

IMPACT PARAMETERS ON THE VOLATILITY OF THE WORLD OIL PRICE

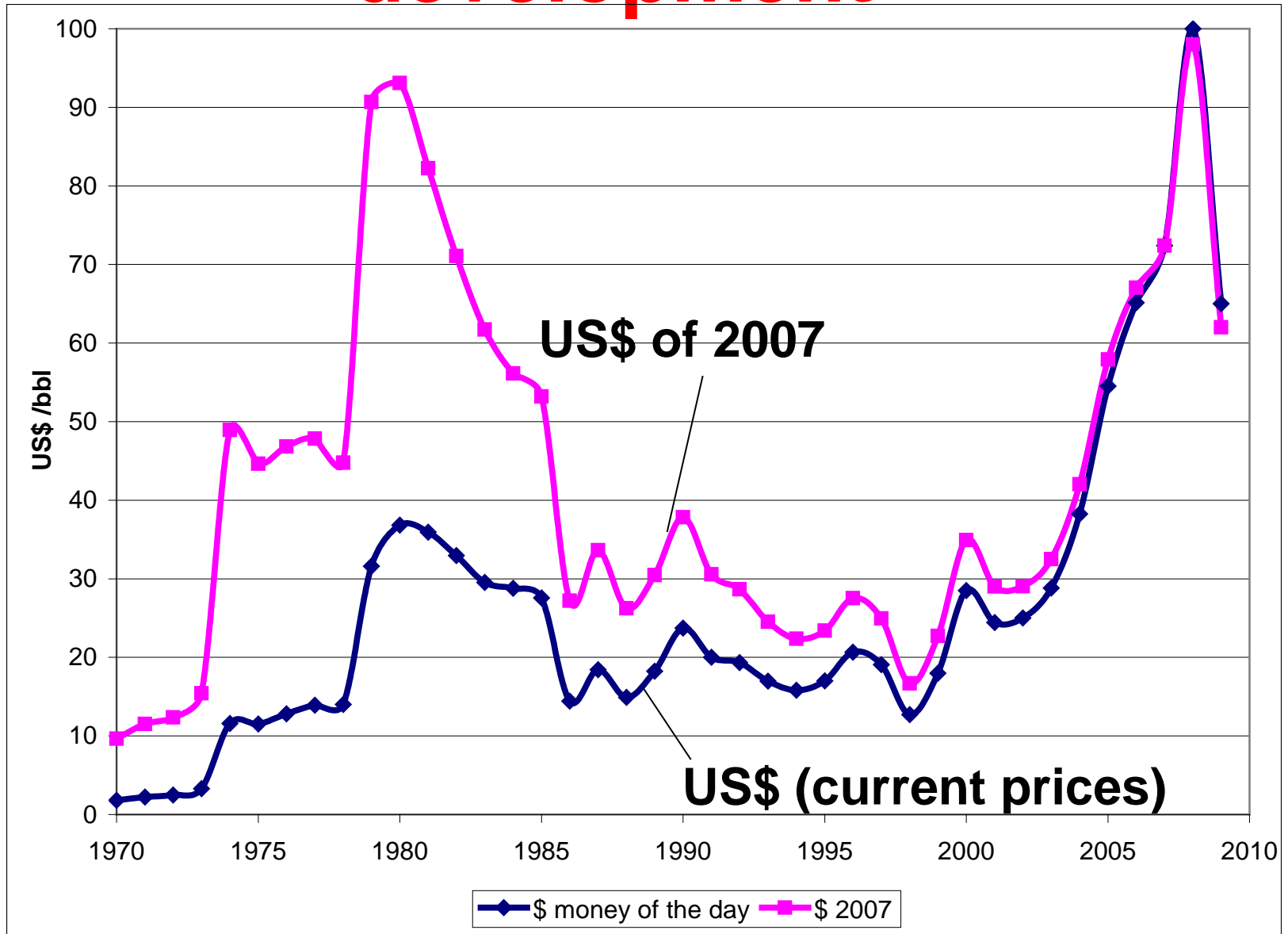
**Reinhard Haas, Amela Ajanovic, Hans Auer,
Lukas Kranzl, Andreas Müller, Gustav Resch,
Christian Redl, Lukas Weissensteiner**

**Energy Economics Group,
Vienna University of Technology**

VIENNA, 8th September 2009

- 1. Introduction**
- 2. Method of approach**
- 3. The world oil market**
- 4. Major results**
- 5. Conclusions**

Historical oil price development



There are at least the

following basic explanations for the development of the oil price:

- general physical fundamentals of demand & supply (short-term and long-term) **incl. peak-oil**
- specific physical fundamentals of short-term demand & supply (**'sweet vs salty brands**)
- fiscal (e.g. currency) developments and strategic/speculation from the **demand-side**
- strategic behaviour of **suppliers** (oligopoly game)

2. METHOD OF APPROACH

- **Describing the fundamentals of oil supply & demand in the world oil market;**
- **Discussion of the role of OPEC in the world oil market;**
- **The issue of physical short-term and speculative long-term demand;**
- **Comparison of these features for the two periods of investigation;**

