Iranian Energy Subsidies

- Economic and social analysis

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aptus

ABOUT THE AUTHOR

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ABOUT CAPTUS

Captus is an independent Swedish free-market think tank. The objective is both to act as a producer of ideas and to serve as a link between producers and consumers of ideas.

Members of staff are active participants in the public debate and regularly publish articles in various Swedish and international press.

Captus further publishes public policy reports on a number of issues such as economic policy, patent rights, integration and immigration, and environmental issues. The think tank also arranges regular seminars where societal issues are discussed and publish the only weekly free market oriented intellectual magazine in Sweden.

Captus is based in Gothenburg, Sweden, but is also represented in Stockholm, Uppsala, Cambridge, Chicago and Los Angeles.

EXECUTIVE SUMMARY

In this report we have investigated the Iranian energy subsidies, primarily in the form of oil products, including petroleum, and natural gas. These subsidies are sizeable, amounting to some $15.6 billion (ca. 118 500 billion Rials) in 2000. This is equal to fully 16% of Iran's GDP, or the cost of providing 8.7 million Iranians a job at a monthly wage of $150 (ca. 1 140 000 Rials). The costs are estimated to have risen to $18 billion (ca. 136 700 billion Rials) by the Iranian year of 2004/2005.

The report concludes that the subsidies do not achieve their stated goals and have negative consequences to the Iranian economy. The subsidies result in

- Substantial economic waste
  - These costs restrain Iran's economic growth and ability to improve living standards for its citizens, in particular the disadvantaged.
- Distribution of wealth from the poor to wealthy groups
  - Of the gasoline subsidies to urban households, 0.1% is used by the 10% poorest households, while 40% is used by the 10% richest households. Funds that could be used to the benefit of the poor are thus given away to the well-off.
- Harmful health and environmental effects
  - Only in Tehran, some 4 600 persons are estimated to die annually from air pollution, largely due to over consumption of gasoline.
- An increase in criminal activities
  - The artificial low prices in Iran lead to organized crime in the form of oil smuggling.

The energy subsidy program does not achieve its goals of aiding lower and middle income households, instead leading to unintentional negative consequences. The program is therefore in need of reform.

As a welfare improving reform we suggest energy subsidies to be completely abolished and an Oil Profit Share shall be established, granting all Iranians aged 25 and above some $650 (ca. 4 900 000 Rials) per year. The benefits of this method include:

- An increased living standard for all Iranians, in particular the poor
  - An Iranian aged 25 years or older with a monthly wage of $150 (ca. 1 140 000 Rials) will experience an income increase of more than one-third. The poor will experience up to 20 times larger increases in income than the well-off
- Improved economic growth
  - Estimates indicate that the removal of the subsidies in Iran will lead to 2.2% annual higher economic growth rates
- Reduced burden on the environment
  - The level of harmful emissions could be reduced by half
- Removal of incentives that give rise to criminal activity
  - It will no longer be as attractive to smuggle Iranian oil products, which will reduce organised criminality

The high costs and inherent flaws in the design of the subsidy program lead us to conclude that reform is likely to bring about noticeable gains for all sections of the Iranian Society. Our report therefore encourages reform of the energy subsidy system.

FOREWORD

The higher world market oil prices – all being pure profits – contribute quite substantially to the state funds of Iran.

Atta Tarki's report on Iranian oil subsidies is interesting for several different reasons.

The report is very informative about one of the most important sectors in the world economy, namely the energy sector. Energy policy always has important economical, environmental and political implications. Due to increased international demand crude oil prices have increased to some $60. This report identifies and provides us with an explanation for a massive over-consumption of oil in Iran. In a time when oil is scares and when western nations are spending billions of dollars on keeping down the level of carbon dioxide pollutions, Iran is spending some $16 billion per year to subsidise energy, including the usage of gasoline. While Sweden have raised the gasoline price to about $1.5 from an international market price of ca. $0.3 with taxes, Iran has lowered the price from $0.3 to about $0.1 through massive subsidies!

Moreover, the focus in the paper is on price mechanisms as a means of allocation of resources in the economy. Price is shown to be a driving factor, even in a moderately developed and highly regulated economy as Iran. The report is therefore excellent reading for everyone who has read basic economic theory and wants to understand how the theory can help us analyse reality. In economic teaching, price mechanisms and the empirical consequences when prices are distorted are sometimes not given enough attention. Simply stated, graphs of supply and demand are not only theoretical constructs, they help us understand real life phenomenon.

The report is perhaps most fascinating as a study of the political economy of development. Why are so many countries caught in poverty while others have been able to create rapid economic growth and high living standards? Today, we know through economic analysis and historical experience which reforms that can be expected to generate growth. Yet, politicians in many countries do not pursue the economic policies that are the best for their society. What is the reason for this? This answer should be sought in political decision making, but also in the view of public opinion on reform. Tarki's report describes in an insightful manner how the Iranian regime continues with a policy that has enormous negative effects on the economy. This despite the fact that both the politicians and the experts are perfectly aware of the adverse effect on the oil subsidies on the economy, environment and on public welfare.

On a positive note, the report also offers some suggestions on how this unfortunate situation can be reformed.

