PRESENTATION ON ALASKA GAS PIPELINE PROJECT

to Alaska State Legislative Budget & Audit Committee
August 31, 2005

Return on Capital & Cost of Capital:
Petroleum & Natural Gas Pipeline Companies

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Commonly Used Accounting Measures of Profitability

- **Return on Capital Employed (ROCE)**
- **Return on Shareholder Equity (ROE)**

Return on Capital Employed

- **Capital Employed = Book Value of Debt + Book Value of Equity**
- **The *Return on Capital Employed* (ROCE) of a firm measures its operating efficiency in generating profits from the average level of capital employed, excluding the potential beneficial effects of financing**
- **ROCE is one of the petroleum industry's most widely used profitability measures**
- $$\text{ROCE} = \frac{\text{Earnings Before Interest \& Taxes (EBIT) x (1 - Tax Rate)}}{\text{Book Value of Debt + Book Value of Equity}}$$

or

$$= \frac{\text{Operating Profit Before Financing Costs}}{\text{Capital Employed}}$$

Return on Shareholder Equity

- The *Return on Shareholder Equity* (ROE) measures the firm's profitability from the perspective of an equity investor (e.g., shareholder)

- Unlike ROCE, ROE includes the impact of debt financing and the ability of the firm to use "leverage" to benefit its shareholders

- $$\text{ROE} = \frac{\text{Net Income}}{\text{Book Value of Common Equity (or Stock)}}$$

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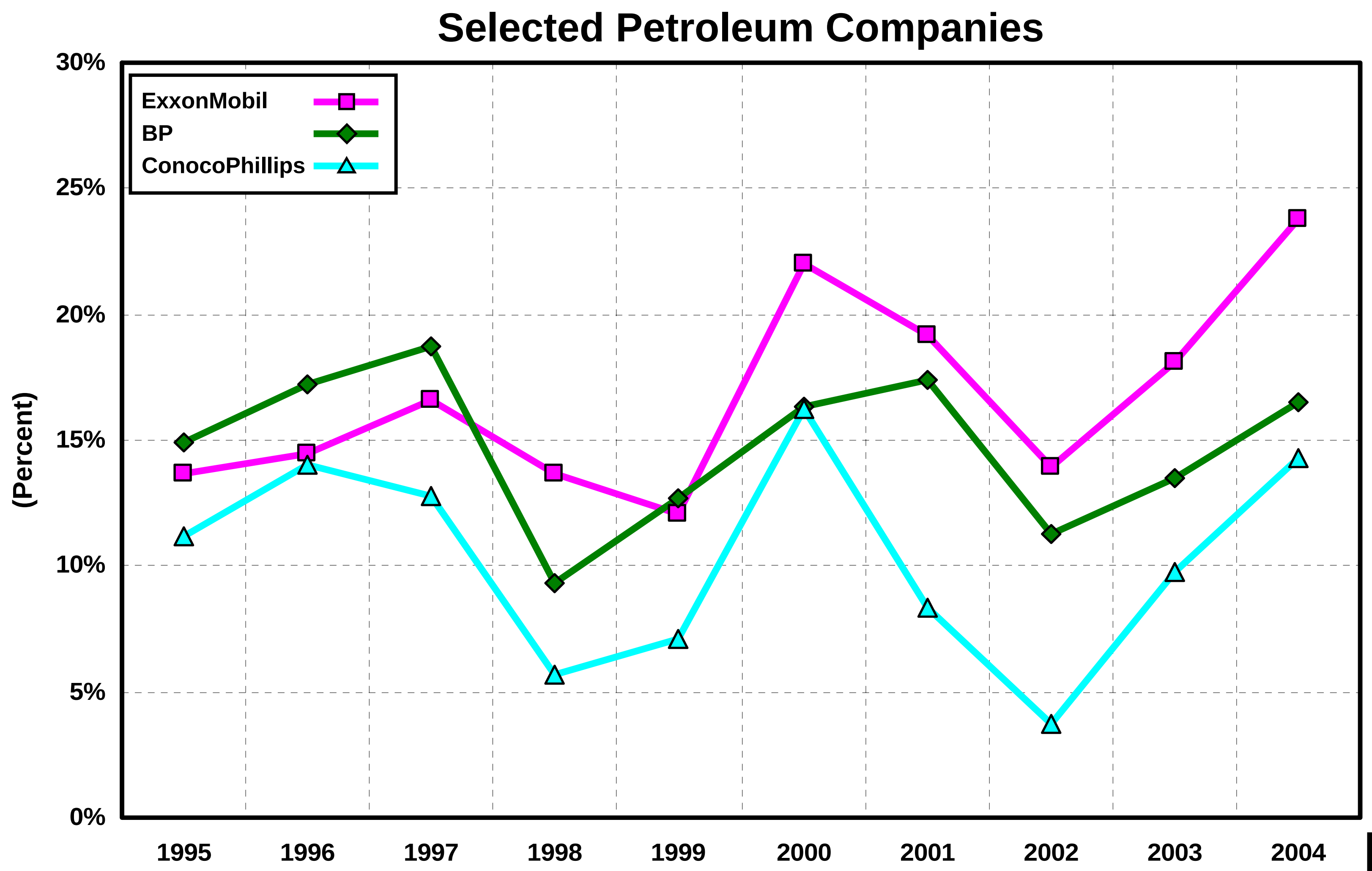
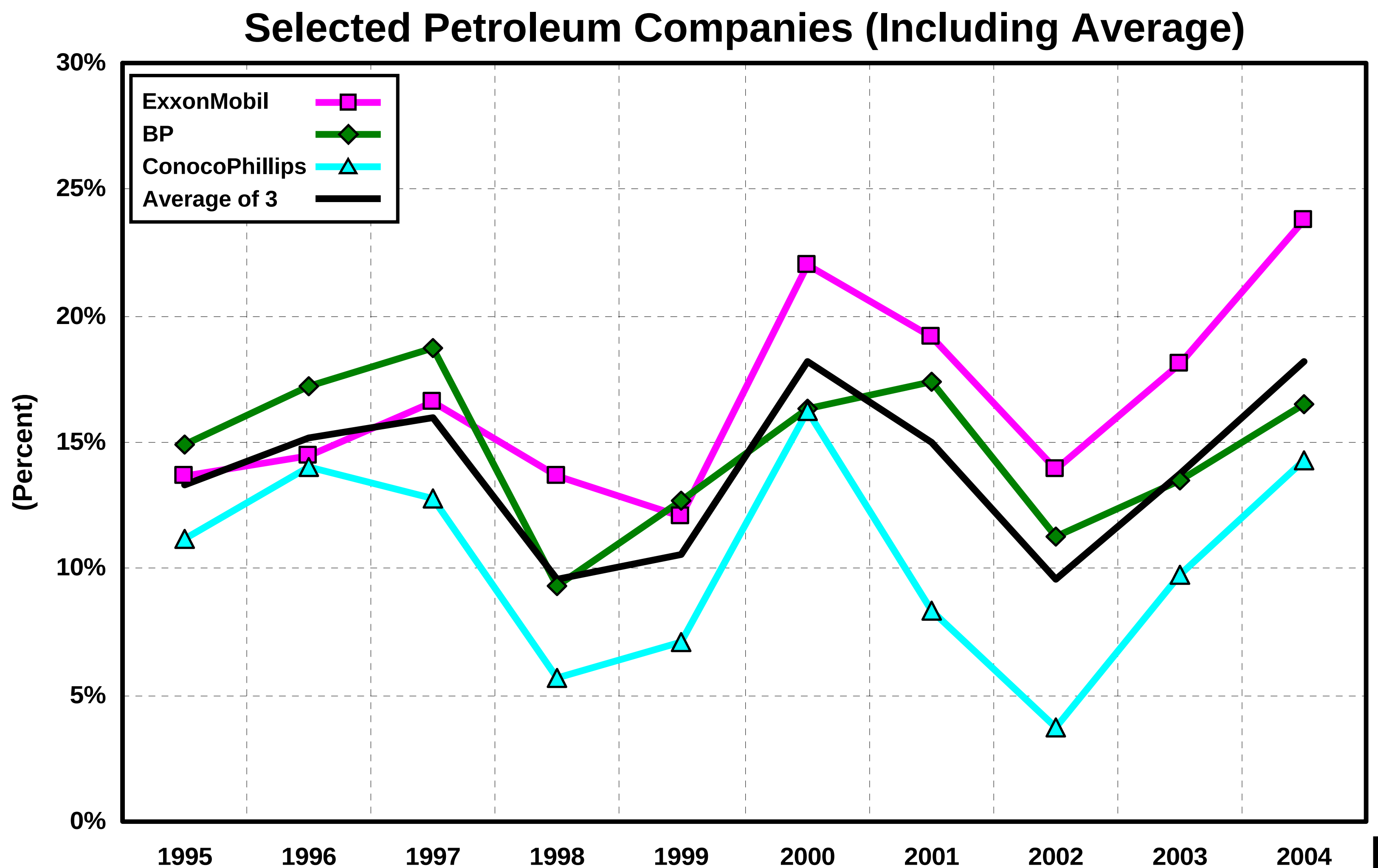
Return on Capital Employed

(1995 - 2004)



Source: Value Line (March 18, 2005).

