

Petrol Fiyatları Nereye Gidiyor

Bariř Sanlı

15.03.2018

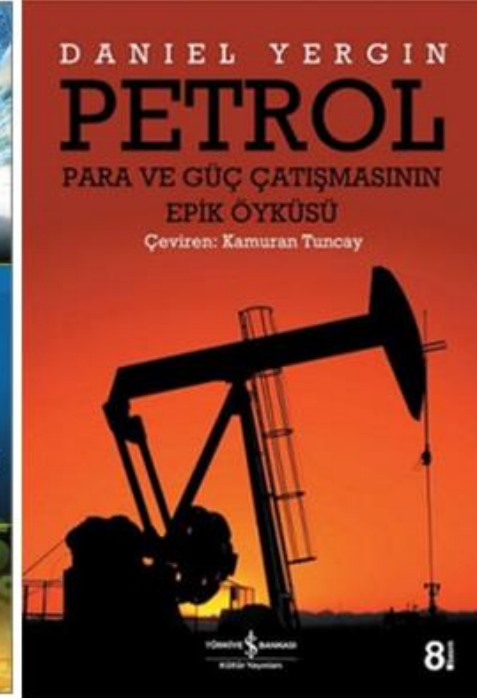
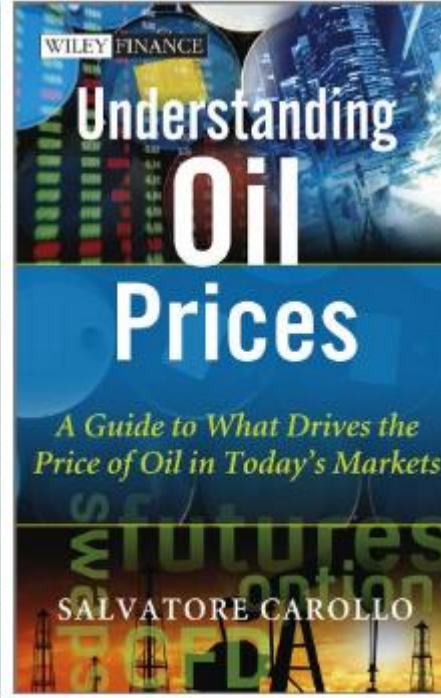
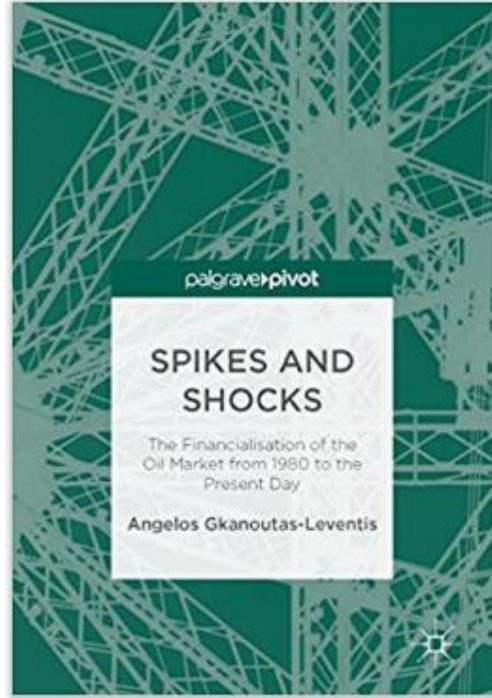
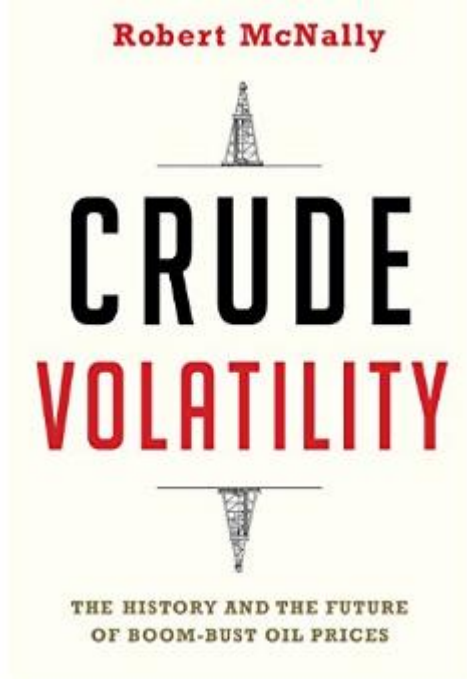
Uyarı

- Sunumdaki görüşler şahsi olup, hiçbir kurum, dernek veya kuruluş bu görüşlerden dolayı sorumlu tutulamaz.

Petrol Fiyatları Nereye Gidiyor

- Bilmiyorum
- Ama dinamiklere kafa yoran çok uzman var
- Mekaniğinden bir olasılık bulutu çıkarabiliriz
- Kesin bilmediğimiz ise : zamanlama
- Petrol fiyatını doğru tahmin etme ihtimaliniz bilimsel olarak benden daha yüksek
- Atölye çalışması

Okuma Önerileri



Kitaplar ne diyor

- Crude Volatility: Fiyatlar oynak sadece kontrol eden güç döneminde sabit
- Spikes and Shocks: Petrol sektörünün finansallaşması da fiyatları etkiledi
- Understanding Oil Prices: OPEC'in büyük hatası Brent kontratın fiyatını kabul etmesi oldu
- Petrol: Petrol sektörü-tarihi eğlencelidir.

Günümüz

Fundamentals do not matter to new breed of oil speculator

Emergence of investors who look for signals in the price action, as well as currency and bond markets

DoubleLine Capital, a Los Angeles-based fund company, launched a commodities mutual fund in 2015. Portfolio manager Jeffrey Sherman is quick to reply when asked how much he reacts to oil inventory readings: “Zero. We are more of a quantitative system trader,” he says.

Instead, DoubleLine uses rules to manage the fund, acting on signals such as the slope of the futures curve. “We’re trying to take advantage of the market structures,” Mr Sherman says.

Funds build bullish holdings in oil market

Managed money net long position in crude oil futures (million barrels equivalent)



Aggregate position in Brent and WTI contracts on ICE and Nymex exchanges

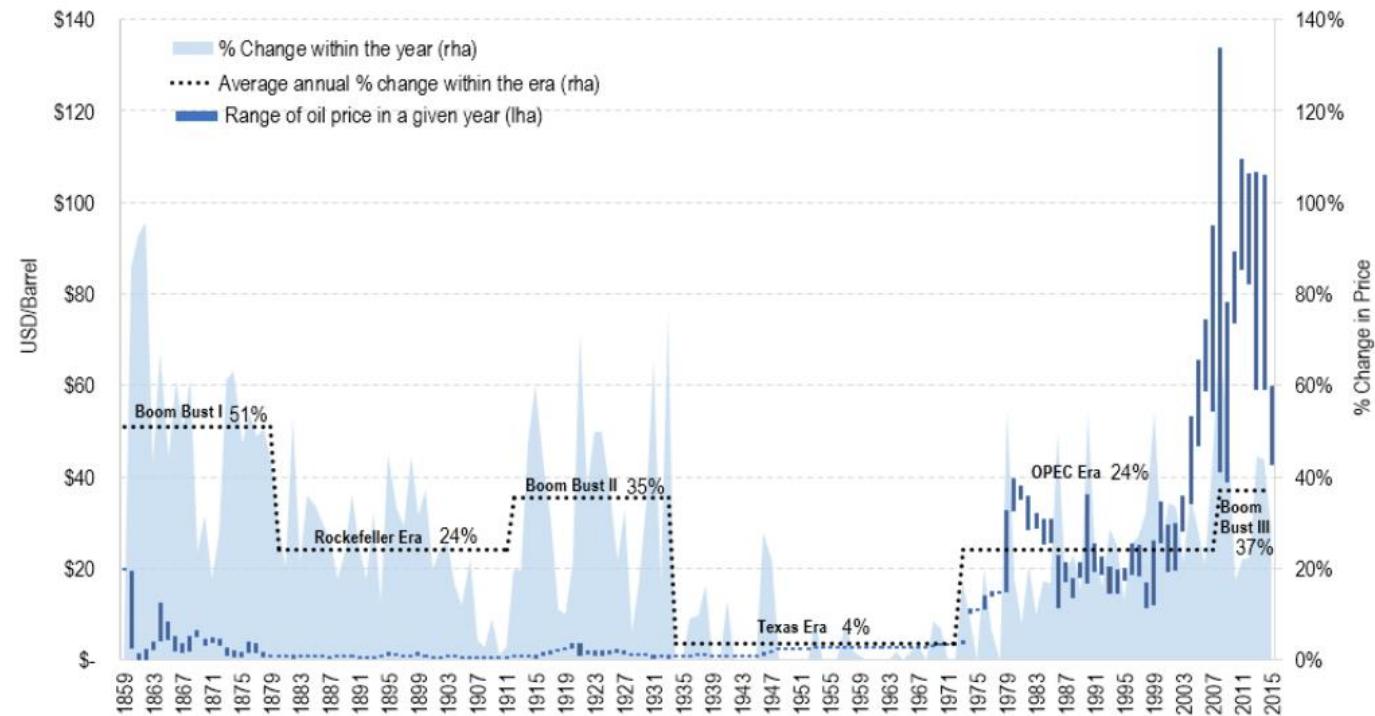
Sources: CFTC; ICE

© FT

<https://www.ft.com/content/cee7050c-1b74-11e8-aaca-4574d7dabfb6>

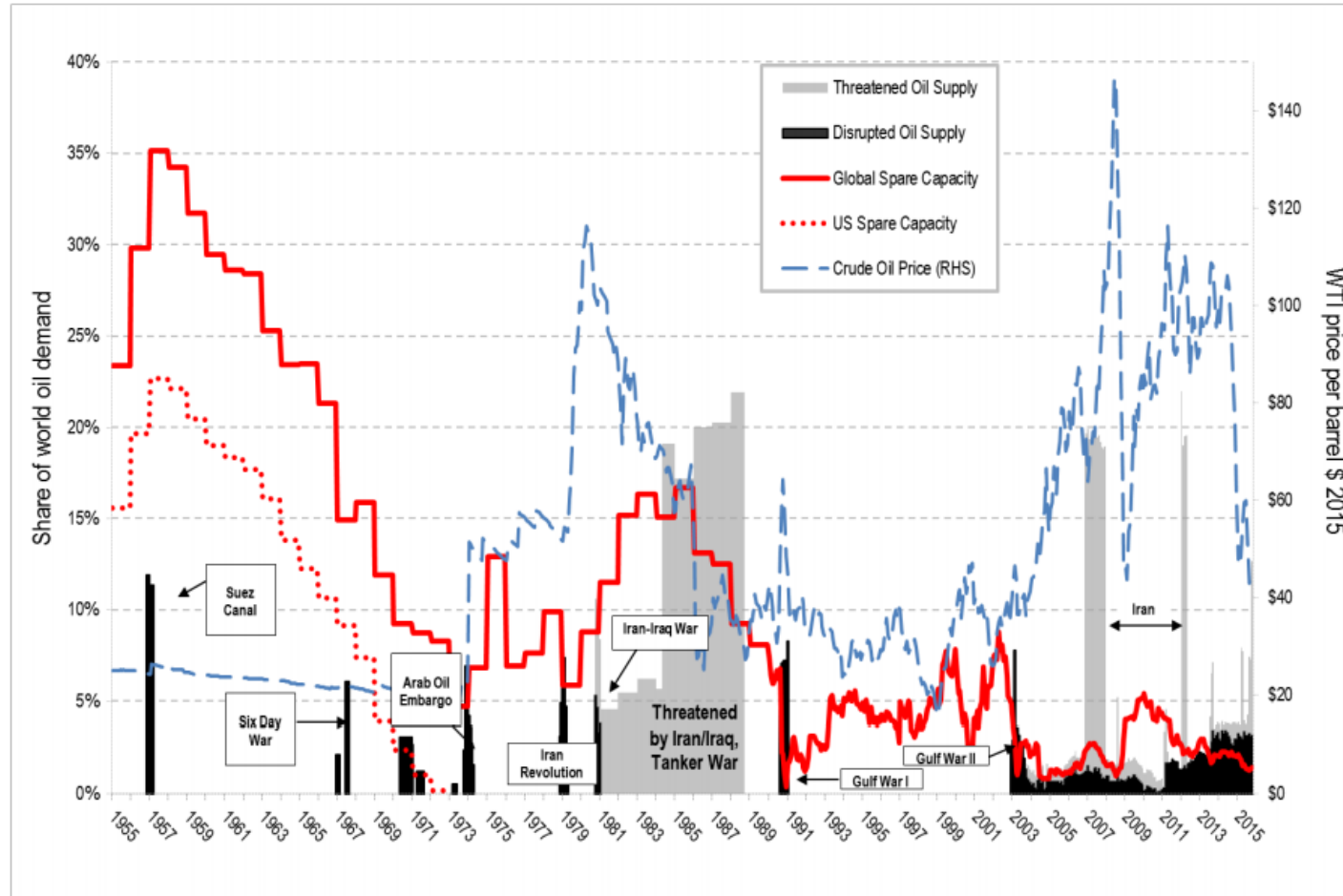
Tarihsel durum

Figure 1: Nominal Market Prices for US Crude Oil



Source: *The Derrick*, API, St. Louis Fed, and The Rapidan Group.