Tino Sanandaji,
Chief economist, Captus
October, 2006

If not otherwise indicated, the source of this report is United Nations Environment Programme (UNEP). We would like to direct an extra thank you to the authors of the UNEP report “Energy Subsidies: Lessons Learned in Assessing their Impact and Designing Policy Reforms”, von Moltke, McKee and Morgan, for their dedicated work

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INTRODUCTION

In this report we investigate the impact of energy subsidies on the Iranian economy. An overview over the subsidy program, the Iranian economy and the Iranian energy sector is presented. We further identify the main beneficiaries of the energy subsidies. This is followed by an analysis of whether the energy subsidies are consistent with their policy objectives. In the final part of this report we present an outline of reforms that would allow for a better usage of the energy resources and improve economic efficiency.

OVERVIEW OF THE ECONOMY

At the end of 2004, the purchase power parity (PPP) GDP per capita in Iran was $7 594 (ca. 66 916 000 Rials)[1] and the GDP per capita at world prices was $2 473 (ca. 18 800 000 Rials).[2] Iran had a GDP per capita growth of 1.1% annually during the 1984-2004 period.[3]

Currently, some 3.1 million Iranians live in absolute poverty, another 5.7 million lack basic living facilities and a further 7 million Iranians live on less than $50 (380 000 Rials) per month.[4] According to independent estimates the total unemployment rate is some 20%, and as high as 34% among the 15-24 year olds.

1 Exchange rates calculated based on November 2005 exchange rate of 9 075 Rials per $, if not otherwise stated
2 IMF, World Economic Outlook
3 Calculated as the compound annual growth rate (CAGR).
4 Mohammad-Hossein Sharif-Zadegan, the Minister of Welfare and Social Security in Iran Daily, 2005 06 26

RESERVES

Iran has one of the largest oil and gas reserves in the world. Proven oil reserves equal 132.5 billion barrels. This means that Iran has the second largest proven oil reserves in the world, 11.1% of global reserves. In 2004 Iran produced 202.6 million tonnes of oil, which makes the country the fourth largest oil producer in the world. Iran also has proven gas reserves of 27.5 trillion cubic meters, which amounts to 15.3% of total world reserves, again the second highest globally. Iran ranked number five in the world in 2004 in terms of gas production.[5]

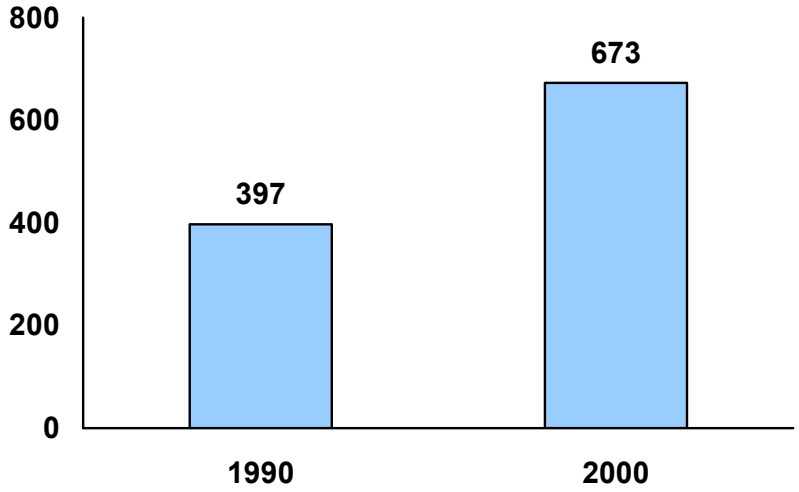
5 BP Statistical Review

ENERGY CONSUMPTION

Overview of the energy consumption

Total final energy consumption amounted to 673.3 million barrels of oil equivalents in 2000. Since 1990 energy consumption has increased by 5.4% each year, faster than both population growth and GDP growth. The residential and commercial sector accounted for the largest share of energy consumption, which also had the highest rise in energy consumption since 1990. The transportation sector and the industry were the second and third largest consumers of energy in 2000, respectively.

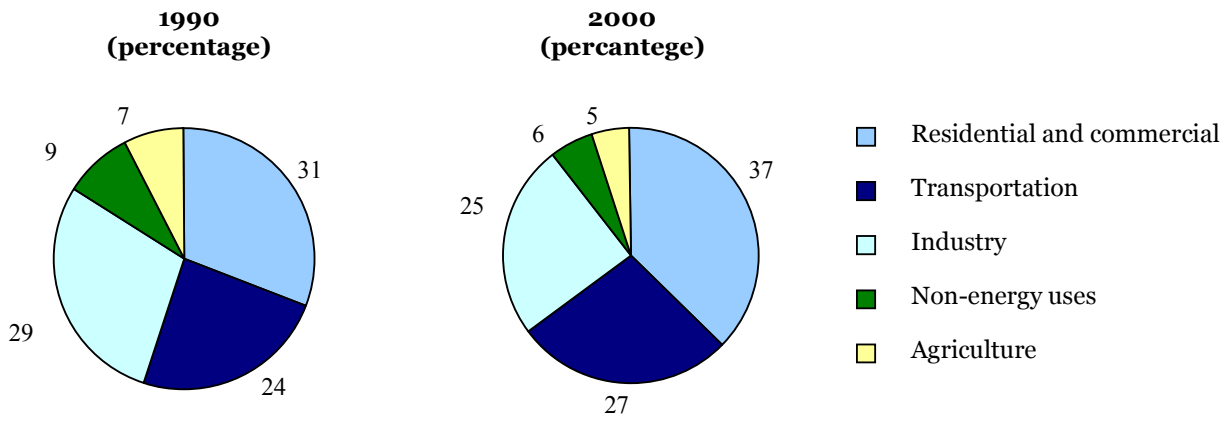
Table 1. Total Iranian energy consumption[6] (Mboe)