Return on Capital Employed
(1995 - 2004)



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Return on Capital Employed

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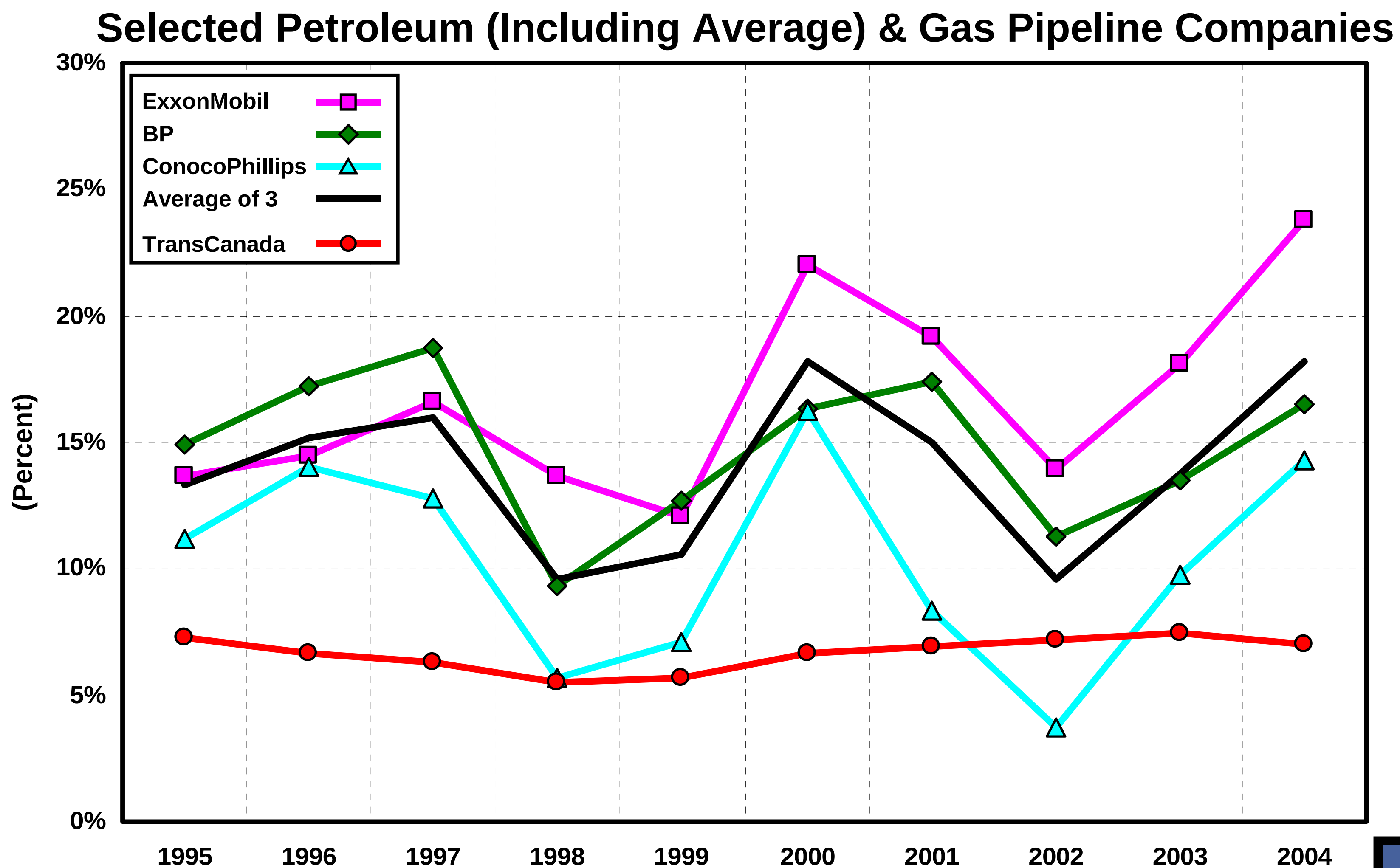

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Return on Capital Employed
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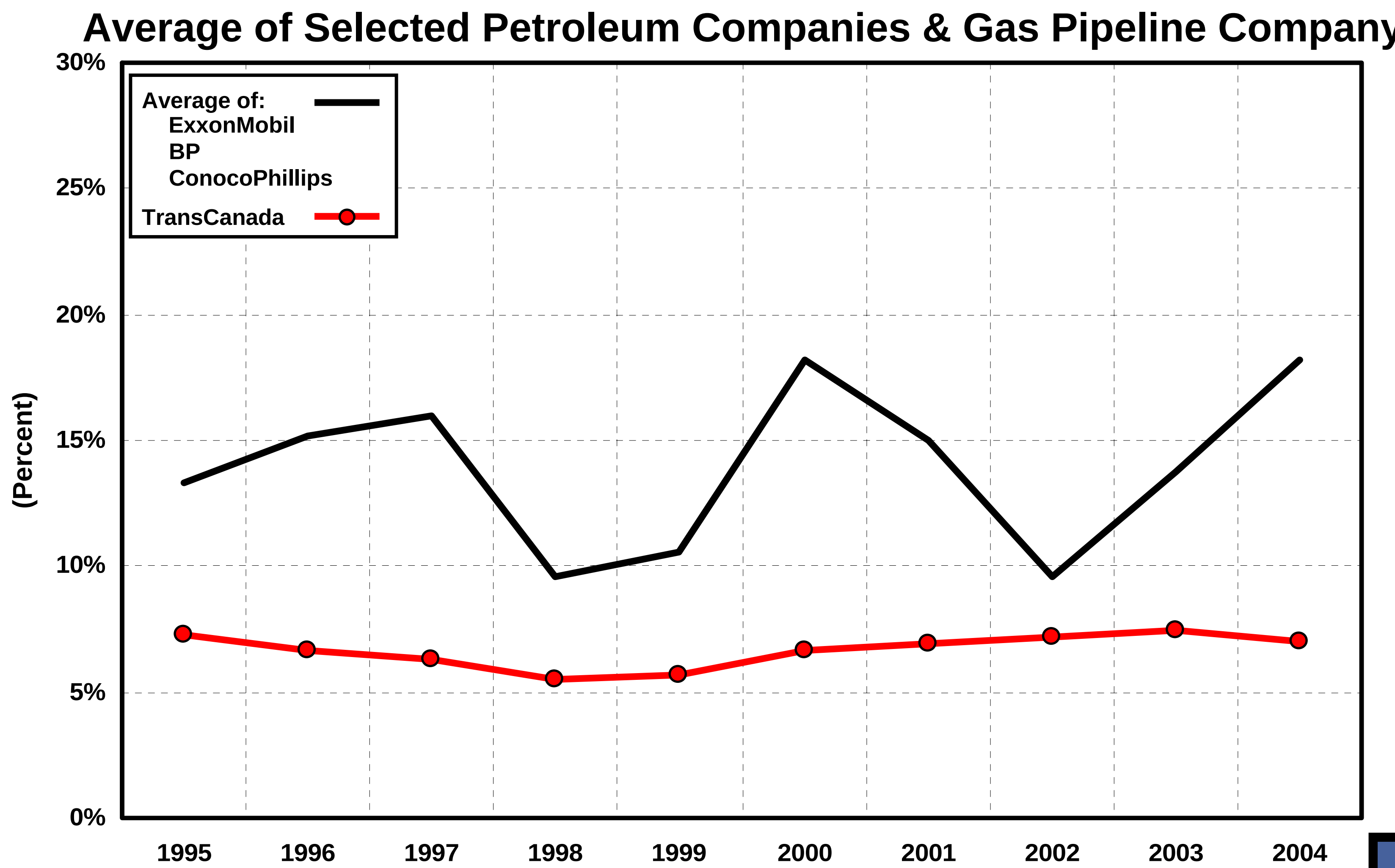