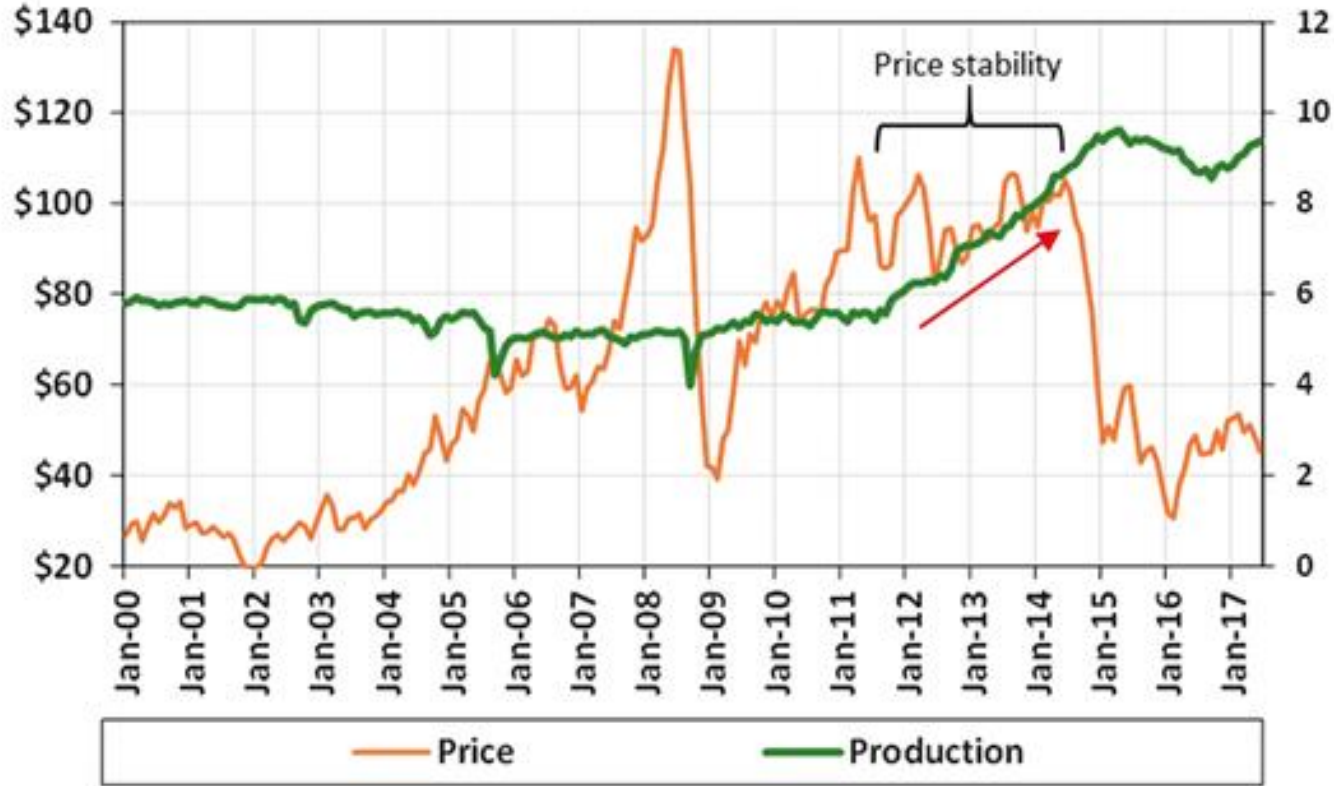
Petrol sorunları, üretim kapasiteleri



Source: EIA, BP, St. Louis Fed, ExxonMobil, and The Rapidan Group.

ABD Üretimi vs Fiyatlar

Figure 1.



Petrol şokları – enflasyon ve işsizlik

Figure 4. Oil Shocks and CPI Inflation

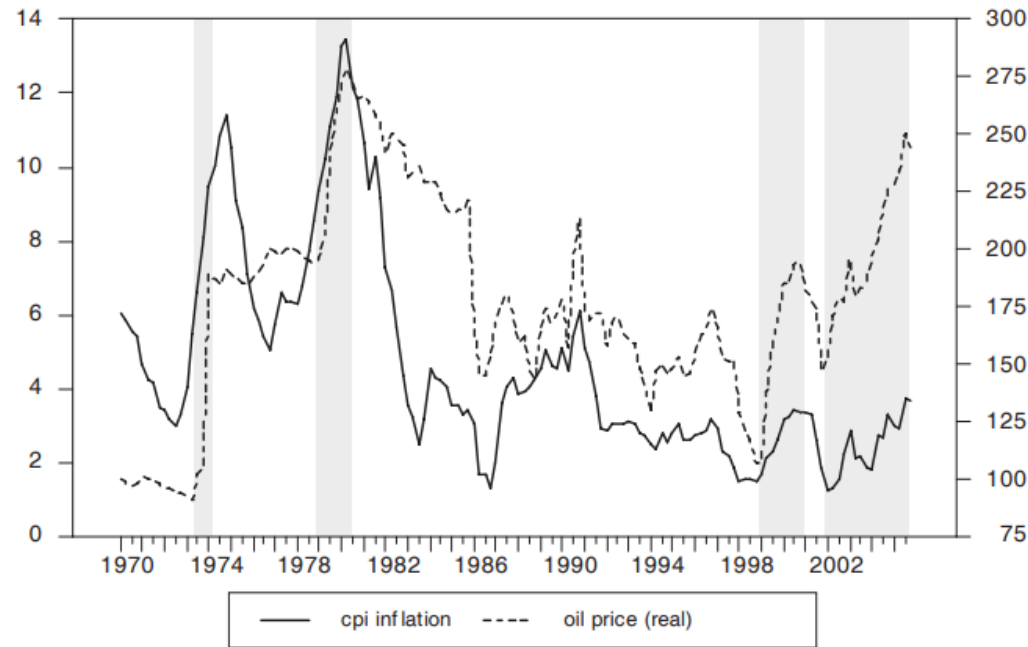
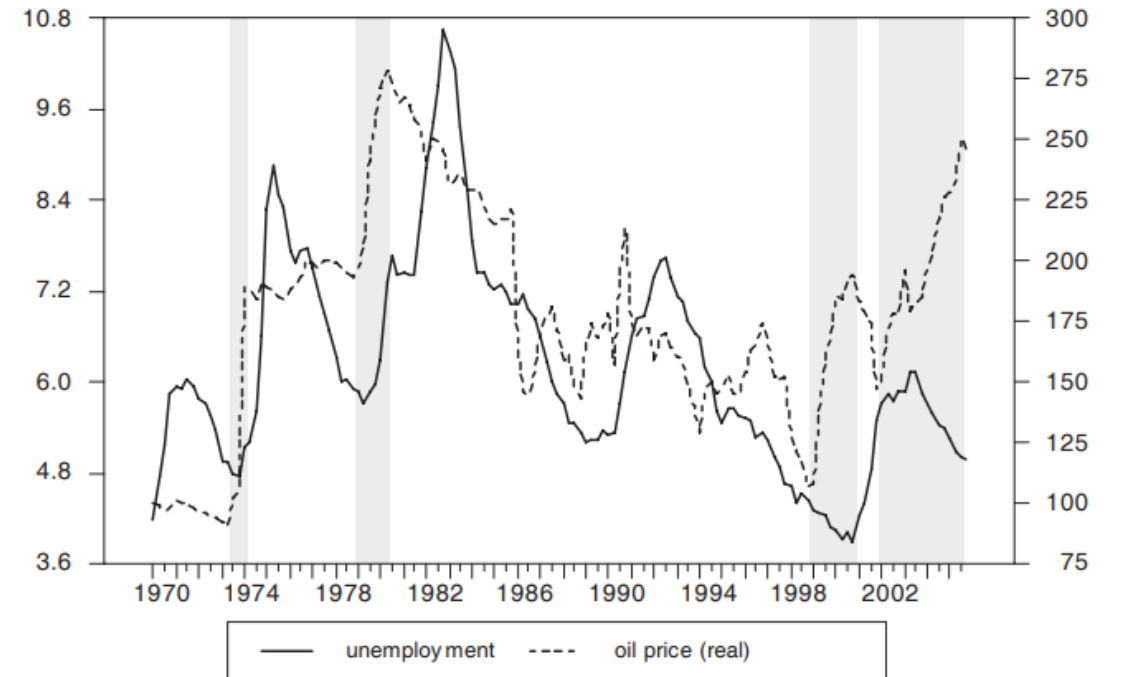


Figure 5. Oil Shocks and Unemployment



1945 sonra petrol şokları ve etkileri

Table 1. Postwar Oil Shock Episodes

	run-up period	50% rise date	max log change (\$)	max log change (real)
O1	1973:3-1974:1	1974:1	104 %	96 %
O2	1979:I-1980:2	1979:3	98 %	85 %
O3	1999:1-2000:4	1999:3	91 %	87 %
O4	2002:1-2005:3	2003:1	113 %	104 %



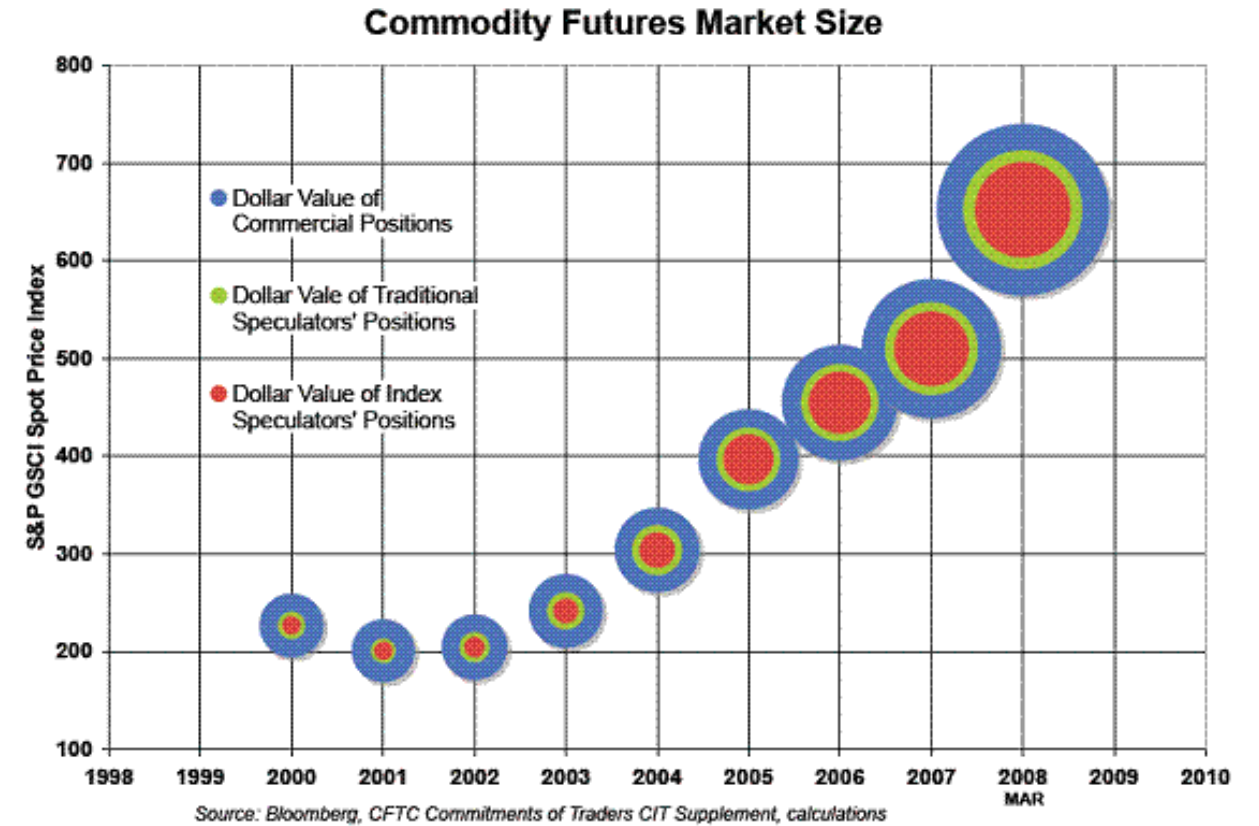
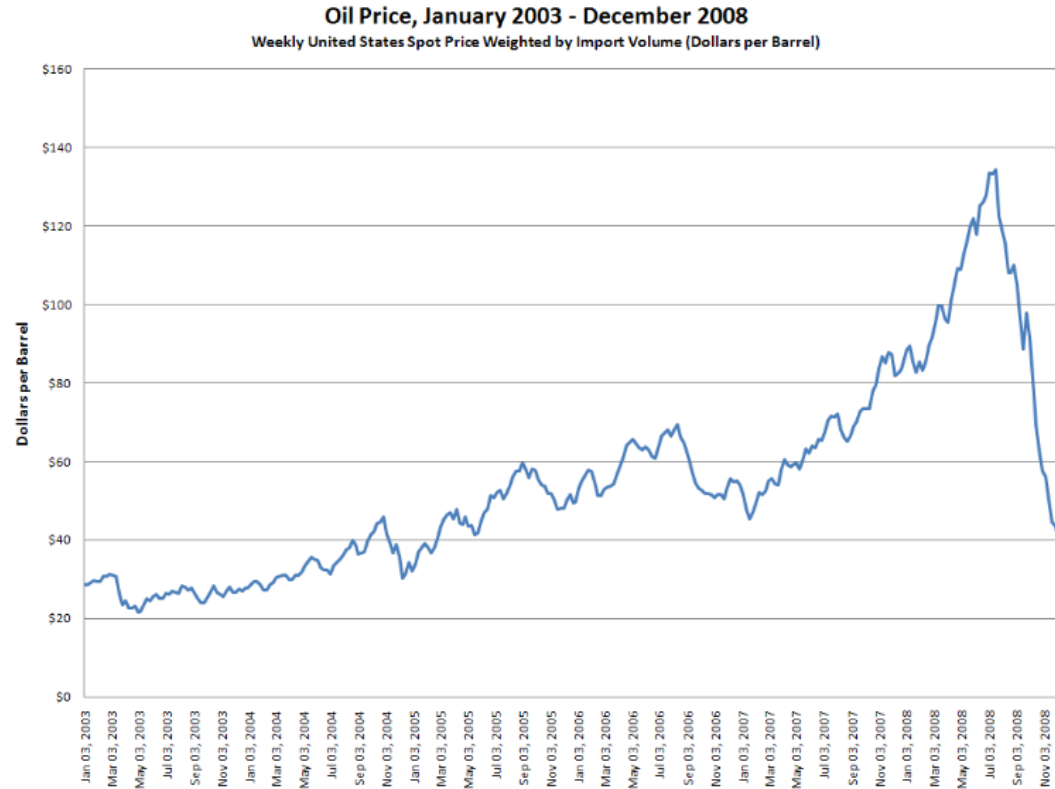
Table 2. Oil Shock Episodes: Change in Inflation

	<i>O1</i>	<i>O2</i>	<i>O3</i>	<i>O4</i>	<i>AVG (1,2)</i>	<i>AVG (3,4)</i>
<i>Canada</i>	4.7	1.8	2.2	0.5	3.3	1.4
<i>Germany</i>	0.1	2.6	1.1	-0.2	1.4	0.4
<i>France</i>	5.4	3.1	1.3	0.5	4.2	0.9
<i>U.K.</i>	10.2	4.3	0.0	0.5	7.3	0.3
<i>Italy</i>	7.7	5.6	1.0	-0.1	6.6	0.4
<i>Japan</i>	7.9	1.0	-1.7	0.9	4.4	-0.4
<i>U.S.</i>	4.9	4.0	1.7	-0.2	4.5	0.7
<i>G7</i>	4.8	1.9	0.3	0.0	3.3	0.2
<i>Euro12</i>	4.3	2.7	1.3	-0.5	3.5	0.4
<i>OECD</i>	4.9	1.8	0.1	-0.5	3.4	-0.2