Source: UNEP

6 All figures are rounded.

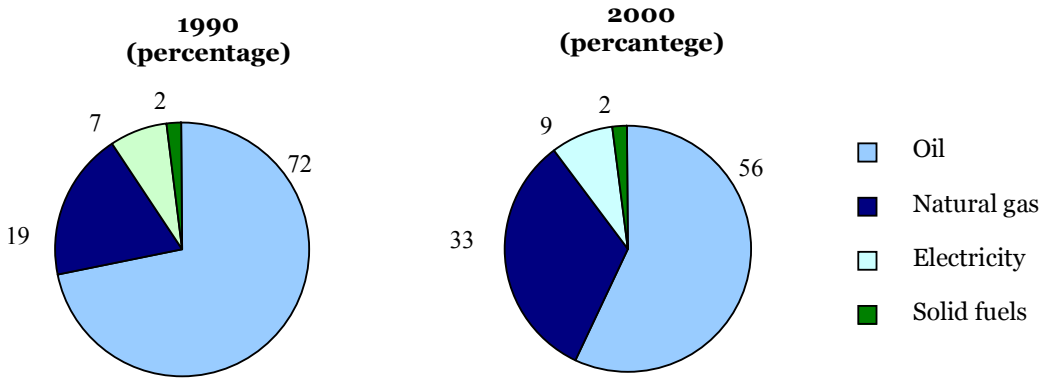
Table 2. Share of Iranian energy consumption by sector



Source: UNEP

Oil was in 2000 the most commonly used form of energy, followed by gas. Electricity and solid fuels each accounted for a much smaller share of total energy usage. Among the types of energy, gas has experienced the highest increase in usage since 1990, followed by electricity.

Table 3. Share of Iranian energy usage by type of energy



Source: UNEP

A rapid increase

As seen above, energy consumption has increased at a rapid paste. The primary energy consumption per unit of GDP has since 1980 nearly doubled. That is, compared to the rest of the economy energy consumption has nearly doubled between 1980 and 2000.

ENERGY SUBSIDIES

Overview of the energy subsidies

Energy consumption is heavily subsidised by the state. In 2000 the total value of energy subsidies was $15.6 billion (ca. 118 500 billion Rials), some 16% of GDP at market prices.[7]

Energy subsidies for the previous Iranian year 2004/2005 are estimated to have risen to nearly $18 billion (ca. 136 700 billion Rials).[8]

In the table below the alternative cost to the energy subsidies are listed. If the subsidies where to be abolished and the same amount would be handed out directly to individuals, each Iranian aged 25 years and older would receive $650 (ca. 4 900 000 Rials) per year. A further alternative to the subsidies could be to provide 8.7 million Iranians with a job at a monthly wage of $150 (ca. 1 140 000 Rials). The cost of equipping all Iranian schools with a computer lab would be $2.3 billion (ca. 17 500 billion Rials), i.e. 15% of the yearly cost of the subsidies. As a further comparison, each Iranian household could each year receive a set of household appliances or one moped. These examples illustrate how high the alternative cost of these subsidies is.

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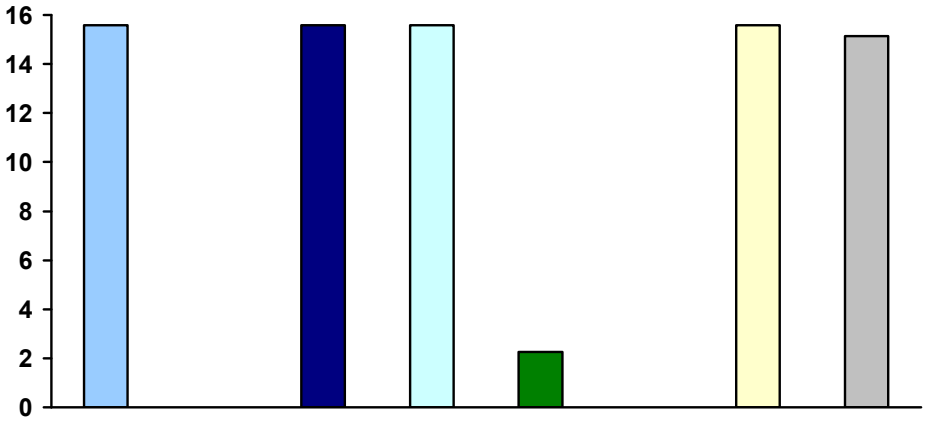
7 GDP is normally measured in two ways. GDP at market prices measures the production of the Iranian economy in terms of international currencies. PPP however is a constructed measure of how much services and goods the average Iranian can buy. The difference is due to the fact that less developed countries often are much cheaper, especially when it comes to services and locally produced goods. While PPP is a reasonable measure of living standards across countries GDP at market prices measure the international strength of an economy.

