

Geopolitical Challenges For the Energy Industry

Dave Larson

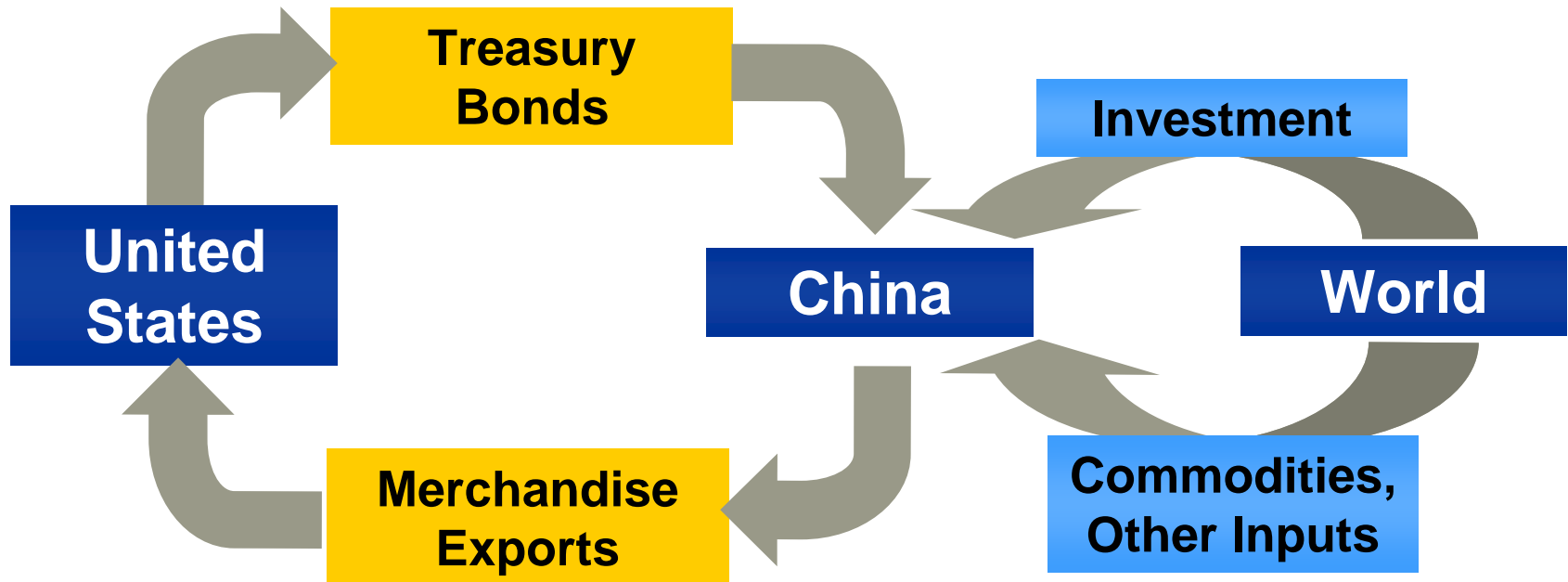
September 17, 2007



- **Growing sense of global energy insecurity**
- **Potential destabilizing force in global economic and political relations:**
 - Industrialized countries question the intentions and capabilities of the major resource holders
 - The competition for access to energy resources from the newly industrializing countries in Asia
 - The major resource holders question the sustainability of demand and the new obligations assigned to them
 - The populations of the major resource holders demand a greater share of the country's revenues

Global Tensions (1)