Table 3. Oil Shock Episodes: Cumulative GDP Change

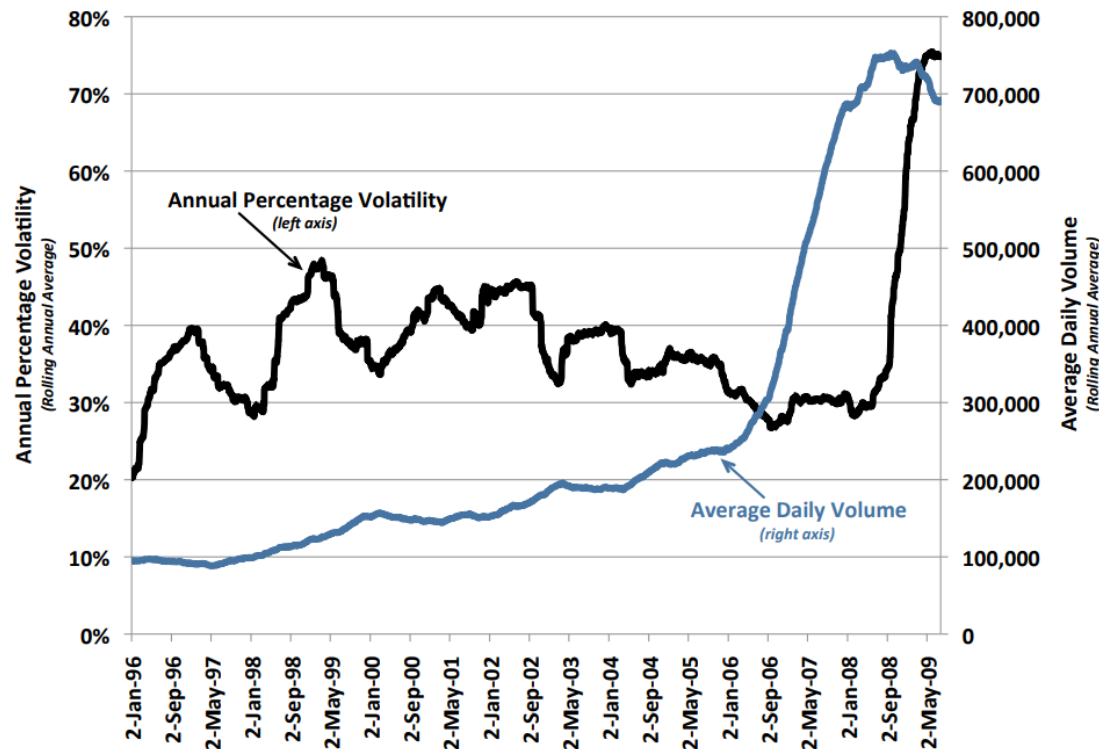
	<i>O1</i>	<i>O2</i>	<i>O3</i>	<i>O4</i>	<i>AVG (1,2)</i>	<i>AVG (3,4)</i>
<i>Canada</i>	-8.3	-1.0	-1.5	3.2	-4.6	0.8
<i>Germany</i>	-9.6	-3.5	1.3	-2.5	-6.6	-0.6
<i>France</i>	-7.6	-4.4	0.6	1.2	-6.0	0.9
<i>U.K.</i>	-16.4	-9.2	0.4	2.5	-12.8	1.4
<i>Italy</i>	-8.6	0.4	3.0	-2.0	-4.1	0.5
<i>Japan</i>	-16.1	-4.4	7.6	3.3	-10.3	5.4
<i>U.S.</i>	-13.3	-11.8	-3.7	7.1	-12.5	1.7
<i>G7</i>	-12.6	-7.7	-0.2	3.9	-10.2	1.8
<i>Euro12</i>	-9.1	-2.9	1.0	-0.4	-6.0	0.3
<i>OECD</i>	-11.2	-6.5	0.1	4.1	-8.9	2.1

2002-2008 dönemi



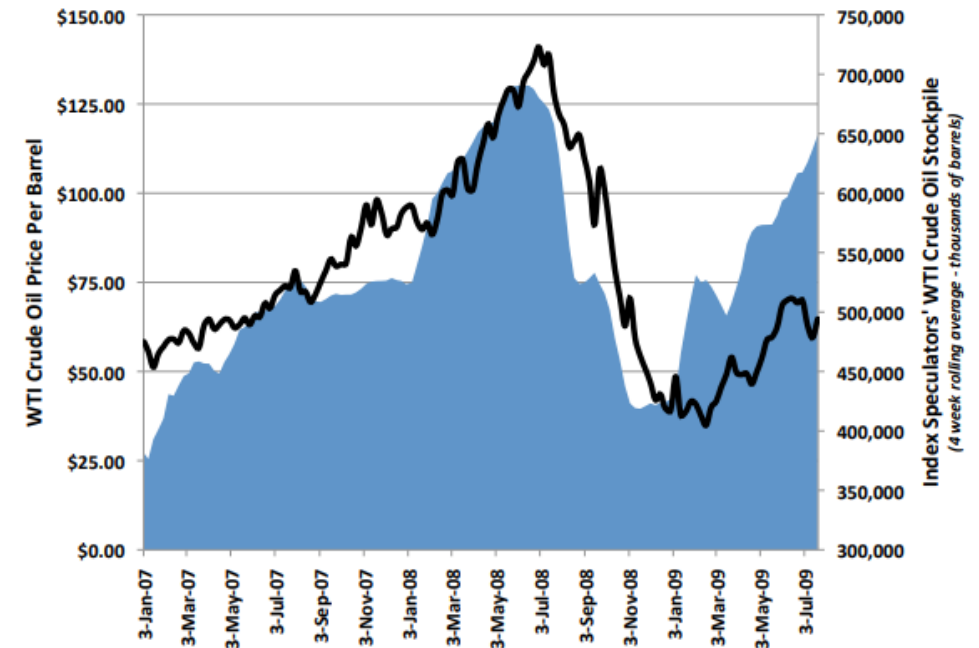
Micheal Masters'in CFTC ifadesi

WTI Annual Volatility versus Average Daily Volume



Source: Bloomberg

WTI Crude Oil Price versus Index Speculators' WTI Crude Oil Stockpile



Source: CFTC CIT Report, Standard & Poors, Dow Jones, Bloomberg and witness calculations

Gerçekten spekülâtörler mi



Bahattin Buyuksahin

[Bank of Canada](#)

Verified email at bankofcanada.ca - [Homepage](#)

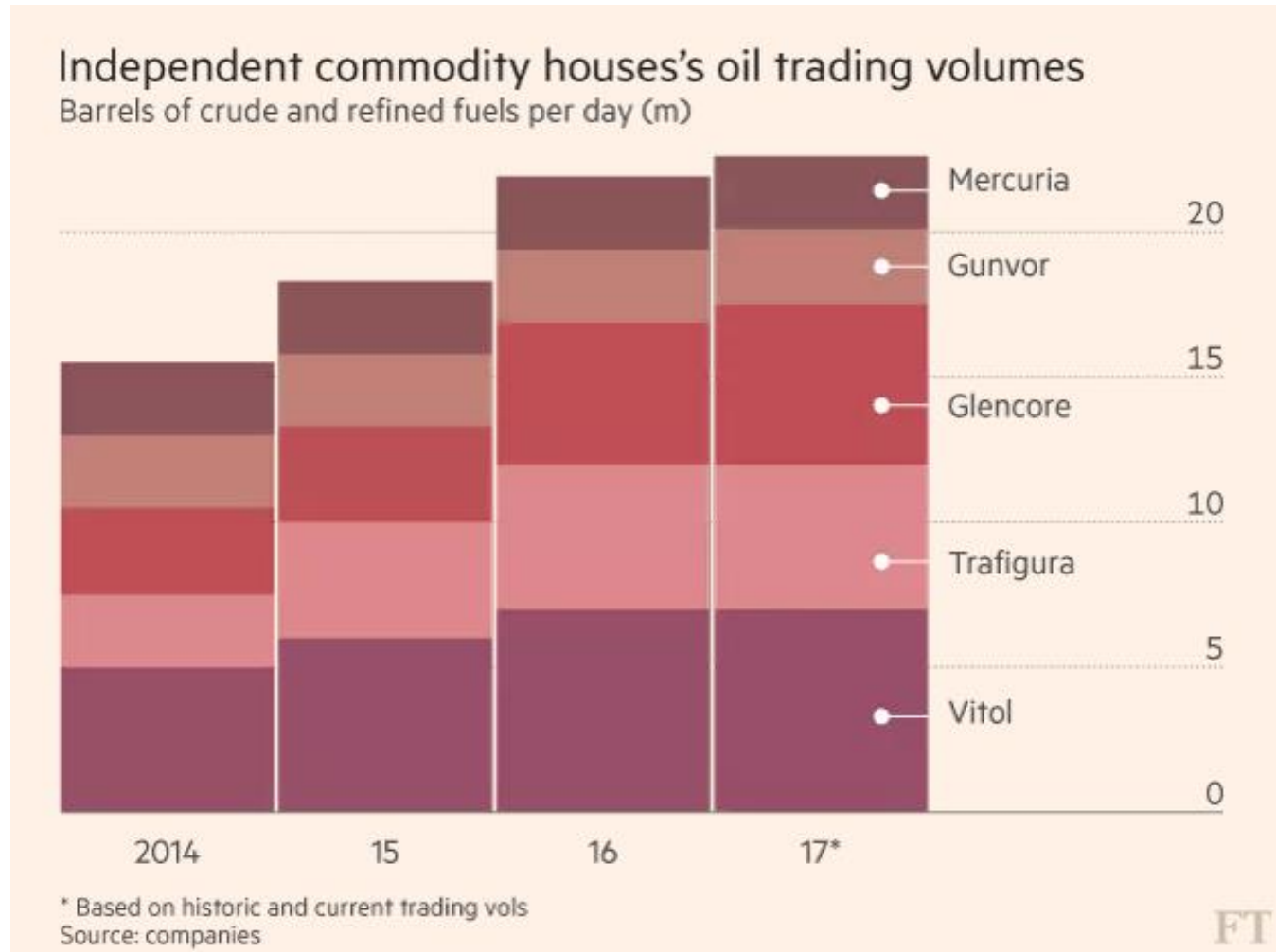
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TITLE	CITED BY	YEAR
Speculation, Commodities and Cross-Market Linkages B Büyüksahin, MA Robe Journal of International Money and Finance 42, 38-70	300	2014
Do speculators drive crude oil futures prices? B Büyüksahin, JH Harris The Energy Journal, 167-202	268 *	2011
Commodities and Equities: 'A Market of One'? B Buyuksahin, MS Haigh, MA Robe	238 *	2008
Speculators, prices, and market volatility C Brunetti, B Büyüksahin, JH Harris Journal of Financial and Quantitative Analysis 51 (5), 1545-1574	159 *	2016

<https://twitter.com/bbuyuksahin>

Bilmediğiniz oyuncular



2011'deki durumları

VITOL GROUP

2010 revenue: \$195bn

President and CEO: Ian Taylor

Founded: 1966 by Ian Taylor

Headquarters: Geneva, Switzerland; Rotterdam, the Netherlands

Staff numbers: 2,700

Focus, operations, events: Top focus is physical oil trading. It scaled down derivatives trading several years ago. Last week, Vitol was first to export oil from rebel-held Libya.

Assets include: storage tanks, exploration and production in the Philippines, Congo, Ghana, Nigeria, Russia, Azerbaijan and Kazakhstan, and the Fujairah refinery in the United Arab Emirates.

Facts: Vitol and Glencore were among dozens of firms accused of paying kickbacks to Iraq in 2005 by a commission that probed the United Nation's Oil for Food programme. Vitol was fined \$17.5m after pleading guilty.

GLENCORE INTERNATIONAL

2010 revenue: nearly \$145bn.

Net income: \$3.8bn

Chief executive: Ivan Glasenberg

Founded: 1974 by Marc Rich as Marc Rich & Co.

Headquarters: Baar, Switzerland.

Staff numbers: 2,700

Focuses on: metals and minerals, energy and agricultural products. It holds large stakes in publicly listed firms such as Xstrata.

CARGILL

2010 global sales: \$108bn

Chief executive: Greg Page

Founded: 1865 by William Wallace Cargill at the end of the US Civil War with one grain storage silo in Iowa.

Headquarters: Minneapolis, Minnesota.

Staff numbers: 131,000

Involved in: agribusiness, energy trading, meat and food ingredient applications, biofuels production, animal nutrition products, and industrial products such as steel and salt.

Other: VW Cargill's son-in-law, John MacMillan Sr, took over leadership of the company in 1909. Today, nearly 90pc of the company is still owned by the Cargill and MacMillan families. The remainder is owned by employees.

KOCH INDUSTRIES

2009 revenue: near \$100bn, according to sources.

Chairman and CEO: David Koch

Founded: Winkler-Koch Engineering co-founded by Fred Koch in 1925.

Headquarters: Wichita, Kansas

Staff numbers: 50,000 in the United States, 20,000 internationally

Interests include: oil refining and transportation, petrochemicals, forestry and paper, and ranching.

Other: Family firm run by the conservative-activist Koch brothers, David and Charles (executive VP). The duo has spent millions funding advocacy groups and political campaigns of right-wing US politicians and candidates. David Koch has argued against evidence of global warming as a result of industrial activity.

TRAFIGURA

2010 turnover: \$79.2bn

Chairman and CEO: Claude Dauphin

Founded: 1993. Claude Dauphin, Eric de Turkheim and Graham Sharp. It split off from a group of companies run by Marc Rich.

Headquarters: Geneva, Switzerland

Staff numbers: 4,000. It is moving staff from London to Geneva.

Focuses on: crude oil, products, non-ferrous, concentrates and refined metals trading and transportation.

Other: In 2009, Trafigura and lawyers representing about 30,000 Ivorians agreed on a pre-trial settlement to end a class action lawsuit, which had accused it of causing illness by dumping toxic waste off Ivory coast in 2006.

GUNVOR INTERNATIONAL

2010 turnover: \$65bn.

Chairman: Torbjorn Tornqvist

Founded: 1997 by Swedish oil trader Tornqvist and Russian businessman Gennady Timchenko.

Headquarters: Amsterdam, the Netherlands, Geneva, Switzerland

Staff numbers: Less than 500

Focuses on: oil trading with emphasis on Russia. Has expanded in power and coal trading.

Other: In 2008, Timchenko wrote an open letter to say media speculation that he enjoyed special ties with Russia's former president and current prime minister, Vladimir Putin, were overblown.

ARCHER DANIEL S MIDLAND CO.

