

Oil Investments of NOCs and IOCs: Market Impact

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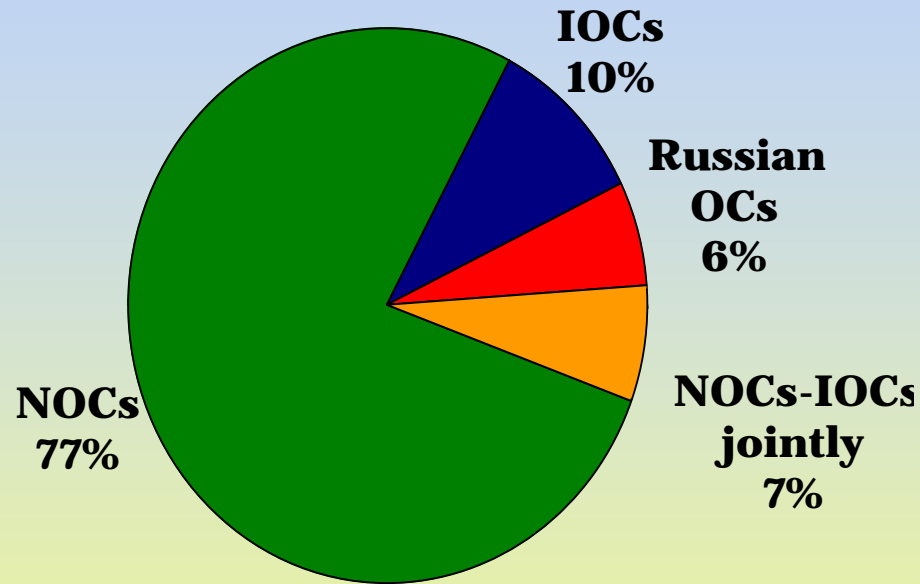
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The Third Annual International Conference on
Trends and Developments in the Middle East: Implications for China, the United
States and International Energy Security
Beijing, China September 14, 2007

Control of Oil Reserves, 2000



Majority of remaining oil resources are controlled by traditional state monopolies and emerging partially privatized firms.

Implications/Questions

- What are the implications for oil output and energy security of the shift in control of reserves and production to NOCs?
- How have IOCs responded? What is their future?

*NOC Objectives**

- NOCs have important national goals that go beyond the maximization of return on capital to shareholders.
- These include:
 - ◆ Distribution of oil wealth to society at large
 - ☞ Fuel subsidies, employment generation, social welfare programs.
 - ◆ Financing government budget
 - ◆ Industrialization and economic development
 - ☞ Technology transfer, local content, subsidized feedstock
 - ◆ Foreign and strategic policy and alliance building, and
 - ◆ Participation in national level politics.
- As a consequence, capital spending in oil sector may be compromised

* “The Changing Role of National Oil Companies in International Energy Markets”. James A Baker III, Institute for Public Policy, Rice University, March, 2007

Forecasting OPEC Exports?

- ◆ “by 2030 OPEC is projected to consume nearly 20 mbd of its own output. This is about 6 mbd higher than the 13.6 mbd projected by DOE and IEA, which assume that OPEC oil consumption will grow less than two-thirds as fast as its income.”
- ◆ “We should not rely upon OPEC’s export-share of non-OPEC demand remaining constant. We might not even be able to count upon OPEC being able to maintain its *level* of oil exports. Still, for the next 25 years, the real oil price over a sustained period need not *be much higher than the current level, given reasonable assumptions about the price responsiveness of demand and non-OPEC supply.*”

Source: Dermot Gately, “What Oil Export Levels Should We Expect From OPEC?”

