

National Oil Companies: Performance & Strategy

Introduction and Overview

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<http://pesd.stanford.edu/>

Origins and Operations

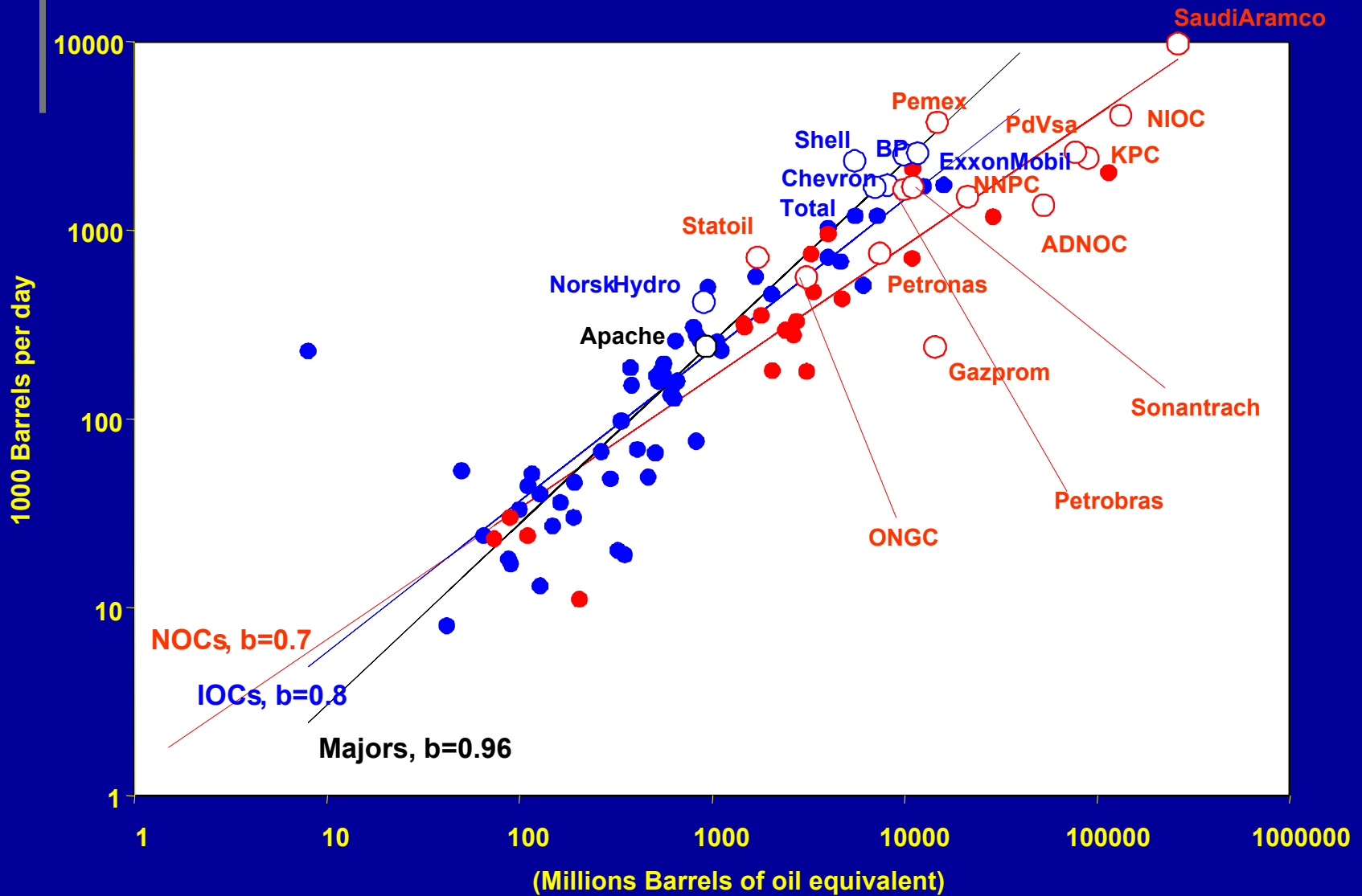
- **Created in 2001; EPRI and BP core gifts**
- **Flat networked organization**
 - Core Stanford staff (approx 16; half FT and half students)
 - Overseas funded partners (approx 45)
- **We study...**
 - Strategic Issues in energy systems—10+ years
 - Politics, law & institutions
 - High leverage research—large integrated studies; common protocols and frameworks

Overview of the Study

- Goals
 - Explain variation in NOC performance and strategy
 - Today, and in historical context
 - Understand role of NOCs in world oil market
 - Today and possible future
 - Understand strategies for NOC and IOC business strategies
- Methods
 - Broad assessment of available macro data
 - Performance
 - “Rents”
 - In-depth case studies on 6 (eventually 15) NOCs
 - All major NOCs
 - Spans variation in factors that affect performance and strategy
 - Operators and managers; upstream and integrated

