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Privatization and Decentralization in China's Oil Industry

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Privatization and Decentralization in China's Oil and Gas Industry

- China's energy needs for economic development require at least semi-privatized oil and gas SOEs that can compete with the major multi-national companies to:
  - Boost domestic production while at the same time obtain stable, low-cost supplies of oil and gas from overseas;
  - Attract financial resources from energy sector partners and investors in domestic and foreign capital markets

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Privatization and Decentralization in China's Oil and Gas Industry

- Given China's decentralization in government and the economy, can its oil and gas SOEs compete with the multi-national oil and gas companies?
- The decentralized nature of privatization in China has created unique institutional obstacles to the future effective semi-privatization of its oil and gas SOEs;
- The decentralized privatization of the oil and gas SOEs blocks the design of comprehensive national energy and energy security policies, and the creation of effective governmental institutions to coordinate them.

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Why do governments privatize SOEs?

- To raise revenue for the state;
- To promote economic efficiency;
- To reduce government interference in the economy;
- To promote wider share ownership;
- To provide the opportunity to introduce competition;
- To subject SOEs to market discipline;
- To develop national capital markets.

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Factors affecting selection of privatization methods

- History of the asset's ownership;
- Financial and competitive position of the SOE;
- Government's ideological view of markets and regulation;
- Past, present and future regulatory structure in the country;
- Need to compensate important interest groups during privatization;
- Government's ability to credibly commit itself to respect investors' property rights after divestiture;
- Capital market conditions and existing institutional framework for corporate governance;
- Sophistication of potential investors;
- Government's willingness to allow foreign ownership.

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What do general studies reveal about successful privatization?

- Privately owned firms are more efficient and more profitable than otherwise comparable state-owned firms;
- Divested firms almost always become more efficient, more profitable, financially healthier, and increase their capital investment spending;
- Some evidence suggests that share issues stimulate national capital markets and modernize corporate governance;
- Direct sales and public shares are the most common and most successful methods;
- Voucher programs are less common and frequently problematic;
- Informal privatization (as in China) is the least commonly used method and the least studied.

General studies and industry best practices identify successful privatization steps

- Corporatization prior to privatization and deregulation;
- Identification and compensation of all potential stakeholders;
- Development of transparent legal institutions to resolve potential conflicts among stakeholders;
- Clear separation of business and government functions.

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China's Decentralization and Obstacles for Effective Privatization of Oil and Gas SOEs

- Decentralization: Lack of national privatization program makes identification and compensation of potential stakeholders problematic

  1. Local government pitted against SOEs and central government on costs of privatization;

  2. Communist Party's informal system of controlling ownership of SOEs makes corporatization, identification and compensation necessarily opaque, stunts development of legal systems and autonomous regulatory agencies;

  3. Chinese public increasingly influences policy-making, and yet views and knowledge of emerging Chinese middle class on energy, environmental and privatization issues are still being formed.

Comparison of PetroChina & Sinopec with Foreign Competitors (Aegis 2003)

- Super Majors: BP, ExxonMobil, Royal Dutch Shell
- Integrated Majors: ChevronTexaco, ConocoPhillips, Repsol-YPF, TotalFinaElf
- Privatizing Peers: Eni, Petrobas, PetroCanada, Statoil, PetroChina, Sinopec
- Comparisons in Five Categories for 2002:
  - Absolute Size
  - Operating Characteristics
  - Operating Performance
  - Financial Performance
  - Stock Market Performance

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Comparisons of Absolute Size

- Both PetroChina and Sinopec are very large NOCs that compare well with majors and peers on some measures of absolute size:
  - PetroChina compares well with competitors in terms of reserves, production, net income, but has assets, revenues lower than peers, and very many employees.
  - Sinopec does not compare as well with competitors in reserves, production, assets, revenues or employees, but has high refining capacity.

