

Energy Subsidies in the Middle East: Issues & Implications

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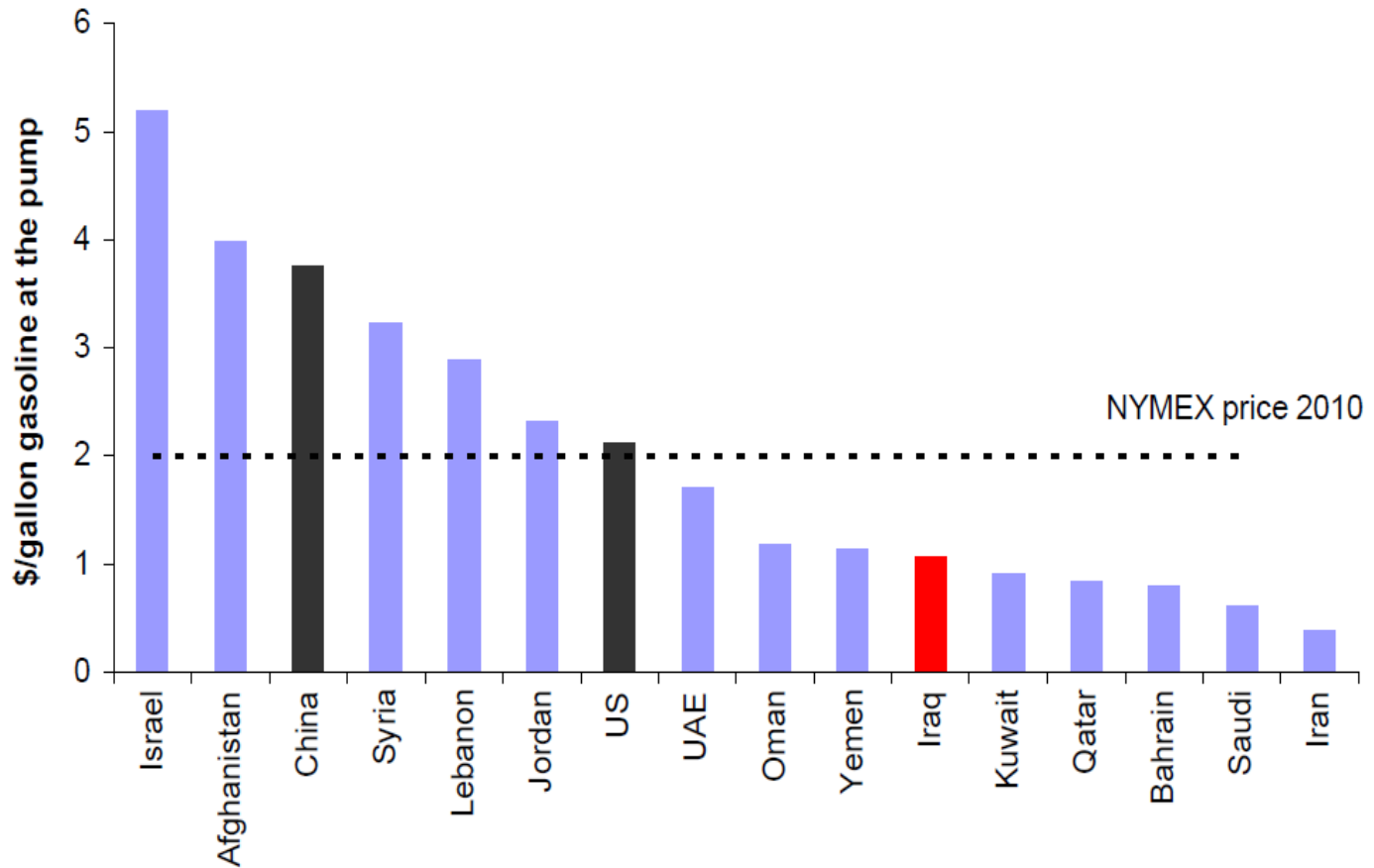
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Structure of the Presentation

- The landscape
 - [Petroleum products prices](#)
 - [Gas prices](#)
 - [Electricity prices](#)
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- [Rationale for cheap energy policy in the Middle East](#)
- [Domestic and international implications](#)
- [Political economy of policy reform](#)
- [Conclusions](#)