Global Reallocation of Production

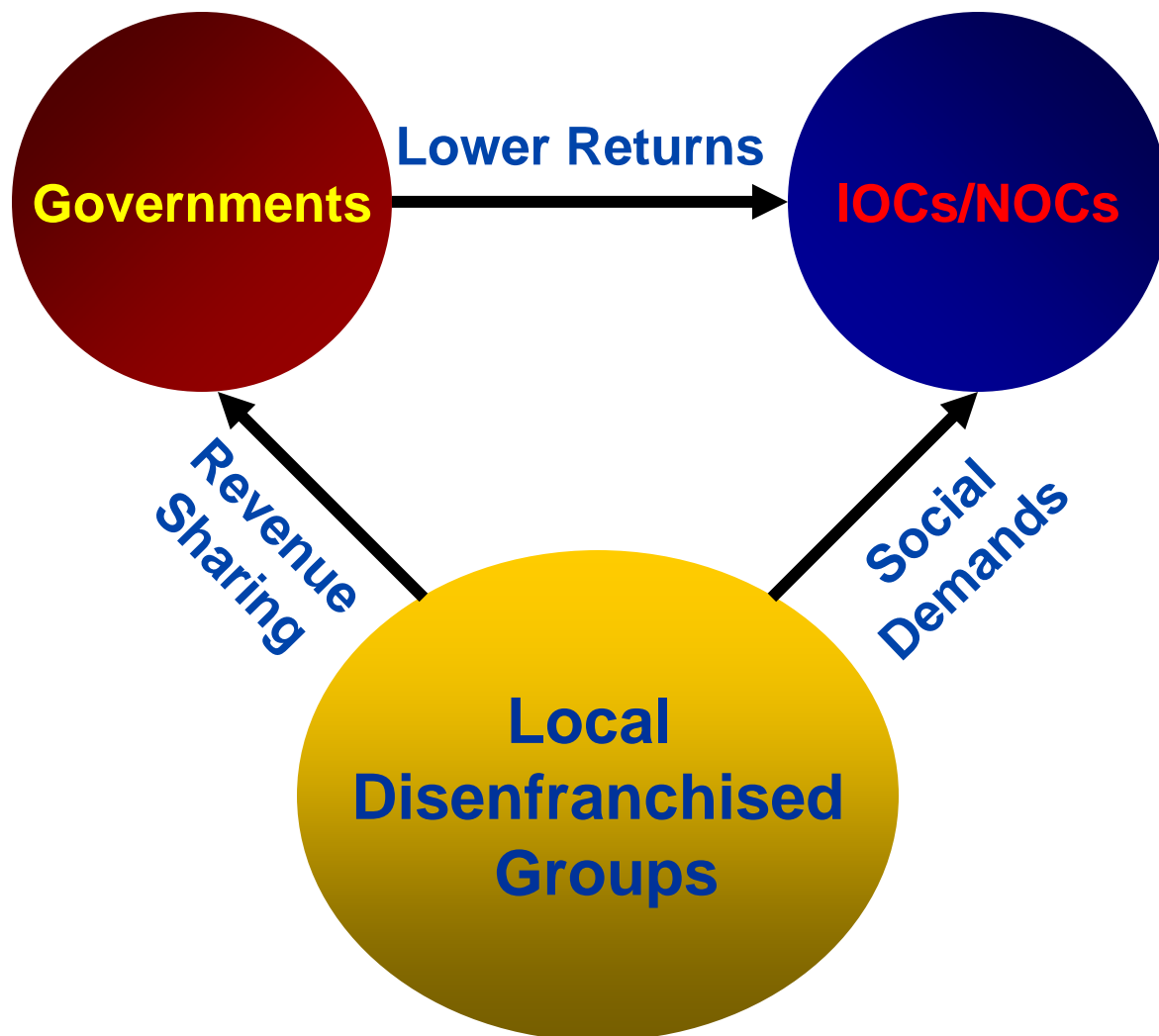


- **Accommodating the rise of China and India**
- **Industrialized world fears Emerging Market's quest for energy**

Global Tensions (2)

National Distribution of Income

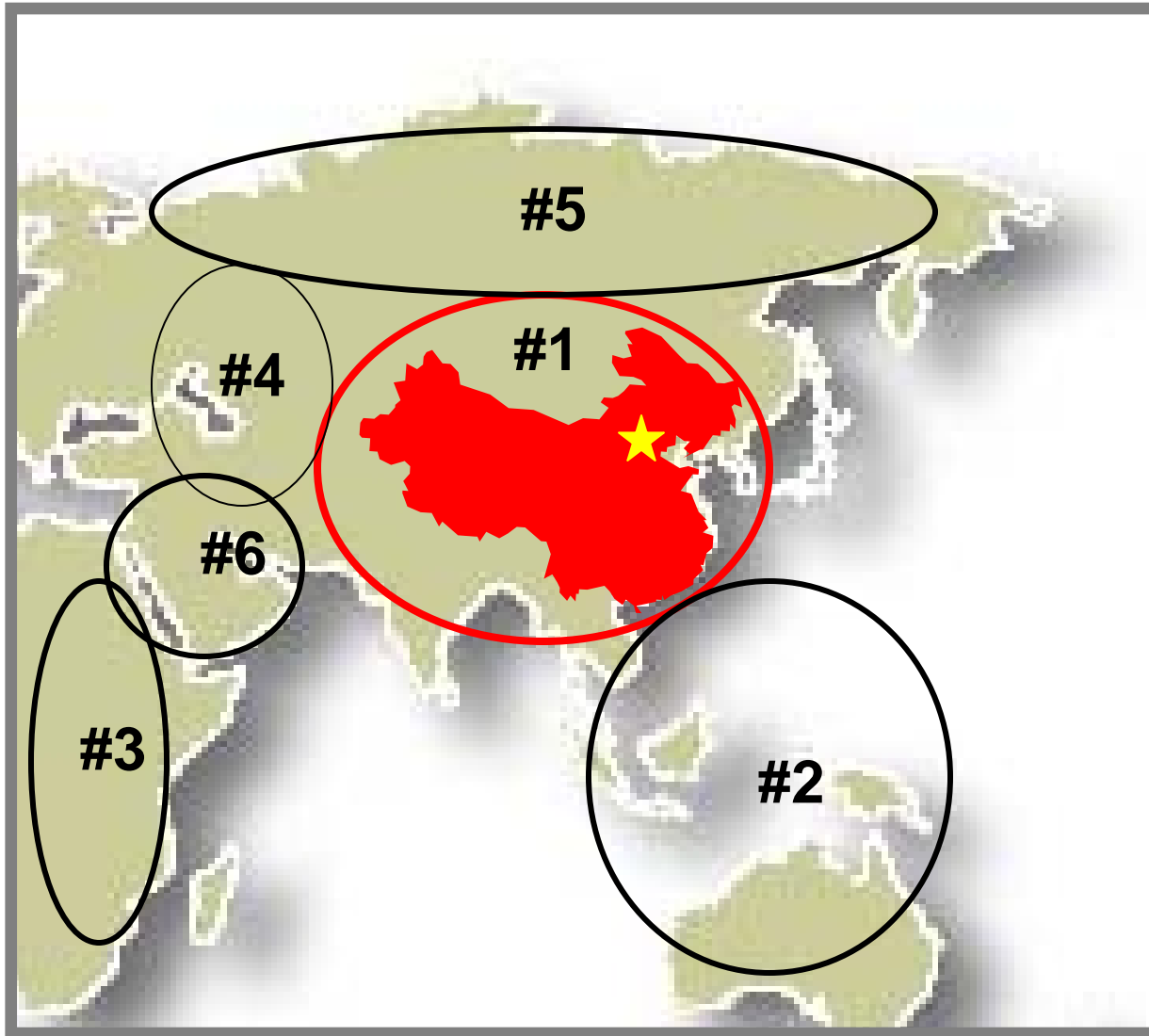
- **Disenfranchised groups want their share**
- **They either capture the state or blackmail companies**
- **Can IOCs/NOCs be promoters of economic development?**



