

WTI Crude Oil

West Texas Intermediate

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Outline

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- **Value Chain**
- **Politics**
- **Market**
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Crude Oil

- **Flammable liquid consisting of a complex mixture of hydrocarbons of various molecular weights and other liquid organic compounds**
- **Is recovered mostly through oil drilling**
- **In its strictest sense, petroleum includes only crude oil, but in common usage it includes all liquid, gaseous, and solid hydrocarbons.**
- **An oil well produces predominantly crude oil, with some natural gas dissolved in it**



Classification

- **By the geographic location it is produced in**
- **Its API gravity (an oil industry measure of density)**
- **Its sulfur content**
- **Some of the common reference crudes are:**
 - **West Texas Intermediate (WTI), a very high-quality, sweet, light oil delivered at Cushing, Oklahoma for North American oil.**
 - **Brent Blend, comprising 15 oils from fields in the North Sea.**
 - **Dubai-Oman, used as benchmark for Middle East sour crude oil flowing to the Asia-Pacific region**
 - **The OPEC Reference Basket, a weighted average of oil blends from various OPEC (The Organization of the Petroleum Exporting Countries) countries**



West Texas Intermediate

- **Also known as Texas light sweet, used as a benchmark in oil pricing**
- **API gravity of around 39.6 and specific gravity of 0.827 and 0.24% sulfur**
- **WTI is refined mostly in the Midwest and Gulf Coast regions in the U.S**
- **It is the underlying commodity of New York Mercantile Exchange's (NYMEX) oil futures contracts**
- **Often referenced in news reports on oil prices, alongside the price of Brent crude from the North Sea**



Value Chain



Bringing oil to the surface using natural and artificial methods

Moving oil to refineries and consumers with tankers, trucks and pipelines

Converting crude oil into finished products

Distributing and selling refined products



Value Chain Economics

Assumptions:

- 49\$/barrel
- 2\$/gallon
- 1 barrel \approx 42 gallons

Oil and Gas Economics

Operation	Costs	Value	Gross Margin	Net Margin	Percent
Exploration	2.97	16.33	16.33	13.36	36%
Production	17.78	49.00	32.67	14.89	41%
Transportation	1.00	51.96	2.96	1.96	5%
Refining	3.70	60.46	8.50	4.80	13%
Distribution	1.90	63.69	3.23	1.33	4%
Marketing	0.80	64.85	1.16	0.36	1%
Pump Taxes	19.15	84.00	0.00	0.00	0%
				36.70	100%

Gasoline Cost Components

Component	\$/B	Cents/Gallon	Percent of Pump Price
Crude Oil	49.00	116.67	58%
Operating Costs	4.90	11.67	6%
Taxes	21.65	51.55	26%
Company Net Margins	8.45	20.11	10%
Total	84.00	200.00	100%

The costs are based on data reported in the Oil & Gas Journal and Performance Profiles of Major Energy Producers 2007.



Politics

- **Peak Oil?**

Dick Cheney, 1999:

"By some estimates there will be an average of two per cent annual growth in global oil demand over the years ahead along with conservatively a three per cent natural decline in production from existing reserves. That means by 2010 we will need on the order of an additional fifty million barrels a day. So where is the oil going to come from?...While many regions of the world offer great oil opportunities, the Middle East with two thirds of the world's oil and the lowest cost, is still where the prize ultimately lies, even though companies are anxious for greater access there, progress continues to be slow."