Net sales: \$62bn (fiscal year to June 30, 2010)

Chief executive: Patricia Woertz

Founded: 1902 in Minneapolis, Minnesota, by John Daniels and George Archer

Headquarters: Decatur, Illinois, listed on the NYSE

Staff numbers: 29,000

Focuses on: oilseeds, corn processing, agricultural services, storage and transportation, wheat milling, cocoa processing and food ingredients

NOBLE GROUP

2010 revenue: \$56.7bn.

Net profit: \$606m.

Chairman: Richard Elman. **CEO:** Ricardo Leiman

Founded: 1986 by Elman.

Headquarters: Hong Kong, China. Listed in Singapore.

Staff numbers: 11,000

Interests: from Brazilian sugar to Australian coal.

Other: Shareholders include China Investment Corp, which in 2009 bought a 14.5pc stake for \$850m.

MERCURIA ENERGY GROUP

2008 turnover: \$46bn

President and Group CEO: Marco Dunand

Founded: 2004. Previously known as J&S, which was founded in 1993 and specialized in Russian oil sales to Poland. **Headquarters:** Geneva, Switzerland

Staff numbers: 750

Interests: Mercuria sold 117 million tonnes of physical crude oil and oil products in 2010 including fuel oil, middle distillates, naphtha and gasoline. It also trades power, natural gas, coal and biodiesel and has storage capacity in Estonia and the Netherlands.

Other: Last year, Dunand told Reuters the firm might go public in two to three years.

BUNGE

2010 net sales: \$45.7bn

Chairman and CEO: Alberto Weisser

Founded: 1818 by Johann Peter Gottlieb Bunge in Amsterdam

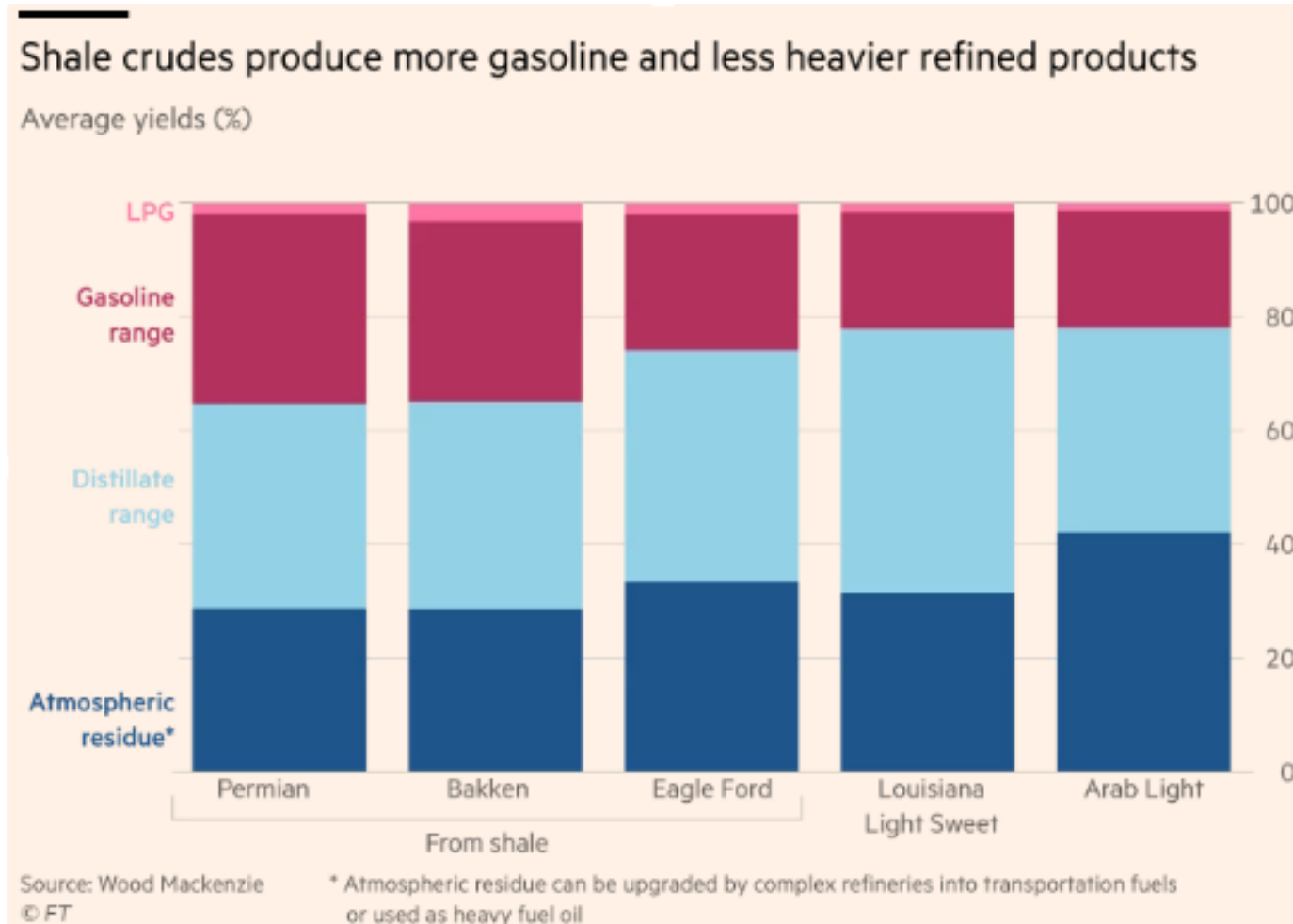
Headquarters: White Plains, New York

Staff numbers: 32,000

Trades: oilseeds and grains, produces sugar and ethanol, mills wheat and corn to make ingredients used by food companies and sells fertilizer in North and South America.

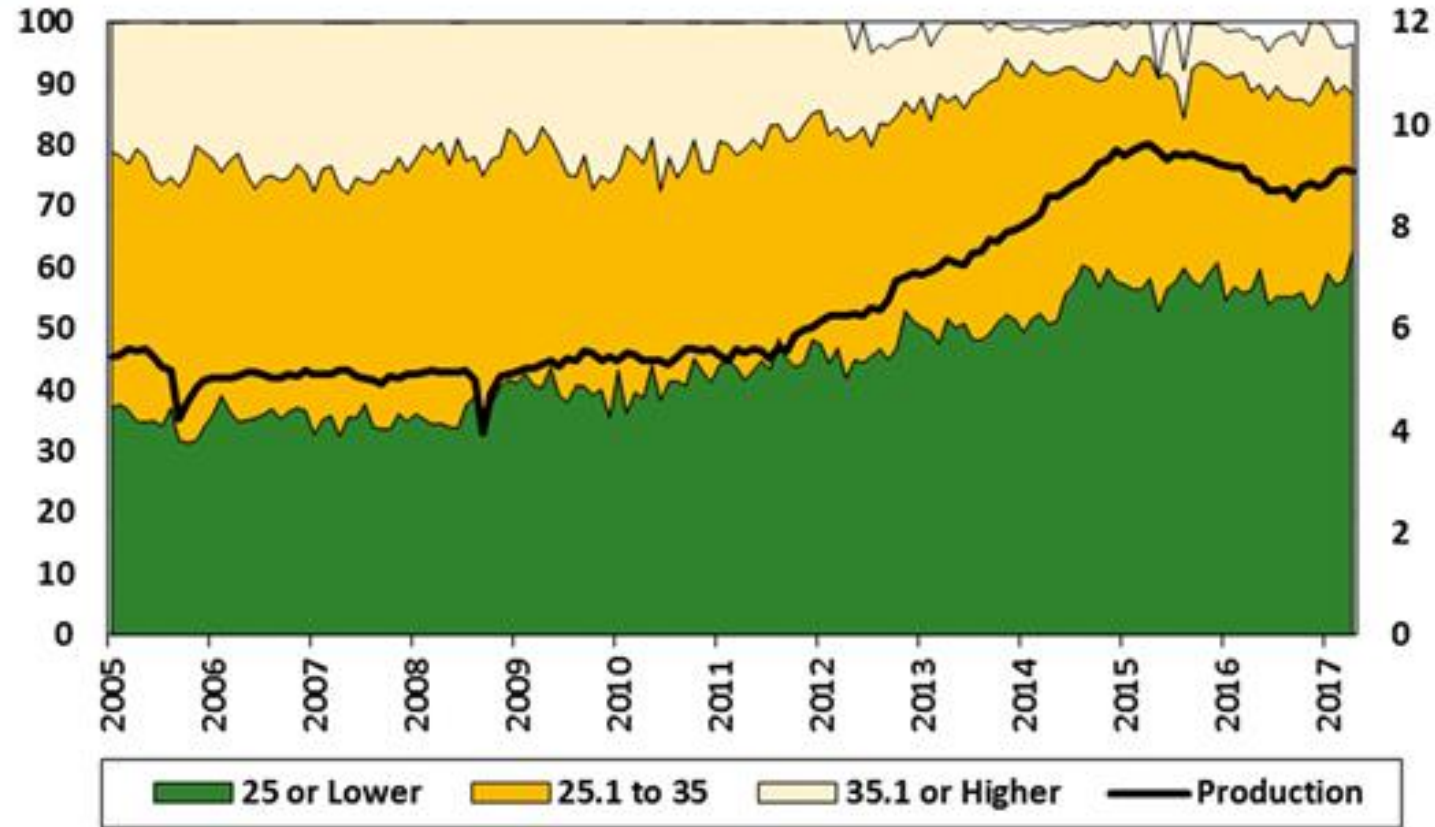
Other: It was the largest producer and supplier of fertilizer in South America before selling off its Brazilian fertilizer nutrients assets to Vale in 2010.

Her petrol de aynı değil

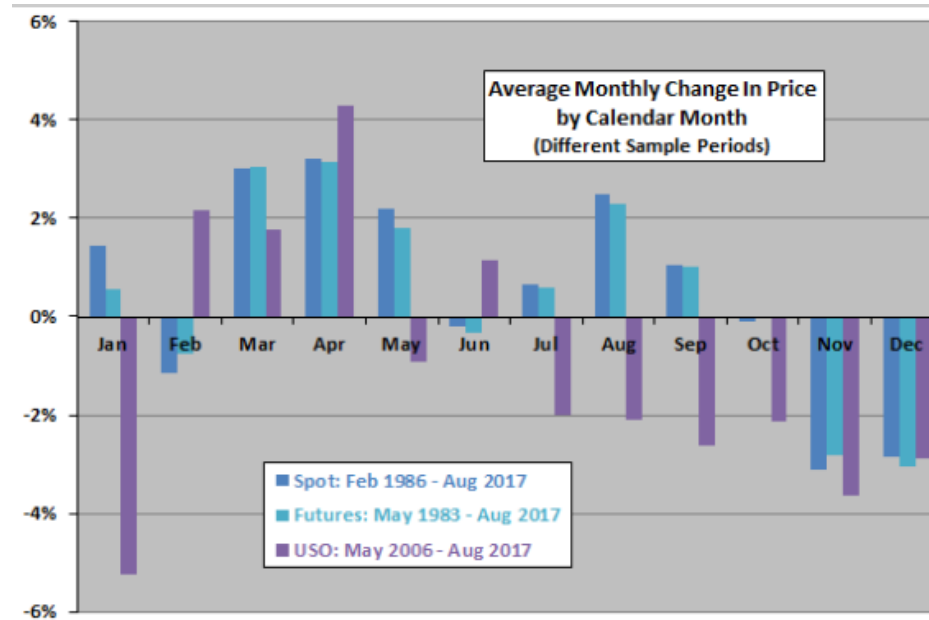


ABD petrolü daha hafif

Figure 2.



Fiyatların Mevsimselliği



<https://www.cxoadvisory.com/13917/calendar-effects/any-seasonality-for-oil-prices/>

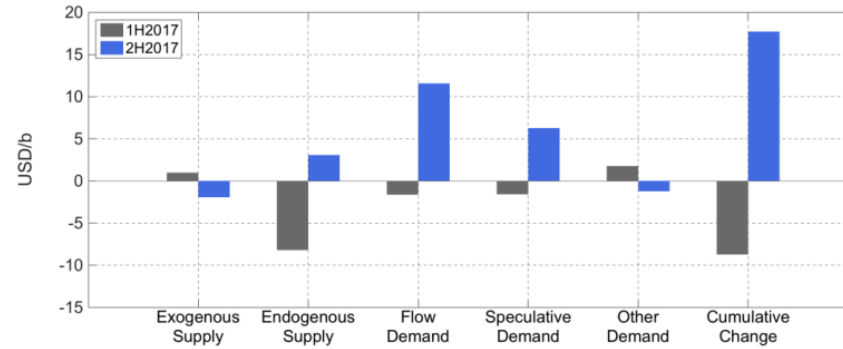
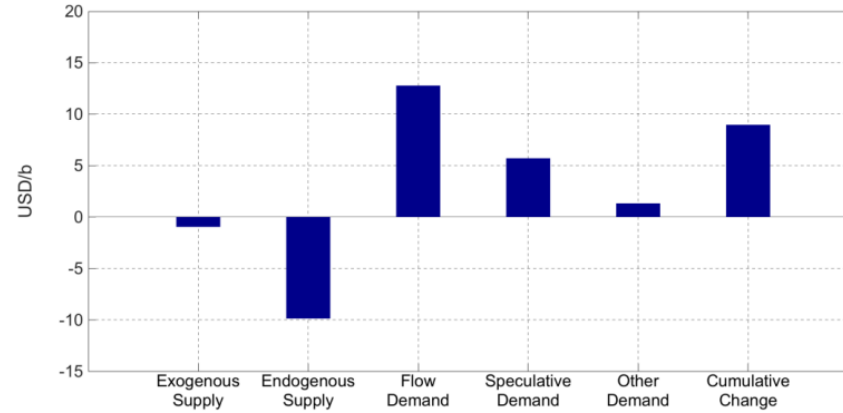
Defined Seasonal Patterns for Oil Prices



Source: Moore Research Center, Inc.