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Absolute Size Comparisons

	Petro-China/ Super Majors	Petro-China/ Inte-grated Majors	Petro-China/ Priva-tizing Peers	Sinopec/ Super Majors	Sinopec/ Inte-grated Majors	Sinopec/ Priva-tizing Peers
Reserves	Equal	Above	Above	Below	Below	Below
Oil and Gas Production	Below	Equal	Above	Below	Below	Below
Refining Capacity	Below	Equal	Above	Below	Equal	Above
Employees	Above	Above	Above	Above	Above	Above
Total Assets	Below	Below	Above	Below	Below	Equal
Revenues	Below	Below	Equal	Below	Below	Above
EBITDA	Below	Above	Above	Below	Below	Below
Net Income	Below	Above	Above	Below	Above	Below

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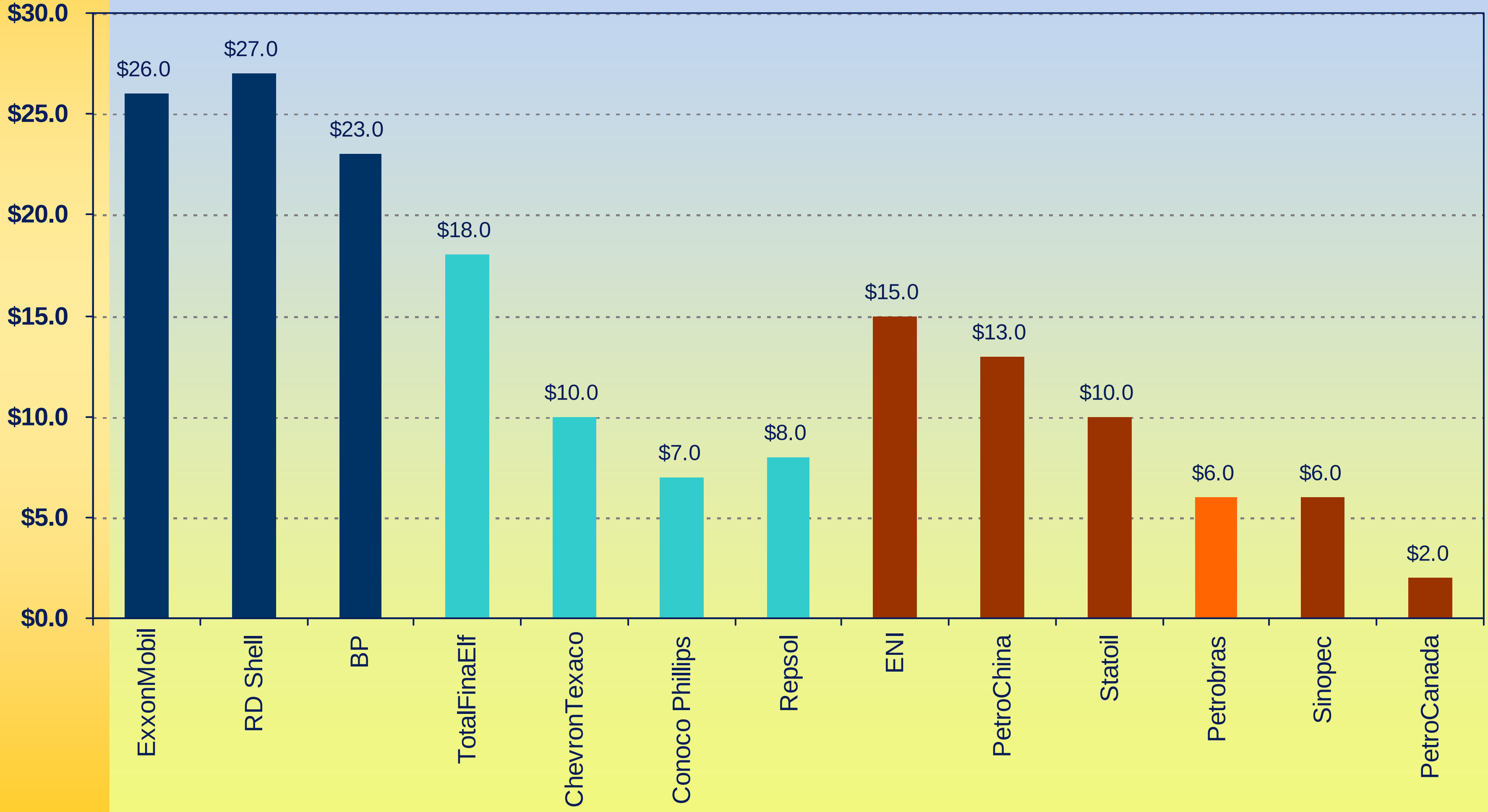
Aegis Analysis of 2002 EBITDA

(Earnings Before Interest, Taxes & Depreciation in $ Billions)



Comparison of Operating Characteristics

- PetroChina and Sinopec are not as integrated as many of their foreign competitors.
- PetroChina is more competitive than Sinopec in terms of liquids and gas reserves, but both compare favorably on use of reserves.
- Both are seeking overseas assets in order to offset aging domestic fields, and because of competition from CNOOC in offshore exploration and production.