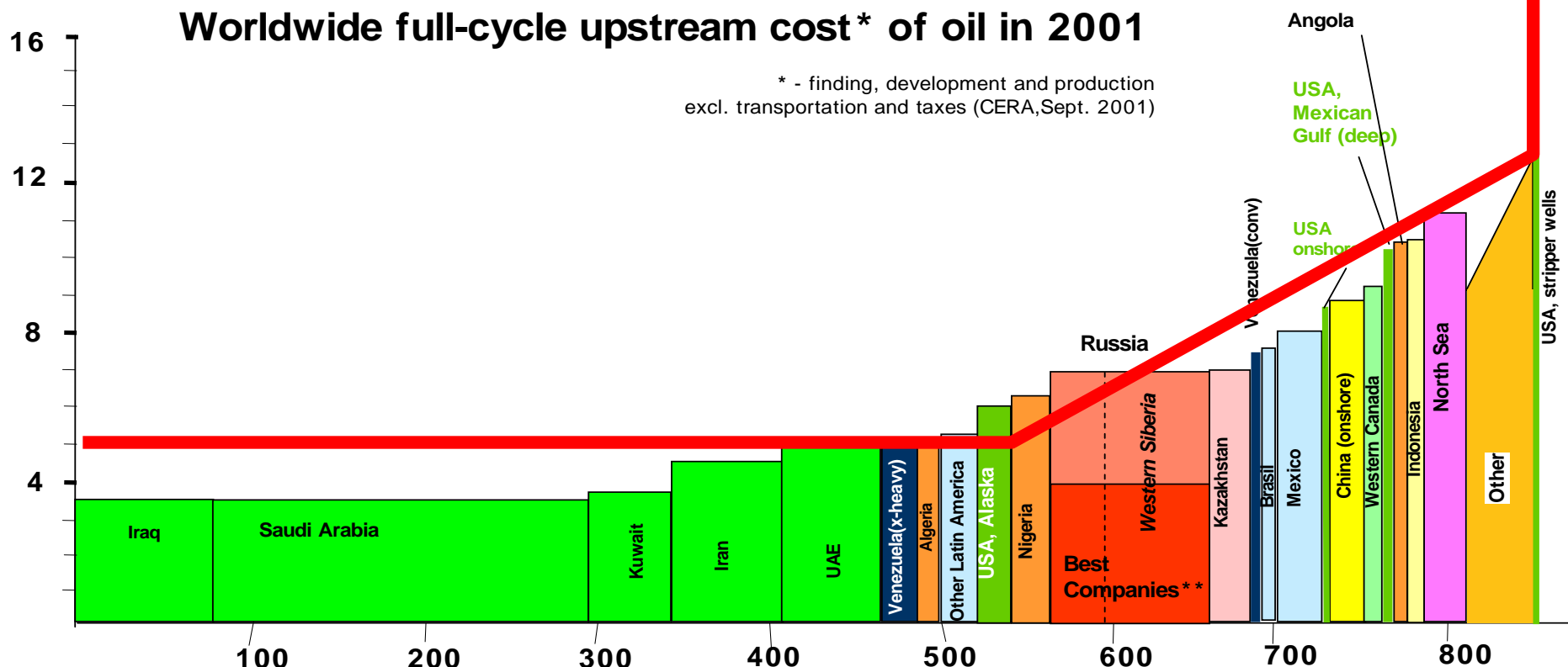
3. WORLD OIL MARKET

FUNDAMENTAL MODEL BASED ON SUPPLY-SIDE COST CURVE

\$/bbl

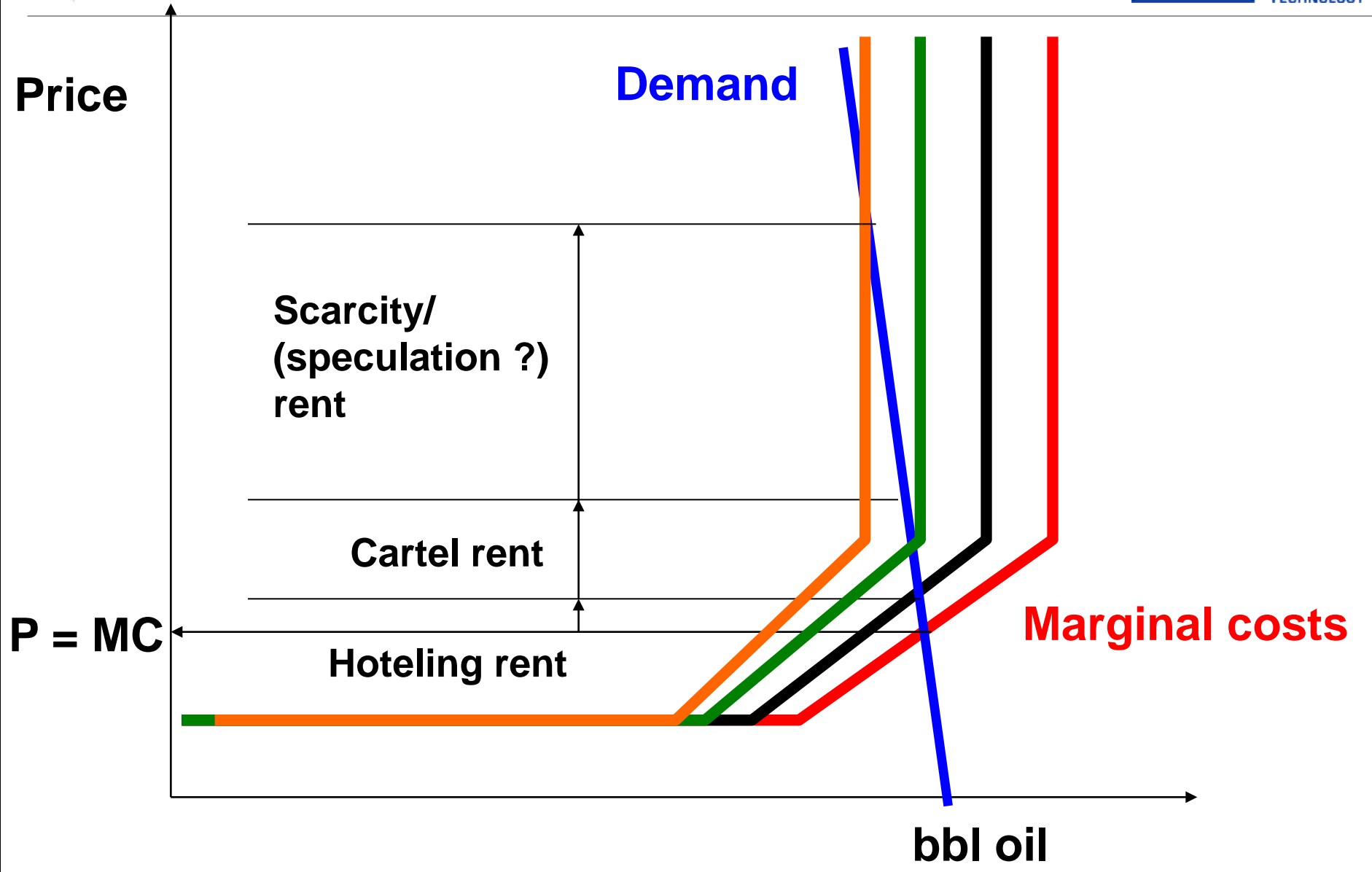
Worldwide full-cycle upstream cost* of oil in 2001

* - finding, development and production
excl. transportation and taxes (CERA, Sept. 2001)