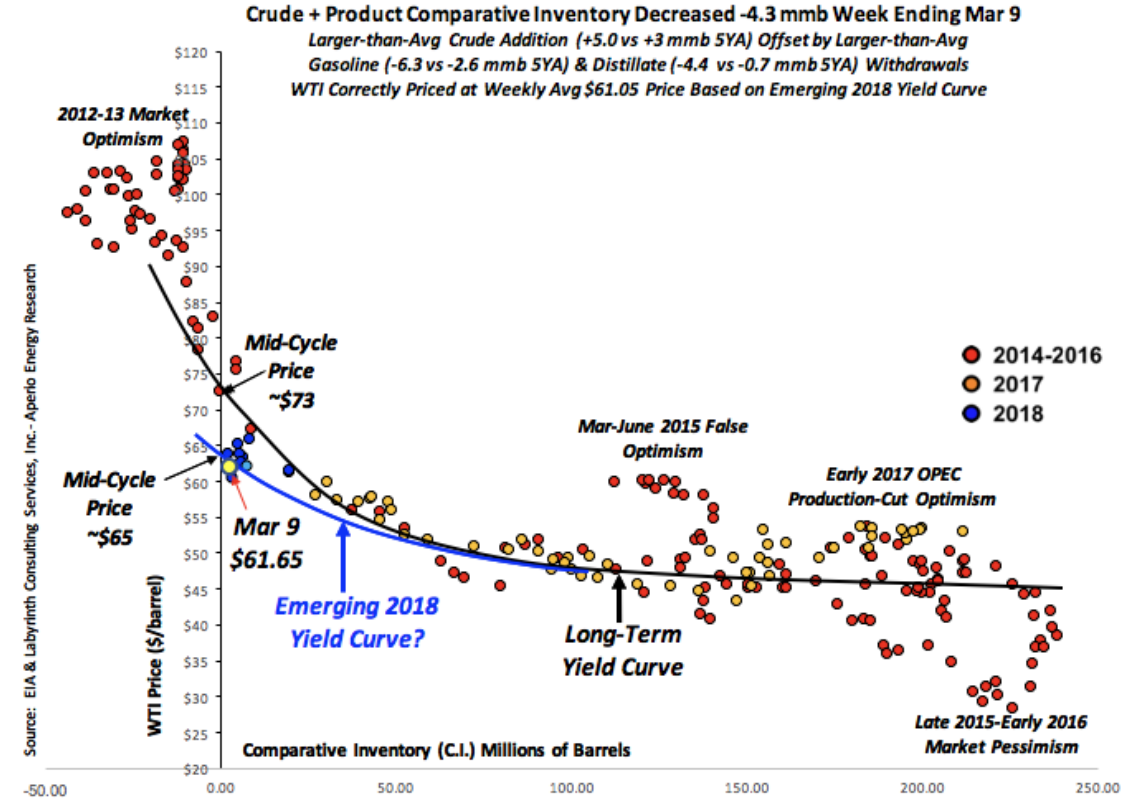
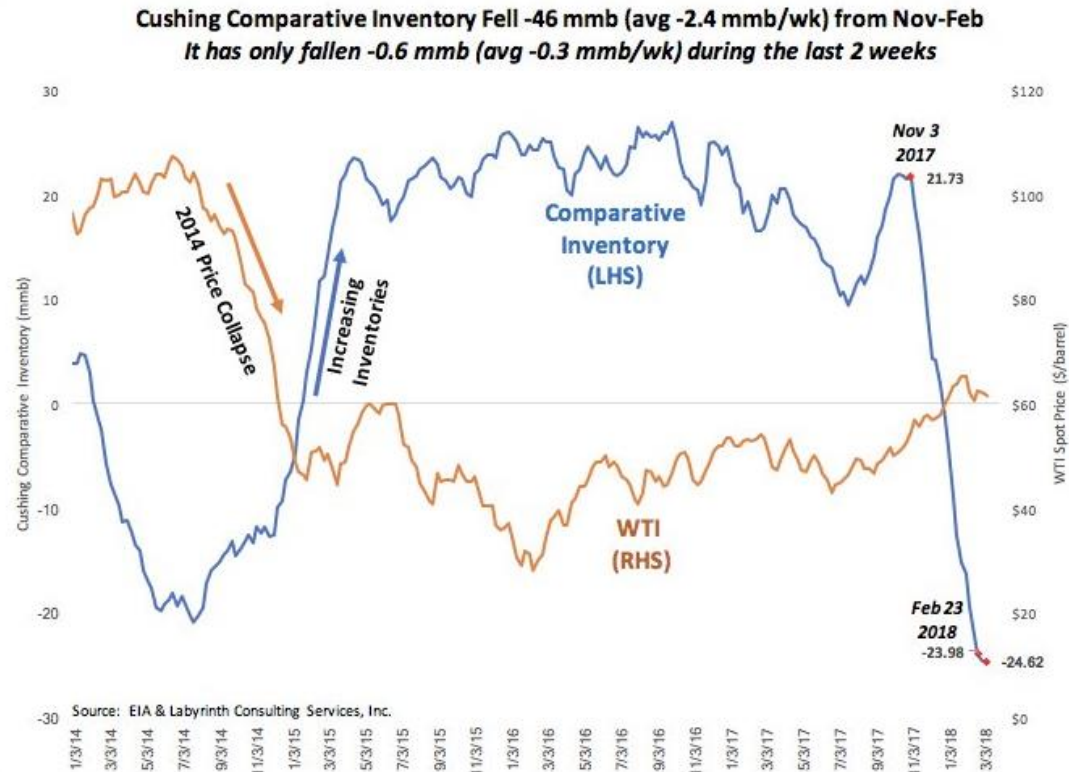
<https://www.pragcap.com/the-recent-history-of-oils-seasonality/>

Günümüz-2017'de fiyatları ne etkiledi

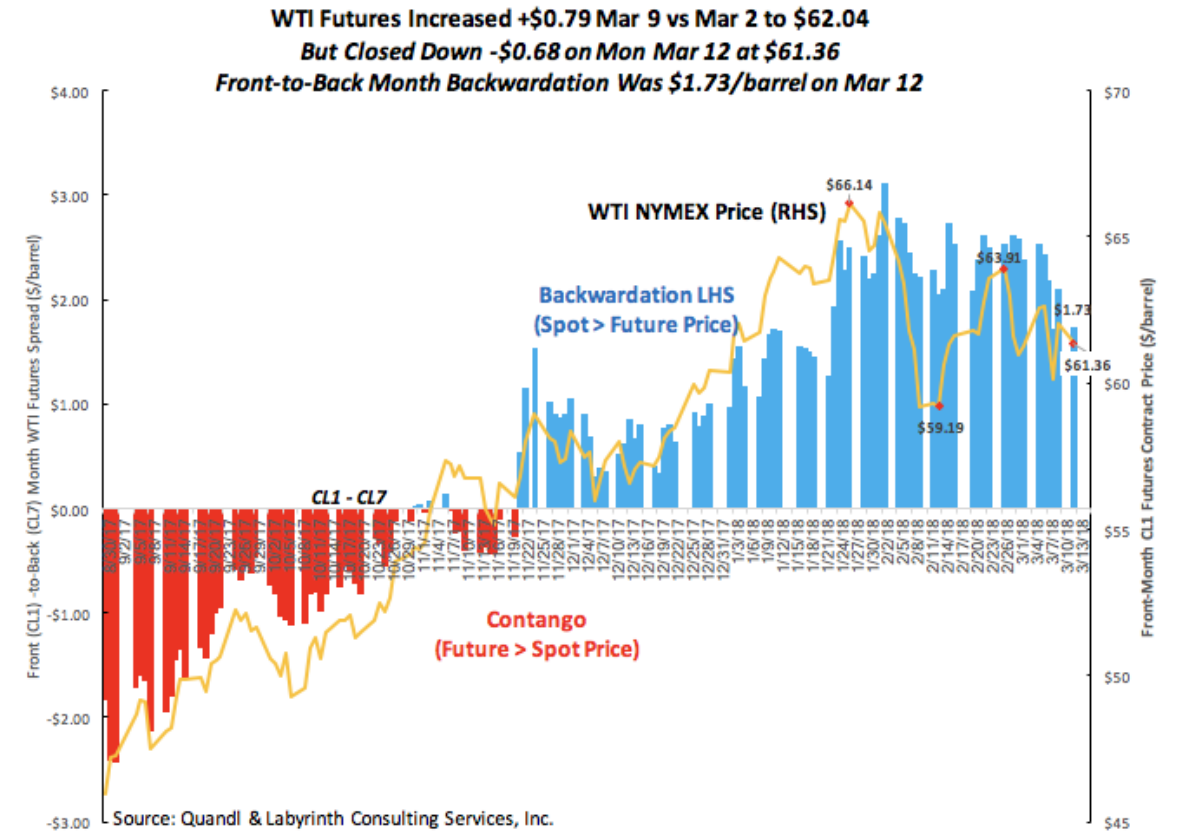
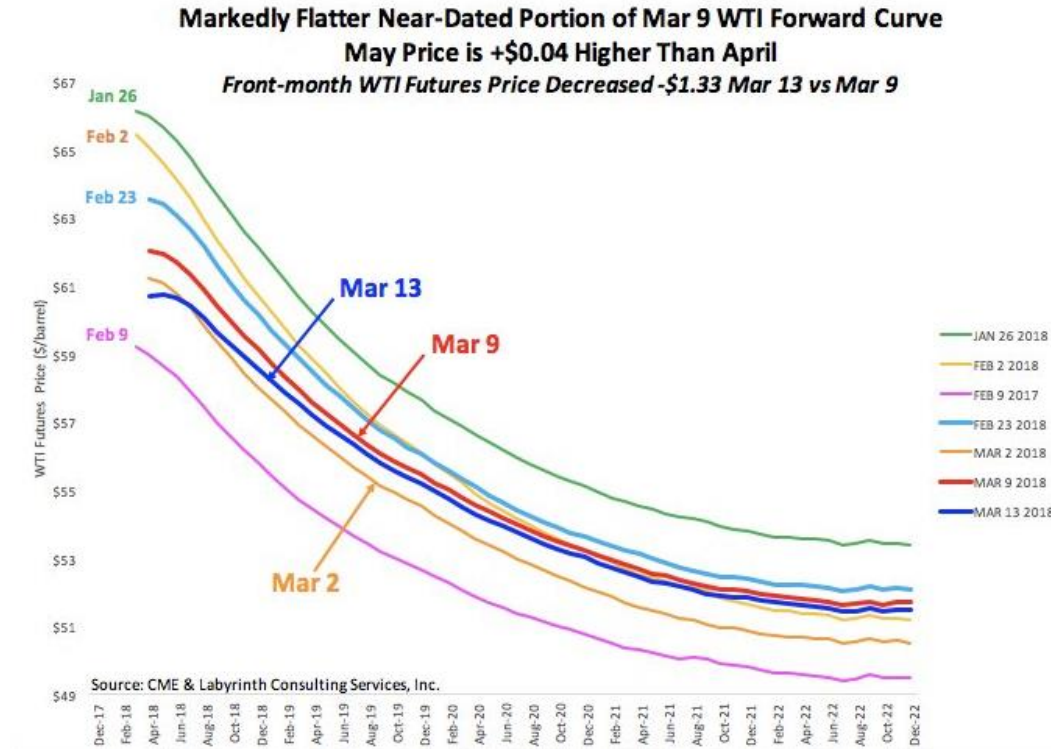


Source: Constructed by the authors

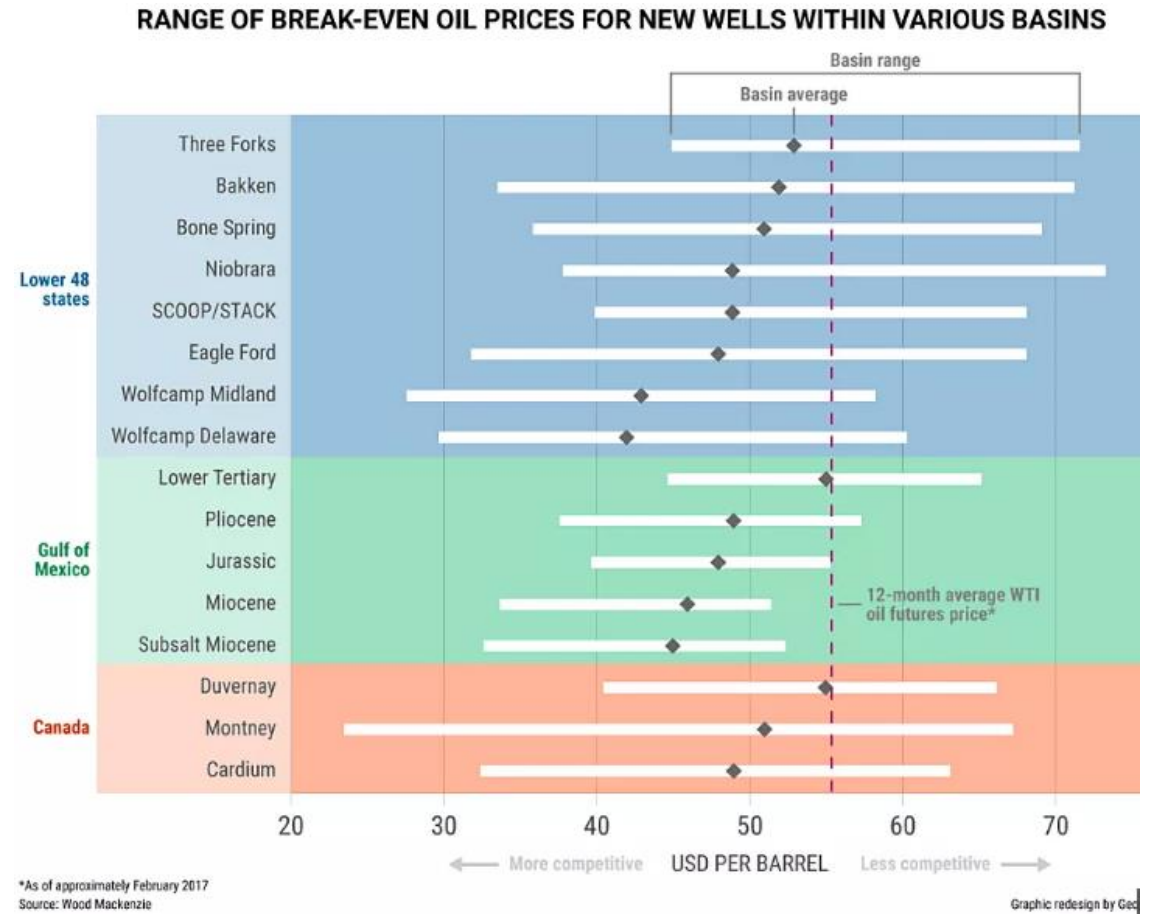
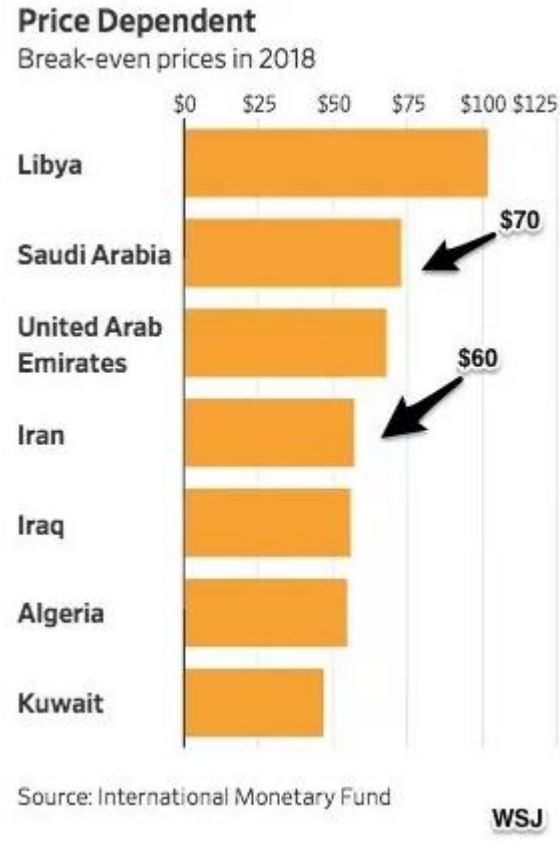
Stok-fiyat ilişkisi