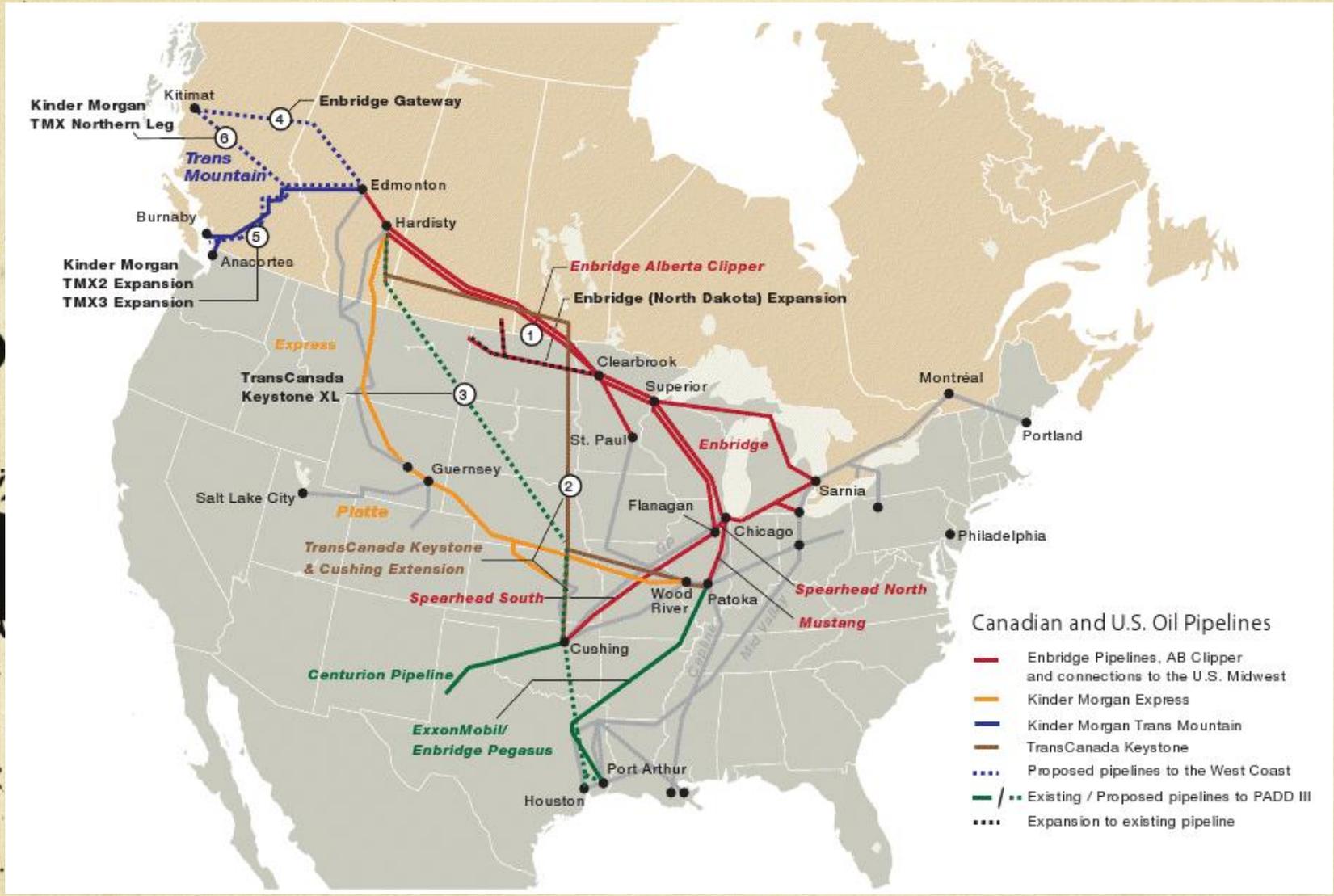


Market

- **New York Mercantile Exchange (NYMEX)**
- **Cushing is famous as a price settlement point for West Texas Intermediate**
- **Cushing is the most significant trading hub for crude oil in North America**
- **Cushing holds 5% to 10% of the total U.S. crude inventory**