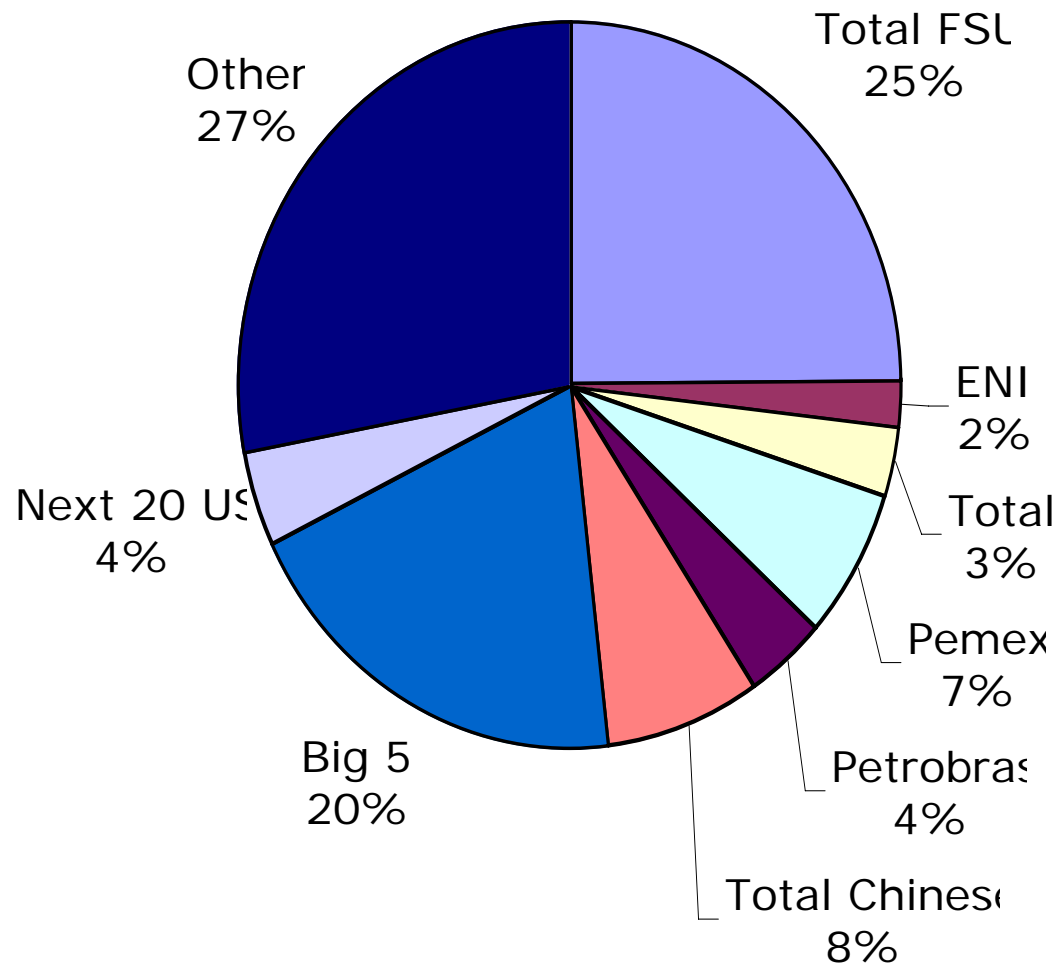
Energy Journal , Vol 28, Number 2, 2007, pp151-173

IOCs in Non-OPEC Supply

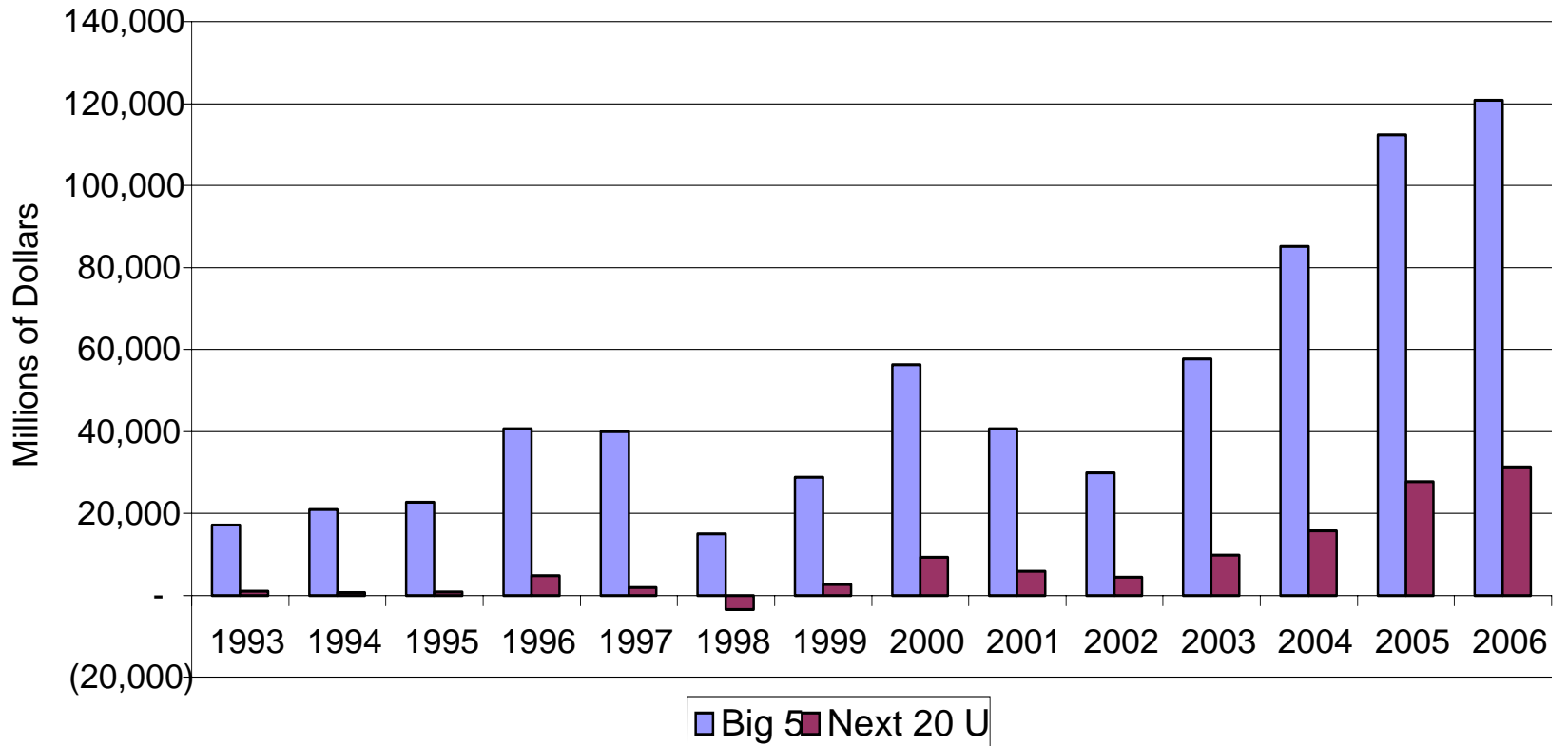
- Focus on Big 5 (Exxon-Mobil, Chevron, BP, Shell and Conoco-Phillips – and 20 (US based) next largest firms
- Data from SEC filings