China: Regional Preferences For Sourcing Oil



Dragon
Zone
(Local)



Panda
Zone
(Global)

How Do Key Producer Countries View Oil Prices?

■ OPEC Price Perceptions

- Different price thresholds but united behind higher prices
- The purchasing power of the OPEC barrel under constant threat
- Increasing export volumes is the key to sustaining recent gains
- Keeping Angola under the tent

■ Different Strategies to Lock in Welfare Gains

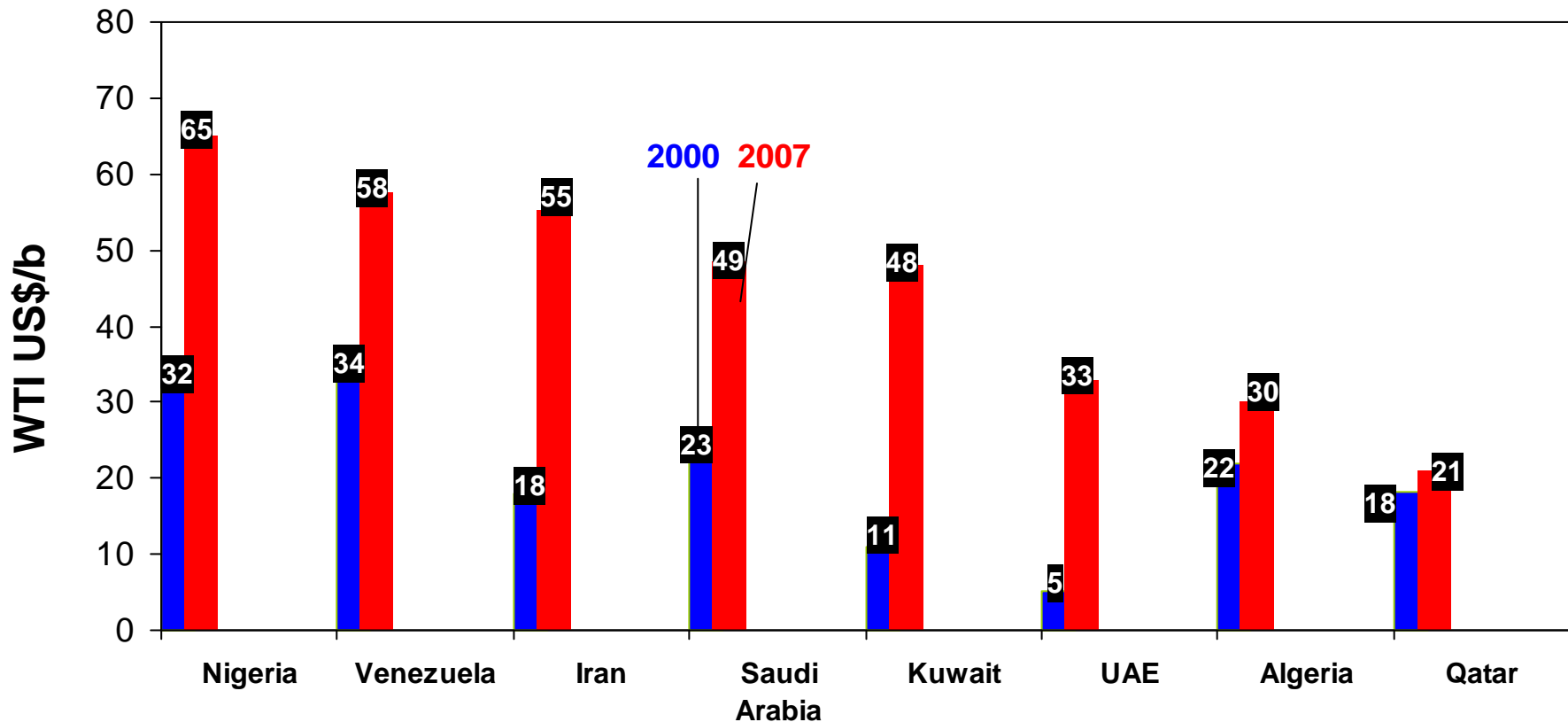
- The happy story about the Gulf Producers
- The interesting cases of Russia and Mexico
- The predictable fall of the populists and rogues

