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# RECENT SOCIAL UPHEAVALS AGAINST FUEL PRICE INCREASES: CASE STUDIES AND KEY FACTORS

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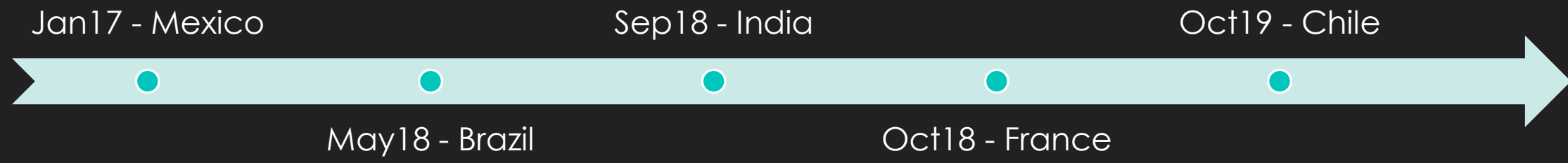
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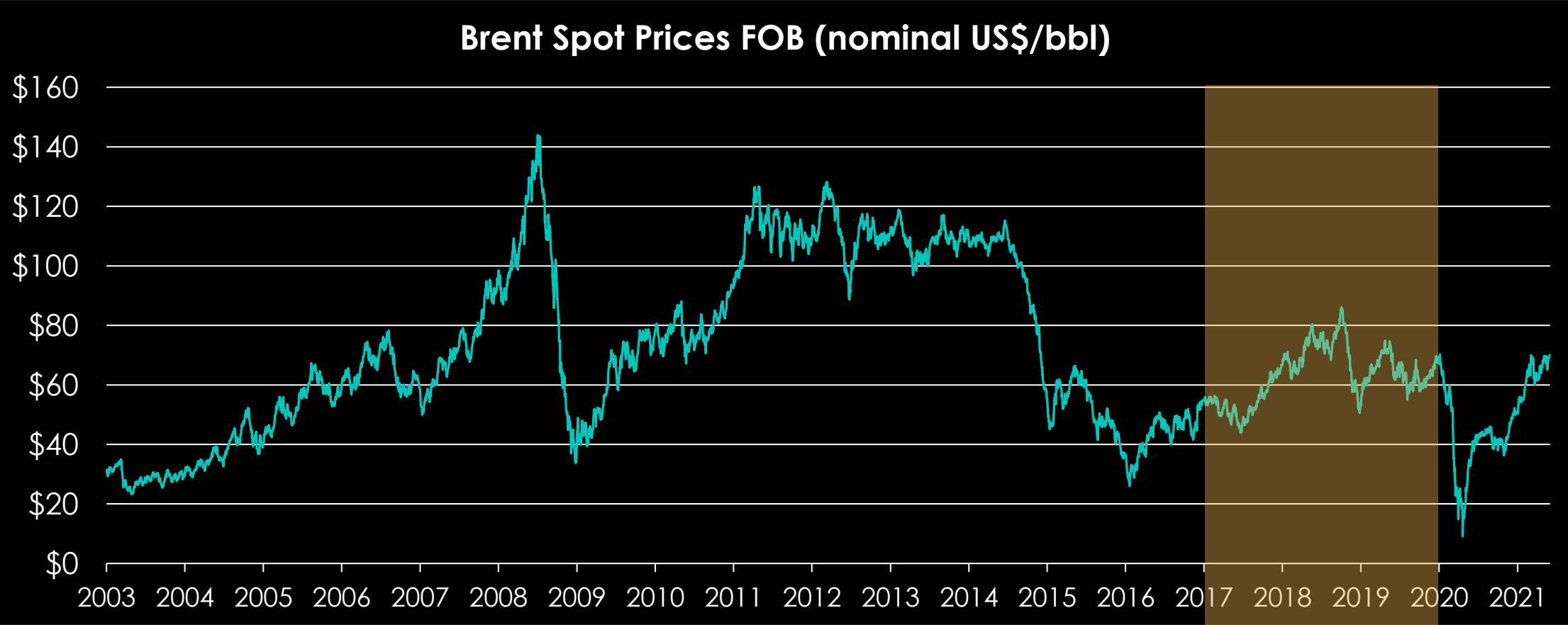
# Topics

- Context
- Methods
- Key Factors
- Case Studies
  - France
  - Brazil
  - Mexico
  - Chile
  - India
- Closing remarks

# Context



# Context



Source: EIA

# Methods

- Case studies (France, Brazil, Mexico, Chile, and India)
- Brief overview of the countries energy policies
- Literature review
- Theoretical basis:
  - evolutionary methodology - Witt (1992) and Nelson and Winter (1982) ;
  - behavioural economics - Sunstein (2005);
  - macroeconomic concepts;
  - and microeconomics indicators.