8 Iran Daily 2005 03 08

Table 4. Alternative Cost of Energy Subsidies (billions of USD)



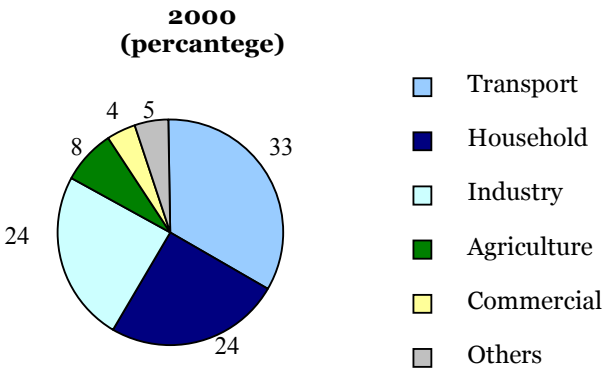
- Subsidies
- $650 (ca. 4 900 000 Rials) per Iranian aged 25 and above
- 8.7 million jobs at a monthly wage of $150 (ca. 1 140 000 Rials)
- PC-rooms at all Iranian schools
- Combined cost of 1 refrigerator, 1 dishwasher, 1 washing machine, 1 mobile telephone, 1 microwave owen and 1 rice cooker per household
- 1 moped per household

Source: UNEP; Statistical Centre of Iran

Recipient sectors

In 2000, about one third of the energy subsidies were used by the transportation sector, which makes this sector the largest recipient of the subsidies. Households and the industry were the second and third recipients of energy subsidies respectively.

Table 5. Share of Iranian energy subsidies by recipient sectors

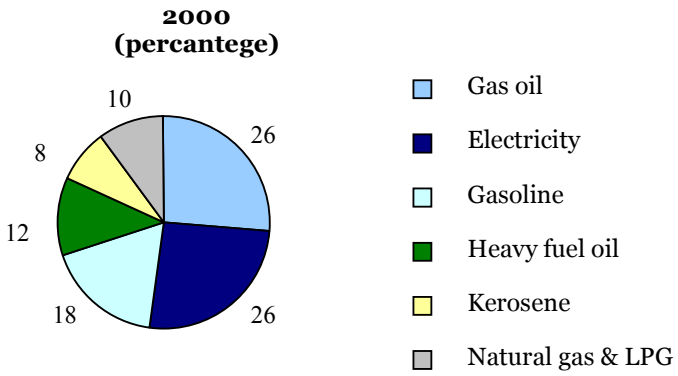


Source: UNEP

Subsidies by type of energy

Gas oil and electricity accounted in 2000 each for about one quarter of the subsidised energy, which made them the most common types of subsidised energy. These were followed by gasoline and heavy fuel oil, which were the third and fourth most common subsidised energies respectively.

Table 6. Share of Iranian energy subsidies by type of energy

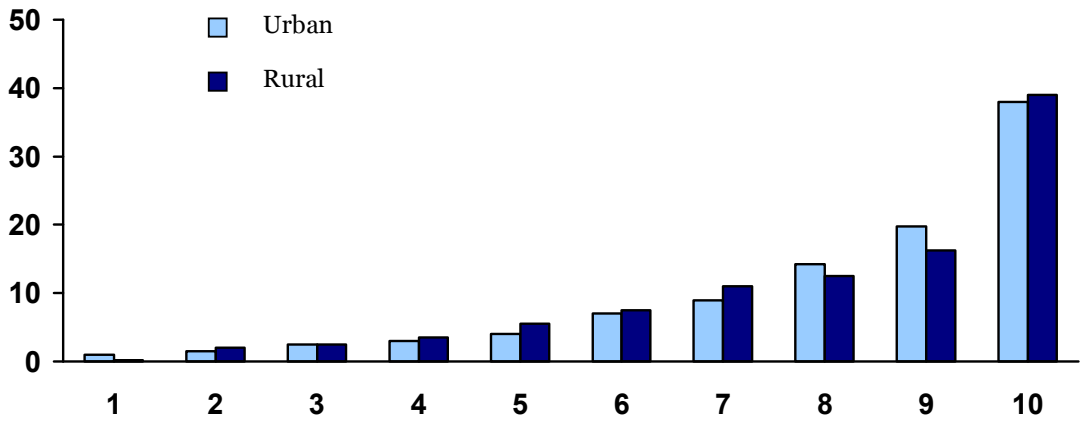


Source: UNEP

Recipient Groups

In order to attain a better understanding of the main beneficiaries of the subsidies, households are divided into ten equal income groups. That is, group 1 is the households in Iran with the lowest 10% of incomes and group 10 the households with the highest 10% of income. Moreover, due to differences between urban and rural households, these two groups are treated separately. As seen in chart 7, of the gasoline subsidies nearly 40% go to the highest income group, while the lowest income group of urban households only receives 0.1% (rural 0.2%) of the subsidies. In 2000 the highest income group received 78 times more gasoline subsidies than the lowest income group. Note that the main justification for the subsidies is to lower the cost of living for poor and middle class Iranians, not the already well off. In 1996, the relation was 57 times, which indicates that the subsidies are becoming more misdirected for each year that they are in use.

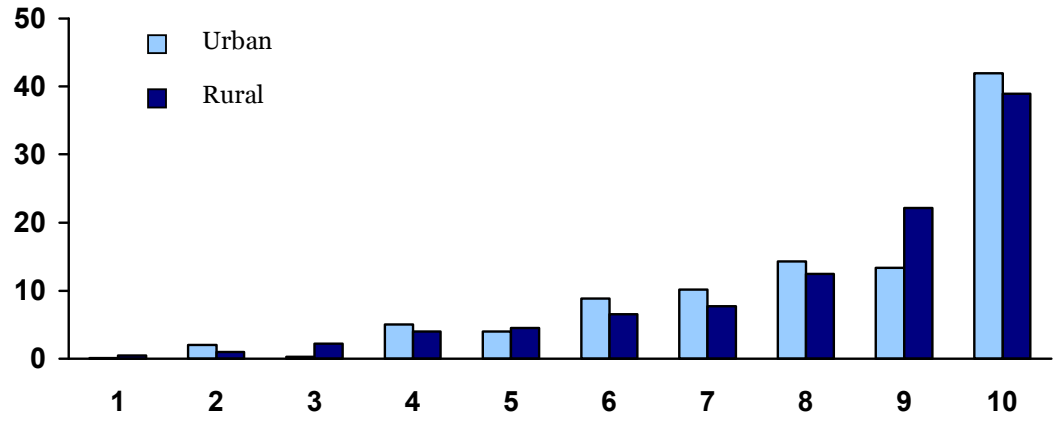
Table 7. Recipients of Gasoline Subsidies by Income Groups (percentage of total, 2000)