Petroleum Product Prices

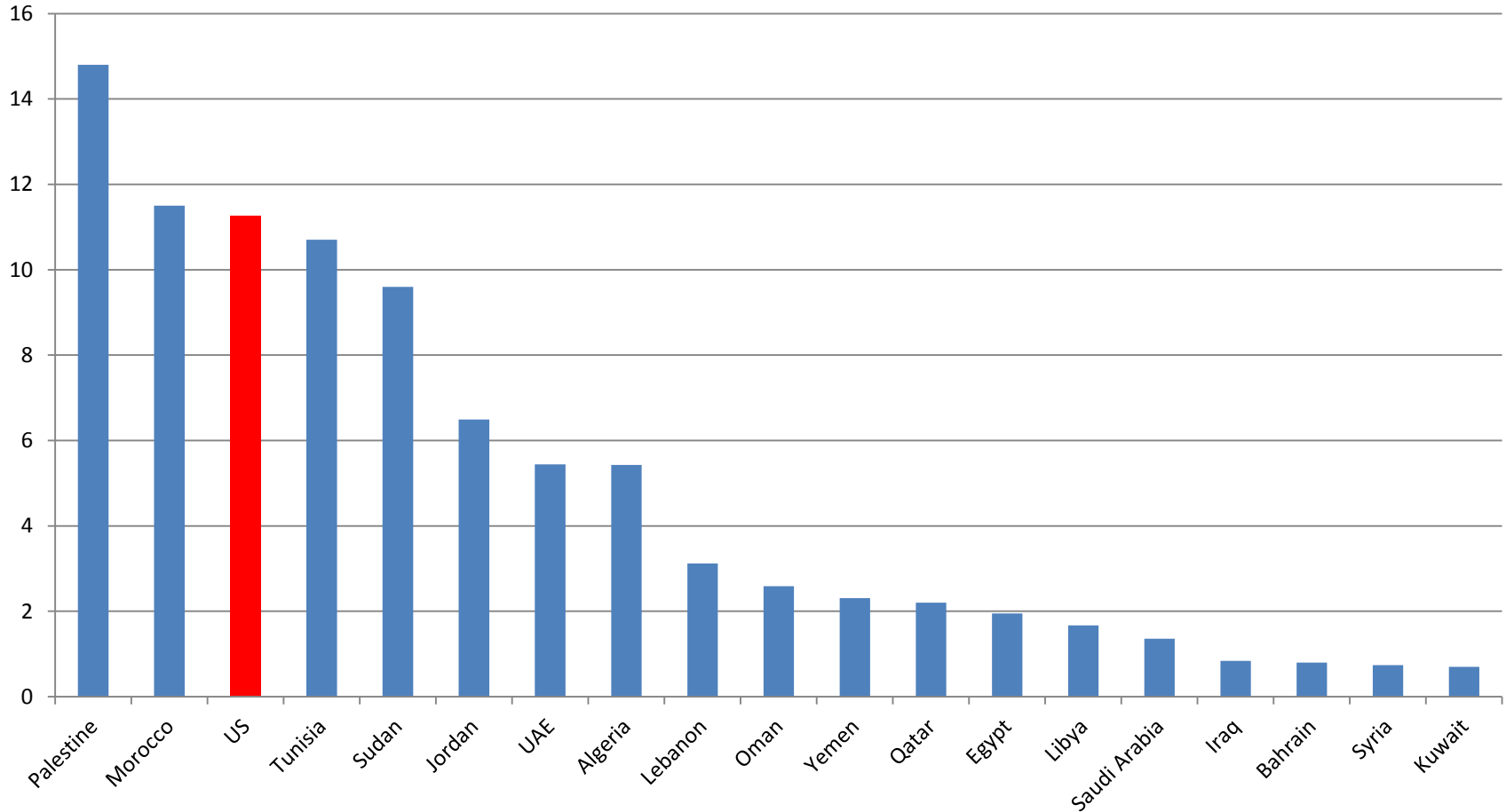
Middle Eastern Gasoline Prices 2010



Source: World Bank, DOE, Nymex, Deutsche Bank

Electricity Prices

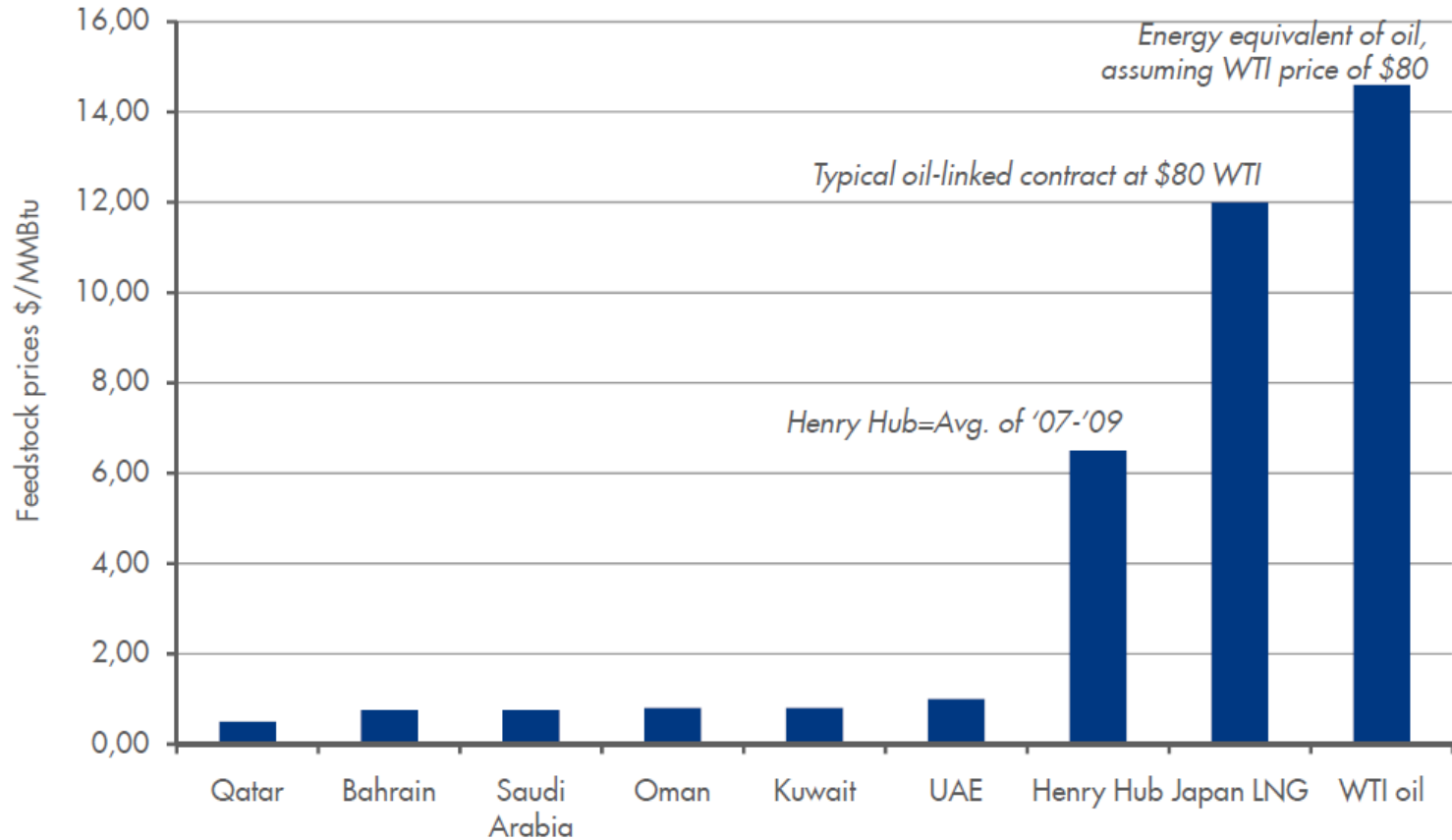
Electricity Prices in US Cents (Residential), kwh



Source: Arab Union of Producers, Transporters and Distributors of Electricity, "Al-Taa'rifaat al Kah'roubaeyya fil Watan Al-Arabi", Occasional Report, November.