# Key Factors

	France	Brazil	Mexico	Chile	India
Population (2017)	64.842.509	207.833.823	124.777.324	18.470.439	1.338.676.785
GDP, million, current US\$ (2017)	2.582.501	2.053.595	1.150.888	277.076	2.650.725
GDP per capita (2017)	39.827	9.881	9.224	15.001	1.980
Passengers vehicles fleet (2015)	32.000.000	35.471.423	26.937.356	3.125.047	22.468.000
Commercial vehicles fleet (2015)	6.652.000	7.271.901	10.416.238	1.319.894	6.392.000
Carbon intensity of road transport energy consumption, gCO2/MJ	67,5	56,3	70,3	71,6	71,7
Gasoline Average Price, current US\$ (1Q 2017)	1,49	1,17	<b>0,96</b>	1,14	1,14
Gasoline Average Price, current US\$ (2Q 2018)	1,79	<b>1,20</b>	1,02	1,31	1,15
Gasoline Average Price, current US\$ (3Q 2018)	<b>1,82</b>	1,13	1,09	1,31	<b>1,18</b>
Gasoline Average Price, current US\$ (3Q 2019)	1,67	1,04	1,07	<b>1,16</b>	1,08
Affordability (1Q 2017)	1,43%	4,23%	<b>4,03%</b>	2,96%	21,29%
Affordability (2Q 2018)	1,55%	<b>5,02%</b>	4,04%	2,94%	20,49%
Affordability (3Q 2018)	<b>1,56%</b>	5,14%	4,01%	3,14%	<b>22,24%</b>
Affordability (3Q 2019)	1,50%	4,57%	3,86%	<b>2,86%</b>	17,79%
Income Spent (1Q 2017)	0,53%	2,54%	<b>3,86%</b>	1,89%	1,13%
Income Spent (2Q 2018)	0,58%	<b>2,80%</b>	3,94%	1,91%	1,27%
Income Spent (3Q 2018)	<b>0,59%</b>	2,86%	3,91%	2,04%	<b>1,37%</b>
Income Spent (3Q 2019)	0,57%	2,62%	3,97%	<b>1,91%</b>	1,18%
Gasoline Consumption per year per driver, liters (1Q 2017)	136,2	219,6	350,4	232,2	19,4
Last year of fixed gasoline retail prices	1981	2001	2016	1978	2010

# Case Study: France

- TICPE - tax on the consumption of fossil fuels.
- After 2014, it incorporated an additional surcharge for carbon fuels.
- October 2018, the yellow vests (gilets jaunes) movement.

Year	Diesel (c€/l)	Gasoline (c€/l)
2014	42.84	60.69
2015	46.82	62.41
2016	49.81	64.12
2017	53.07	65.07
2018	59.4	68.29
2019	59.4	68.29
2020	59.4	68.29
2021	59.4	68.29

Year	€/tCO <sub>2</sub>
2014	7
2015	14
2016	22
2017	30.5
2018	44.6



# Case Study: France



- Biotteau and Rioux (2019):
  - Major impact on purchasing power came from the increasing international oil prices and not the growing TICPE;
  - Negative impact was mainly absorbed by households located in rural and small cities, given its higher dependence on fossil fuels for transport and heating;
  - The most significant effect of the decreasing household purchasing power is mainly absorbed by the poorest households.