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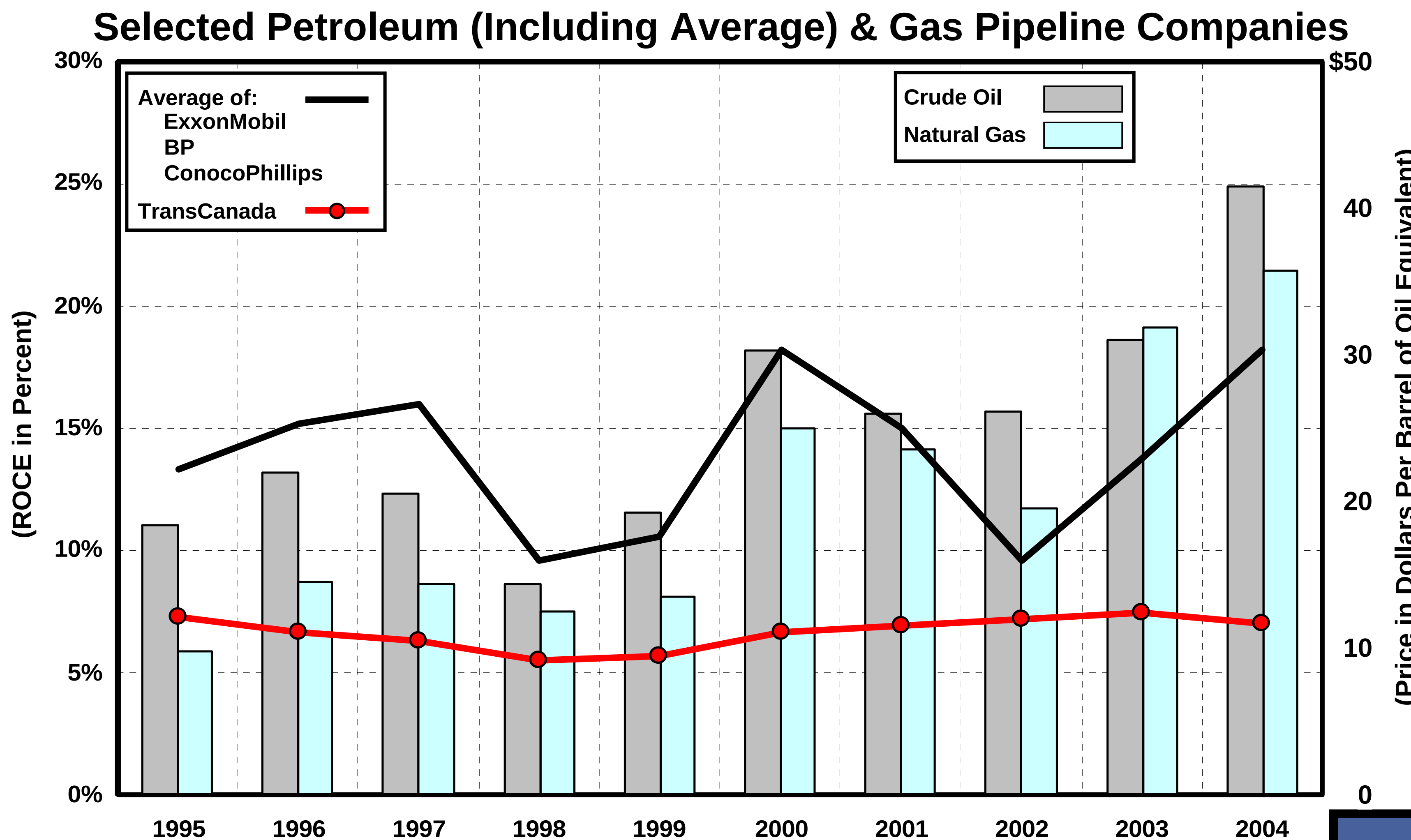
Return on Capital Employed
(1995 - 2004)



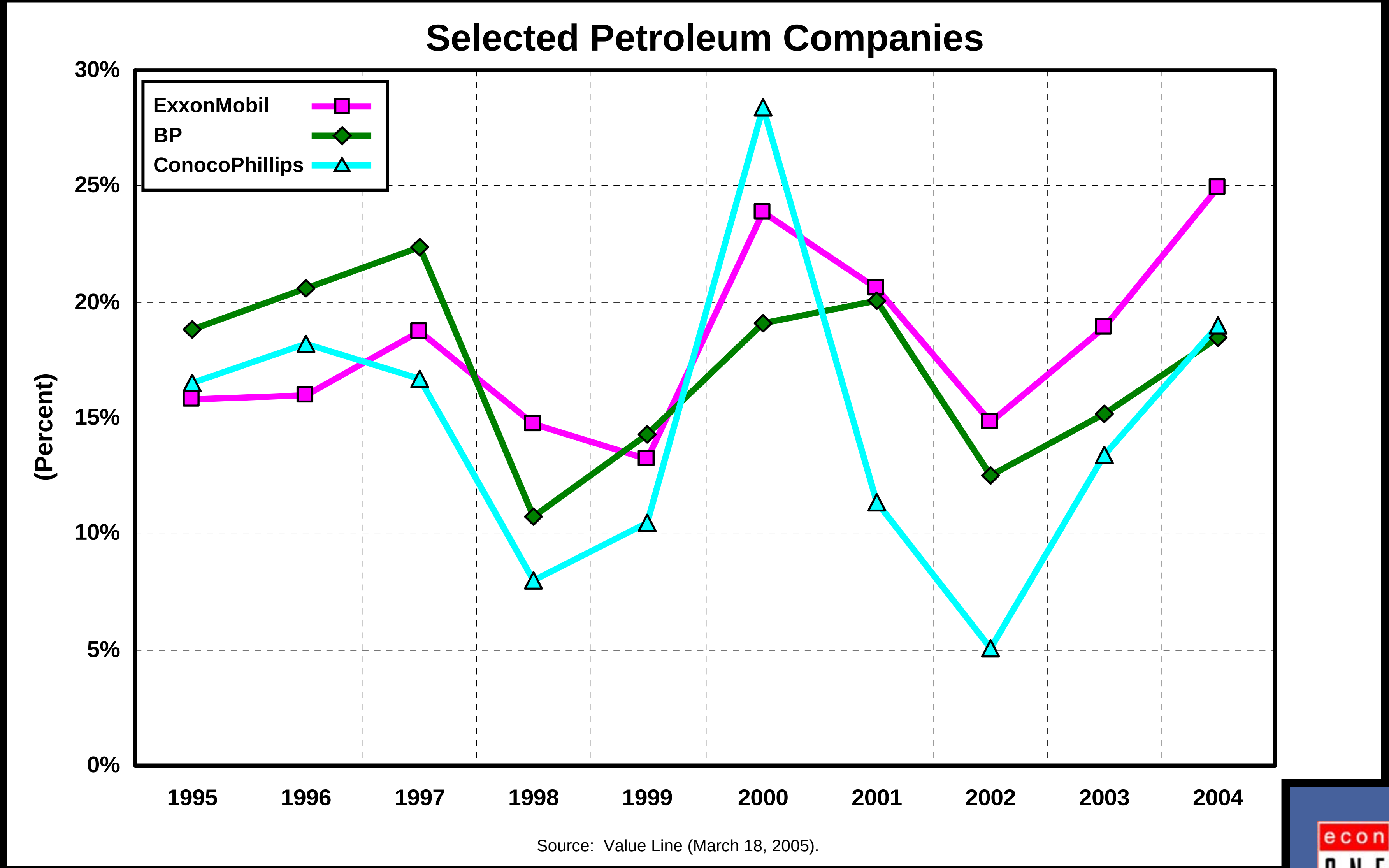
Source: Value Line (March 18, 2005); NYMEX.