Supply



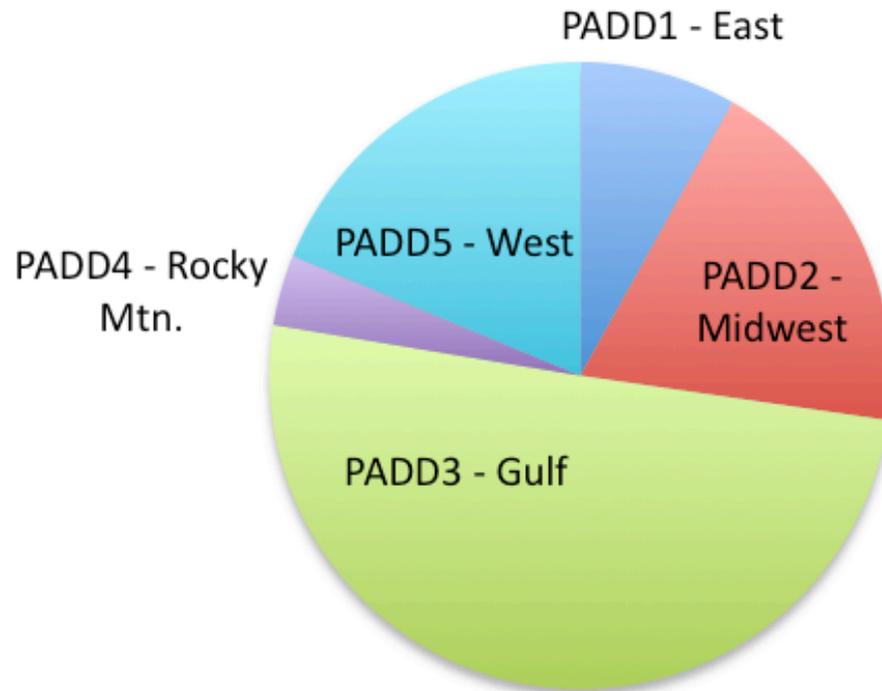
Demand

- **Economy growth of countries**
- **Limited oil resource**
- **Political conflicts**
- **Natural disaster**