Liquids Output versus Reserves in 2004

04

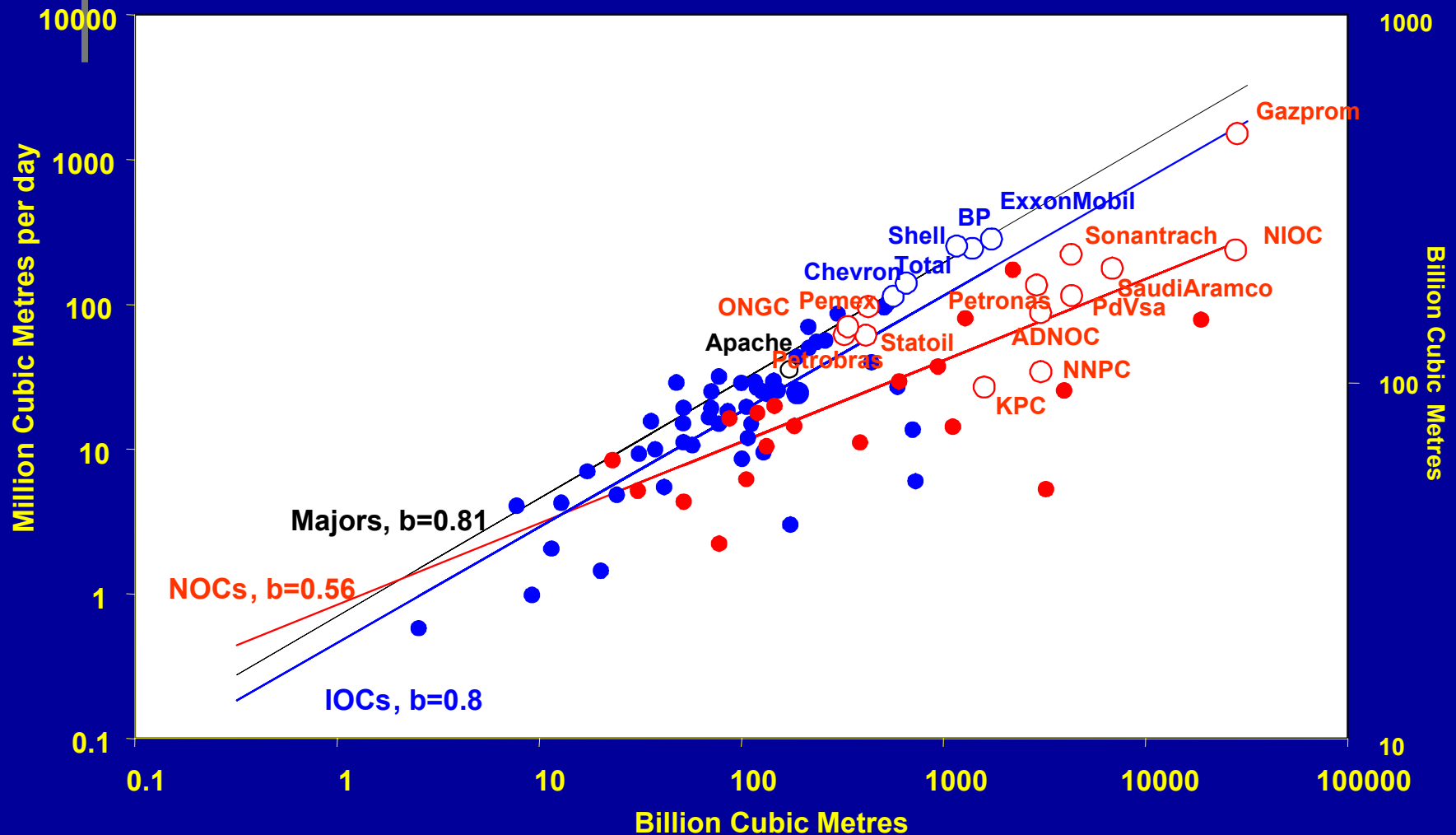


Data Source: The Energy Intelligence Top 100: Ranking the World's Oil Companies. Energy Intelligence, 2006.

Note: NOCs are marked by red (NOCs from PESD's study are open circles);

IOCs are marked by blue (the major IOCs are open circles);

Gas Output versus Gas Reserves in 2004



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Summary of three major clusters of factors

- *State goals, capabilities and relationship with the oil sector*
- *Management*
- *Technology and Hydrocarbon Resources*

The Full Study: Fifteen Case Studies

Enterprise	Host Country	Reserves (oil & gas, bboe)	Liquids Output (1000 bpd)	Gas Output (MMcf per day)
Saudi Aramco	Saudi Arabia	300.9	9,045	6,900
NIOC	Iran	295.2	3,852	7,640
KPC	Kuwait	109.0	2,170	1,054
PdVSA	Venezuela	104.4	2,500	4,000
ADNOC	U.A.E.	79.2	1,200	4,242
NNPC	Nigeria	40.2	2,166	677
Pemex	Mexico	18.7	3,723	3,244
Gazprom	Russia	191.5	221	52,244
Sonatrach	Algeria	37.3	1,729	7,807
CNPC*	China	18.4	2,120	2,407
Petrobras	Brazil	11.1	1,701	2,010
Petronas	Malaysia	24.9	731	4,172
ONGC	India	6.6	557	2,486
Sonangol	Angola	2.2	332	6
Statoil	Norway	4.3	740	1,921

Source: Petroleum Intelligence Weekly, 2003

*CNPC reserves and output reported as PetroChina

This Meeting: Six Case Studies (all drafts)

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Performance and Strategy

Performance

		Rentier/ isolated	Satisficing	World Class
Strategy	Rentier/ isolated	<i>Pemex</i>		
	Satisficing	<i>PdVSA</i>	<i>KPC</i> <i>Gazprom</i> <i>CNPC</i>	
	World Class			<i>Petrobrás</i>

Six Major Findings

- Mission
- Geology
- Organizational culture
- NOC-State relations
 - Politics
 - Finance
 - Regulation
- Management
 - Corporate governance
 - Financial control
 - Contracting
- Pricing

Topics for Discussion this Meeting

- Government-NOC relations
- Investment Strategy & Taxation
- Corporate Governance, Ownership and Decision-Making
- Transparency & Accountability
- Geology

- NOC-NOC and NOC-IOC
- NOCs and the World Oil Market
 - Robustness of our methods
 - Implications