2006	Profits (\$Billions)	Reserves (Millions bls)	Production (Million b/day)
Big Five	120.8	38,524	9.7
Next 20	31.2	9,626	2.1

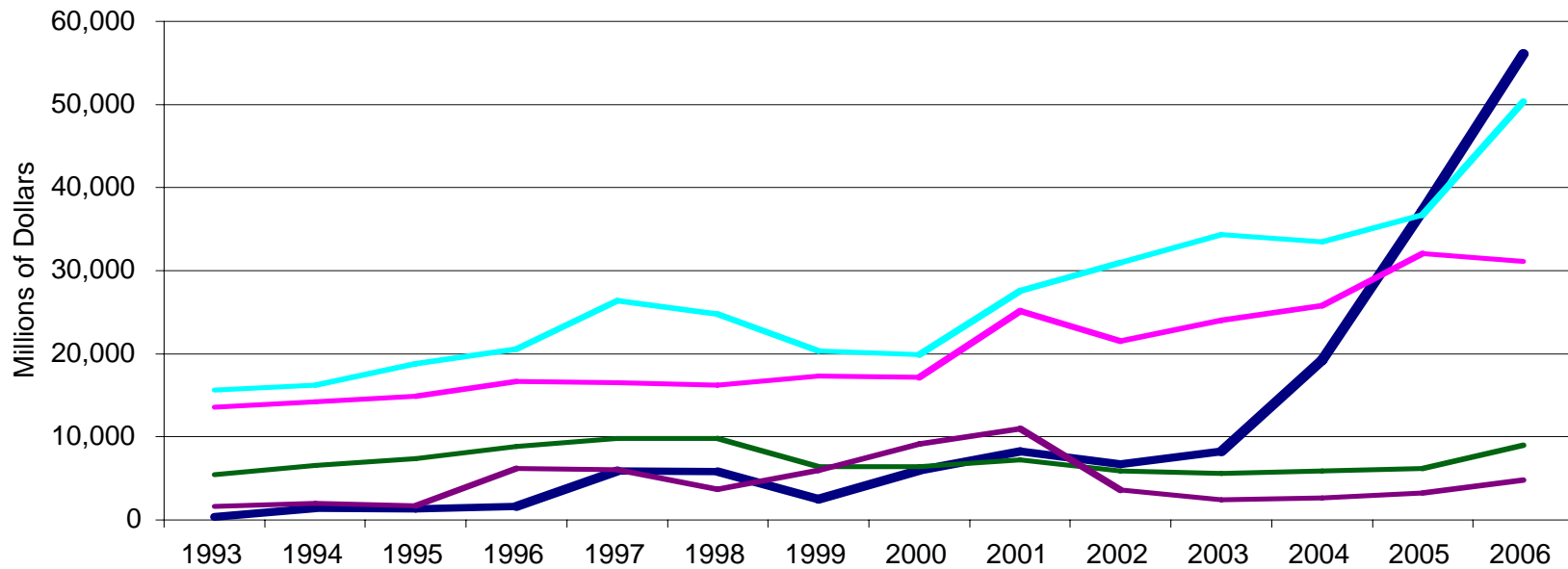
Non- OPEC Productic 2006



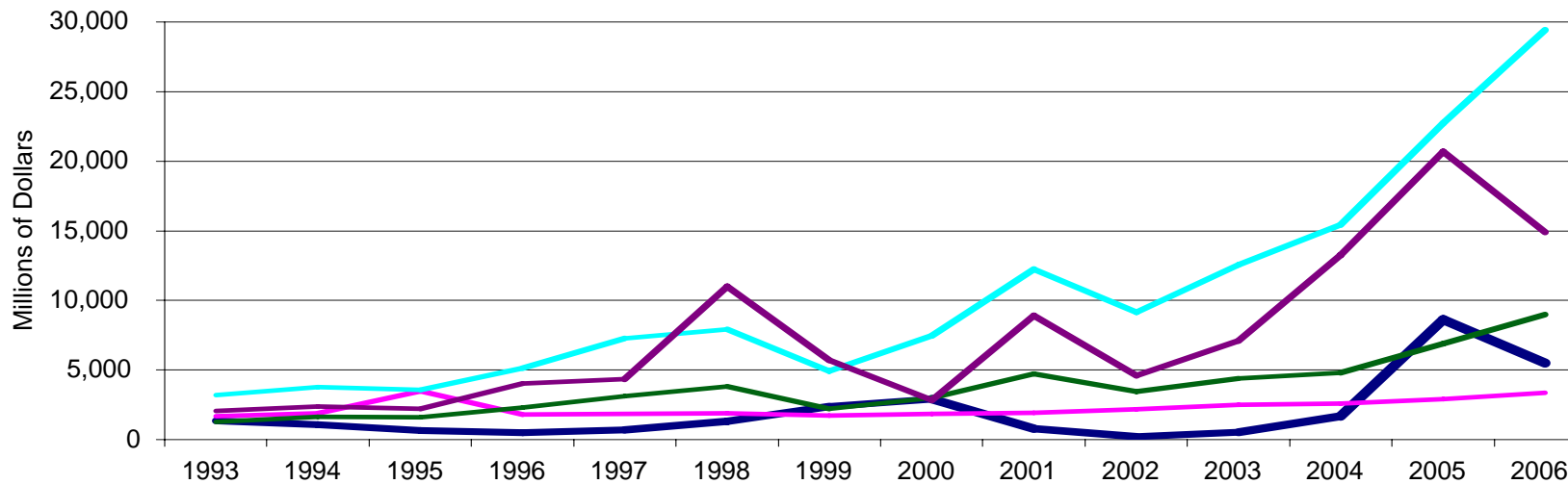
Net Incon



Selected Outlays (Big 5)