Gelecek vadeli fiyatların hareketi



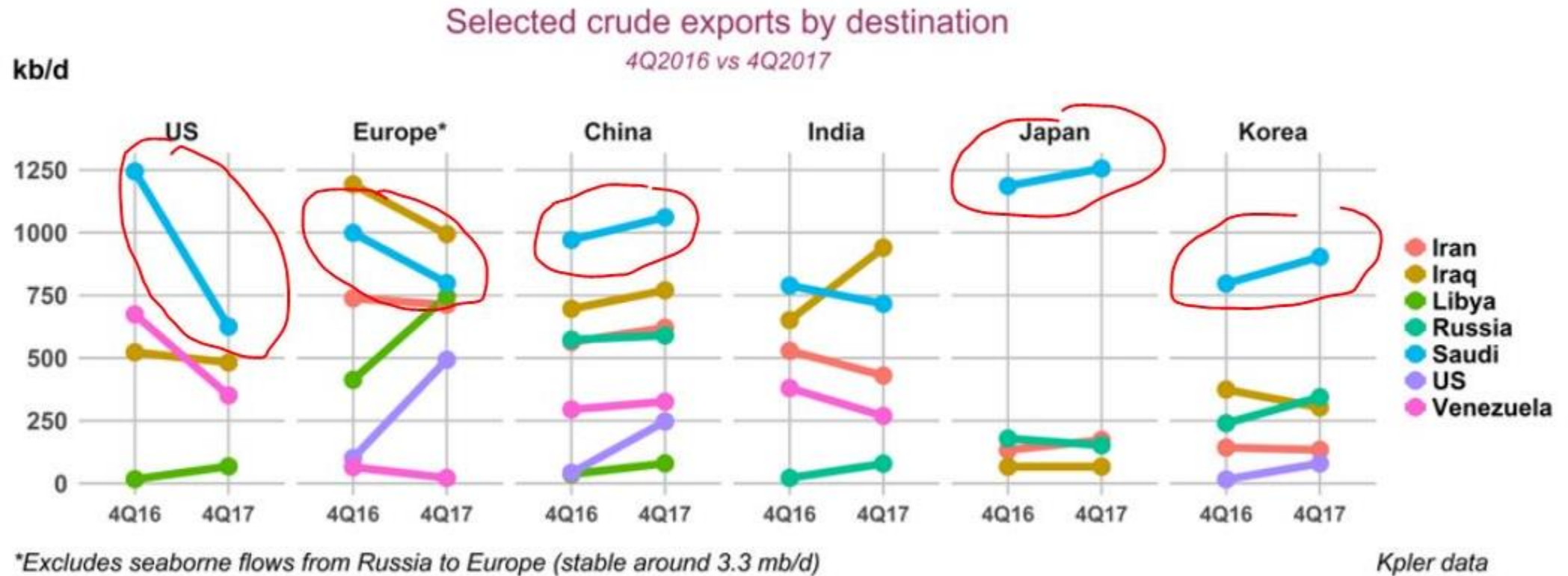
Başabaş petrol fiyatları



<https://econlife.com/2018/03/oil-price-debate/>

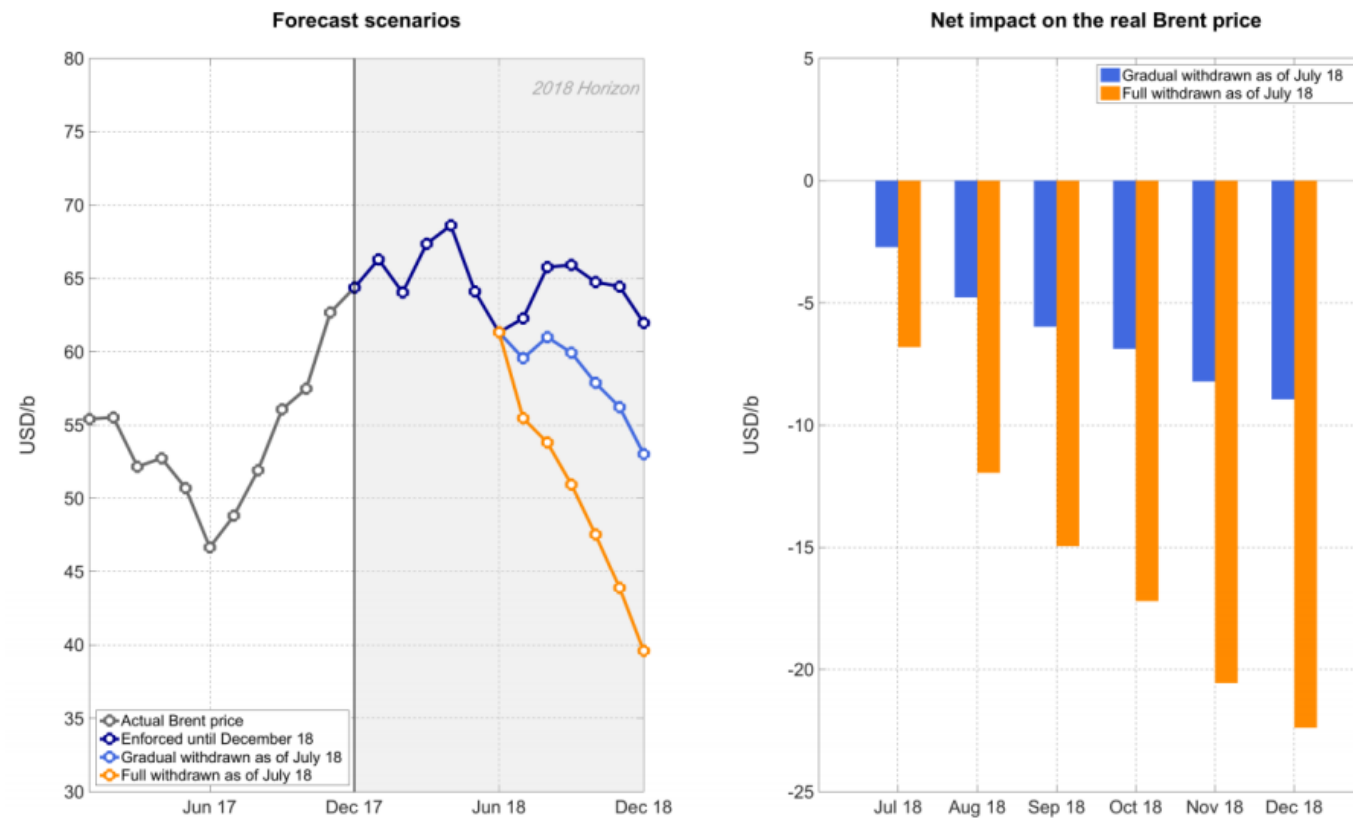
<http://rodmartin.org/shale-oil-another-layer-us-power/>

Saudi Aramco IPO



OPEC Kesintilere son verirse

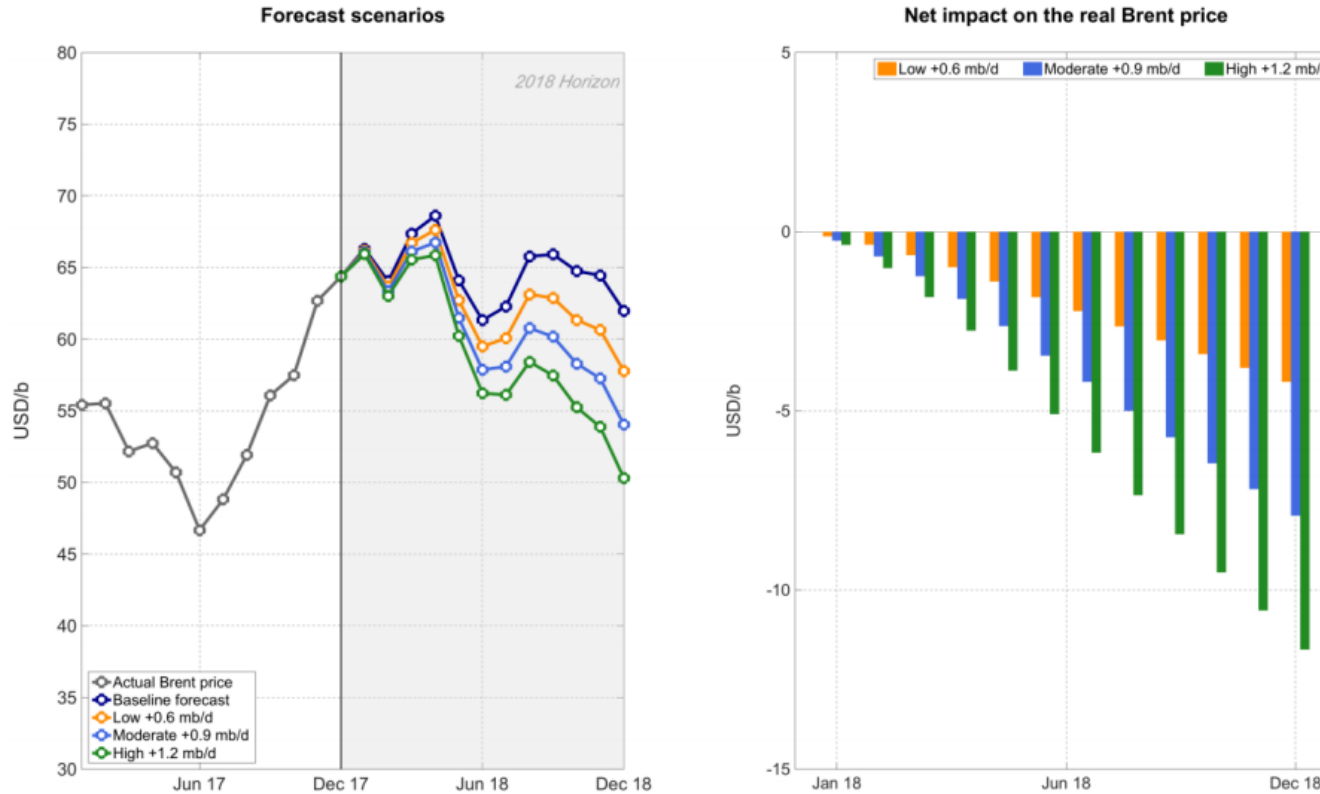
Figure 7: OPEC/NOPEC exit strategy scenarios, in USD/b



Source: Constructed by the authors

Fiyat yükselince petrol üretimi artarsa

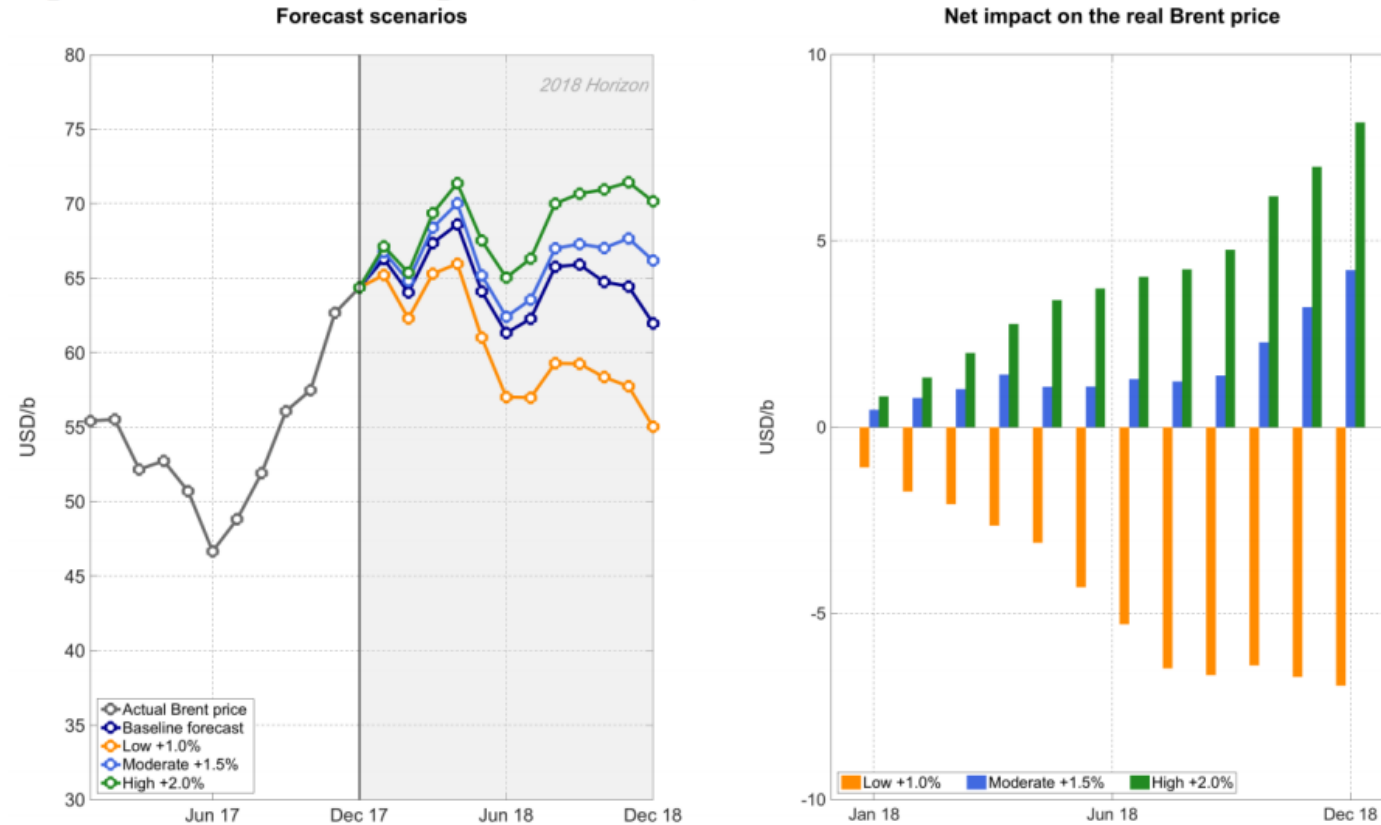
Figure 8: US shale production response scenarios, in USD/b