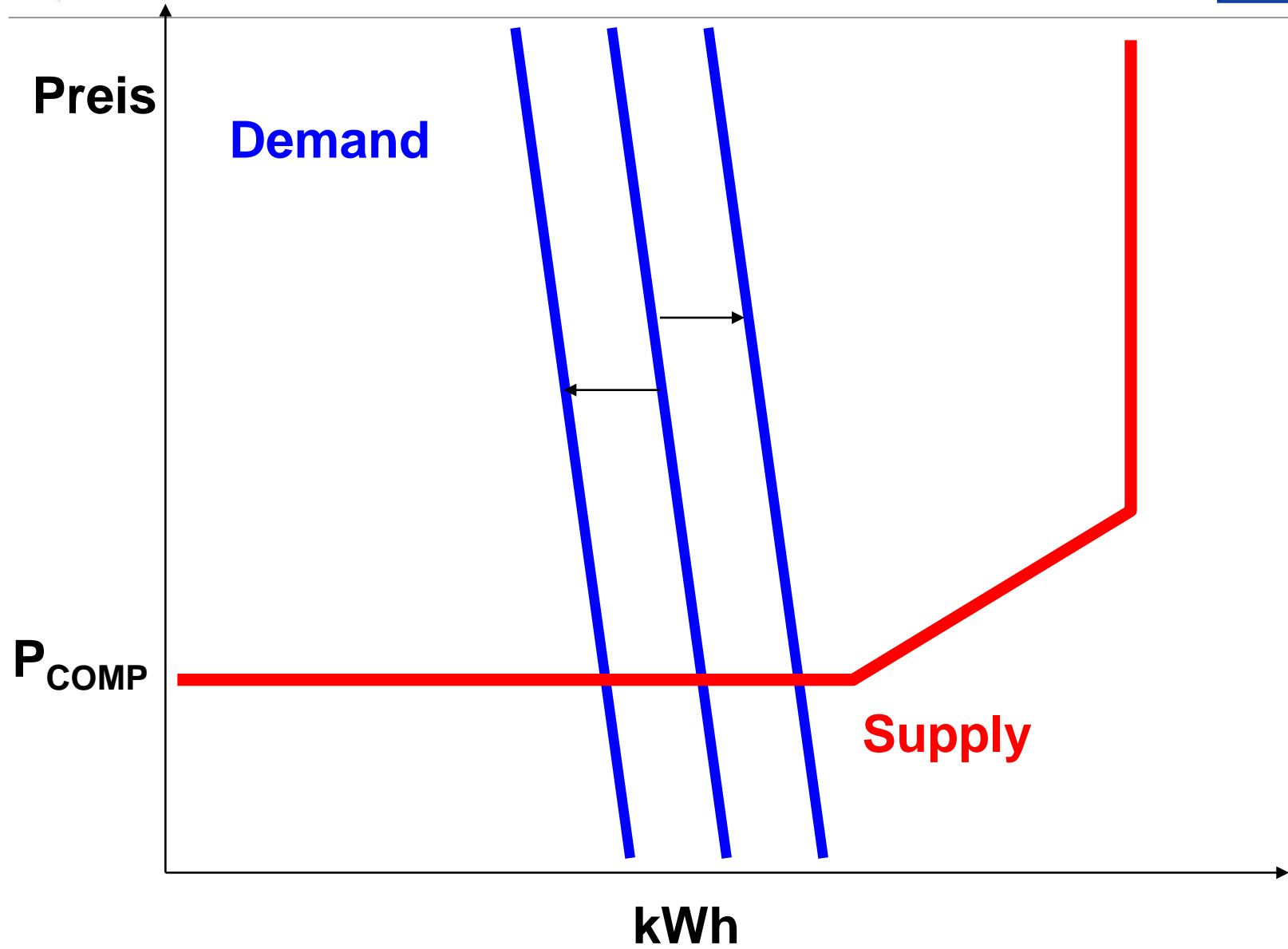


** - 2001 finding, development and production cost -3.7 \$/bbl,

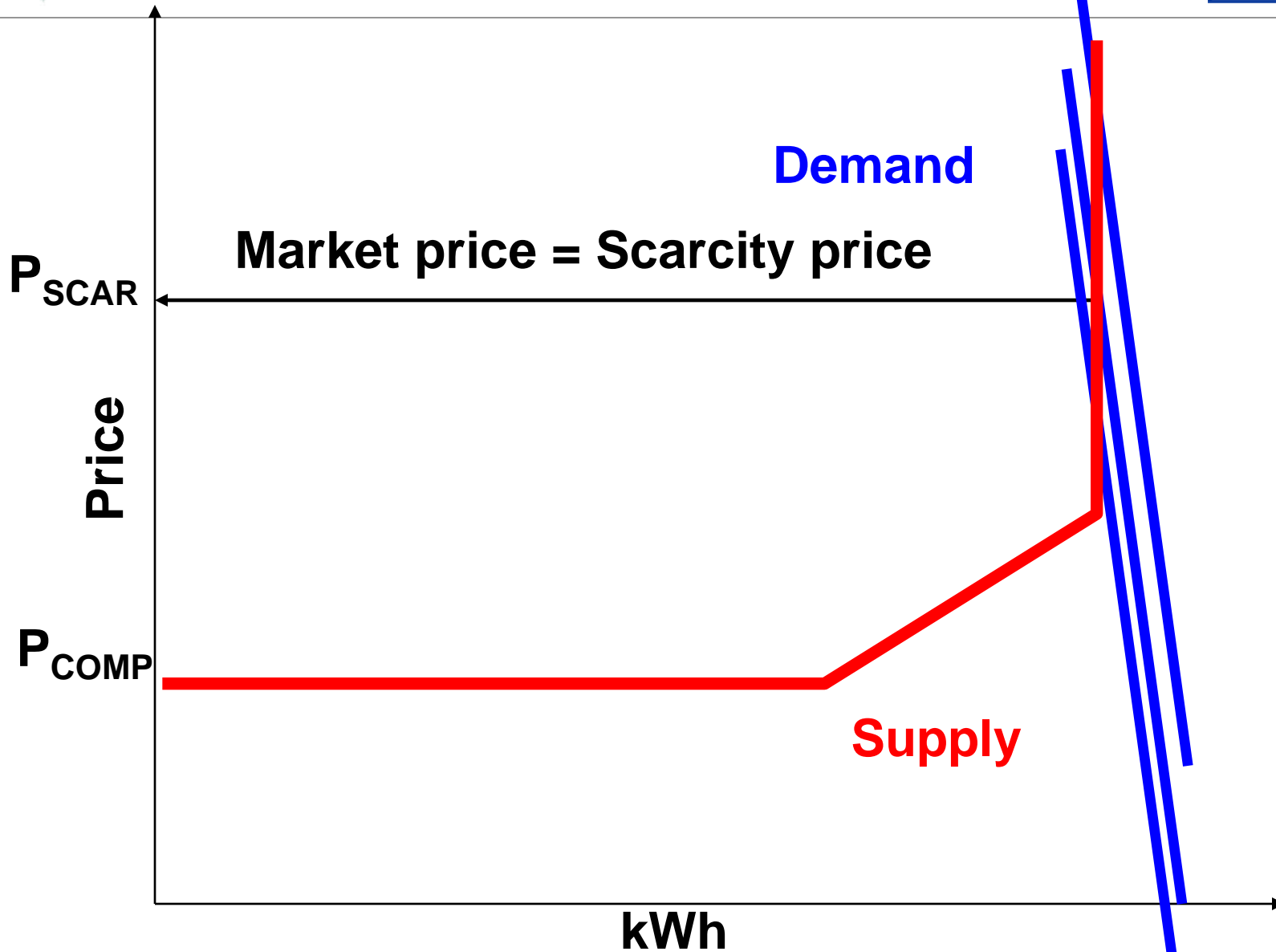