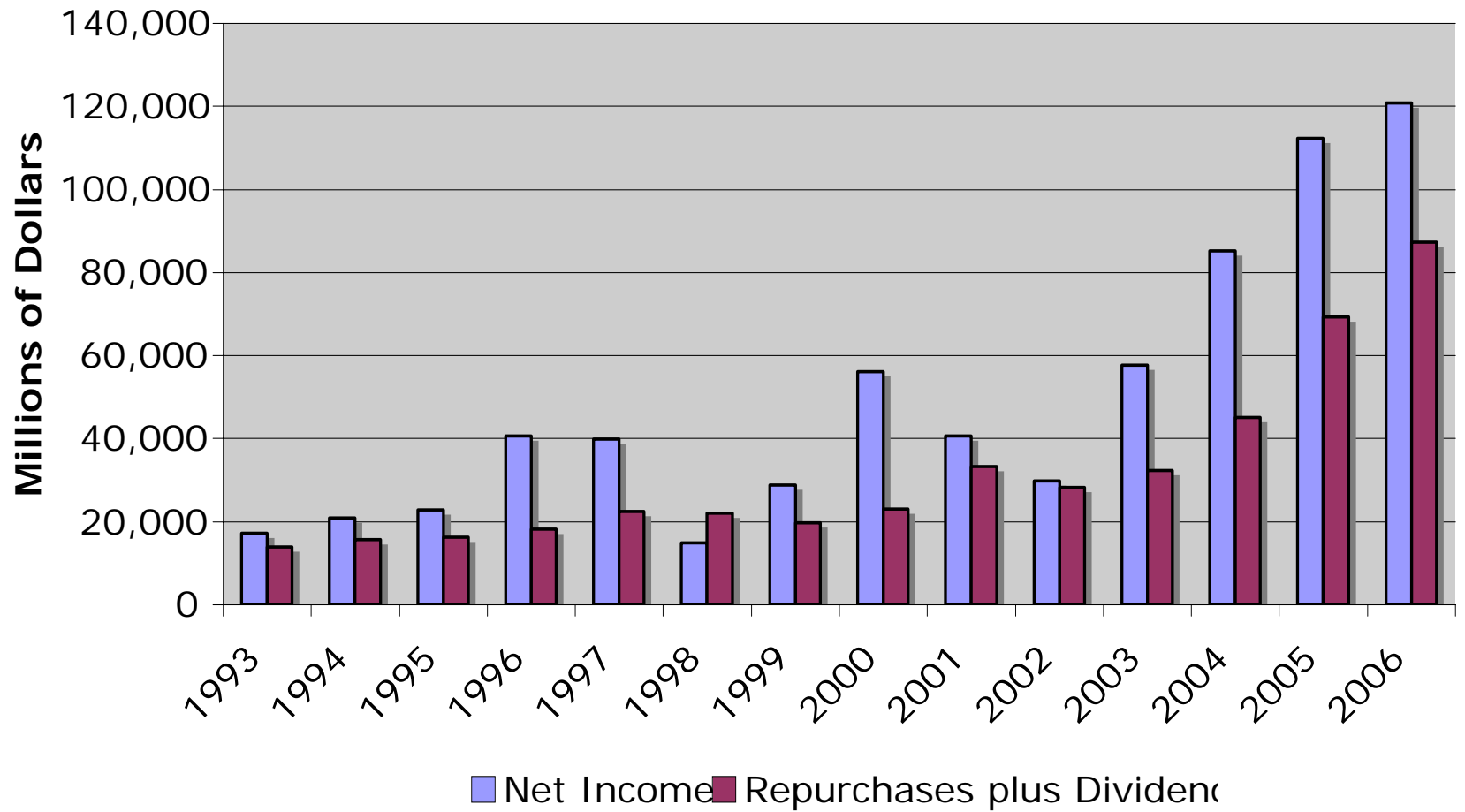


Selected Outlays (Next 20 US Firms)

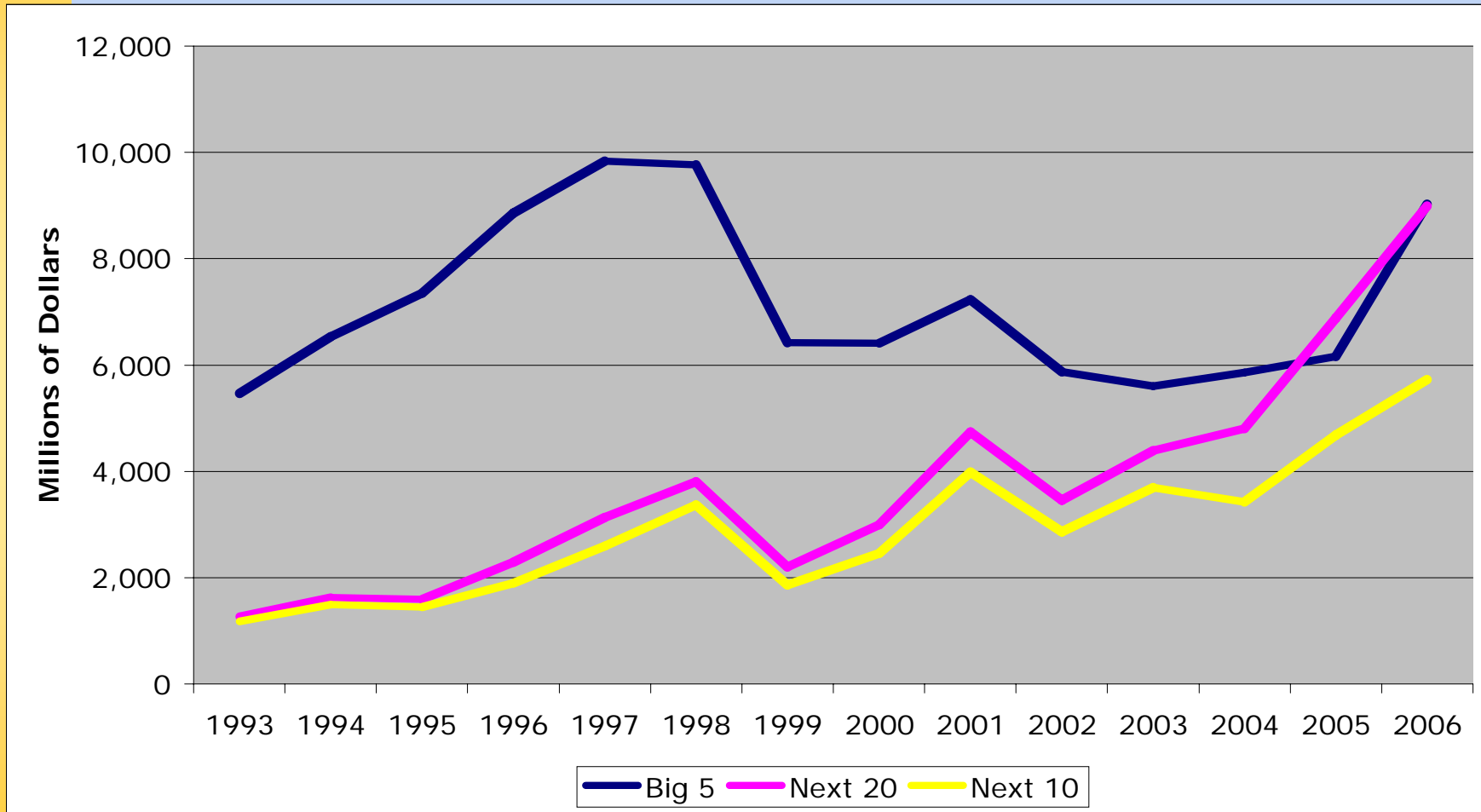


■ Purchases of Equity
 ■ Dividends
 ■ Exploration
 ■ Development
 ■ Property Acquisitions