Source: Constructed by the authors

Petrol talep artışının etkisi

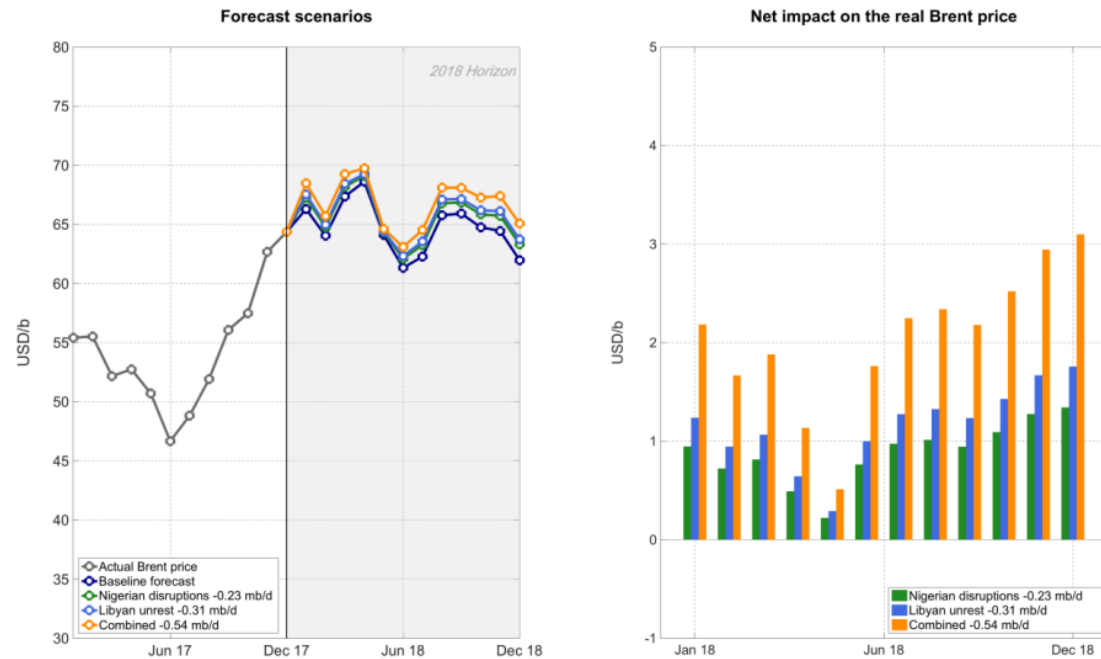
Figure 9: Global oil demand growth scenarios, in USD/b



Source: Constructed by the authors

Nijerya-Libya

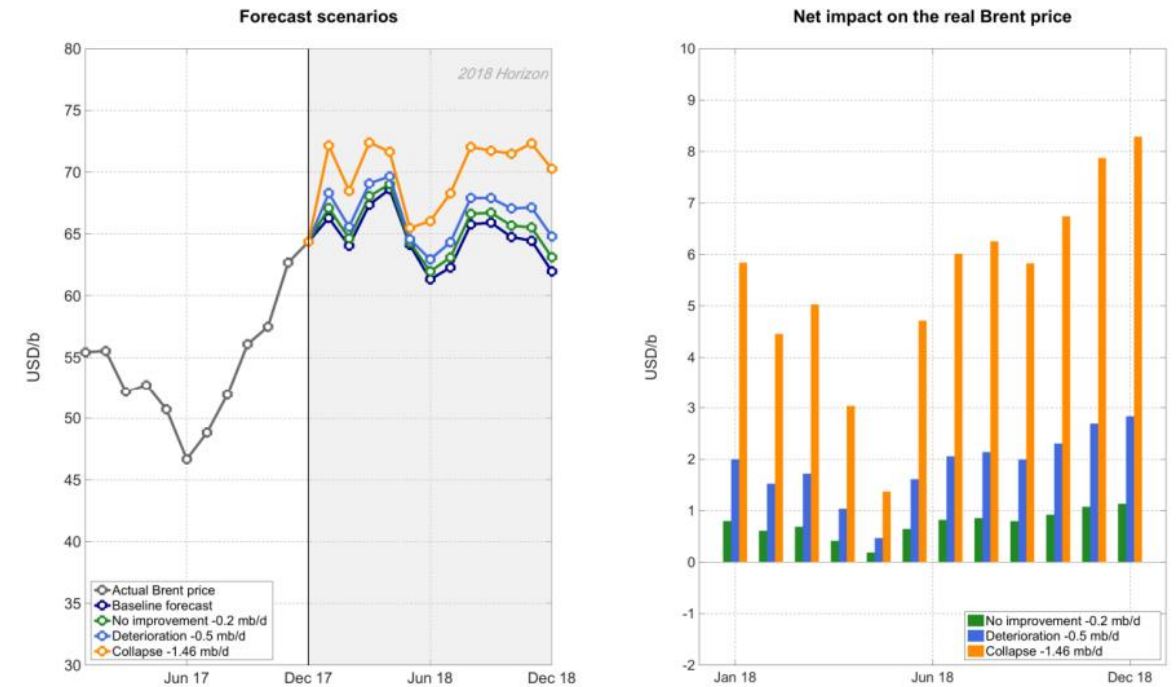
Figure 10: Libyan and Nigerian geopolitical supply disruption scenarios, in USD/b



Source: Constructed by the authors

Venezüella

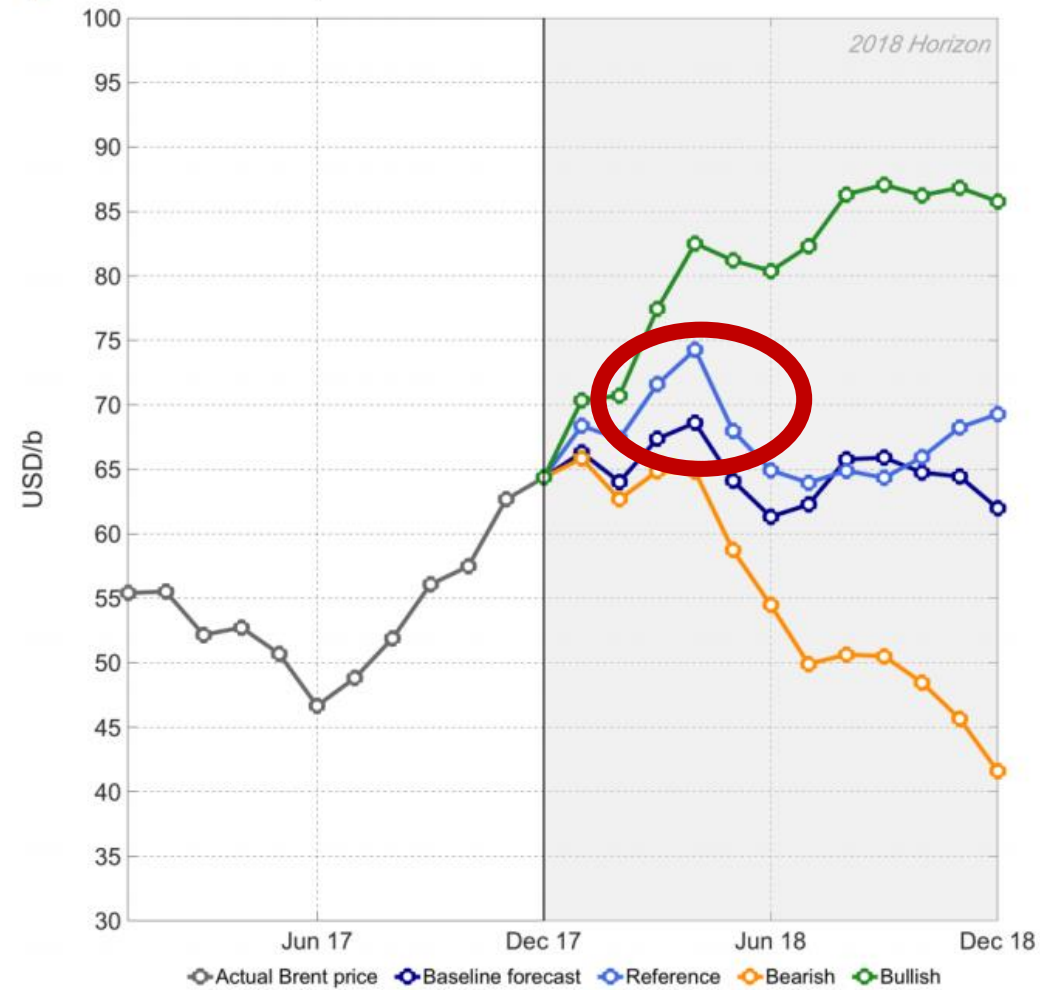
Figure 11: Venezuelan crisis scenarios, in USD/b



Source: Constructed by the authors

Toplamsal

Figure 12. Oil price paths in 2018, in USD/b

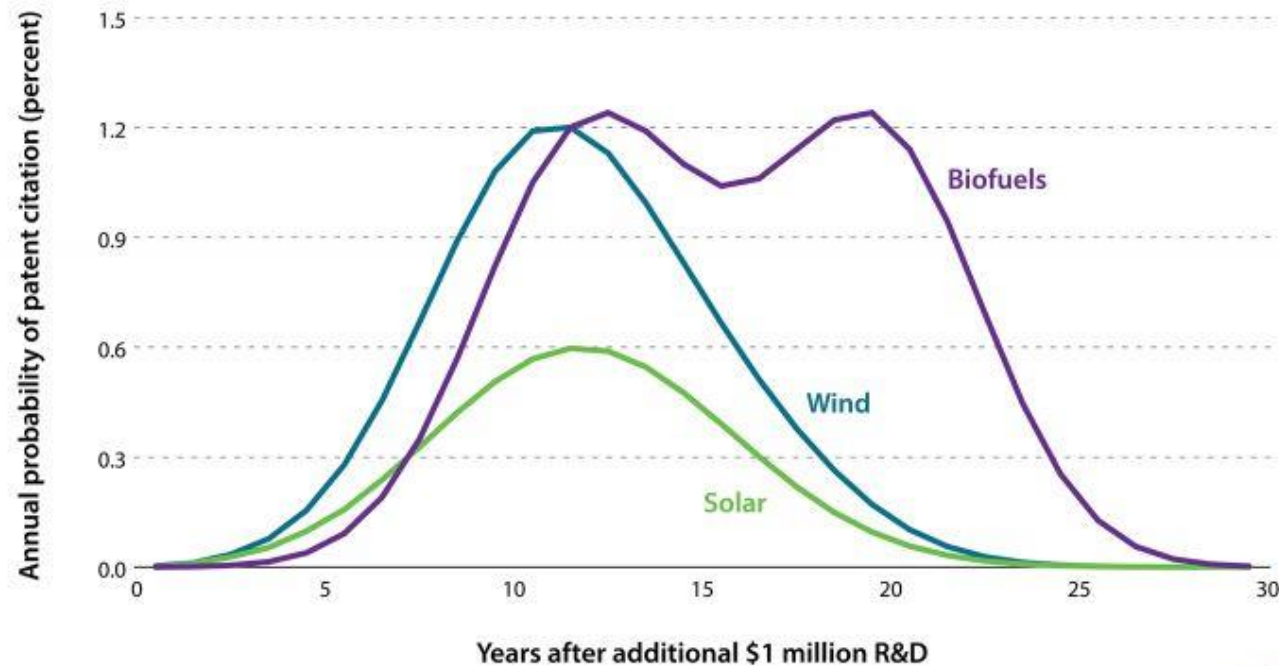


Gelecek

Harcama->Patent->Ticarileşme

FIGURE 8.