Reserves,
bln.bbl

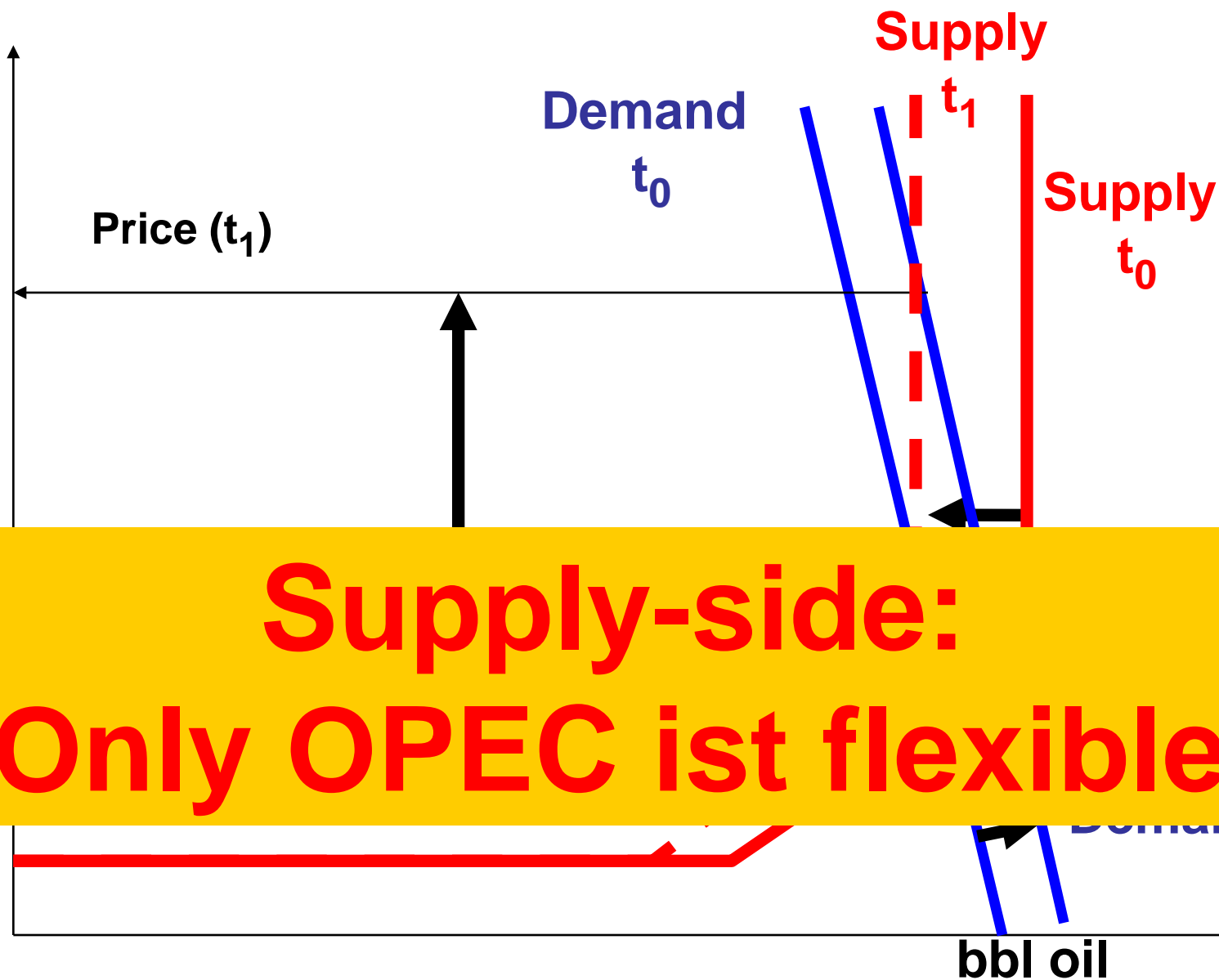


BUYERS MARKET



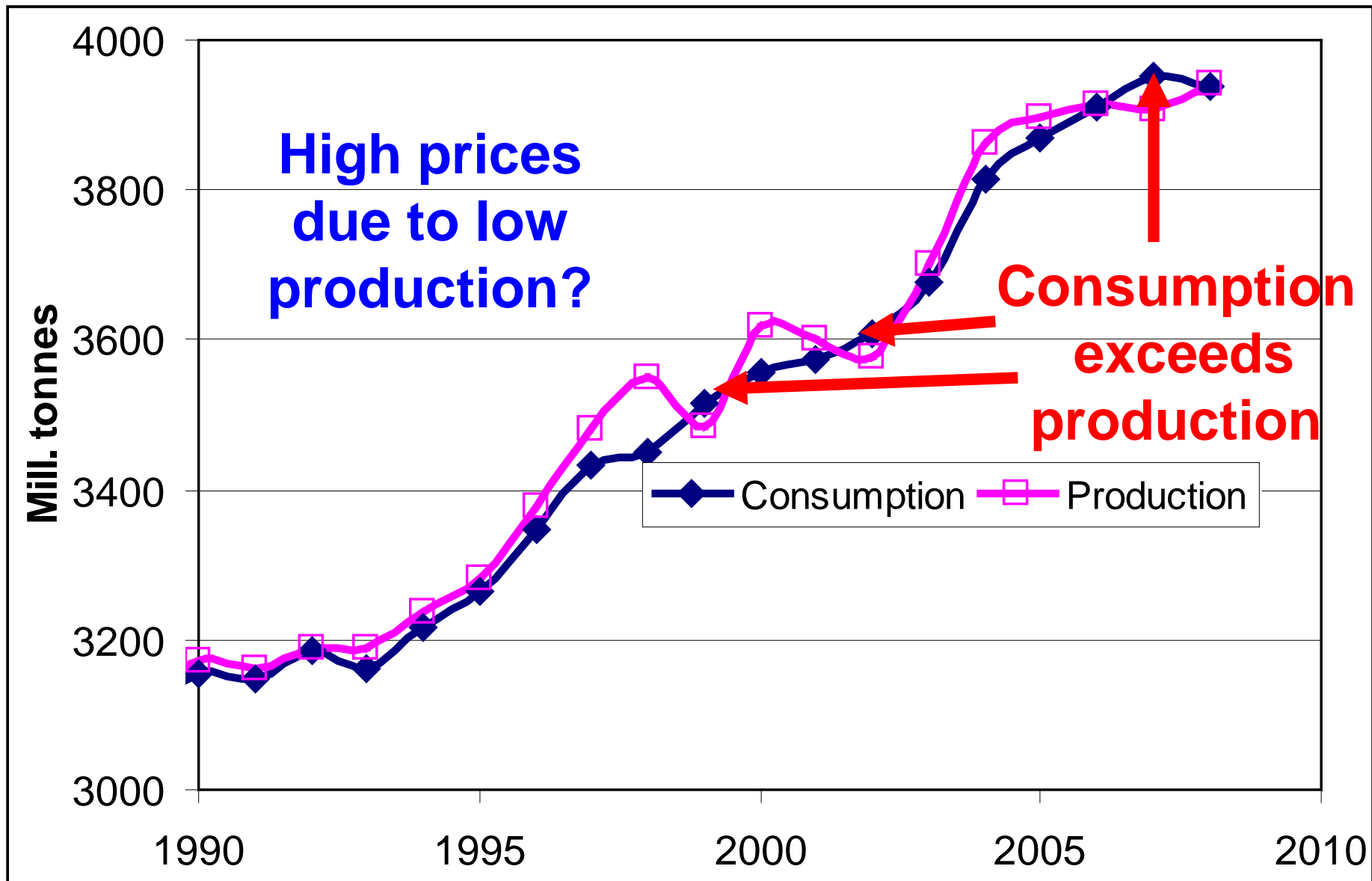