■ Implications for Oil Prices and Investment Environment

- US growth prospects pose the greatest threat to higher prices
- External assets and gradual structural adjustments will keep major producers closed (for a while at least)
- Elites have new determination to keep control over strategic sectors
- Populists and rogue states will come calling again (when is the question)
- Service companies and NOC technical innovations important determinant

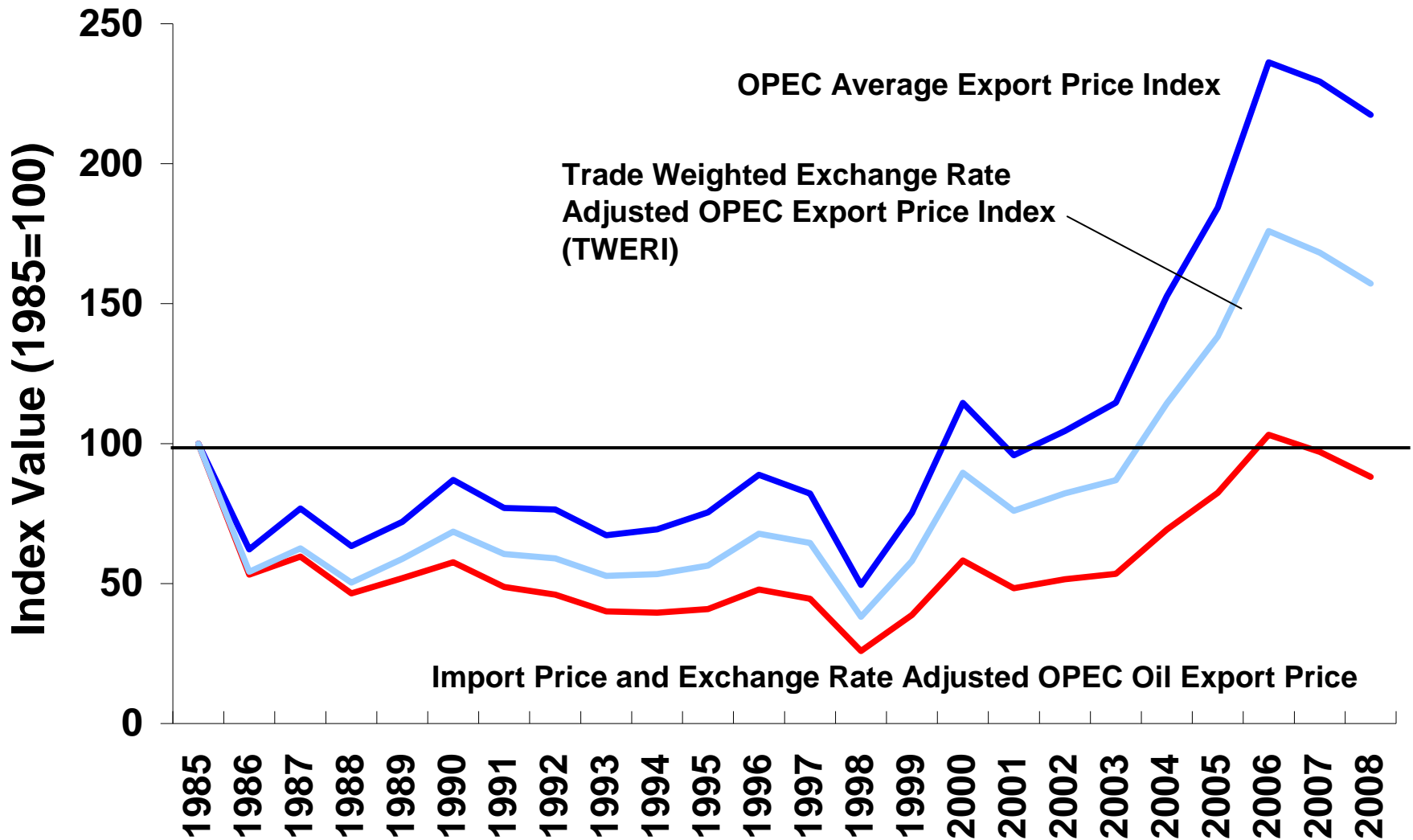
OPEC Current Account Price Thresholds

WTI Price Needed to Balance Their External Accounts

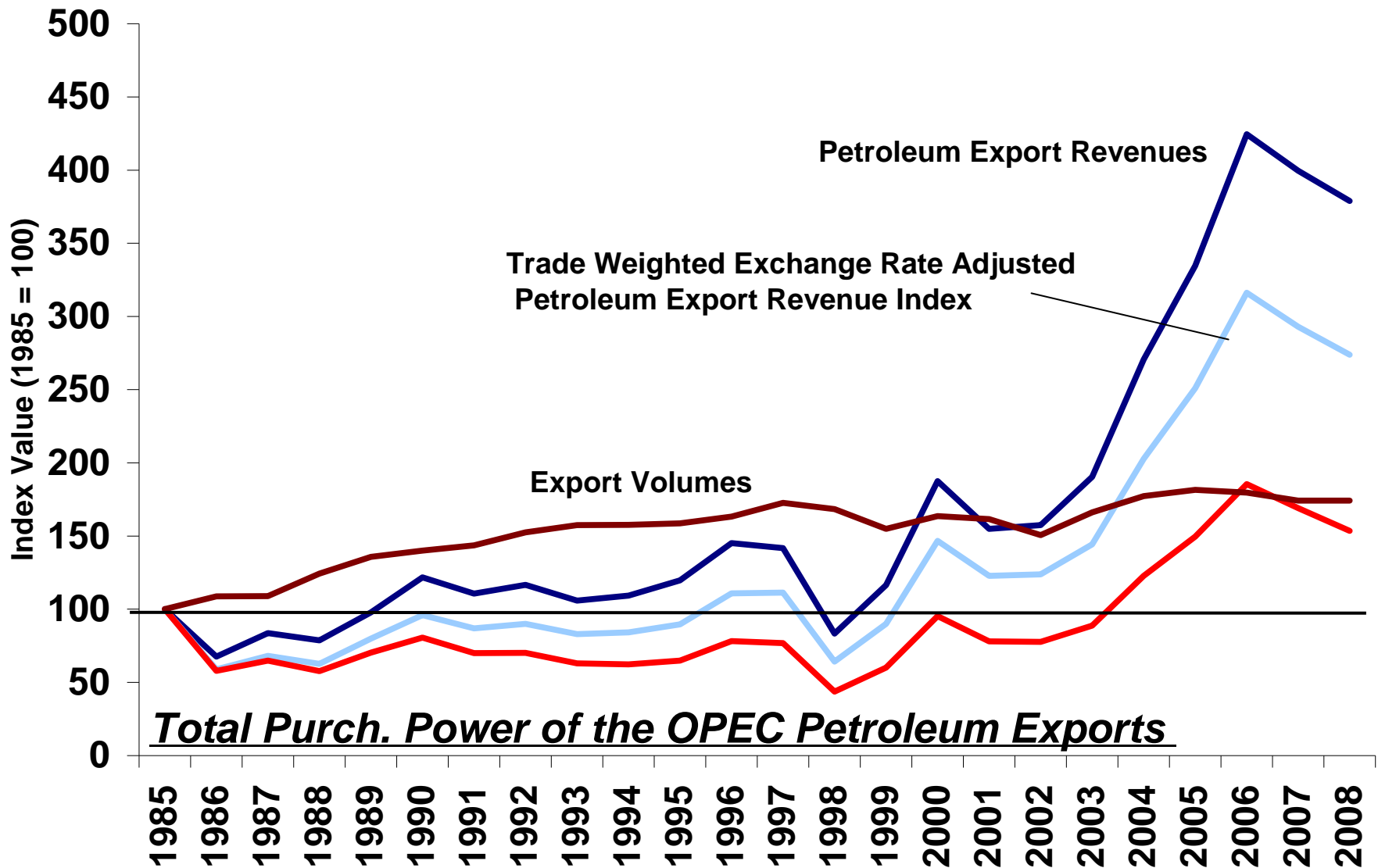


The WTI price per barrel required by OPEC states to balance their external trade and services accounts.