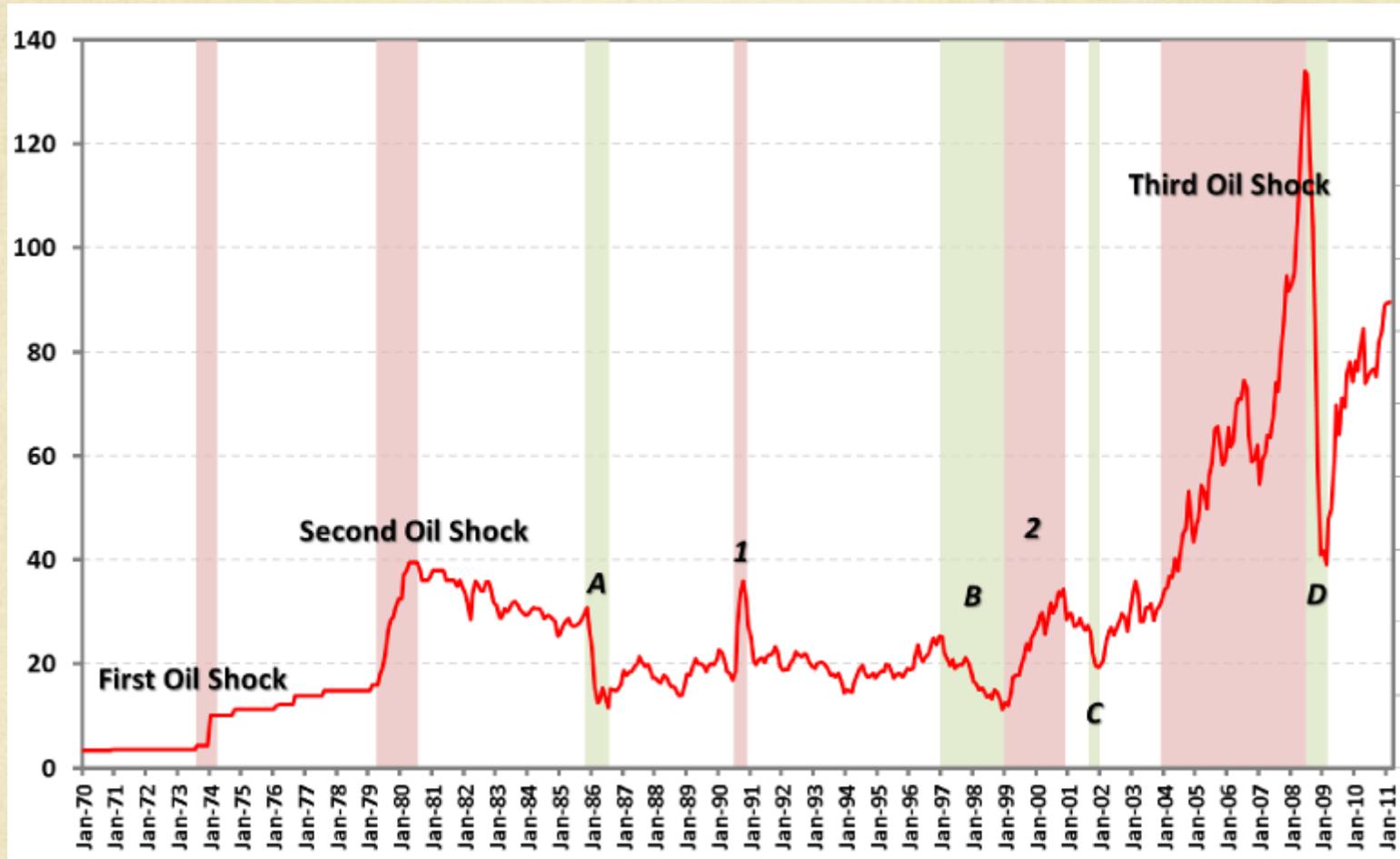


Facts & Figures

Distribution of US Refining Capacity



Facts & Figures

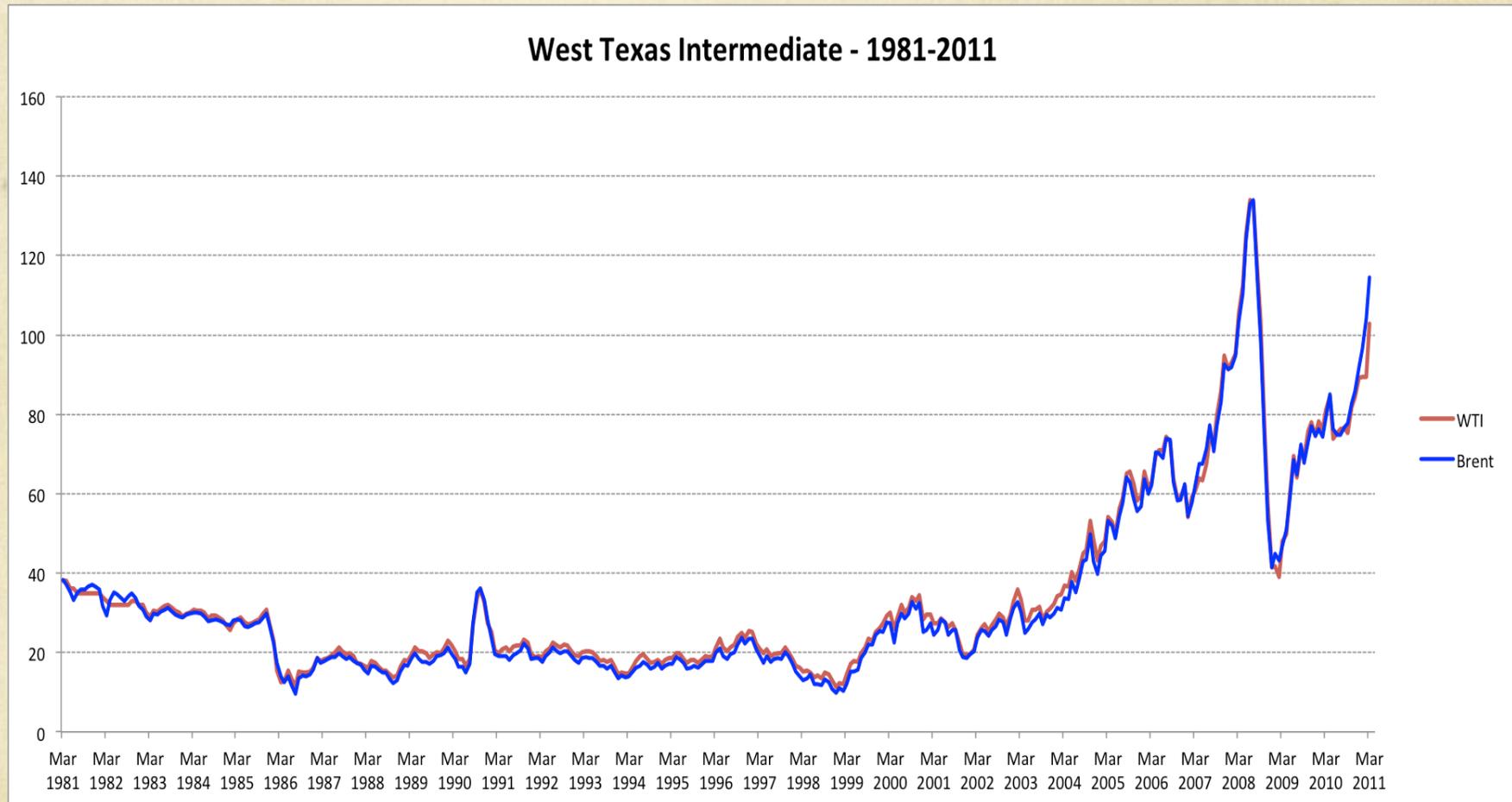


<http://people.hofstra.edu/geotrans/eng/ch5en/appl5en/thirdoilshock.html>

