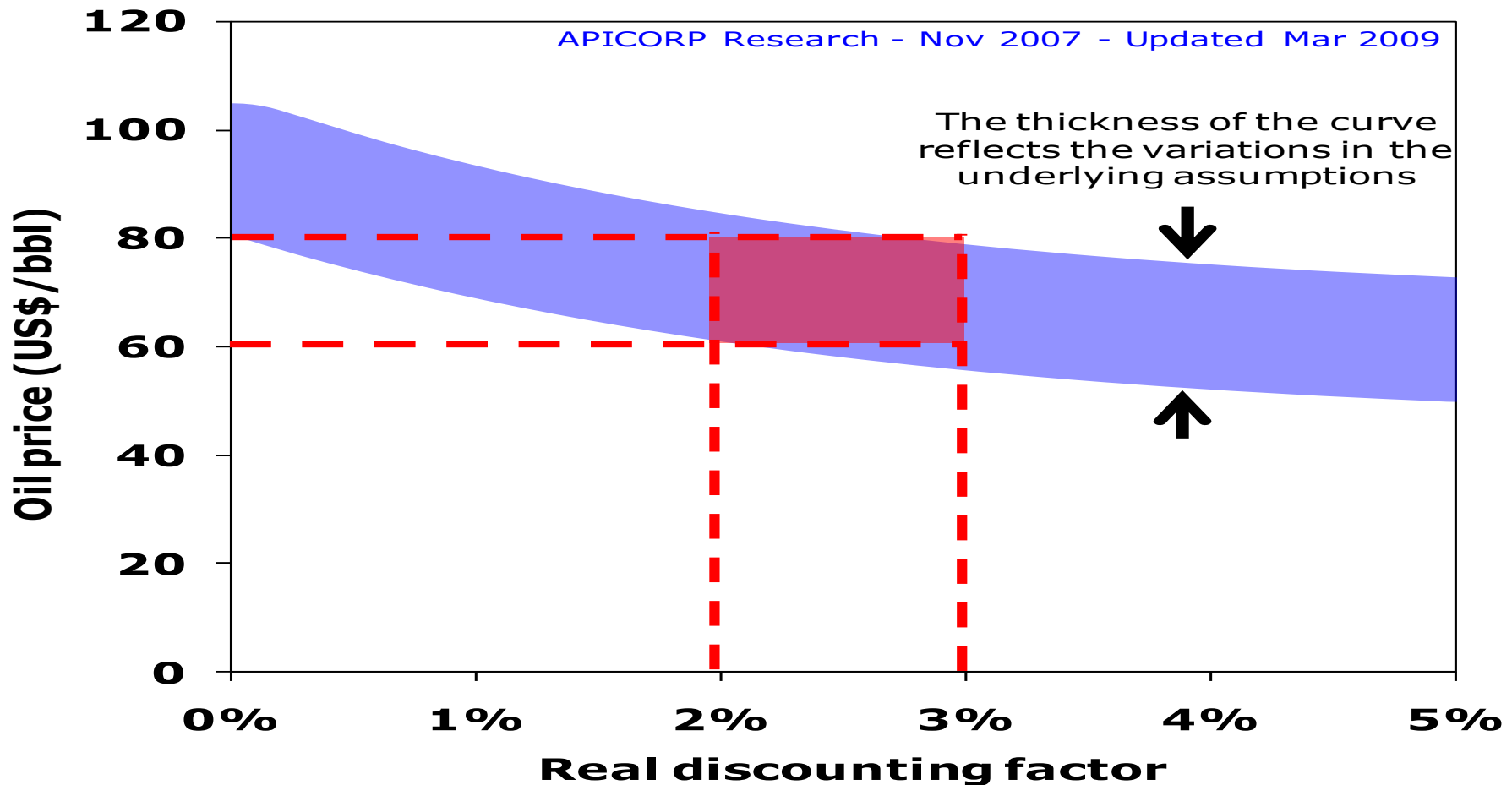
# **The imperative of diversification and other impediments point to an oil economic price in the range of \$60-70/bbl**

- **Oil companies have already ventured into non-conventional oil whose resource-weighted cost lies in a very wide range of:**
  - ❑ **\$45 to \$95/bbl (excl. royalties).**
- **DB indicates that companies' current investment planning price, which aims to achieve a 15% IRR, lies in the comparatively narrow range of:**
  - ❑ **\$60 to \$70/bbl (incl. royalties)**

# **The fiscal price of oil: We derive our analysis from Milton Friedman's concept of permanent income expectation**

- **Translated to governments Friedman's premise would mean that they base their spending patterns not on current income but on their LT income expectations**
- **A permanent income is derived as the ratio of the PV of fiscal petroleum revenues per capita over the product of the PV of petroleum production per capita and the real discount factor**

# The results point an oil fiscal price in the range of \$60-\$80/bbl in a low interest rate environment



# 4. Conclusions

# **Is \$75 a barrel a fair price for oil?**

- **An oil price is fair as long as it is at the confluence of LT project economics and oil-producing countries fiscal incomes**

## **The opposite side of the argument...**

- **Does the oil market need a price anchor?**
- **If so, can \$75/bbl currently serve such a purpose?**
- **How fair other market participants will perceive it to be?**