Low Gas Pricing Policy

Gas Feedstock Prices (\$/MMBtu)



Source: Royal Dutch Shell plc

Measurement of Subsidies

- Identification of whether a subsidy exists requires:
 - Comparing price charged to domestic/industrial consumers with measure of cost
- More than one concept of cost
 - Average cost: refers to overall cost per unit of output (measured by sum of average fixed costs and average variable costs)
 - Marginal cost: refers to increment in total cost resulting from a unit change in output
 - Short-term and long-term marginal cost
 - Opportunity cost not related to production costs
 - Measures forgone value of resource when not utilised in its best alternative use e.g. its value in international trade if exported
- WTO Definition
 - Compatible with WTO rules
- Not straightforward which concept to use in context of oil/gas exporters and joint products
- Regardless of measure used wide use of subsidies in ME

Rationale For Energy Subsidies

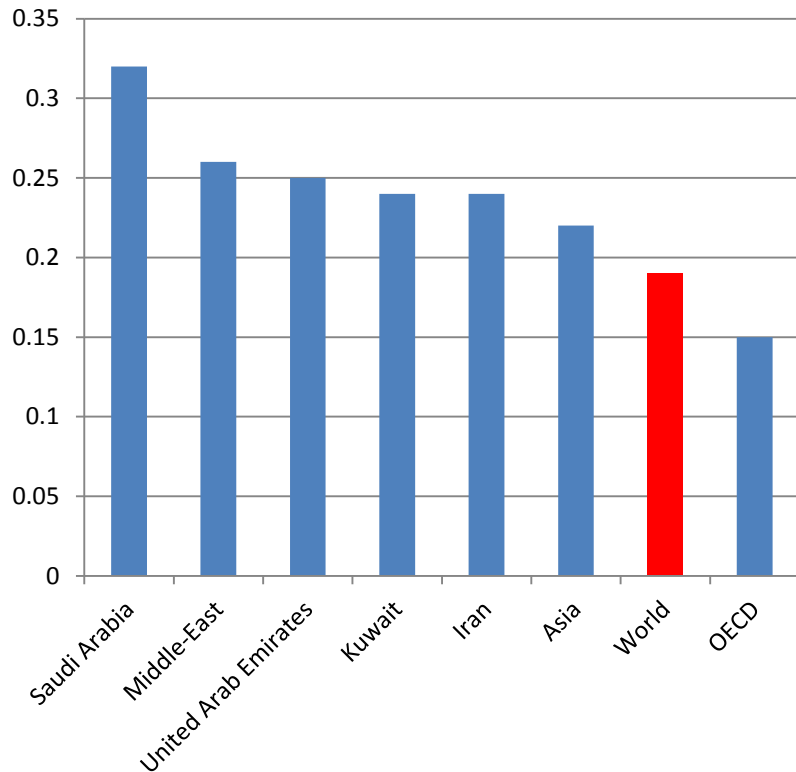
- One of the various channels for rent distribution for resource rich economies
 - Channels of rent distributions various (transfers, pensions, employment benefits, etc....)
- Tool for industrialisation and diversification
 - Diversify economy and generate/protect local employment opportunities
 - Enhance energy intensive industries' export competitiveness
- Protect income of poor households
 - Increases in energy price would have a direct and indirect income effect exacerbating poverty
- Avoid inflationary pressures
 - International increases in prices of key commodities such as energy and food can induce inflationary pressures
 - Many currencies pegged to the US dollar (little room for manoeuvring)
- Political considerations
 - Subsidies entrenched in institutional barriers and lock-in mechanisms that make it difficult to abolish them