SELLERS MARKET



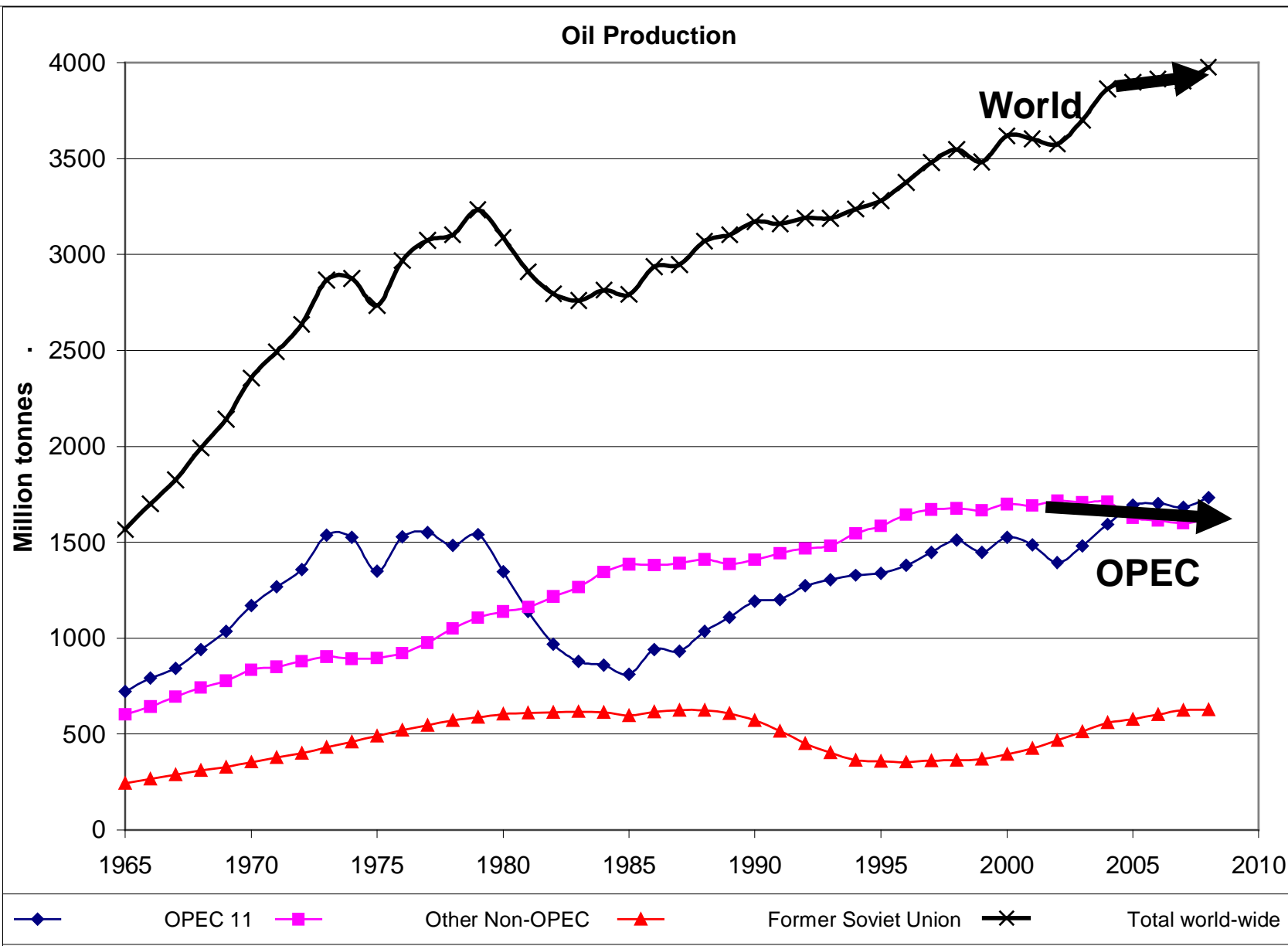


4. MAJOR RESULTS

Oil production vs consumption world-wide

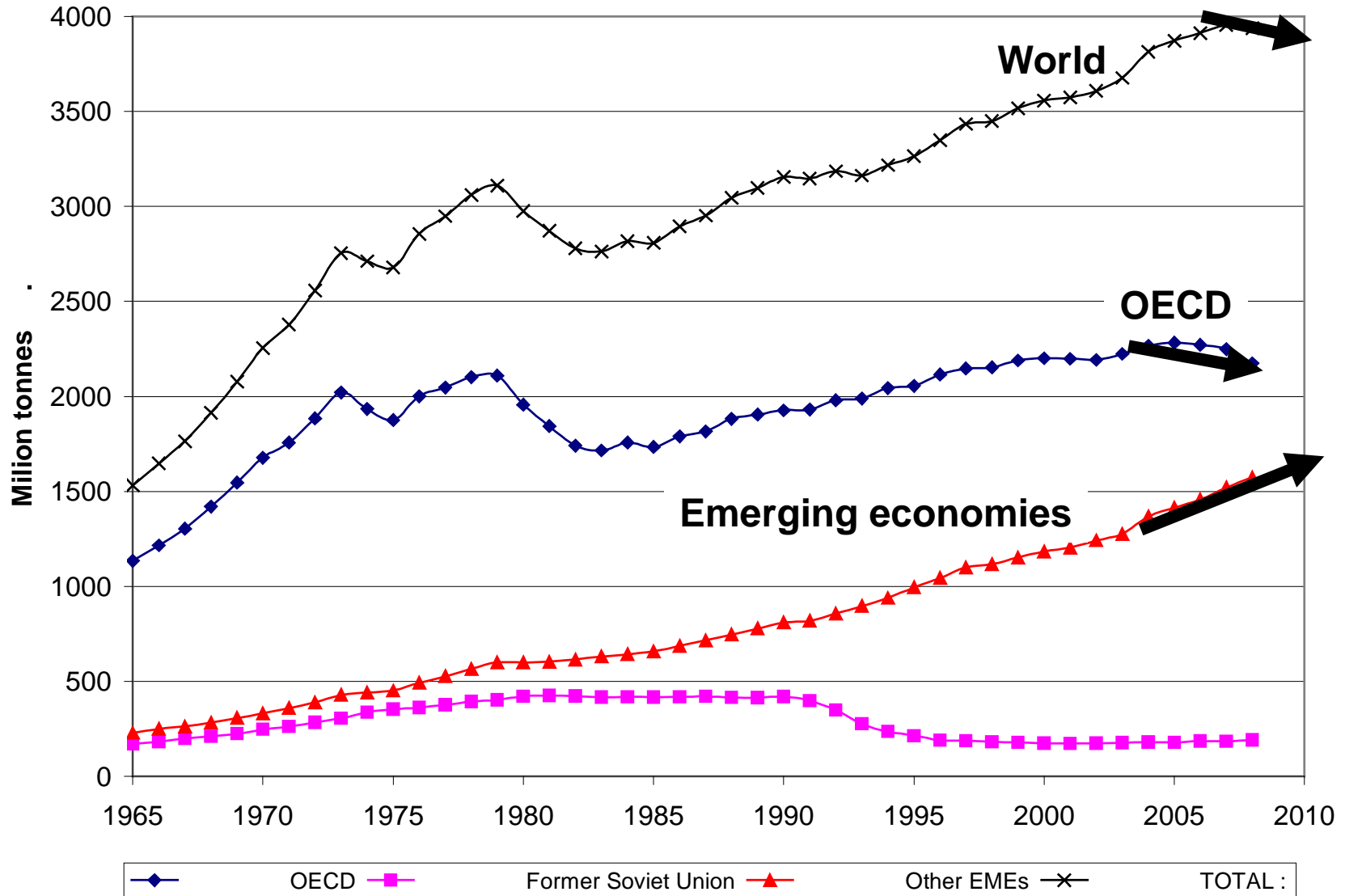