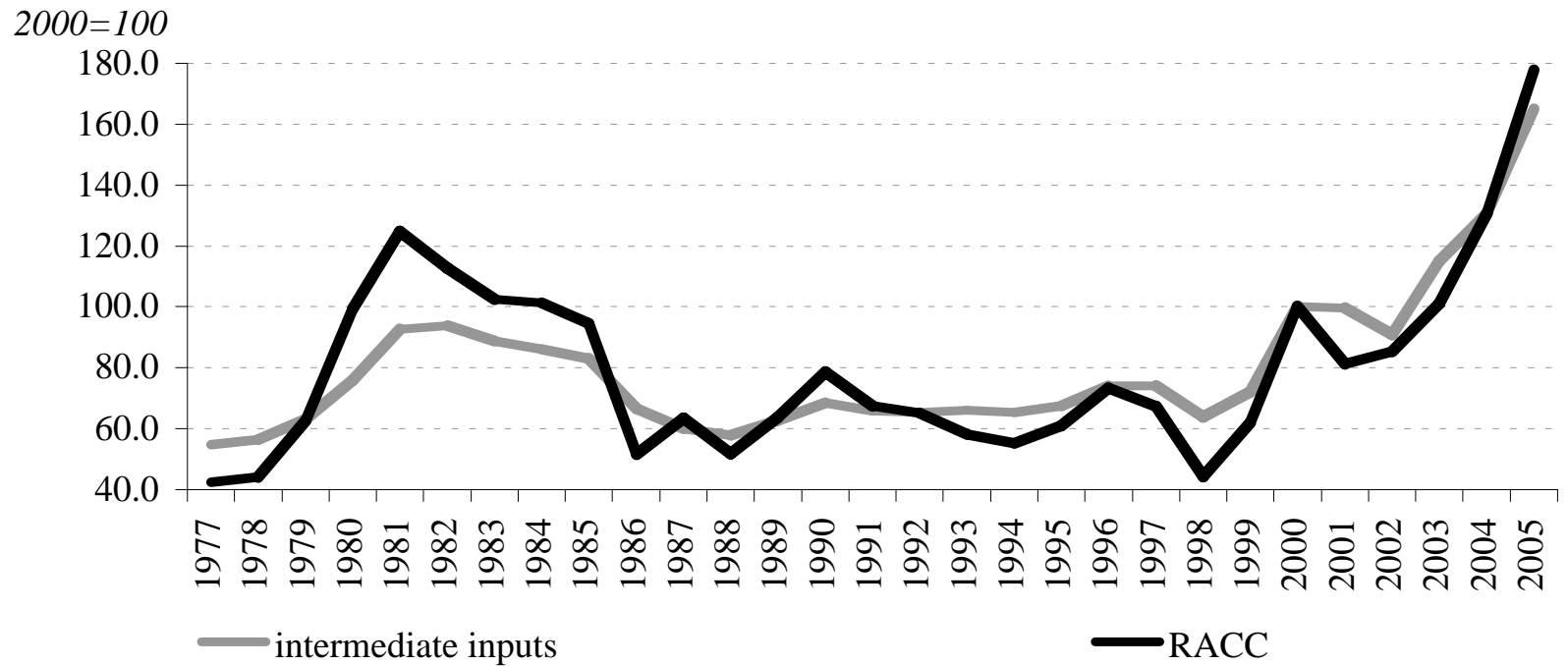
Big 5 Equity Repurchases and Dividend



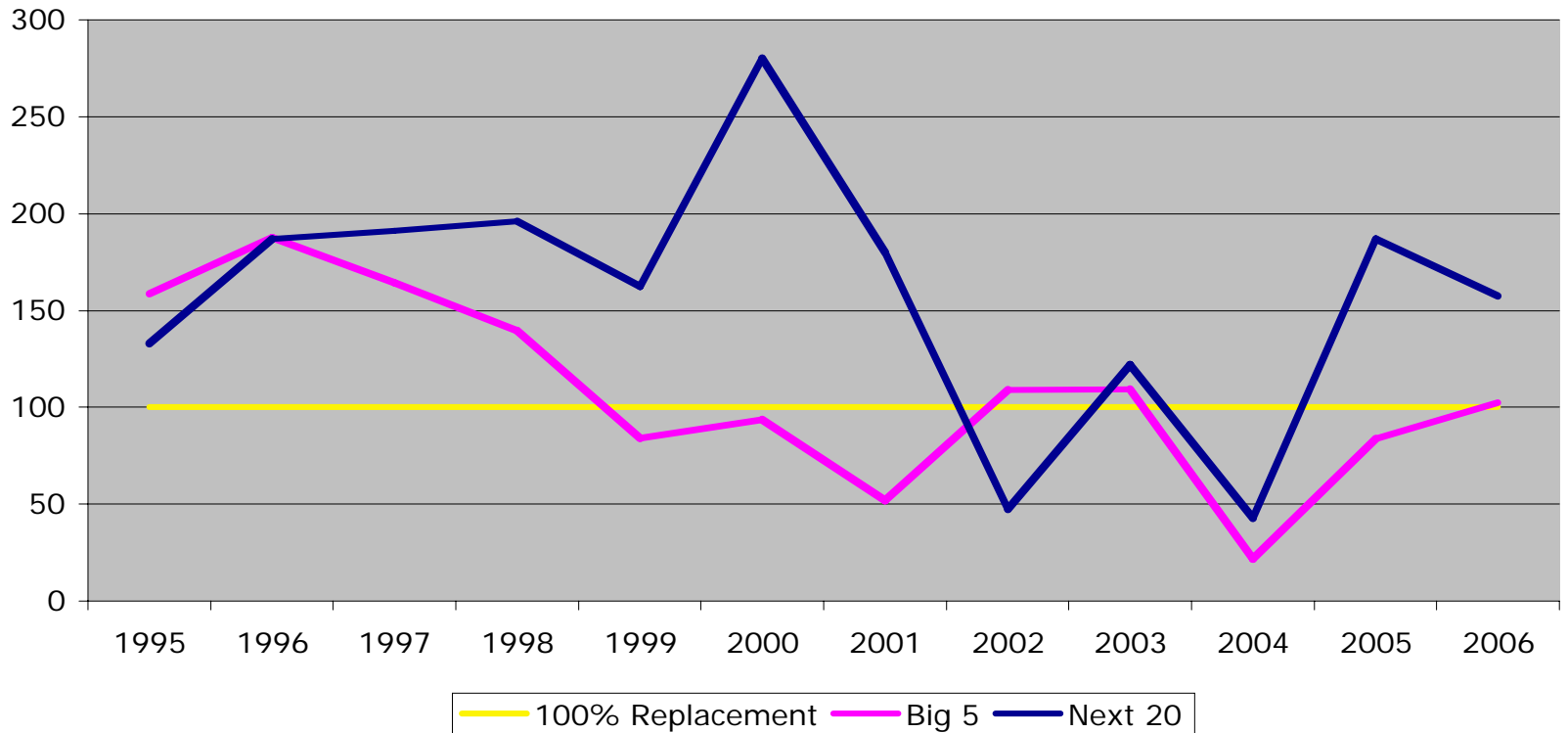