Annual Probability of Patent Citation from \$1 Million of Additional Energy R&D

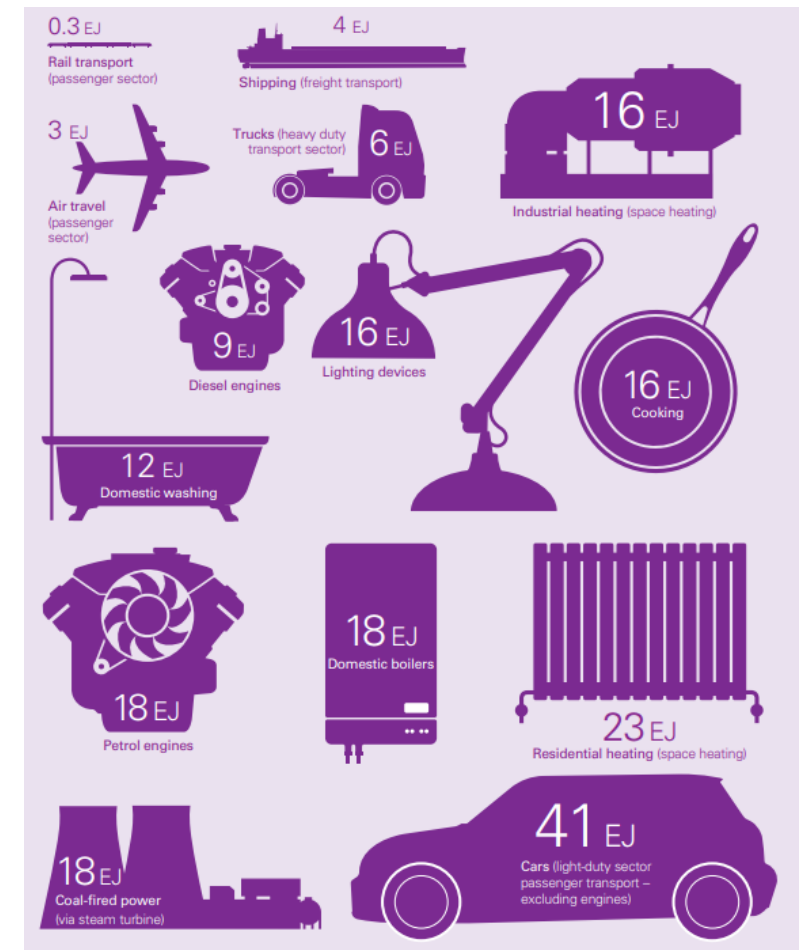
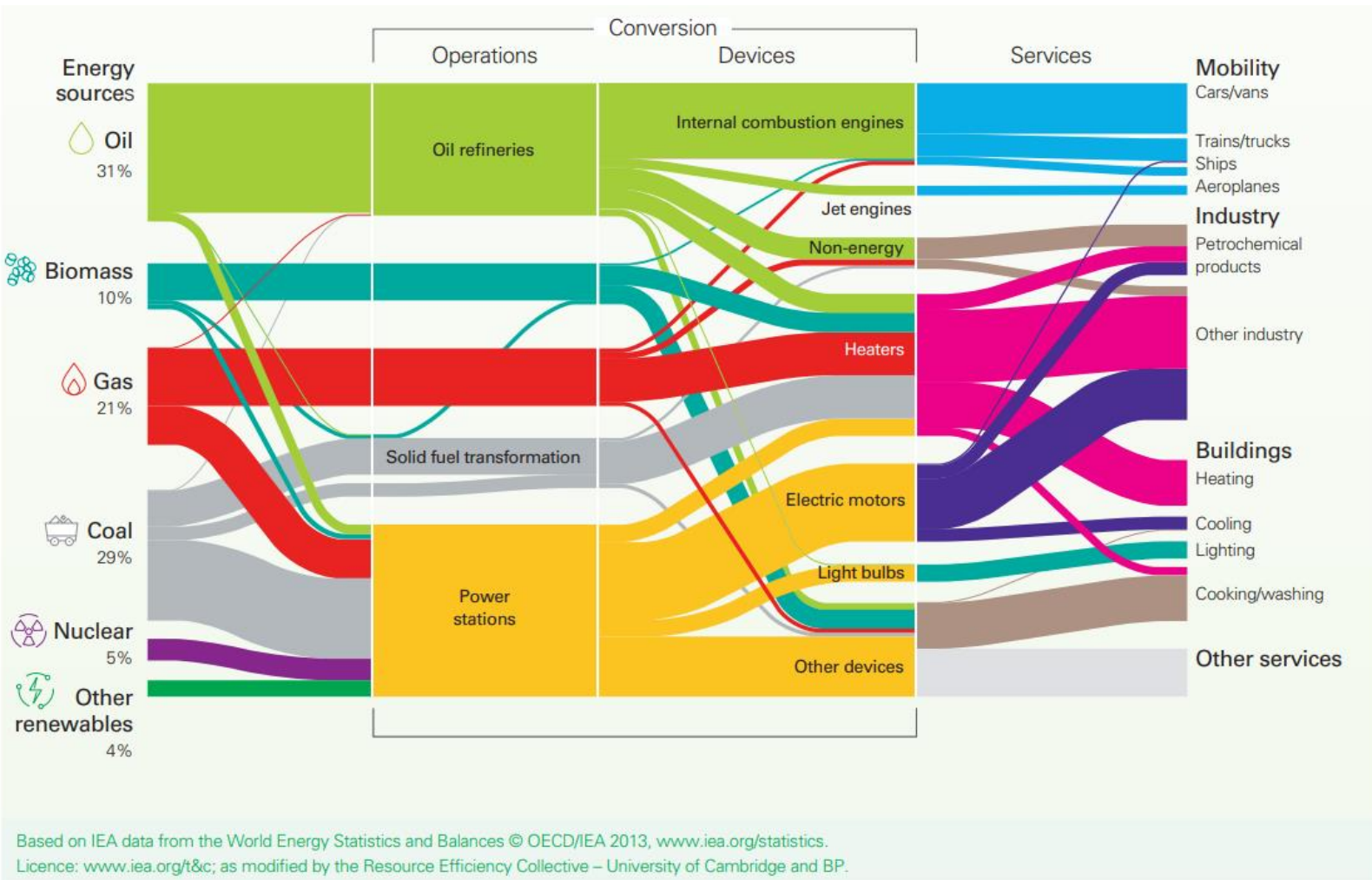


Source: Popp 2016.

Note: Model estimated using citations to journal articles published between 2000 and 2009.

THE
HAMILTON
PROJECT
BROOKINGS

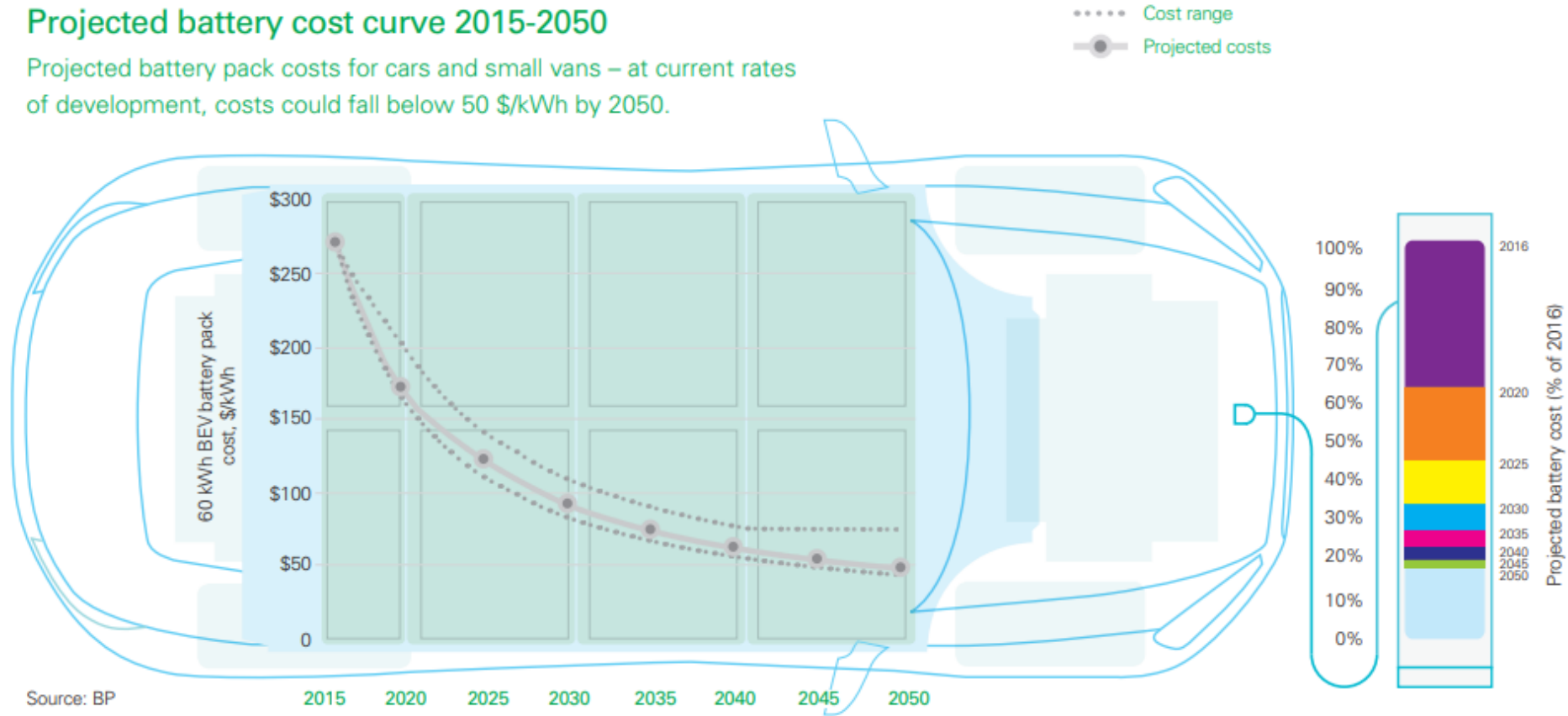
Enerji neredede, ne kadar, ne ile?



Elektrikli araba pil maliyetleri

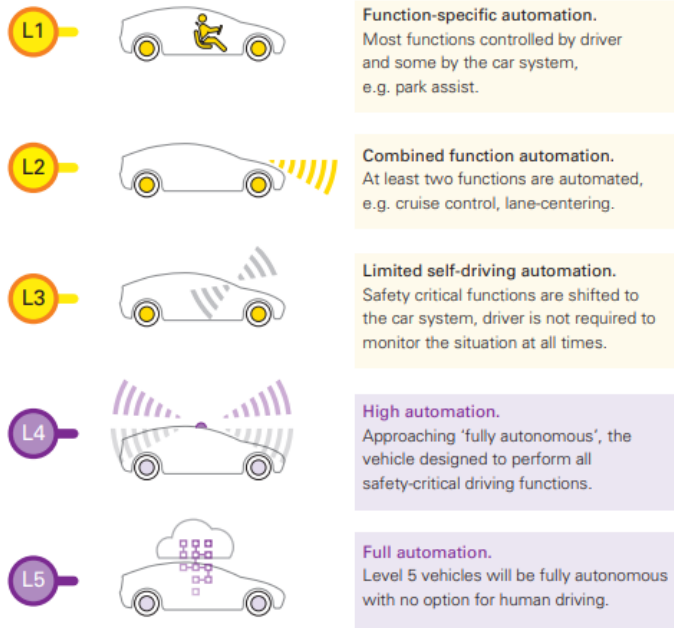
Projected battery cost curve 2015-2050

Projected battery pack costs for cars and small vans – at current rates of development, costs could fall below 50 \$/kWh by 2050.



Ulaştırımda deęiřen modlar

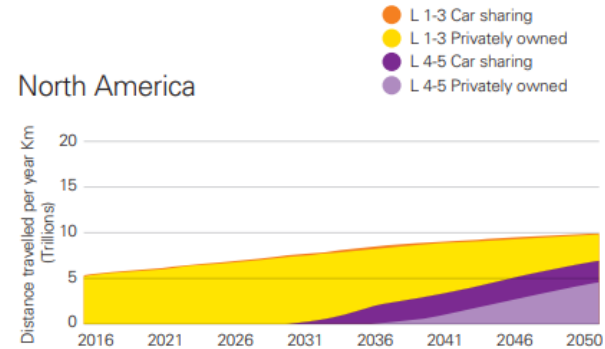
Automation level



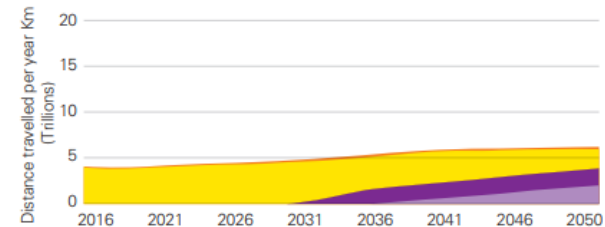
i Right: forecasts for numbers of self-driving vehicles vary widely. This BP projection suggests that, in these three regions, autonomous vehicles could account for roughly a quarter of the distance travelled in the mid-2030s and a half by 2050.

Source: BP

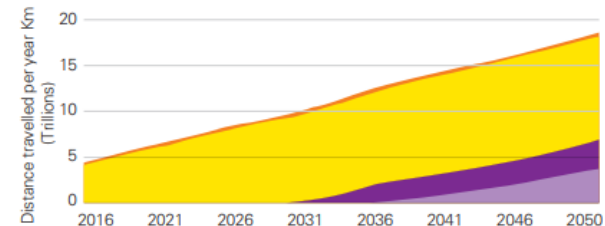
North America



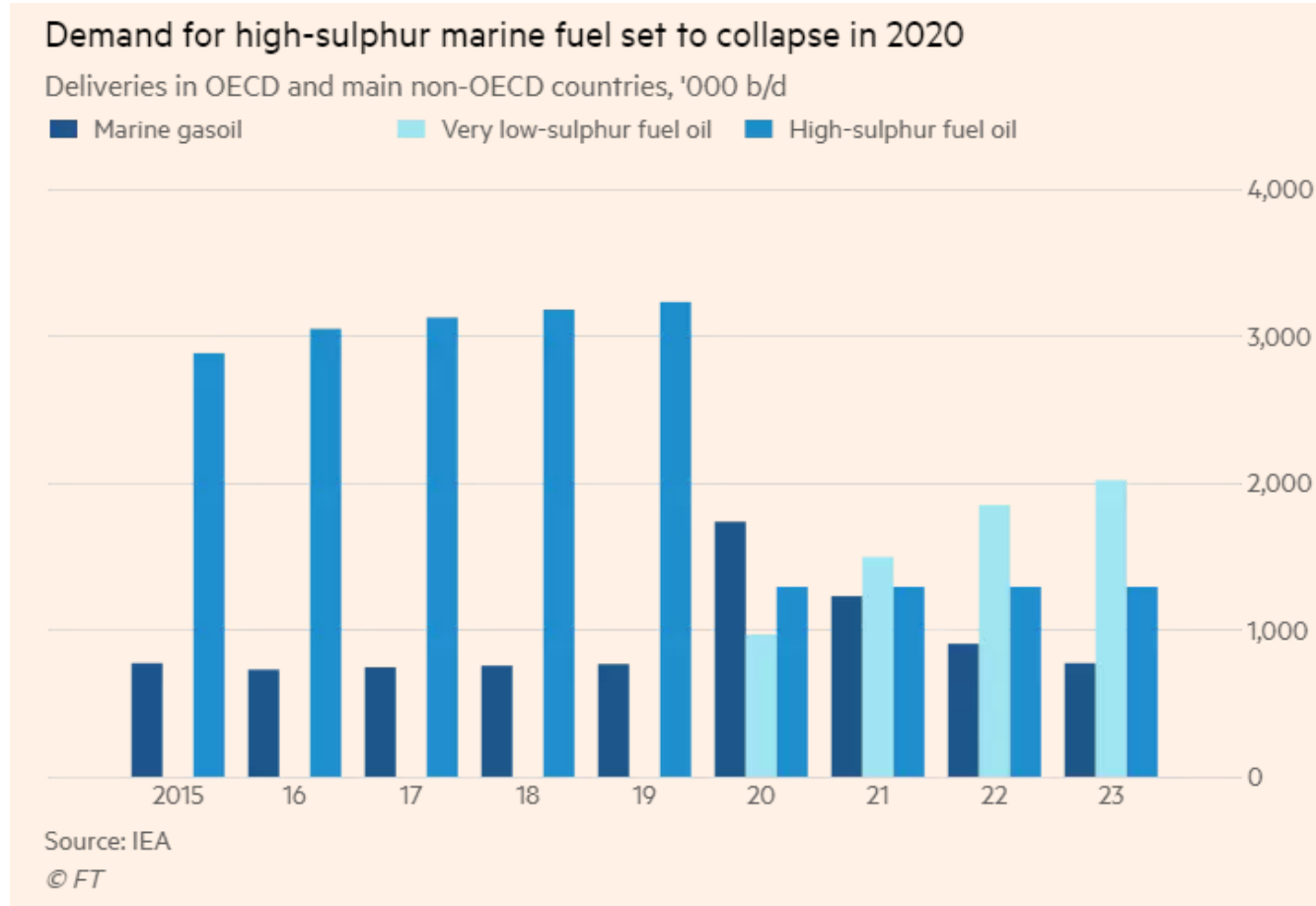
Western Europe



Asia-Pacific



IMO Denizcilik kararı



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