Oil production world-wide

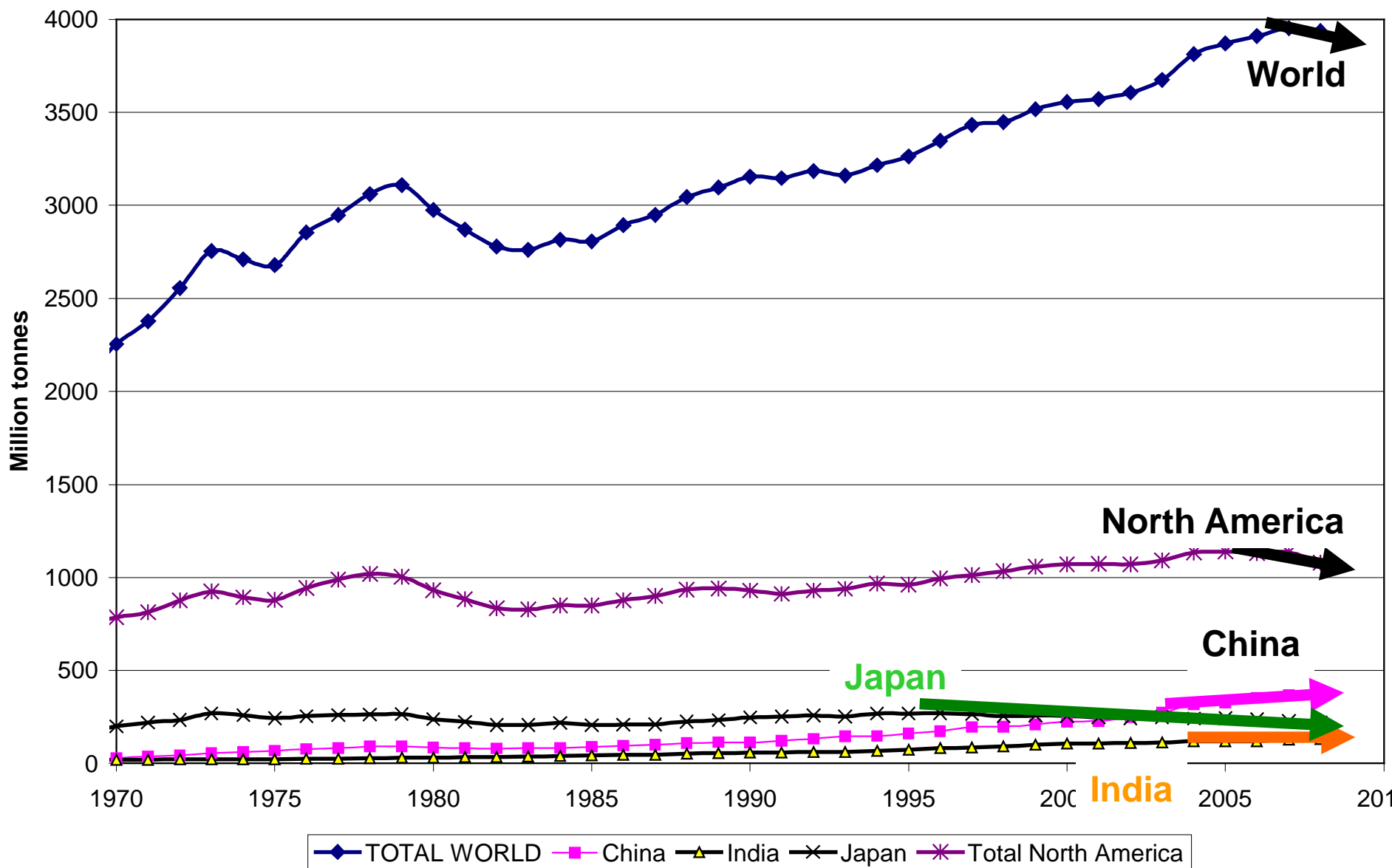


Oil consumption world-wide