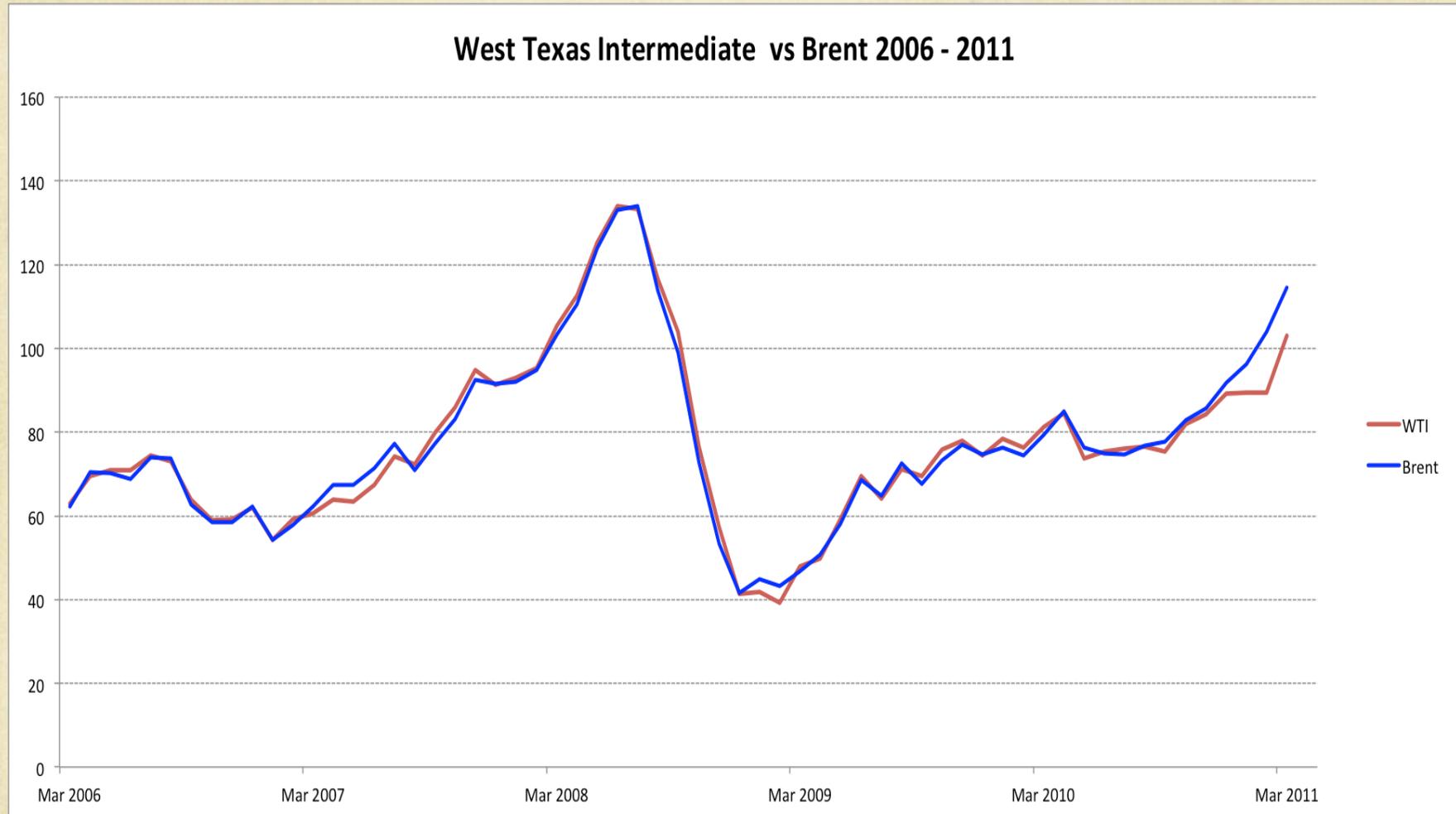


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Facts & Figures



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Discussion

- **Why is the price of WTI crude oil lower than Brent crude oil?**