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Comparison of Operating Characteristics

	Petro China/ Super Majors	Petro China/ Inte-grated Majors	Petro China/ Priva-tizing Peers	Sinopec/ Super Majors	Sinopec/ Inte-grated Majors	Sinopec/ Priva-tizing Peers
Liquids Reserves	Equal	Above	Above	Below	Below	Equal
Gas Reserves	Below	Above	Above	Below	Below	Below
Percent Liquids Reserves	Above	Equal	Equal	Above	Above	Above
Percent Liquids Production	Above	Above	Above	Above	Above	Above
Liquids Reserve Life	Above	Above	Above	Equal	Equal	Equal
Gas Reserve Life	Above	Above	Above	Above	Above	Equal
Refinery Integration	Below	Below	Below	Above	Above	Above

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CNPC and Sinopec Domestic Oil Production by Field, 1997-2002 (in thousands barrels per day)

Field	Company	Region	1997	1998	1999	2000	2001	2002	2002/1997
Daqing	CNPC	Northeast	1120.1	114.0	1090.0	1060.0	1030.0	1002.6	89.5%
Liaohe	CNPC	Northeast	300.8	290.4	286.0	280.2	277.0	270.2	89.8%
Xinjiang	CNPC	Northwest	174.0	174.2	179.8	184.0	193.6	201.0	115.5%
Changqing	CNPC	Northwest	66.0	80.0	86.0	92.8	104.0	122.0	184.8%
Tarim	CNPC	Northwest	84.0	77.0	85.2	87.0	94.6	100.4	119.5%
Huabei	CNPC	North	93.6	94.6	93.6	91.2	90.2	87.6	93.5%
Dagang	CNPC	North	88.0	86.0	82.0	80.0	79.0	78.7	90.4%
Jilin	CNPC	Northeast	80.0	79.4	68.8	66.8	71.6	88.8	111.0%
Tuha	CNPC	Northwest	60.0	59.0	58.0	55.6	49.8	50.2	83.6%
Qinghai	CNPC	Northwest	32.0	35.22	38.0	40.0	41.2	42.8	133.7%
Sichuan	CNPC	Northwest	4.6	4.3	4.0	3.4	2.8	2.7	58.6%
Yanzhang	CNPC	Northwest	21.4	32.5	42.38	49.2	63.2	63.6	297.1%
Guidong	CNPC	Northwest	12.2	12.7	12.6	12.4	12.5	13.0	106.5%
Shengli	Sinopec	North	560.2	546.2	533.0	535.2	533.6	534.3	95.3%
China Star	Sinopec	West	12.4	12.4	19.6	48.0	58.8	58.5	471.7%
Zhongyuan	Sinopec	North	80.4	80.0	75.0	75.4	76.0	76.0	94.5%
Henan	Sinopec	Central	37.0	37.2	36.6	37.0	37.2	37.6	101.6%
Jiangsu	Sinopec	East	23.4	26.7	29.0	31.0	31.4	31.4	134.1%
Jianghan	Sinopec	East	16.4	15.1	16.82	17.4	19.0	19.3	117.6%

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CNPC, Sinopec and CNOOC Domestic Crude Oil Production, 1997-2002 (in thousand barrels per day)

	1997	1998	1999	2000	2001	2002	% 1998	% 2002
CNPC	**2864.4**	**2149.2**	**2141.3**	**2121.0**	**2130.5**	**2148.3**	**67**	**63.6**
Sinopec	**n.a.**	**706.3**	**691.3**	**744.8**	**756.7**	**757.8**	**22.0**	**22.4**
CNOOC	**325.64**	**326.3**	**323.4**	**351.4**	**364.4**	**419.7**	**10.1**	**12.4**
TOTAL	**3208.8**	**3205.1**	**3175.7**	**3217.2**	**3263.4**	**3377.3**	**100**	**100**