Source: UNEP

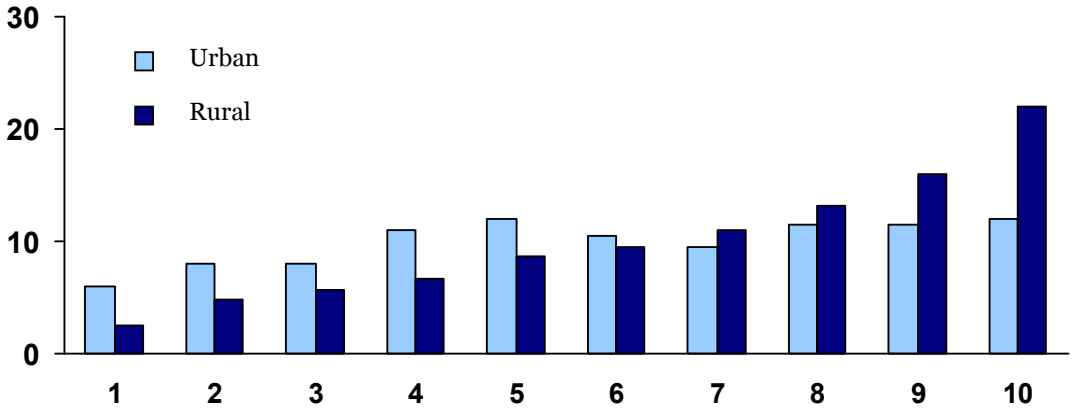
As seen in charts 8 and 9 also the gas oil and kerosene subsidies go unproportionally to the relatively rich. While the gas oil subsidies have a similar structure as the gasoline subsidies, the kerosene subsidies are somewhat more evenly divided. Even these subsidies go firmest to the well of, rather than the poor. In fact this is likely to be the result of any subsidy program that covers a part of the price of a good: Those with more money can afford to buy more (at any price) and receive most of the state funds. Only with goods that the rich are not interested in (such as common bread) can price subsidies be an efficient way of aiding the low income groups.

Table 8. Recipients of Gas Oil Subsidies by Income Groups (percentage of total, 2000)



Source: UNEP

Table 9. Recipients of Kerosene Subsidies by Income Groups (percentage of total, 2000)



Source: UNEP

ENERGY PRICING – THE CAUSE OF THE PROBLEM

Encouragement of over-consumption

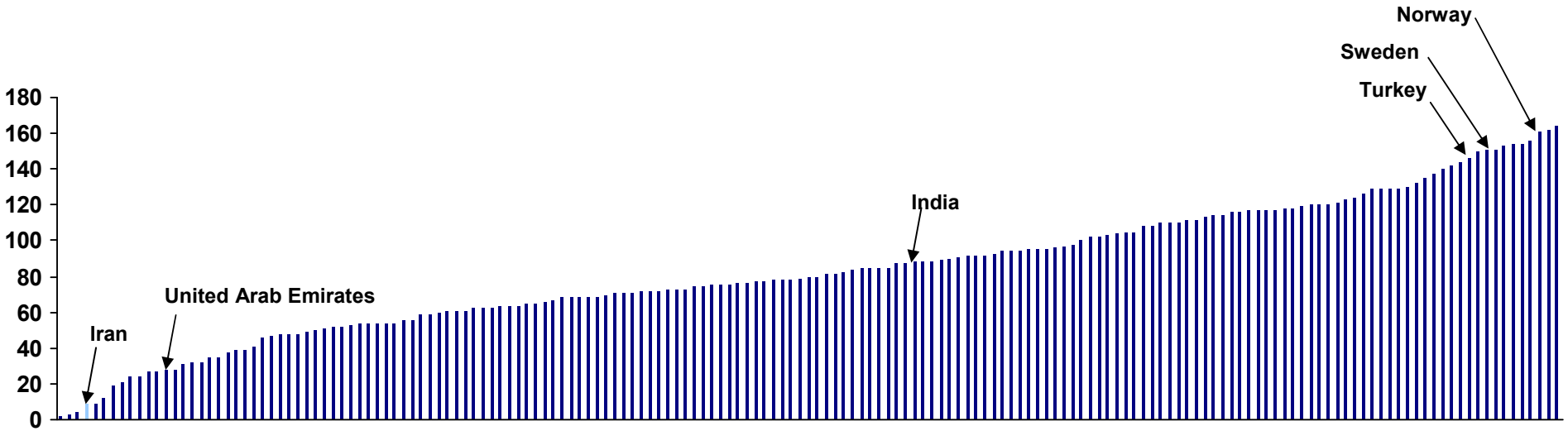
Energy prices are determined by decision makers in the Iranian parliament, who have chosen to set the price of energy well below the cost. The difference of course has to be covered by the public. The low prices encourage an over-consumption of energy.