Return on Capital Employed
(1995 - 2004)

	5-Year Average	10-Year Average
	(Percent)	
	(1)	(2)
ExxonMobil	19.4%	16.8%
BP	15.0	14.8
ConocoPhillips	10.5	10.3
Average of Above 3	15.0	14.0
TransCanada	7.1	6.7
NYMEX Crude Oil ($/Bbl.)	$30.96	$24.96
NYMEX Natural Gas ($/MMBtu)	$4.68	$3.46

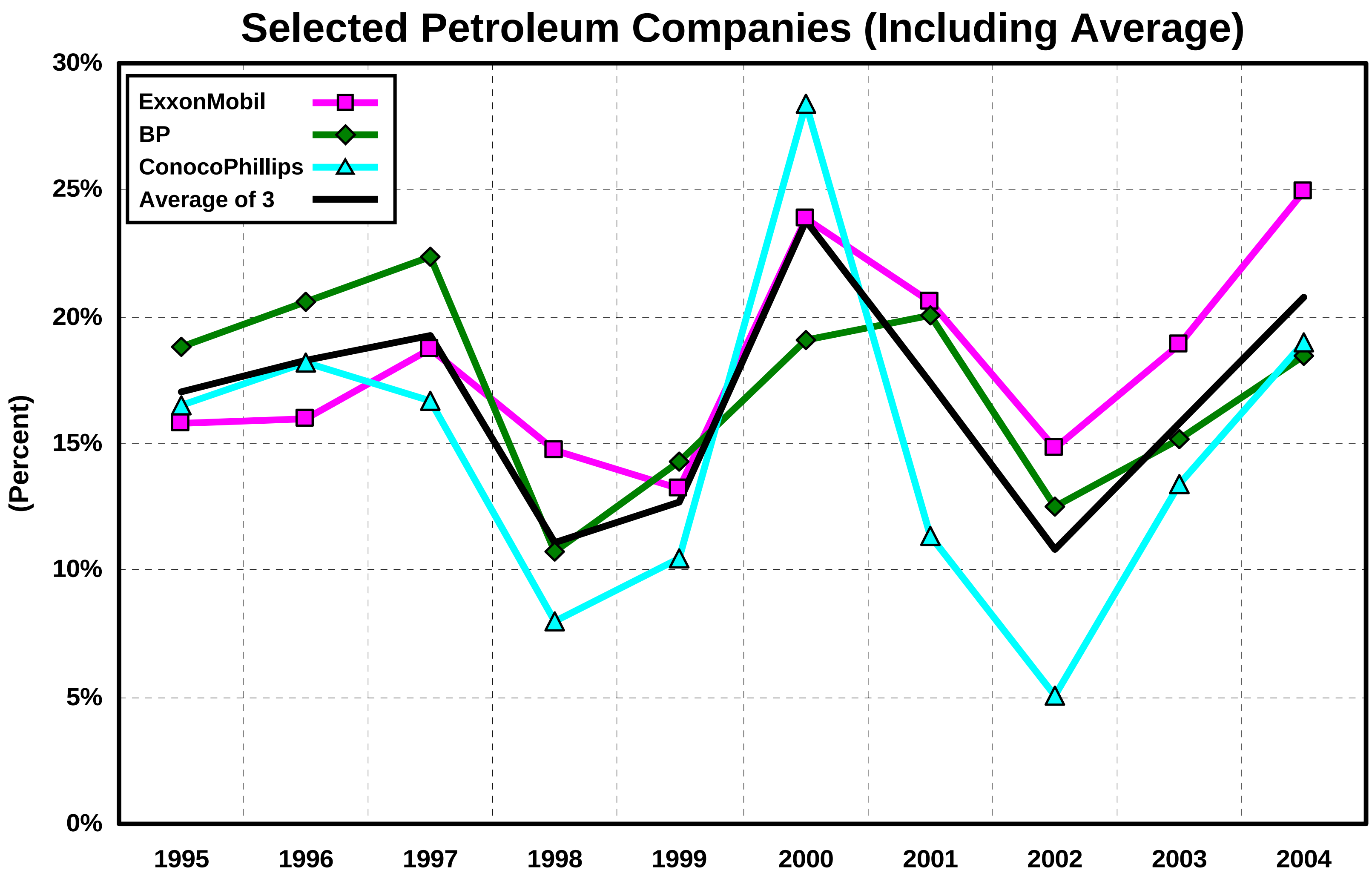
Source: Value Line (March 18, 2005); NYMEX.

Return on Shareholder Equity
(1995 - 2004)



Return on Shareholder Equity

(1995 - 2004)



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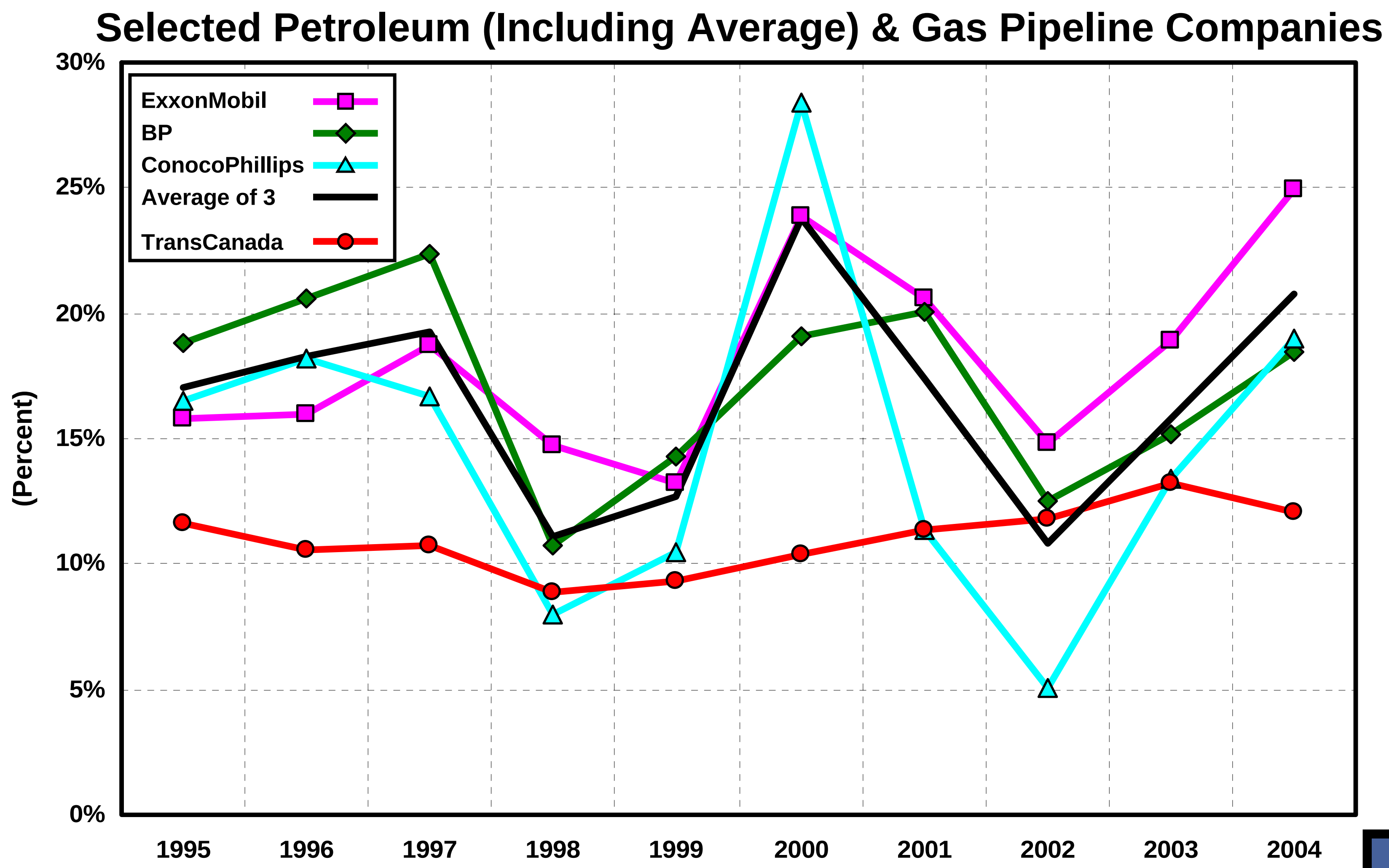
Return on Shareholder Equity