The OPEC Barrel Buys Less



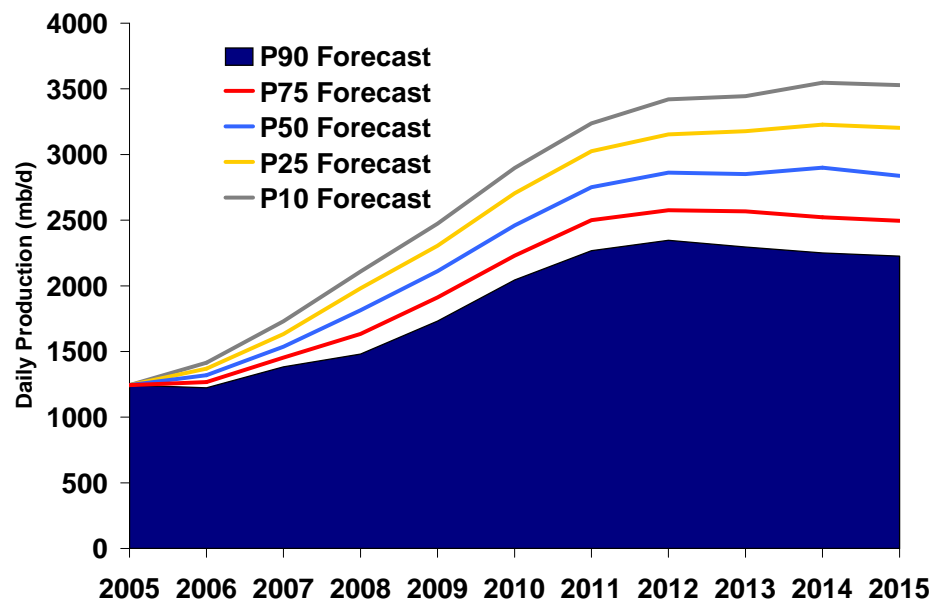
Expanding Export Volumes Help Purchasing Power



Angola: Will It Play Nicely Within OPEC?

- **When the forecast from currently known P1 and P2 reserves are combined with an exploration forecast, it suggests that production could reach between 2.0 and 3.0 million barrels per day by 2015**
 - An additional 5.0 billion barrels of Proven but Undeveloped barrels (PUDs) drive the exploration forecast
- **In the short term, Angolan production will reach 2.0 million barrels per day by the end of 2008 and 2.5 mmb/d by 2010**
- **This may cause some issues within OPEC as far as managing Angola's likely quota of 2.0 mmb/d, especially in a loosening supply market**
- **However, Angola will probably find ways to play ball, most likely by moderating older onshore production**

Angola: Crude Production Profile



- **Gulf governments are changing their strategic focus:**
 - **Macroeconomic stability has been achieved**
 - Ensuring against boom-bust cycles
 - Deploying funds for developing physical and human infrastructure
 - **Harnessing the wealth of the private sector**
 - Finance has become the driving force – new banks and deeper capital markets
 - Private/public partnerships have given the economy a new growth engine
 - **Capturing global and regional demand**
 - Energy intensive industries particularly those based on gas
 - Globally competitive service industries
 - Turning the demographic problem into an economic solution

- **The Gulf governments will have to be vigilant:**
 - Move reforms from first generation to second generation
 - Maintain fiscal and financial system stability
 - Continue investment in infrastructure and in people
 - Continue institutional and regulatory improvement
 - Avoid exacerbating down cycles
 - Oil revenues will remain the main engine of growth for now
 - Managing the next down cycle will be key – budgets and private sector confidence
 - Geopolitical trends will need to be carefully assessed and guarded against
 - The US and the Middle East
 - The global financial crisis
 - The changing nature of globalization

Putting Russia on a Long Term Growth Path

Strategic Areas of Activities

Special Technology (e.g. cryptography)	Military Weapons / Machinery (design, production, service, trade)
Aviation Equipment (design, production, service, trade)	Space Equipment (design, production, service, trade)
Nuclear Energy	Natural Monopoly Activities (Gazprom, infrastructure monopolies)
Exploration of Deposits of 'Federal Importance'	Select Metals/Alloys Mining/Production (military-oriented)

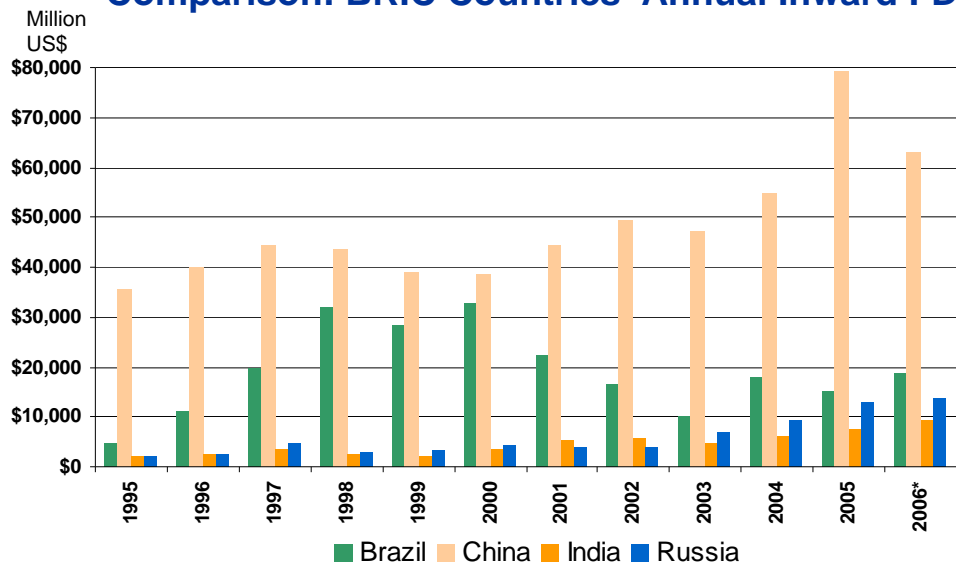
- **Foreign companies are limited to a minority shareholding where ventures/projects are defined as *strategic***
 - Industries of strategic importance for Russia's security
 - Operations controlled by Russian natural monopolies
 - Certain natural resources