Iranian energy prices are among the lowest globally. In 2004, Iran had the third lowest diesel prices and the fourth lowest gasoline prices in the world. As seen in Table 10, the average consumer price for a litre of gasoline in Iran was 9 cents (709 Rials)[9], less than one-third of what is classified as a normal sales price and below the international crude oil sales price. Due to the negative effects of oil consumption on public health and the environment and also in order to finance investments in roads, most countries have chosen to sell oil at even higher prices. As a comparison, diesel prices in neighbouring Turkey were 56 times higher- and diesel prices in oil rich Norway were 72 times higher than those in Iran.[10]

Although attempts have been made to increase energy prices somewhat, there has never been a serious effort made to bring these to an economically defendable level.

9 Calculated at exchange rate of 8 788 Rials per $
10 Not including fuel taxation in normal sales prices.

Table 10. International Gasoline Prices (US Cent per Litre, 17 – 20 November 2004)[11]



Source: German Technical Cooperation GTZ

[11] Super Gasoline (95 octan/A95/Premium) prices. Where not available, Gasoline (92 octan/A92) prices, Premium Plus (98 octan/A98) prices, or average of Gasoline and Premium Plus prices are used.

New initiatives

The lower prices are not only subsidised through Iranian production, but also by importing from other countries. This year some $4.5 billion (ca. 34 000 billion Rials) worth of gasoline will be imported from abroad, to be sold at a fourth of the cost of import.[12] This is ironic for two reasons: one is that Iran is one of the world's main producers of energy. The other is that one of the main economic goals of the Iranian state is to decrease imports and the trade deficit, for example trough high tariffs. The policy of subsidizing energy counteracts other policies followed by the Iranian Parliament.

A new initiative aims at resolving this problem. By providing each car owner with a so called "smart card", a two price system is to be created. Each car owner will have the right to a certain quota of subsidised gasoline at 800 Rials per litre. Additional petroleum can then be bought at a higher price. The goal is to keep this price near the market price, so that gasoline imports are no longer subsidized. However, no official decisions have yet been made which explicitly fixes the higher price to the market price.

The Iranian Parliament has approved plans for implementing the smart card project by April of 2006. At the current date, however, the Iranian Oil Minister Seyyed Kazem Vaziri-Hamaneh has estimated that the implementation of the project may be delayed until March 2007.[13]

[12] Iran Daily 2005 05 09; Iran Daily 2005 07 10
[13] Iran Daily 2006 03 09

Distortion of consumption

There have been some attempts to direct the subsidies to the groups that they are intended for. The main method is to have various energy prices for different sectors of the economy (however consumers all pay the same price, no matter what their income is). Oil is priced differently for power plants and for other consumers. In addition, retail prices of natural gas and electricity differs across various sectors. Households, the industry, the commercial sector and the agricultural sector pay various prices for consuming energy. Within each sector, energy prices vary once again, depending on the types of consumers. The system is in other words quite complex. As already shown, despite this complex system the subsidies mainly go to the wealthier consumers.

The method of having various energy prices for different sectors causes further harm. As long as energy is not sold at its cost of supply to all sectors, there arises over-consumption in the sectors that attain the cheaper price. Resources are therefore inefficiently allocated, which takes away assets from more needy sections of society and burdens the Iranian economy. A further negative effect, which will be also discussed in the next section, is a harmful impact on the environment.

EFFECTS ON THE ENVIRONMENT AND PUBLIC HEALTH

With energy prices below the cost of supply, an over-consumption of energy arises. This over-consumption has additional harmful effects on the environment.

Estimates of the airborne emissions in Iran reveal that gasoline use stands for about 98% of carbon monoxide (CO) and 74% of unburned hydrocarbons released into the air. Gas oil is estimated to account for 81% of suspended particulated matter (SPM), 48% of NOx and 35% of SO_2 emissions.[14]

These emissions contribute amongst others to smog. The toxic clouds give rise to several health hazards, including reduced oxygen intake to the body organs. Children and the elderly are especially in the risk zone of being seriously affected by the air pollution. Pollution levels in cities like Tehran forced the authorities to at times close elementary schools and the city centre to motorists. In Tehran each resident inhales 7 to 9 kilograms of dust per year. Overall, some 4 600 of Tehran's residents are estimated to die yearly from air pollution.[15] The combined estimated yearly social cost of these emissions is $14.2 billion (ca. 107 800 billion Rials). Carbon monoxide stands for roughly half of these costs with an estimated $7 billion (ca. 53 200 billion Rials). This is followed by NOx and SO_2 emissions, which stand for 43.5% and 7% of the total social cost equivalently. According to calculations made by the International Energy Agency, the level of the most harmful emissions could be reduced by half if the subsidies were to be removed.

14 UNEP
15 Pars Times 3 January 2005

IMPACT ON ECONOMIC GROWTH

Every dollar spent on the subsidies, is taken from a sector of the economy where it would have had a more productive use. In the current year, Iranian decision makers are expected to spend $4.5 billion (ca. 34 000 billion Rials) only on gasoline imports.[16] As a comparison, this equals the cost of providing 2.5 million Iranians with a job at a monthly wage of $150 (ca. 1 140 000 Rials). These imports, together with other energy subsidies reduced the allocation of resources to industries with a high growth rate. The result of this is a lower rate of economic growth, which hinders the government from reaching targets in the reduction of poverty and unemployment.

Energy subsidies are commonly seen as one of the highest obstacles to economic growth in Iran. According to calculations made by the International Energy Agency, Iran would enjoy 2.2% higher economic growth rates if the subsidies were to be removed.