(1995 - 2004)



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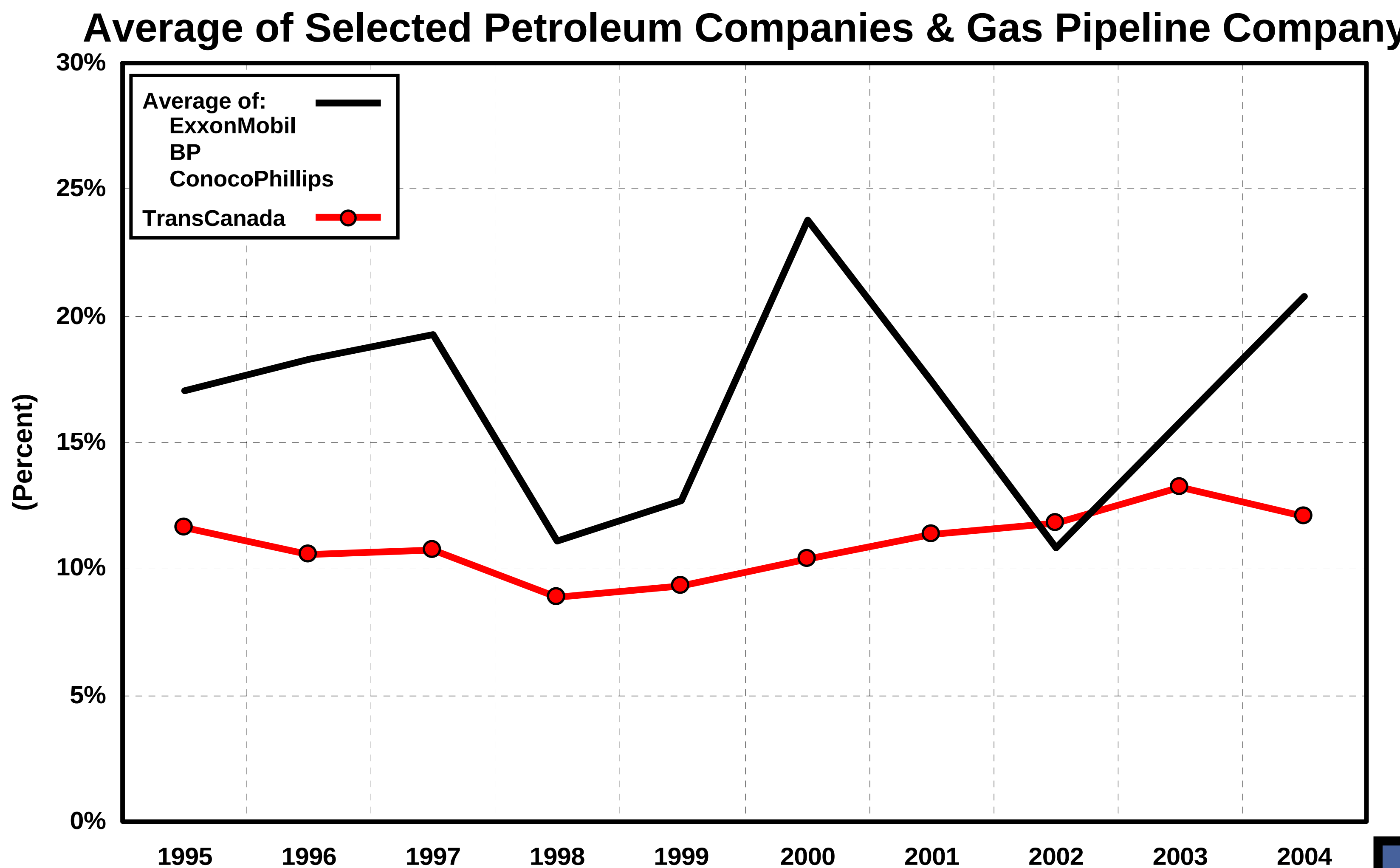
Return on Shareholder Equity
(1995 - 2004)



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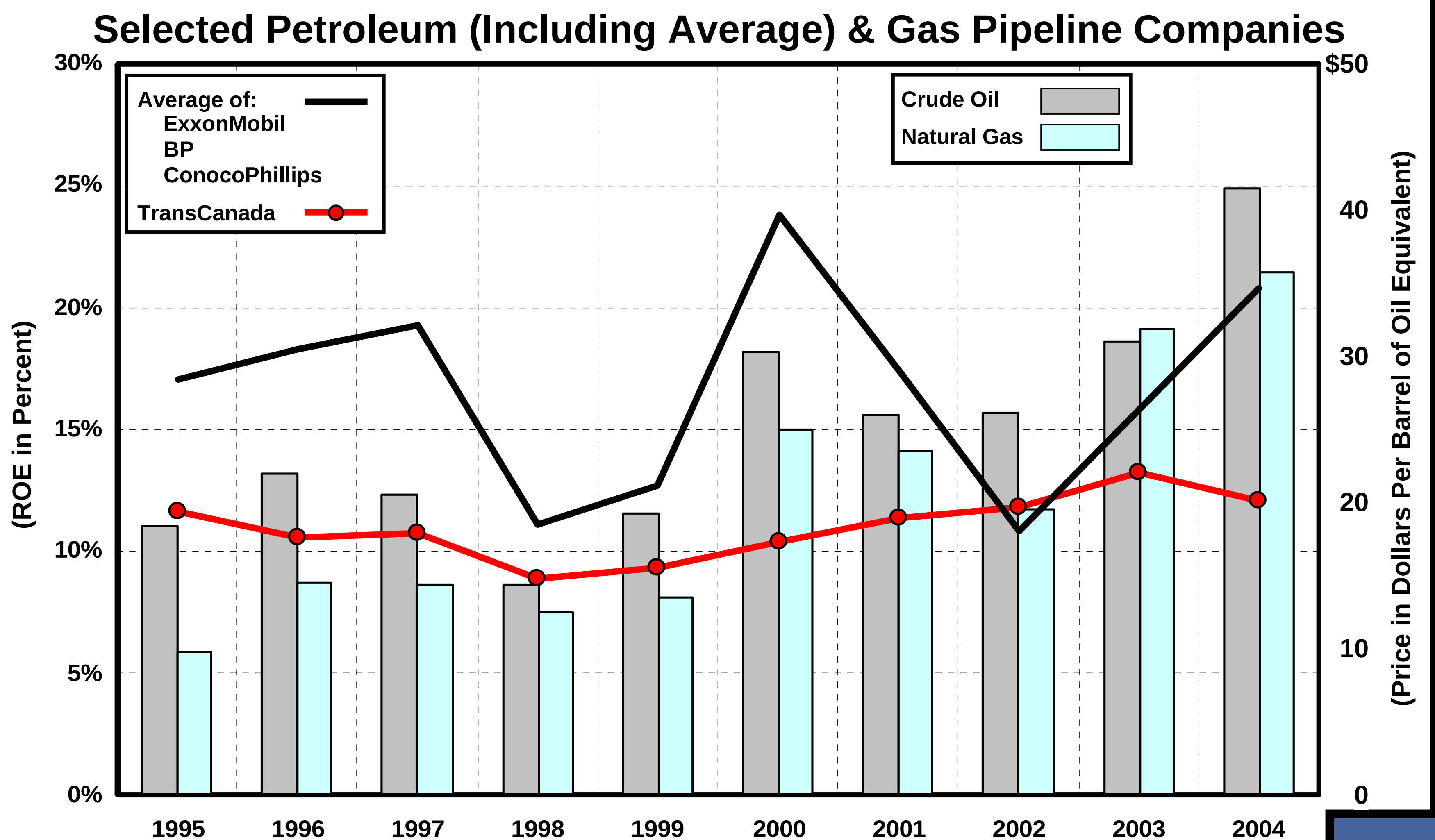
Return on Shareholder Equity

(1995 - 2004)



Source: Value Line (March 18, 2005); NYMEX.