Russia's new elite intend to control key sectors of the economy and find a new place for it in the global economy

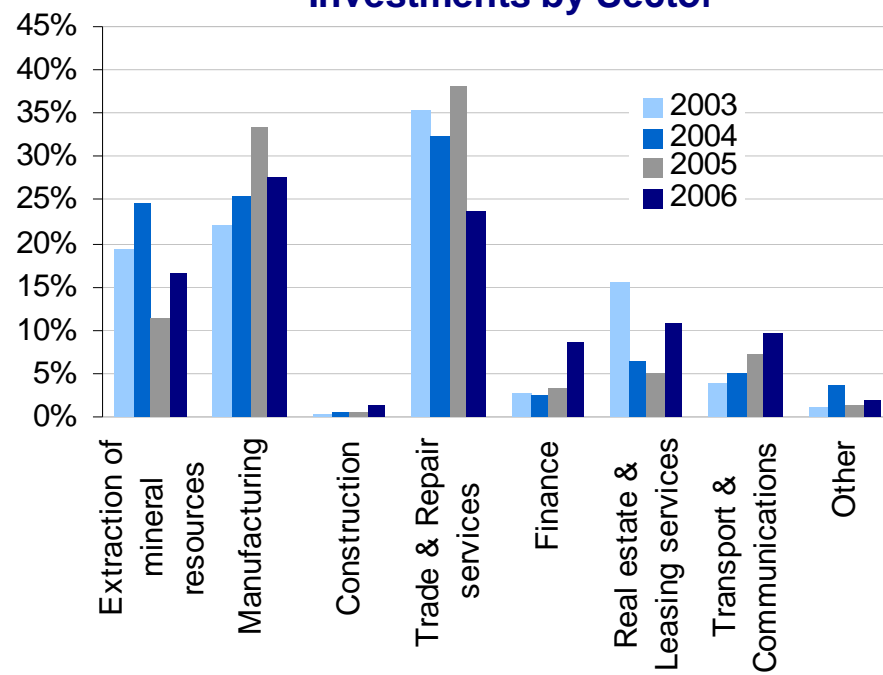
Russia: Foreign Investment is Growing Strong

- Foreign direct investment more than tripled since 2002 to \$13.7 bn in 2006
- Accumulated foreign capital in Russia reached \$142.9 bn by year-end 2006 – 27.8% YoY increase
- FDI will likely grow further