[16] Iran Daily 2005 05 09

CROSS-BORDER SMUGGLING

The Iranian fuel prices are heavily below those of most neighbouring countries. Diesel prices in Turkey are, as an example, 39 times higher than those in Iran. This gives rise to a lucrative opportunity for oil smugglers. Recent estimates indicate that $100 million (ca. 759 billion Rials) worth of gasoline, diesel and kerosene products are smuggled out of Iran per year.[17] This equals the cost of providing 5 000 Iranian schools with a PC-lab or to provide over 55 000 Iranians with a job at a monthly wage of $150 (ca. 1 140 000 Rials).

In addition to the direct value of the products, these smuggling activities have also contributed to organised criminality.

[17] Iran Daily, 2005 03 08

ENERGY SUBSIDIES – MONEY WELL SPENT?

In order to gain a better understanding of the objectives of the subsidies and to see if the subsidies are helping the government to achieve their objectives, we will here analyse each possible motive separately. Subsidies could be used due to one of the following reasons:

- Redistribution of wealth from the rich to the poor
- To finance an activity with a positive externality that otherwise would not be consumed in enough measures
- Compensate for a weak financial infrastructure, which may not facilitate a direct distribution of funds to the population
- Enable strategic price differentiation in separate markets

Taking from the poor and giving to the rich

One of the main political objectives of the energy subsidies is social justice, by redistributing wealth from the rich to the poor. Despite their enormous cost of $15.6 billion (ca. 118 500 billion Rials), the subsidies largely fail in this regard. As shown in section 8.4 of this report, only a fraction of the subsidies goes to low-income groups. The main beneficiaries of the subsidies are high-income groups and the subsidies are seemingly becoming more misdirected as time passes by.

Iran's energy resources are vast, but nevertheless limited. Therefore it should always be questioned if these recourses could be used for better purposes. Iran's energy and fossil fuel reserves are owned equally by the rich and the poor. To use the fuels in a subsidy system that unproportionally goes to the well of consumers is thus in effect taking from the poor and giving to the rich. The same applies when crude oil and gas are sold and the funds used to buy refined petroleum that is again given mostly to the rich. As

mentioned earlier, some 16 million Iranians either live in poverty or absolute poverty.

Externalities

A state could choose to subsidise an activity with a positive externality that might otherwise not be consumed in sufficient measures. A typical example of such an activity is education. Energy consumption is however considered to lead to negative externalities. In order to reduce energy consumption and the negative externalities of that, most countries heavily tax commodities such as oil and petroleum. In Iran, the energy subsidies have a harmful effect on the environment and public health. Therefore, under-consumption of fossil fuels can hardly be used as an argument in favour of the subsidies.

A weak financial infrastructure?

Subsidies could be used for distribution of funds to the population if the financial infrastructure in a country is so weak that it is not practical to directly distribute funds to the citizens. In Iran, this is not the case.

Iran has for long used an ID-card system for the distribution of ration coupons for a number of food stuff and oils. The country also has a functioning pension system. This system could also be used for the distribution of direct funds to all or some Iranians. Simply put, Iran is developed and organised enough so that financial transfers are a feasible option.

Price differentiation

It could be argued that it makes economical (and morally) sense to sell oil at a lower price to domestic users than foreign parties. Price differentiation between various markets is often used in order to

sell a good at a higher price to customers with a higher willingness to pay and to a lower price to customers who cannot afford such a high price. Also the amount of oil Iran can sell to foreign parties is limited by OPEC. Therefore it might be the case that the alternative use of oil that is domestically consumed is not export in the world market, in the short run. (The two arguments are similar if OPEC is the organ that price differentiates). Finally oil is sold at a much higher price in world markets than the cost of extraction. The argument can be made that states should not make money of its own citizens, and should sell the oil to them with no markup.

In the case of OPEC, it is likely that Iran's quota would be higher than the current one, if Iran would be able to free more oil capacity for export. Moreover, Iran's oil resources are limited. While the quotas limits supply each year, they make the oil reserves last longer. In this sense the alternative to domestic use is always export, albeit at a later date. The argument is thus only valid if we expect oil prices to drop sharply in the future. Of course most analysts believe that the opposite is true, so that over-use domestically has costs in the long term.

The last argument is the most persuasive one. We should however first note that petroleum is not sold at cost in Iran, but at far below the cost of production. Furthermore, Iran makes much of it's wealth by selling oil to foreigners far above the cost of production. These funds are subsequently used domestically. In this sense it is reasonable that the (alternative) cost of oil for Iranian consumers as a collective also is the price that can be made in the international market. This is especially true as the funds from selling the oil internationally go towards all Iranians, whereas selling the same oil cheaply domestically mainly helps the people who can afford cars and fuel in the first place.

PROPOSE FOR REFORM

We have above presented the effects of the energy subsidies on Iranian society. In light of the inherent flaws in design we believe that the subsidy system should be abolished and replaced with direct monetary transfers. A removal of the subsidies would resolve many of the difficulties outlined and improve Iranian living standards, particularly for the low income groups.

A reform for the poor

We suggest that an Oil Profit Share would better fulfil the goals behind the subsidy program without the negative unintended effects. The energy subsidies should be abolished and the same amount should instead be handed out to all Iranians aged 25 and above. Calculated at the subsidy levels of 2000, each Iranian aged 25 and above would through this reform receive an Oil Profit Share of some $650 (ca. 4 900 000 Rials) per year or $55 (ca. 418 000 Rials) per month, a substantial amount in Iran.

An individual with a monthly net salary of $150 (ca. 1 140 000 Rials) will experience an increase in income with 36%. Faced with the full cost of energy, most individuals would shift towards the consumption of other goods and services. (Those with strong demands for fossil fuels are of course free to use the funds to purchase oil and gas products). The change in consumption will lead to welfare increases, even if we take into account that the price of energy products will increase.