Return on Shareholder Equity
(1995 - 2004)

	5-Year Average	10-Year Average
	(Percent)	
	(1)	(2)
ExxonMobil	20.6%	18.2%
BP	17.1	17.2
ConocoPhillips	15.5	14.7
Average of Above 3	17.7	16.7
TransCanada	11.8	11.0
NYMEX Crude Oil ($/Bbl.)	$30.96	$24.96
NYMEX Natural Gas ($/MMBtu)	$4.68	$3.46

Source: Value Line (March 18, 2005); NYMEX.

Weighted Average Cost of Capital

- The *Weighted Average Cost of Captial* (WACC) is the average cost to the firm of attracting capital
- WACC is equal to the average cost of the firm's debt (D) and equity (E)
- WACC depends on the proportion of debt and equity that comprise the firm's capital structure
- WACC is measured based on the market value of the firm's debt and equity, not the book value

Weighted Average Cost of Capital

- WACC is measured based on "after tax" costs
- After-tax cost of debt is lower than pre-tax cost because interest payments are tax-deductible
- After-tax Cost of Debt = Borrowing Cost (%) x (1 - Tax Rate)
- Example:

Example:	Borrowing Cost	= 8%
	Tax Rate	= 35%
	Cost of Debt	= 8% x (1 - 35%) = 5.2%

Weighted Average Cost of Capital

- After-tax cost of equity is the return required by investors for the firm's common stock
- Cost of equity is commonly measured using the Capital Asset Pricing Model (CAPM)
- Cost of equity under the CAPM formula depends on:
  - Risk-free returns (Federal government bonds)
  - Market equity risk premium (e.g., S&P 500 return over the risk-free rate)
  - The risk of the particular firm relative to the market or "beta"

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Weighted Average Cost of Capital

- **Examples of cost of equity:**

1. **Firm with risk equal to market-wide average:**

Risk-free rate	= 5%
Market risk premium	= 7%
Company specific beta	= 1.0
Cost of equity	= 5% + (7% x 1.0) = 12.0%

2. **Firm with risk equal to 1/2 market-wide average:**

Risk-free rate	= 5%
Market risk premium	= 7%
Company specific beta	= 0.5
Cost of equity	= 5% + (7% x 0.5) = 8.5%

Weighted Average Cost of Capital

- Betas for companies in petroleum and natural gas pipeline industry are typically less than 1.0, reflecting less than market-average risk
- 2004 betas for selected companies range between 0.25 and 0.83

ExxonMobil	=	0.41
BP	=	0.61
ConocoPhillips	=	0.83
TransCanada	=	0.25

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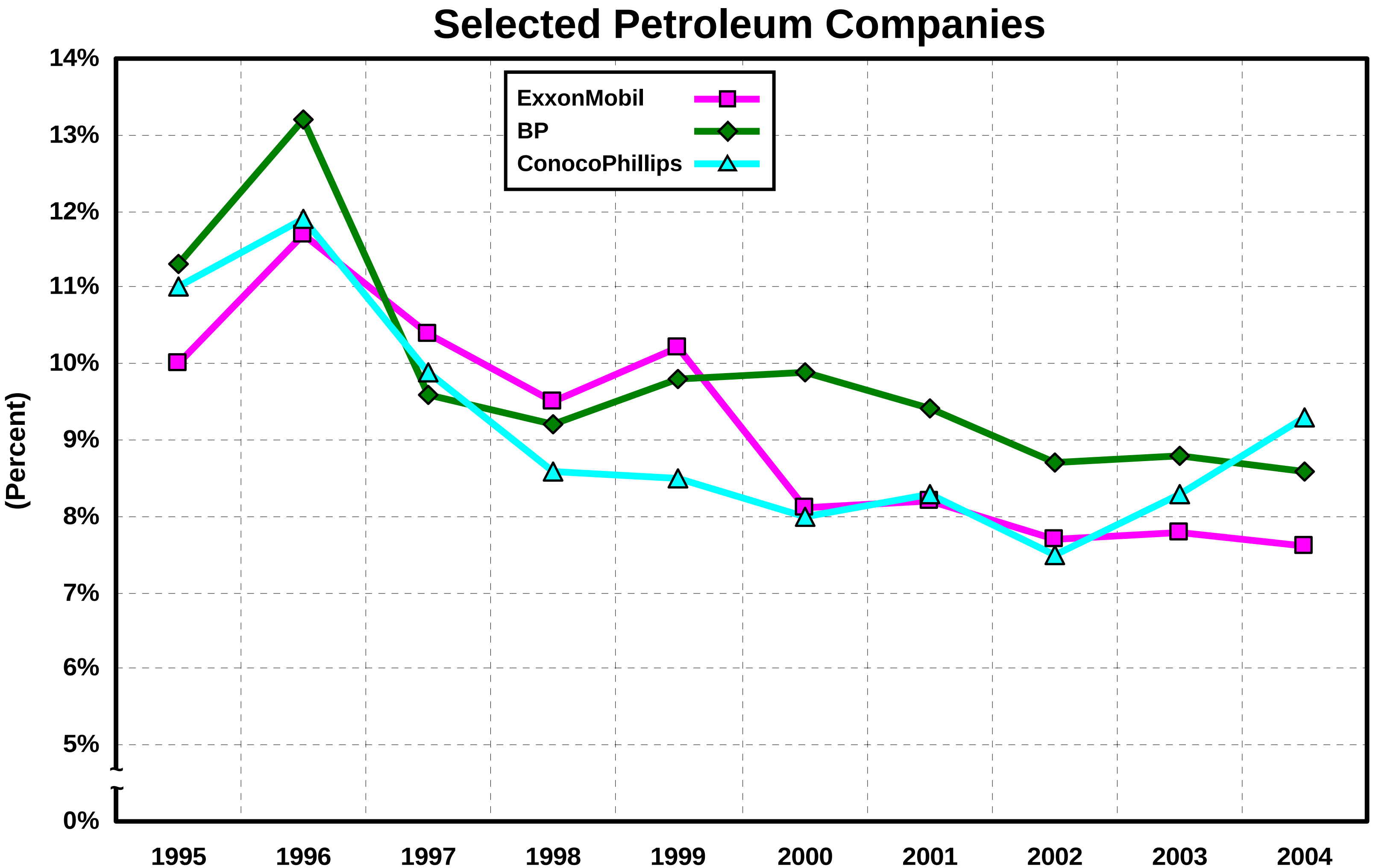
Weighted Average Cost of Capital

- WACC is after-tax cost of debt and equity weighted by the proportion of each in firm's capital structure
- 2004 cost of capital for selected companies:

	Exxon Mobil	BP	Conoco Phillips	Trans Canada
Cost of debt	5.6%	5.9%	6.7%	6.7%
Tax rate	38.6%	34.5%	43.6%	36.8%
After-tax cost of debt	3.5%	3.9%	3.8%	4.2%
After-tax cost of equity	7.8%	9.2%	10.8%	6.6%
Debt %	2.7%	10.5%	21.9%	48.7%
Equity %	97.3%	89.5%	78.1%	51.3%
WACC	7.6%	8.6%	9.3%	5.5%

Weighted Average Cost of Capital

(1995 - 2004)