Exploration Outlays



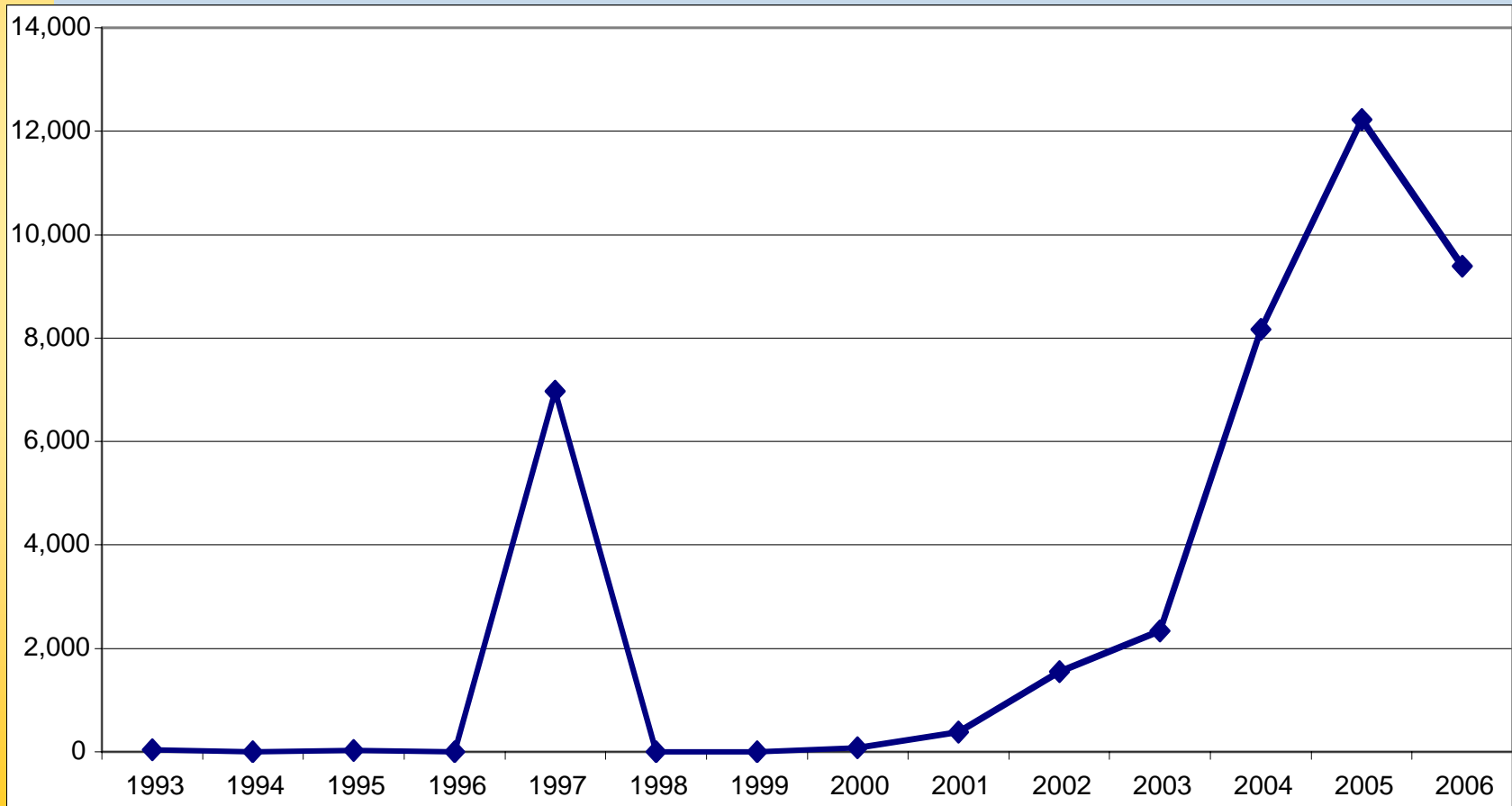
Oil and Gas Extraction Price Indices 1977-2005