Evaluating Energy Subsidies in the Middle East

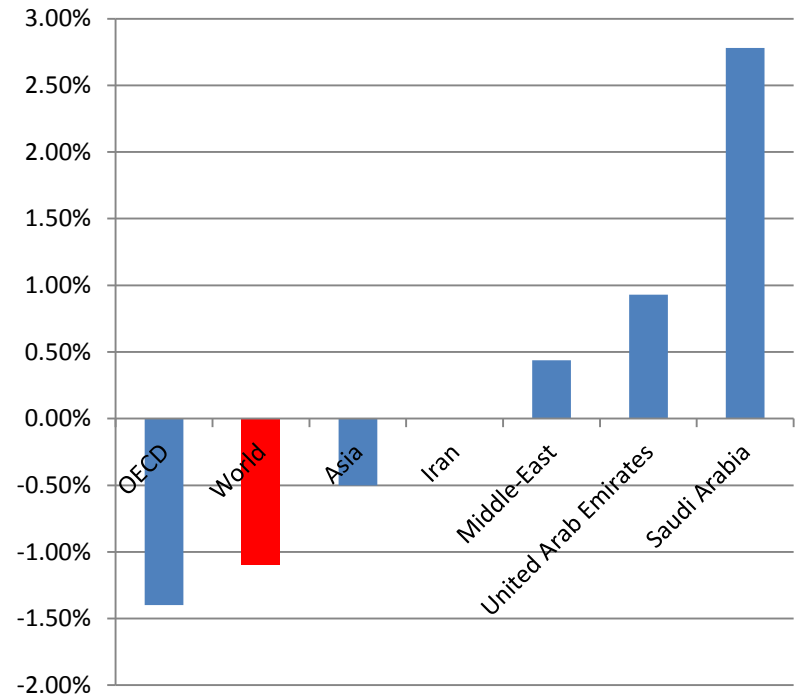
- Subsidies distort relative prices
 - Result in inefficient allocation of resources
 - ‘Over-consumption’ or ‘wasteful consumption’ “where people consume in excess of any reasonable definition of need”
 - Most energy intensive region in world
- Energy subsidies regressive & result in the bulk of benefits accruing to households in high income groups (Transfer inefficiency)
- Cheap energy, economic choices and energy policy
 - Example of Saudi Arabia
- Create a price wedge & encourages smuggling
 - “A private Saudi petrochemical company has been accused of smuggling petroleum products from King Fahd Industrial Port in Yanbu to France and other European countries for more than 11 years” (Arabian Oil and Gas, Feb 2010)
- Limits investment in infrastructure
 - Fuels subsidies result in large losses for producers or local distributors & undermines incentives to extend energy infrastructure
- Price caps can result in physical shortages
 - Resort to an administrative rationing system which can be costly, inefficient and open to abuse (LPG cylinders in Egypt)

Most Energy Intensive Region in World

Energy Intensity (KOE/GDP per capital 2005 (PPP))

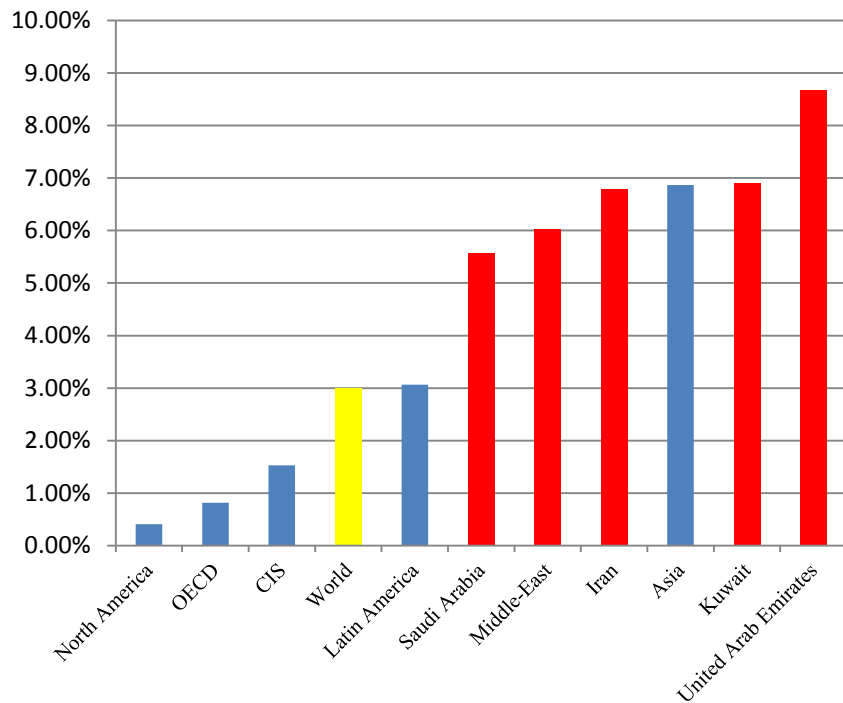


Compounded Annual Growth rate in Energy Intensity (2000-2009)