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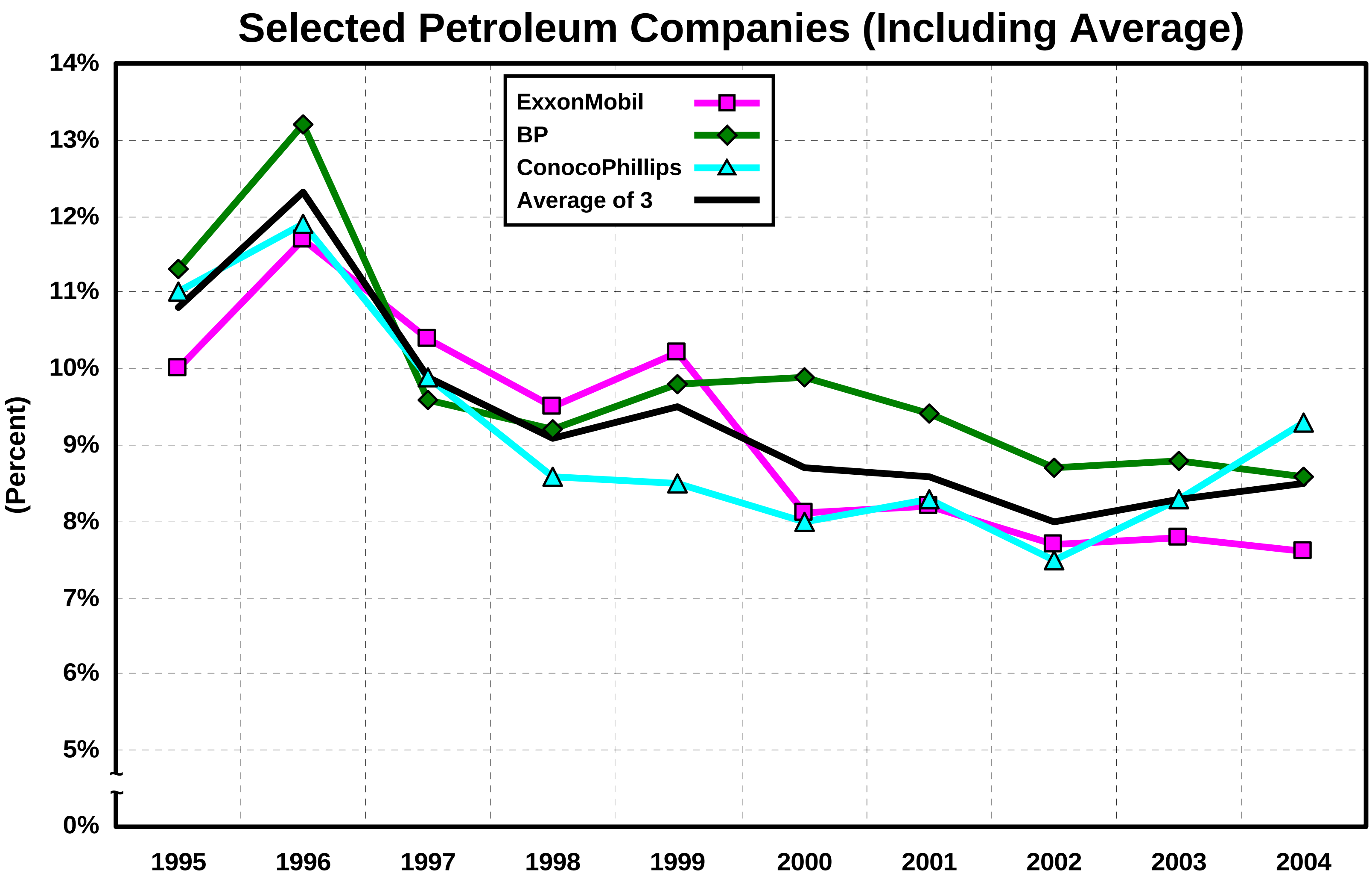
Weighted Average Cost of Capital
(1995 - 2004)



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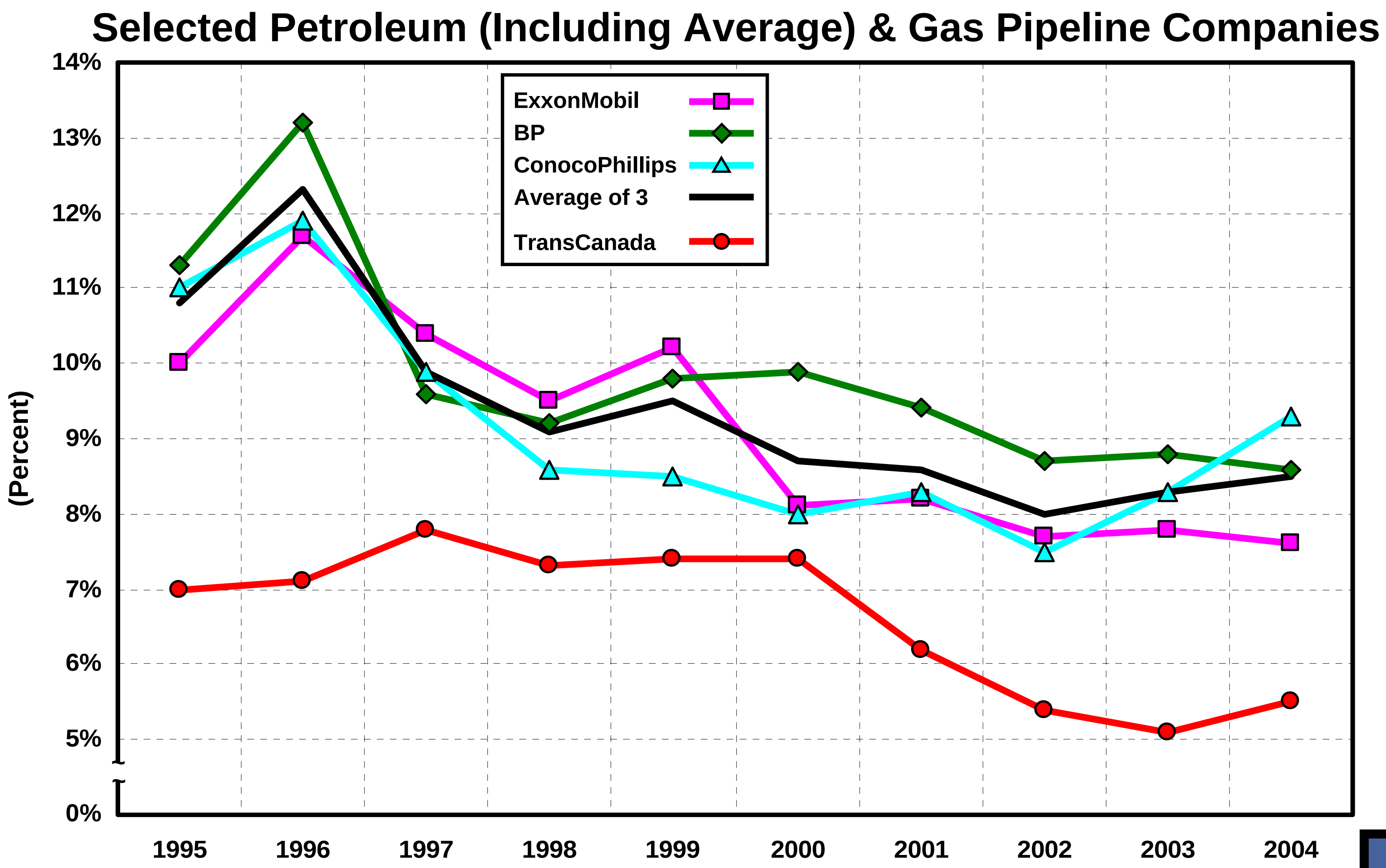
Weighted Average Cost of Capital
(1995 - 2004)



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Weighted Average Cost of Capital