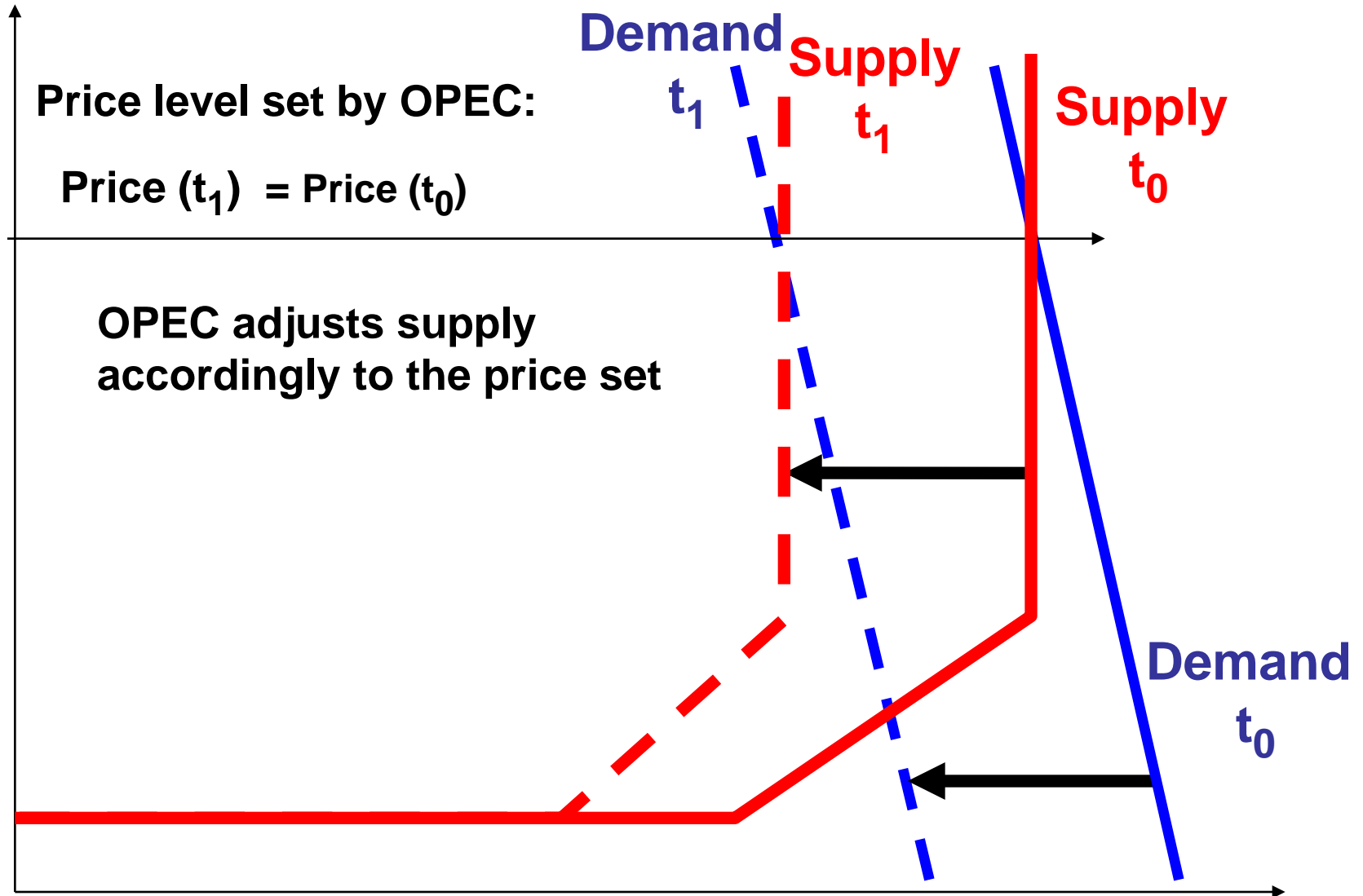
Oil Consumption



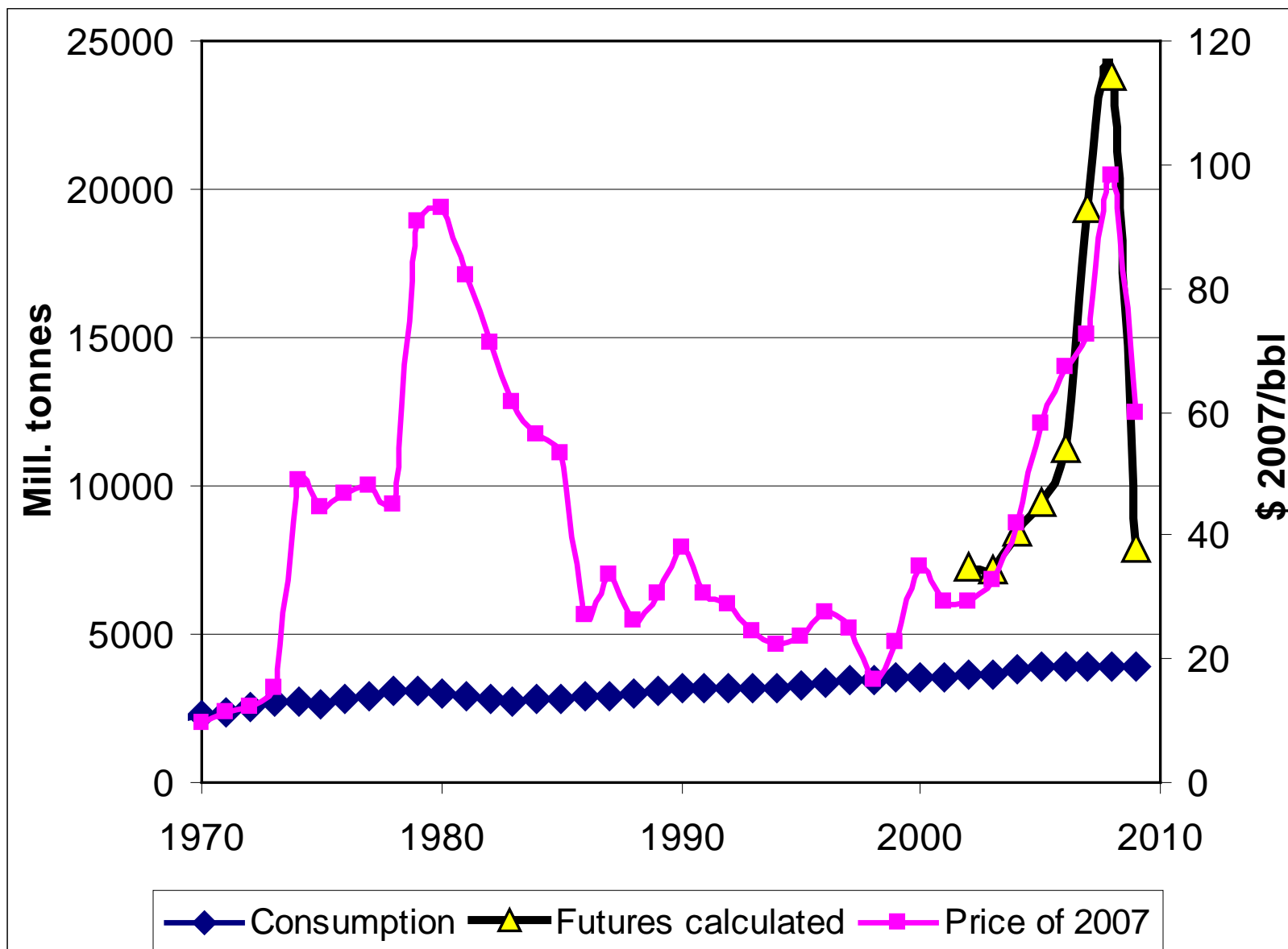
Oil consumption world-wide and in selected regions