# Case Study: Brazil

1953

- State Monopoly
- Petrobras



1997

- End of legal monopoly
- ANP (regulator) creation



2002

- Free prices

2011

- Implicit price containment through dominant NOC (Petrobras)

2014

- Fall in oil prices
- Domestic fuel prices kept high
- Stronger imports by private companies

2016

- Petrobras adopted PPI

2017

- Petrobras intensifies readjustments
- Federal government raises taxes

2018

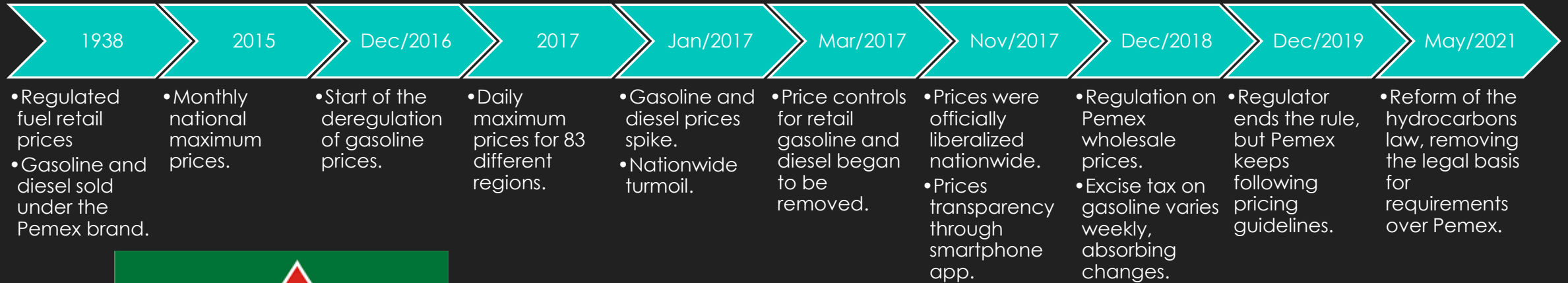
- Increase in oil and fuel prices
- Brazilian currency depreciation
- Major strike by truck drivers
- Diesel subsidy

2019

- Regulator improves price transparency at refineries / importers.



# Case Study: Mexico



# Case Study: Chile

Until 1973

- Chilean oil industry was heavily regulated.

1975

- Monopoly of refining revoked.

1978

- Imports of oil and its products were liberalized
- free entry in wholesale and retail of petroleum products.

1978 - 1982

- Free prices regime was introduced for all petroleum products.

1991

- Oil Price Stabilization Fund (FEPP).

Jul/2000

- First changes in FEPP

2005

- FEPP was replaced by the Fund for the Stabilization of Oil Products Prices (FEPCO).

2010

- FEPCO was replaced by the Taxpayer Protection System against Variations in International Fuel Prices (SIPCO).

Mar/2012

- Fuel price disclosure policy.
- The price information is posted on a public website.

2012 - 2014

- Improved price transparency induced higher margins and less price dispersion.

Aug/2014

- Fuel Price Stabilization Mechanism (MEPCO) was implemented.
- Limits the weekly variation in wholesale gasoline prices.

Jul/2016

- Chilean Competition Law was amended, implementing tougher punishments for collusive behavior.

Oct/2021

- Increase in subway ticket price
- Widespread protests.



# Case Study: India

2008

- Petroleum subsidies reached 3.4% of the India GDP.
- India imports over than 70% of all its oil requirements.
- Indian government planned a deregulation process.



Jun/2010

- Subsidies for gasoline were completely removed.

Sep/2012

- Deregulation of diesel prices started.
- The main consumption: kerosene and diesel.

2014

- The reduction in diesel subsidies accelerated.
- Opportunity created by the falling oil prices.

2018

- Petroleum subsidies fell to 8.5% of whole expenses with subsidy.
- Liberalization of diesel was related to an increase on subsidies to LPG.
- International oil's prices changed direction, from falling to an increase,
- India observed increasing prices in gasoline stations for the first time.
- Nationwide strike.



# Closing remarks

The increasing of motor fuel prices in these years neglected the redistributive effects.

Locked-in fuel consumption in hydrocarbons.

Net effects of phasing-out subsidies or taxing carbon have been demonstrating to be regressive.

Regarding the risks perception by society, sometimes social amplification may occur, being a result of the availability heuristic.

Developing countries often have volatile currencies, which jointly with oil dependency, generates a perverse exposure to oil prices.

Effective price smoothing mechanisms are difficult to maintain over a long period of time, due to impacts on fiscal balance.

State intervention on prices may also drive off private investments in domestic petroleum industry, generating a vicious circle.

Developed countries also observed social reaction during periods of rising fuel prices, because of disparities in income.

# Thank you!

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