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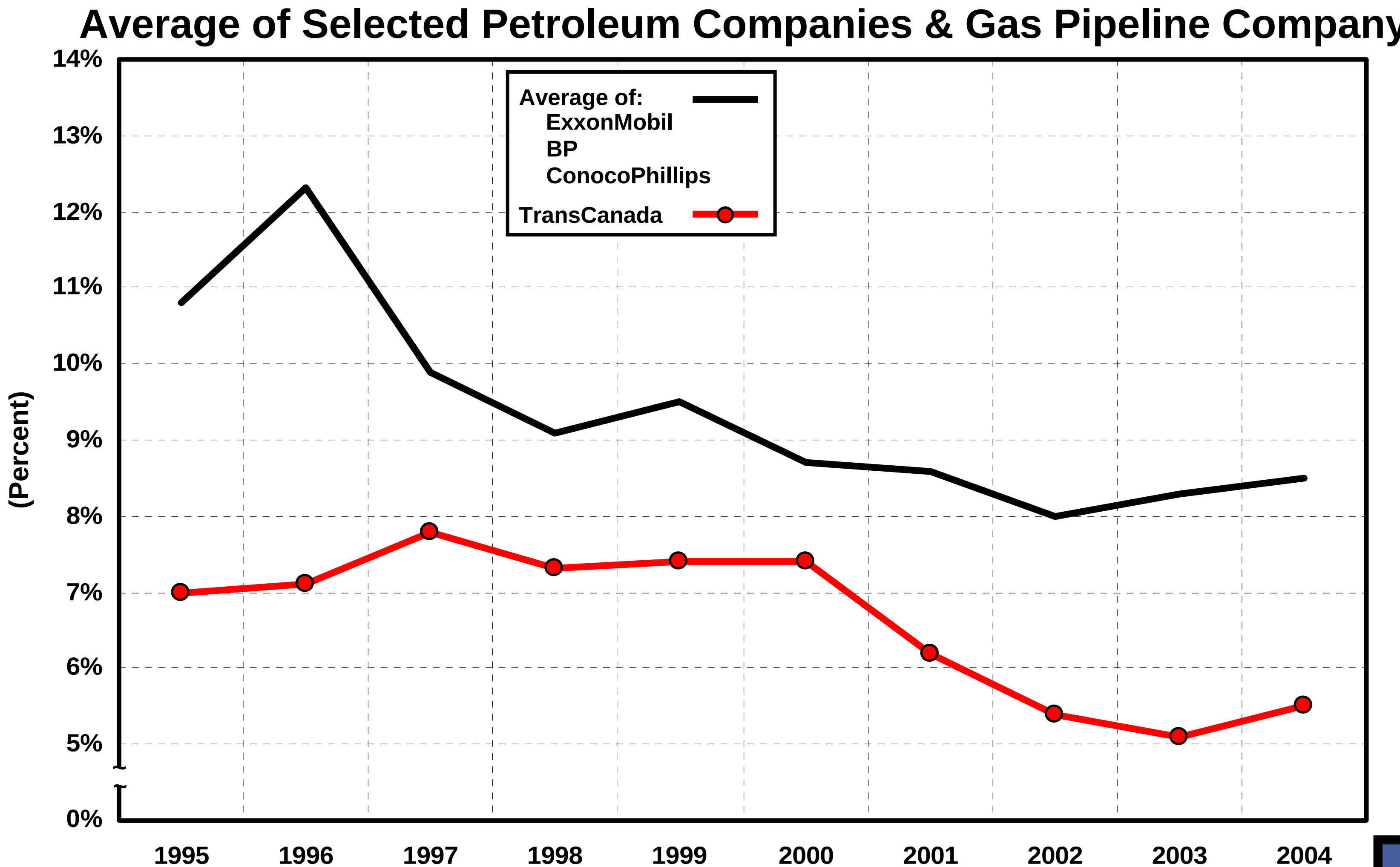

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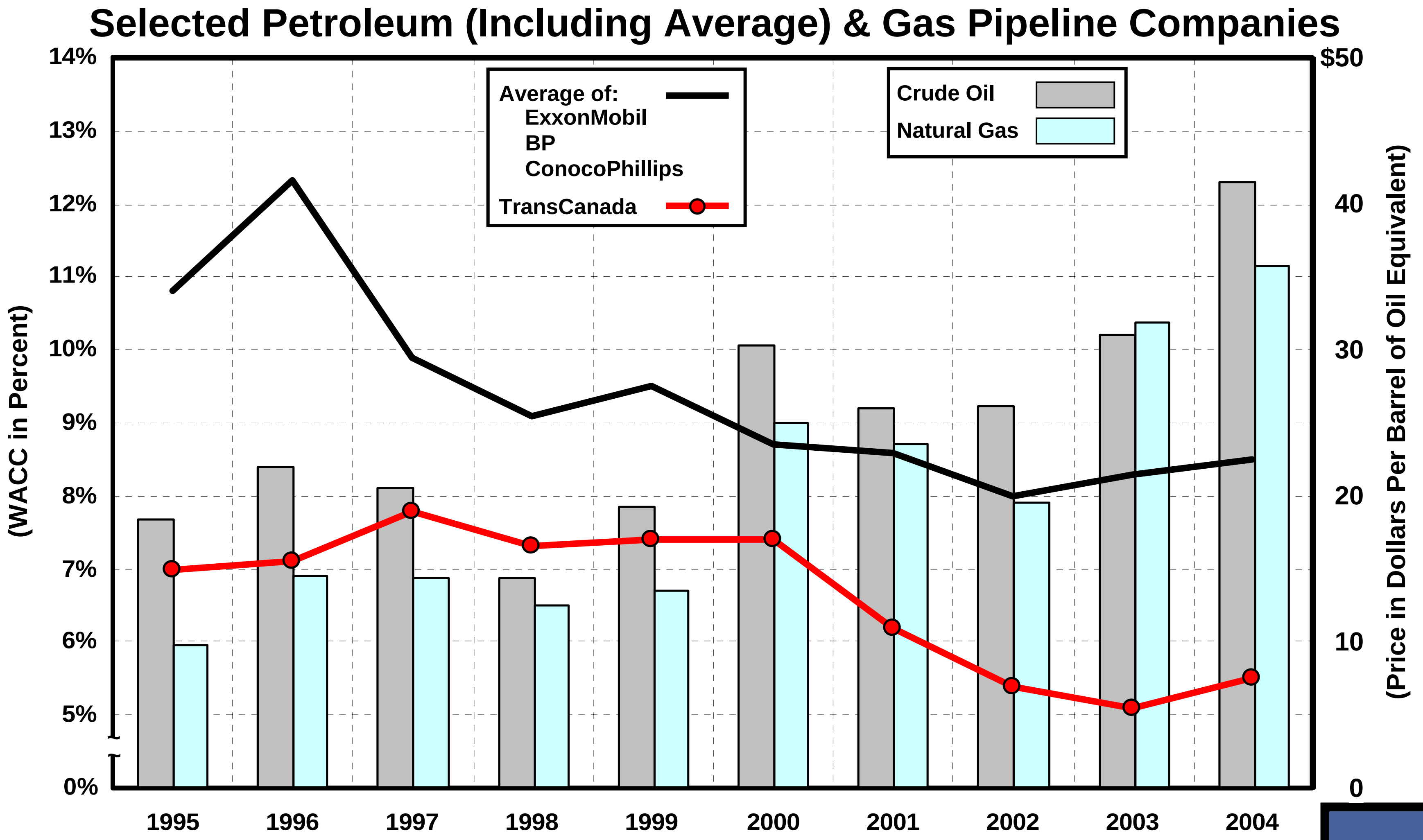

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Weighted Average Cost of Capital

(1995 - 2004)

	5-Year Average	10-Year Average
	(Percent)	
	(1)	(2)
ExxonMobil	7.9%	9.1%
BP	9.1	9.9
ConocoPhillips	8.3	9.1
Average of Above 3	8.4	9.4
TransCanada	5.9	6.6
NYMEX Crude Oil ($/Bbl.)	$30.96	$24.96
NYMEX Natural Gas ($/MMBtu)	$4.68	$3.46

Source: Calculation of Weighted Average Cost of Capital, for each company; NYMEX

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