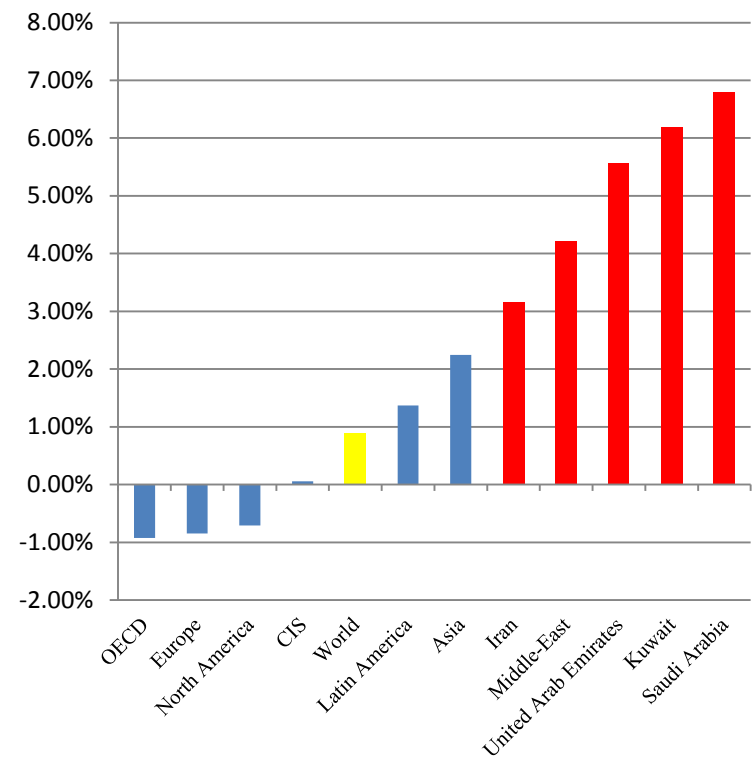


Fastest Growth in Energy Consumption

Compounded Annual Growth rate in Electricity Consumption (2000-2009)



Compounded Annual Growth rate in Petroleum Product Consumption (2000-2009)