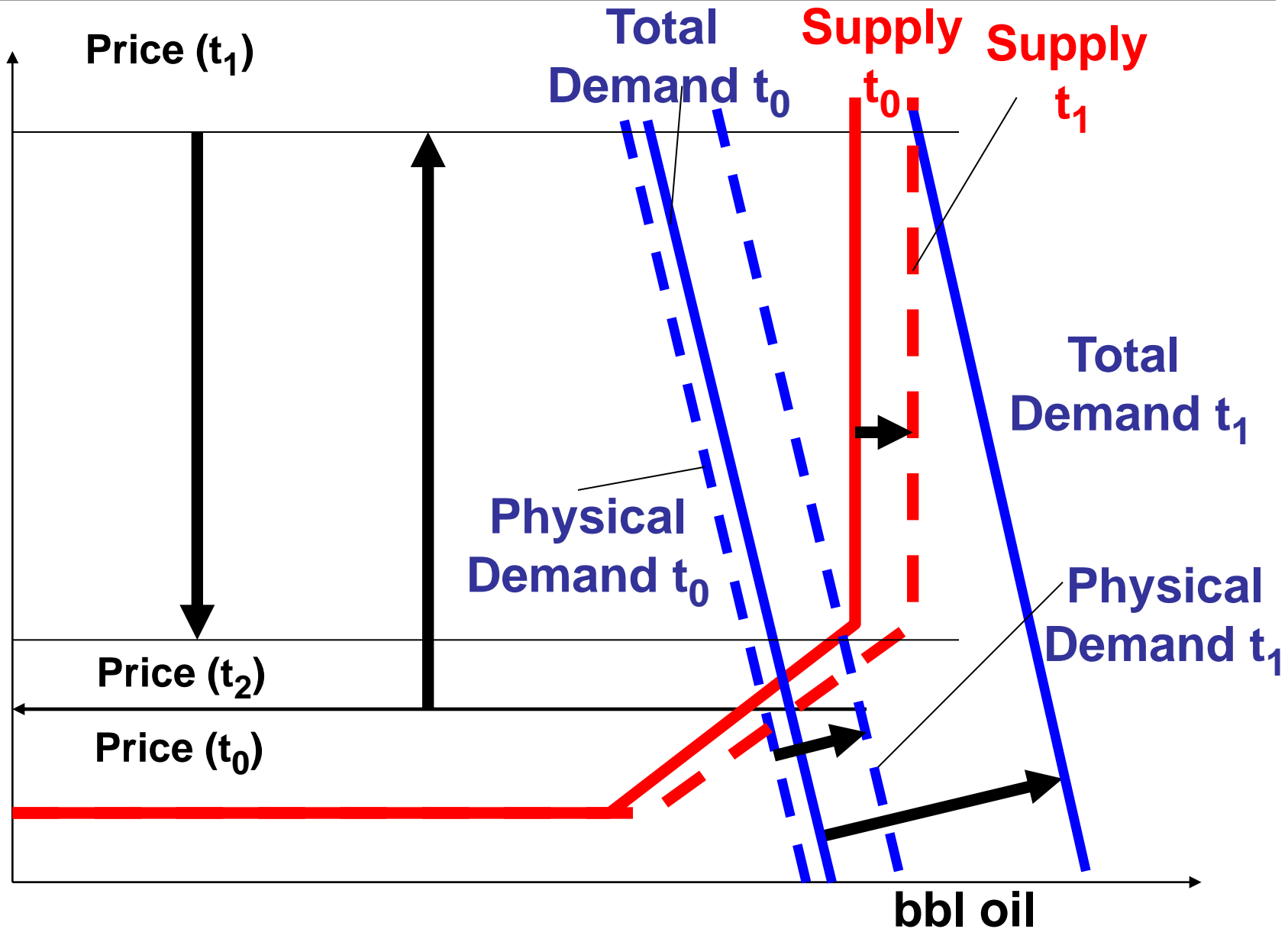
1982-1985: High cartel prices



Physical vs virtual demand



2004 - 2008: Increasing demand (incl. speculation)



Sweet vs sour brands:

- * Increase in demand for Diesel
-> better met by „sweet brands“ ->
leaves the tankers in the Persian gulf ...
- * US\$-Value (=decrease in exchange rate)

5. CONCLUSIONS

- **Period 1980 – 1985: “sellers market”:** price increases due to OPEC market power and price drops due to significant physical demand drops;
- **oil price increases in 2003 - 2008** mainly due to signif. increases in “virtual” demand;
- **decrease in 2008** due to burst of speculation bubble (-> drop in virtual demand); physically, demand & production changed only moderately
- **Currently:** speculation all times attractive...
- **Peak-oil?**

Price change due to peak-oil