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CNOOC Domestic Crude Oil Production by Subsidiary, 1999-2002 (in thousand barrels per day)

	1999	2000	2001	2002
Shenzhen	n.a.	n.a.	206.72	185.5
Tianjin	55.3	72.7	115.0	164.4
Zhanjiang	n.a.	n.a.	40.8	67.3
Total	n.a.	n.a.	362.52	417.2

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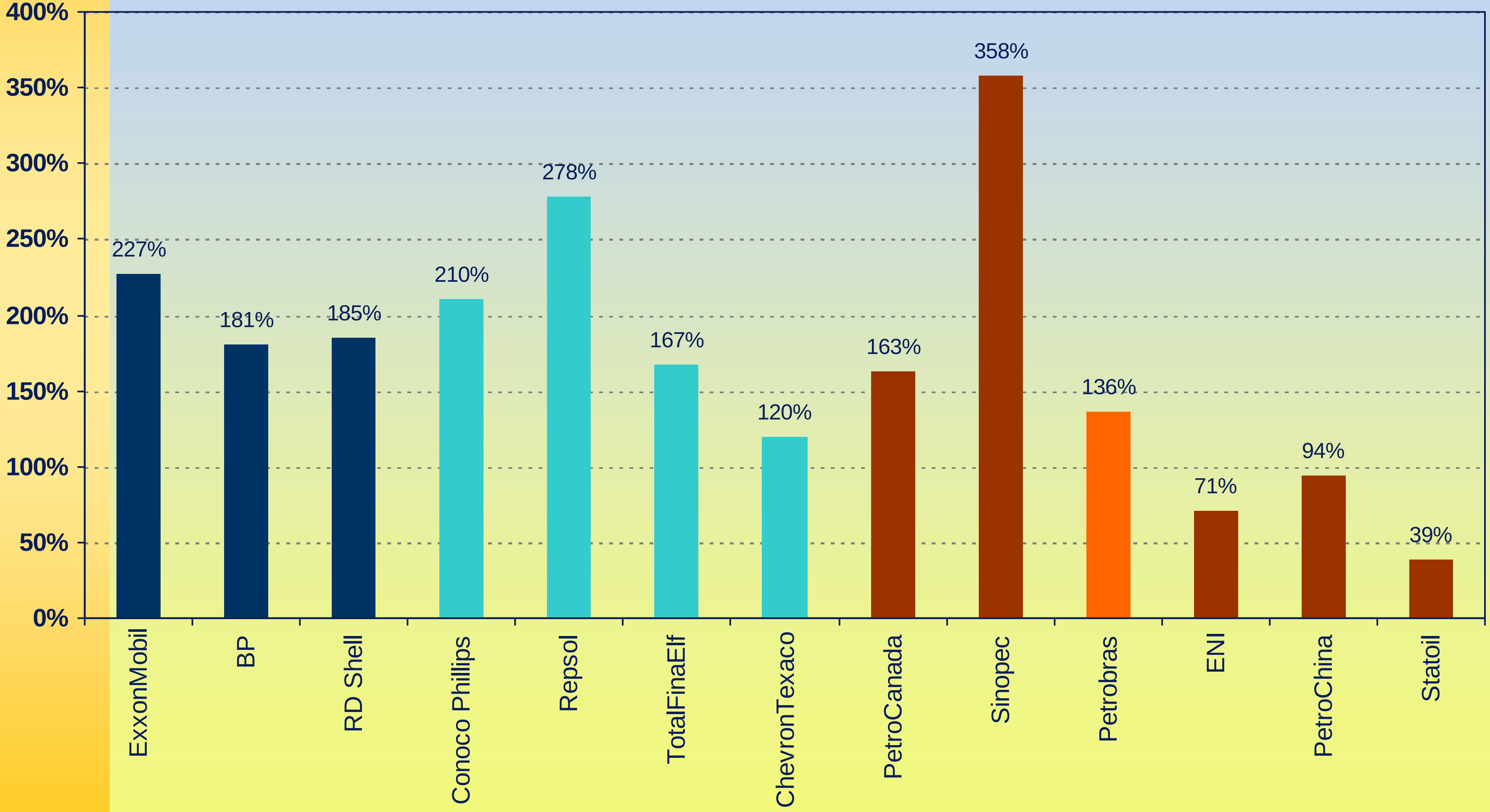
Aegis Analysis of 2002 Refinery Integration (Refining Capacity/ Liquids Production