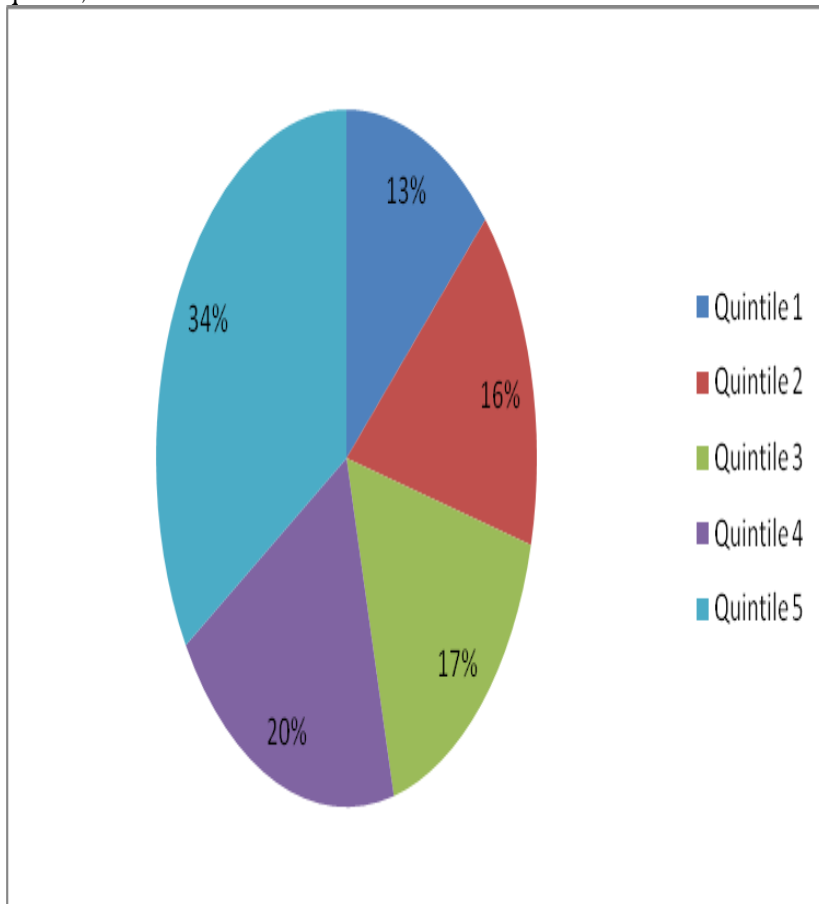
Subsidies in Iran: Regressive

Deciles	Per capita	Subsidy per capita (rials per year)				Share in total subsidy (percent)			
	expenditures	Bread	Gasoline	Natural gas	Electricity	Bread	Gasoline	Natural gas	Electricity
1	3,180,452	537,625	146,993	228,695	271,186	9.40	2.43	4.10	4.19
2	5,561,280	569,989	200,708	330,132	368,782	9.96	3.32	5.92	5.70
3	7,289,453	591,272	252,110	424,323	436,719	10.33	4.17	7.62	6.75
4	9,117,613	588,636	334,966	463,306	503,558	10.29	5.55	8.31	7.78
5	11,165,132	581,957	357,835	507,877	551,987	10.17	5.93	9.11	8.53
6	13,561,173	577,863	478,430	568,339	608,101	10.10	7.92	10.20	9.40
7	16,689,699	569,847	582,297	652,067	712,700	9.96	9.64	11.70	11.02
8	21,211,878	573,981	815,107	669,535	759,656	10.03	13.50	12.02	11.74
9	28,695,934	560,607	1,072,590	764,976	884,681	9.80	17.76	13.73	13.68
10	58,536,508	569,671	1,797,677	962,691	1,371,505	9.96	29.77	17.28	21.20
Average	17,499,446	572,145	603,871	557,194	646,888	100.00	100.00	100.00	100.00

Source: Salehi-Isfahani (2010)

Distributional Incidence: Evidence from Egypt & Yemen

Distribution of Subsidies of Petroleum Products (Percentage of Subsidy received by each quintile)



Diesel Subsidies by Income Decile

Income decile	Subsidy		
	consumption [10 ⁶ liters/year]	total [10 ⁶ yr]	captured by each decile [%]
1 0-9000	5	93	1%
2 9001-12000	3	52	1%
3 12001-15000	21	427	4%
4 15001-19800	18	375	4%
5 19801-22500	29	597	6%
6 22501-27000	15	305	3%
7 27001-33000	57	1147	12%
8 33001-42700	62	1266	13%
9 42701-61000	84	1699	17%
10 61001>0	192	3899	40%
total	486	9861	100%

Source: World Bank

Energy and Industrialisation in Saudi Arabia

- Rapid increase in electricity demand & resort to burning crude oil/ fuel oil in power generation and water desalination plants while diverting natural gas to the petrochemical sector
- Does the fact that Saudi Arabia sits on large spare capacity alter conclusion?
 - Crude oil used in power generation is not destined for exports
 - Export price not the benchmark that should be used in measuring opportunity cost
 - Limitations

Limitations of Argument

- Spare capacity fulfils key role in promoting SA role in energy market
 - Reduction in spare capacity due to an increase in domestic consumption implies a positive (though difficult to measure) opportunity cost
- Does not take into account inter-temporal choices
 - Two options: either to extract it today or to keep it in ground for future extraction
 - Any amount extracted today not available for extraction in future
 - Benchmark in presence of spare capacity is future price of oil or long term marginal cost of oil production
- Implications:
 - Industrialisation through provision of cheap energy entail a cost
 - Do the benefits (diversification, employment opportunities) justify the cost? This remains unclear; need of further research
 - Is diversification policy sustainable in the long run?

Reform of Energy Subsidies

- Energy pricing directly interlinked with economic policies in some countries
 - Major driver of reform driven by competitiveness issues
- Energy subsidies unsustainable in some poorer Arab countries
 - [Case of Egypt](#)
- Abolishing fuel subsidies increases poverty incidence & socially and politically undesirable
 - Must be accompanied by measures to protect poor households from any decline in real income
 - Developing social safety nets and targeted transfers & capability varies across countries
- Transfer programmes feasible
 - [Case of Kuwait](#)
 - Purpose is not to re-distribute income
- Egypt and Yemen: Implementation of targeted programmes difficult in practice