Comparison: BRIC Countries' Annual Inward FDI

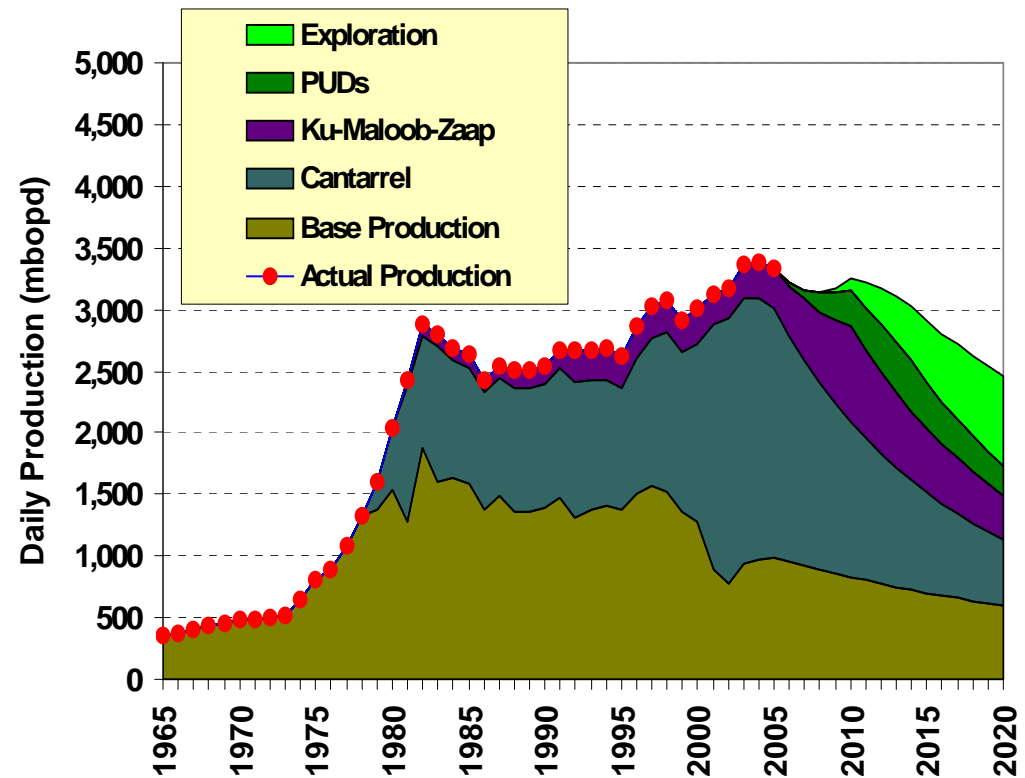


Russia: Distribution of Foreign Investments by Sector



Mexico: Give PEMEX More Operational Autonomy

- Mexico's largest field, Cantarell, declining 200,000 b/d by 2008
- Current Congress more aware of this decline
- Reforms proposed to empower PEMEX include:
 - Anti corruption drive
 - Tax reforms
 - Secondary laws making it easier to work with foreign companies
 - New breed of MSCs
 - Pemex debt becomes sovereign debt



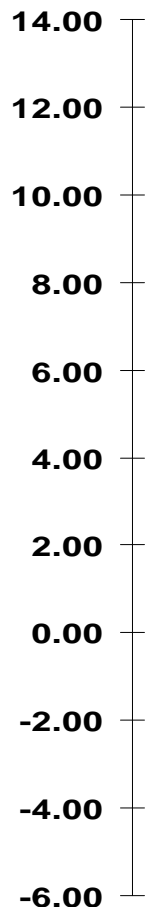
- Base production: Fields currently in production, excluding Cantarell
- Cantarell: Largest Mexican field
- Ku-Maloob-Zaap: Deepwater fields
- PUDs: Proven Undeveloped fields
- Exploration: Projected increase via exploration activity



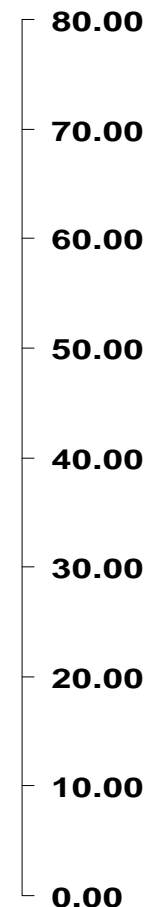
Venezuela: Is Chavismo Sustainable?

- Punjo Fijo Pact
- Mismanagement of Oil Bonanza
- Debt Crisis in the Region
- Decline of Political Parties
- Rise of Chavez

Average GDP Growth of presidential period



Average Oil Price presidential period US\$/Bbl



Leoni Caldera CAP Campis Lusinchi CAP Caldera Chavez Chavez

Nigeria: Spending Pressures Mount

- Higher oil prices have cushioned demands on the Nigerian state for larger government budgets and spending
- Paris Club Debt Deal and growth in the non-oil sector have put the government on a more stable footing
- However elections this year prompted the government to blow out the budget, undermining many of the fiscal reforms made by the Obasanjo Administration
- The new Yar' Adua administration will also face tremendous political pressure to spend government finances – particularly to solve the Niger Delta situation



Strategic Advisors in Global Energy

PFC Energy consultants are present in the following locations:

- ▶ Bahrain
- ▶ Beijing
- ▶ Buenos Aires
- ▶ Calgary
- ▶ **Houston**
- ▶ **Kuala Lumpur**
- ▶ Lausanne
- ▶ London
- ▶ Mumbai
- ▶ New York
- ▶ **Paris**
- ▶ San Francisco
- ▶ **Washington, D.C.**

Main regional offices are shown in bold.

www.pfcenergy.com | info@pfcenergy.com

Main regional offices:

▶ **Asia**

Level 9 South Block
Wisma Selangor Dredging
142-A Jalan Ampang
50450 Kuala Lumpur, Malaysia
Tel (60 3) 2168-8870
Fax (60 3) 2161-0702

▶ **Europe**

19 rue du Général Foy
75008 Paris, France
Tel (33 1) 4770-2900
Fax (33 1) 4770-5905

▶ **North America**

1300 Connecticut Avenue, N.W., Suite 800
Washington, D.C. 20036, USA
Tel (1 202) 872-1199
Fax (1 202) 872-1219

4545 Post Oak Place, Suite 312
Houston, Texas 77027-3110, USA
Tel (1 713) 622-4447
Fax (1 713) 622-4448