Comparisons of Operating Performance

- Chinese oil and gas SOEs have many of the production inefficiencies characteristic of privatizing NOCs:
- PetroChina compares favorably with majors and peers on the exploration and production side of operating performance, but has high lifting costs and low employee profitability.
- Sinopec compares favorably with majors and peers on refining and marketing, but compares poorly on exploration and production, lifting and reserve replacement costs, and per employee profitability

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Comparisons of Operating Performance

	Petro-China/ Super Majors	Petro-China/ Inte-grated Majors	Petro-China/ Priva-tizing Peers	Sinopec/ Super Majors	Sinopec/ Inte-grated Majors	Sinopec/ Priva-tizing Peers
EBITDA per Barrel	Equal	Below	Below	Above	Above	Above
E&P Segment Performance	Equal	Equal	Below	Equal	Equal	Below
E&P EBITDA ROA	Above	Above	Equal	Above	Above	Equal
R&M Segment Performance	Below	Equal	Below	Above	Above	Above
R&M EBITDA ROA	Above	Above	Below	Above	Above	Above
Percentage R&M EBITDA	Below	Below	Below	Above	Above	Above
Lifting Costs	Equal	Above	Below	Above	Above	Above
Reserve Replacement Cost	Below	Below	Equal	Above	Above	Above
Reserve Replacement	Above	Above	Equal	Above	Above	Equal
Employee Profitability	Below	Below	Below	Below	Below	Below

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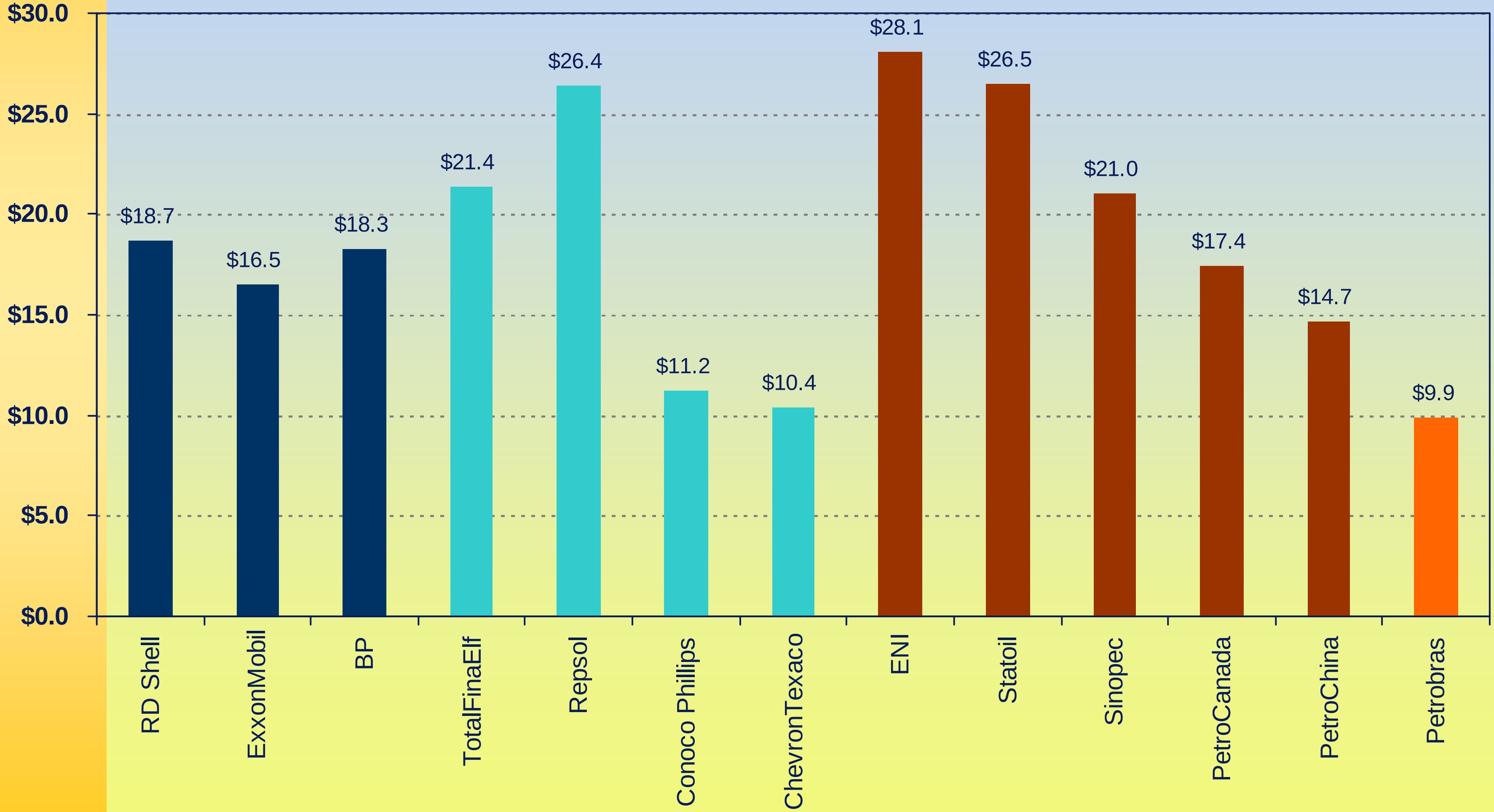
Aegis Analysis of 2002 Total EBITDA (Earnings Before Interest, Taxes & Depreciation) */ BOE* (Barrel of Oil Equivalent) *Annual Production* ($/bbl)