Reserve Replacement Ratio



Meanwhile NOCs Are Investing Abroad: Chinese Foreign Energy Investments (million of Dollars)



Explanations for Low IOC Investment

- No good prospects
 - Restricted access to acreage.
 - Large firms have comparative advantage in developing large fields.

- Price volatility - conservative investment policy
 - Past pattern of extended periods of excess capacity and capacity shortages.
 - Breeds uncertainty about future price (low planning price for investment decisions)

- Shortages of professional and skilled manpower and equipment. Result of previous reductions in investment levels
 - ◆ Layoffs of geologists (students chose other careers)
 - ◆ Contraction of sub-contractors
 - ◆ Long lead-time to reverse these
 - ◆ Results in high costs

Explanations for Low Investment (cont'd)

- Pressures from financial markets
 - ☞ Focus on market return reflects concern over value of stock options and takeovers
- Mergers have reduced the number of large firms. They can exert market power by acting (tacitly) in concert
 - ◆ Large IOCs account for 20% on Non-OPEC production. Together they have the same clout as Saudi Arabia!
 - ◆ The large number of smaller firms are not a threat to IOC dominance - at least not in the short run.
 - ◆ Increasing concentration permits a longer response time.
 - ☞ In 1990, 5 largest firms controlled 69% of reserves held by “top 25” and produced 45% of output.
 - ☞ In 2006 5 largest controlled 80% of reserves and 82% of output of “top 25”.

Future of IOCs: Two Views

- Long run prospects for IOCs are good:
 - ◆ Recent IOC behavior - rational response to low prices in late 1990s.
 - ◆ It represented a shift in strategy from growth to efficiency through consolidation.
 - ◆ IOCs rationally waiting for lower oil prices to buy smaller firms or their reserves (rather than invest now when costs are high)
 - ◆ If prices fall (and/or governments drain excessive revenues from NOCs) NOCs may welcome IOC partnerships that can bring in needed capital.
 - ◆ Emerging market risk premiums could rise and gap in capital costs will favor IOCs.
 - ◆ Continued role for IOCs in cases where technology and scale are important (deepwater, unconventional oil). IOCs can compete with NOCs in third countries.

On the other hand...

- IOCs will have a diminished role in future
 - ◆ IOC expertise lies in managing large projects. Most remaining large projects within the domain of NOCs.
 - ◆ Smaller firms will play increasing role as average size of fields declines (where they have a comparative advantage).
- NOCs will increasingly and successfully compete with IOCs in finding and developing reserves outside of their national boundaries. (They have/will acquire technical and managerial expertise).
- IOCs act more like service subcontractors to NOCs
- Further consolidation likely if IOCs continue to shrink. Mergers are defensive in mature industry - often associated with firms in a declining industry. (Profits boosted through cost cutting rather than expansion)
- IOCs will not successfully diversify into new energy substitutes?
 - ◆ Business history suggests that firms in a “maturing” industry do not easily adapt to new substitutes

Conclusions

Changes in industry structure may lead to less investment and future output than forecast:

- OPEC export potential may be overstated
 - ◆ Underestimate of OPEC demand
 - ◆ Profit max behavior may restrict exports to a constant or declining share on non-OPEC demand
- Focus on “other” objectives by NOCs may reduce investment in capacity and compromise future export potential
- Non-OPEC production forecasts do not reflect lack of investment in exploration by IOCs.
- Aggressive smaller firms may partially offset behavior of IOCs.