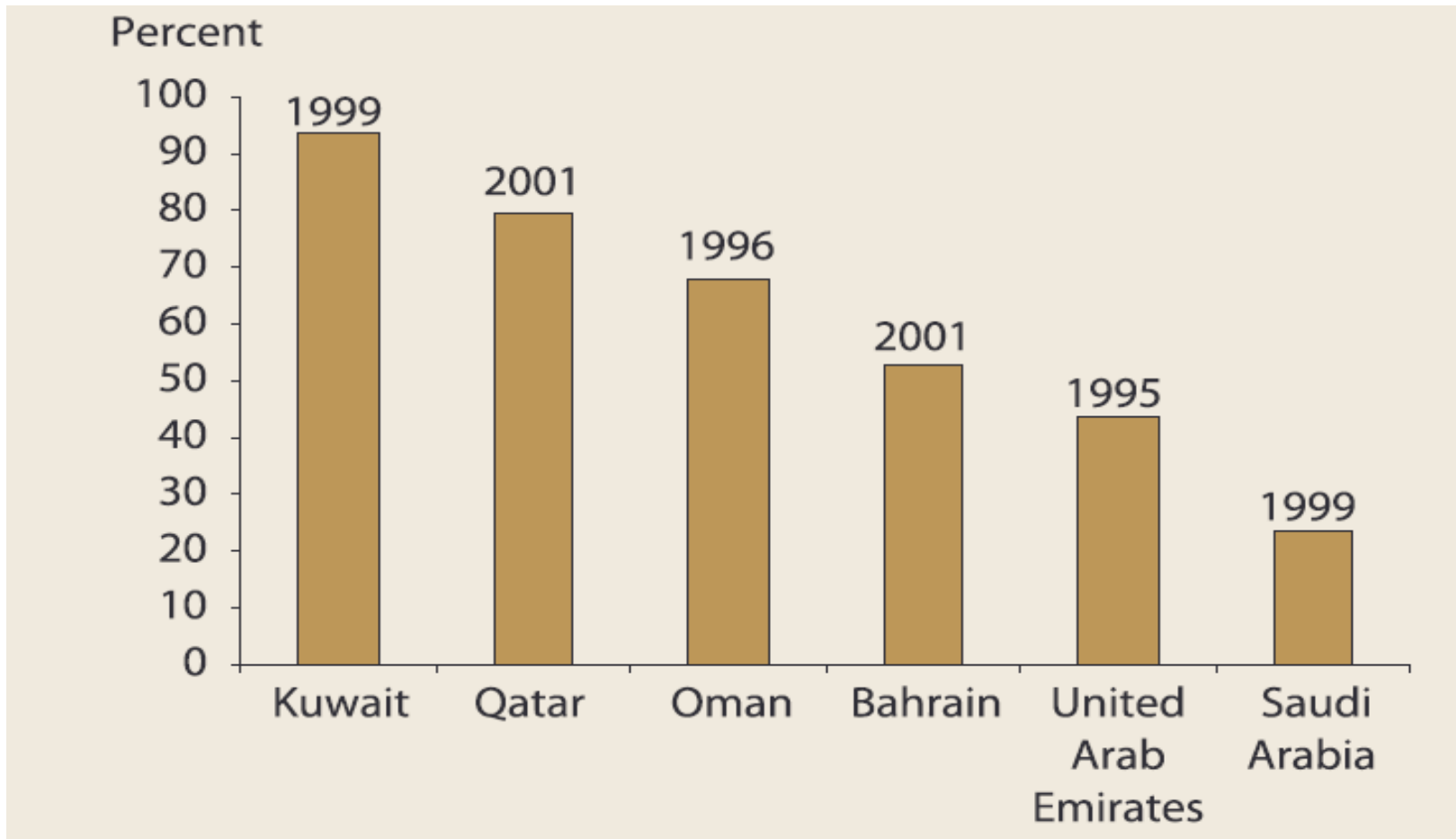
Unsustainable

Year	% of Total Expenditures	% of GDP	% of Social Spending	% of Defense Spending	% of Education Spending	% of Health Spending
2002-2003	10.8	4.1	84.7	121.1	78.2	211.84
2003-2004	13.2	4.8	94.8	148.6	95.6	267.9
2004-2005	11.2	4	71.6	136.5	78.3	276.71
2005-2006	16.8	7.2	84.7	256.4	161.9	487.8
2006-2007	14.6	6.4	73.7	231.2	146	439.56

Source: Khattab (2007), Table 8.

Government the Main Employer of Nationals in GCC

Share of National Labour Force Employed in Government in GCC Countries



Conclusions

- Reforming energy subsidies priority for ME countries regardless of developments in international agenda
- Energy subsidies unsustainable in some poorer ME countries; create series of distortions; limit policy options
- Energy pricing directly interlinked with economic policies
- Not most effective tool for distributing rents
- Energy subsidies regressive & not very effective tool in tackling poverty in ME
 - Adopt a broader approach in tackling poverty through investing in infrastructure, developing rural areas, etc....
- Abolishing fuel subsidies increases poverty incidence & socially and politically undesirable
 - Must be accompanied by measures to protect poor households from any decline in real income
 - Developing social safety nets and targeted transfers & capability varies across countries