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Comparisons of Financial Performance

- PetroChina and Sinopec compare favorably to foreign competitors in terms of financial performance, although much of this may be based on ignorance of foreign investors, and lack of transparency in capital markets.
- Overall, both PetroChina and Sinopec provide favorable returns on capital employed, they reinvest in capital assets, and they have debts equal to their privatizing peers.

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Comparisons of Financial Performance

	Petro-China/ Super Majors	Petro-China/ Inte-grated Majors	Petro-China/ Priva-tizing Peers	Sinopec/ Super Majors	Sinopec/ Inte-grated Majors	Sinopec/ Priva-tizing Peers
Turnover	Below	Below	Below	Below	Below	Above
Gross Margin EBITDA/ Revenues	Above	Above	Above	Above	Above	Below
EBITDA Return on Capital Employed	Above	Above	Equal	Equal	Above	Below
EBIT Return on Capital Employed	Above	Above	Equal	Below	Below	Below
Return on Equity	Above	Above	Equal	Below	Below	Below
Cash Flow Reinvestment	Above	Above	Equal	Above	Above	Above
Book Debt Ratio (LTD/ LTD + Book Value Equity	Above	Below	Below	Above	Below	Equal

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Comparisons of Stock Markets

- PetroChina and Sinopec are less capitalized on the markets overall, have less firm value than their foreign competitors, and were likely "under-valued" in 2002 capital markets
- PetroChina and Sinopec are both still trying to adopt international accounting standards in order to attract foreign investors.

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Comparisons of Stock Markets

	Petro-China/ Super Majors	Petro-China/ Inte-grated Majors	Petro-China/ Priva-tizing Peers	Sinopec/ Super Majors	Sinopec/ Inte-grated Majors	Sinopec/ Priva-tizing Peers
Market Capitalization	Below	Below	Above	Below	Below	Below
Firm Value	Below	Below	Above	Below	Below	Below
Reserve Market Valuation	Below	Below	Below	Below	Below	Equal
Dividend Yield	Above	Above	Above	Above	Above	Equal
Price to 2003 Earnings Estimates	Below	Below	Below	Below	Below	Equal
Price to 2004 Earnings Estimates	Below	Below	Equal	Below	Below	Equal
One-Year Shareholder Return	Above	Above	Above	Above	Above	Above

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Future Research & Conclusions

- China's future economic development needs require competitive, semi-privatized oil and gas SOEs, and yet Sinopec, PetroChina and CNOOC still share many of the production efficiency problems of NOCs:
- These problems are maintained by the decentralized nature of privatization and policy-making in China;
- The decentralized privatization of the oil and gas SOEs is blocking the design of comprehensive national energy and energy security policies, and the creation of effective governmental institutions to coordinate them.
- Future research:
  - corporatization and government/Party management of SOEs;
  - local governments and relations with oil and gas SOEs.