According to calculations that the World Bank has made for similar programs, with a reform of this type the 10% poorest rural households will experience consumption increase of 210% and the increase for the 10% poorest urban households will be 103%. The increase in welfare will, however, not only be to the benefit of the poorest households, but to households from all income levels.

Because the energy subsidies are so distortive, even the richest 10% rural and urban households will experience welfare gains of 12% and 11%, respectively.[18]

The factors that support the direct sharing of the oil profit, instead of handing out subsidies are:

- Consumers will be able to decide by themselves what they would like to spend their money on
  - A family of four living on the country side may not want to spend the $1 300 (ca. 9 800 000 Rials) yearly increase of their disposable income on energy consumption, but to rather provide their children with proper food, clothes and education opportunities
- This is the best option for higher economic growth
  - The underlying reason for this is that subsidies result in production of goods at rates that are not economically defendable. Such goods can not be sold with a profit at international markets. If consumers get to choose, they will buy products at their actual price and increase their private consumption, both of which helps Iranian companies to develop products that are sought for in international markets
- An end to over-consumption
  - Setting the price of energy at its real cost will end over-consumption and reduce the harmful effects noticed on public health and the environment
- Reducing of incentives for oil smugglers
  - Setting the price of energy at its real cost will decrease the price difference for oil products to neighbouring countries and thereby remove the direct monetary cost of oil smuggled out of the country and related problems such as organised criminality

[18] The World Bank, Jensen and Tarr

The oil profit share should preferably be distributed equally to all income groups, instead of merely the poor due to the following reasons:

- This method ensures that all needy persons are included in the oil profit share
  - A method that tries to target only the poor will face difficulties in ensuring that all the poor will be correctly identified. An equal distribution is administratively easier to handle
- Lower chances for fraud
  - Only giving transfers to the poor will benefit persons that do not register their economic activities and therefore classify as poor. An equal redistribution removes the incentives for fraud, which favours honest people
- Lower chances for corruption
  - A method that depends on selectivity will at some point require the judgement of government officials. There is a chance that some individuals will attempt to bribe these officials in order to receive funds. A method that distributes funds to all individuals is less likely to face this problem
- Better incentives to work
  - A method that hands out funds to only the poor provides little incentives for the poor to increase their income above the cut-off point of the transfers. At the same time, some persons with higher income will face incentives to lower their income to take part in the oil profit share. The amount of money discussed is quite substantial, why these problems are likely to be important. Therefore, an equal distribution of the funds provides better incentives to work
- Less opposition to the reform

– One of the main factors that have hindered the removal of the energy subsidies is the strong opposition from groups that would loose on such a reform, mainly middle class and wealthy Iranians that drive a lot. A system that assures distribution of funds to all income groups is likely to face less opposition and therefore be easier to implement

A realistic reform?

Main criticism against a reform

Critics have been of the opinion that the administrative framework for a distribution of direct funds to all Iranians does not exist, which would mean that the proposed reform is not possible to implement in practice. However, as already discussed the ID-card system used for the distribution of coupons could also be used for the distribution of direct funds. This system can eventually be improved.

A further point of criticism has been that direct distribution of funds to the rich is politically unacceptable. As already shown, while only a small fraction of the current subsidies are distributed to the poor, the main beneficiaries of the subsidies are the rich. The reason is that you are today "rewarded" with subsidies depending on how much fuel you buy. The poor per definition cannot afford as much fuel as the rich, so they are disadvantaged in any subsidy program. The poorest Iranians cannot afford to buy a car in the first place, and are thus completely excluded from petroleum subsidies.

Any method that would benefit the poor as much as the rich would be an improvement. The method of direct transfers suggested by us distributes the funds equally amongst all income groups. In effect, this results in a much larger relative increase in income for poor groups than rich groups.

Effects on inflation

Concern is often expressed that the removal of the energy subsidies will lead to higher inflation rates. Although the removal of energy subsidies will result in a rise in energy prices, this does not lead to higher national inflation. We will here explain why.

Inflation is defined as the depreciation of the real value of money. That is, the increase in prices *and* salaries.

Economics is a subject, which can at times be difficult to test empirically. In the case of inflation, however, the empirical proofs for the causes of inflation are very well documented. As a result there exists wide consensus among economists that inflation is an effect of money supply, i.e. the amount of money that is printed in a country. Hence, as long as price increases for a commodity does not affect money supply; it is unlikely to affect the long run rate of inflation.

A common method by which inflation is measured is by comparing changes in the price of a consumption basket, comprised by a number of goods consumed by households, and rise in salaries. Instead of taking into account all costs for this consumption basket, this method only calculates the direct price paid by final consumers. That is, the method does not take into account the amount paid for a good by the state. Therefore, when the financing and the payment of energy is moved from the state to private households, the method registers a price increase and therefore a rise in inflation. This, despite the fact that the amount paid for energy is the same. This is a shortcoming of the most common method used to calculate inflation. Inflation in Iran will, as before, be affected by only money supply.

Currently, consumers directly pay for parts of their energy consumption, while the state pays the remanding amount.

According to our suggestion, the state will hand over the money allocated for energy expenditures to consumers and let consumers pay for their own energy usage. As a result, the direct price paid for energy by consumers will be higher, but the total amount paid will not change.

Although inflation is only affected by money supply, consumer prices can experience an increase if disposable income is raised. A reasonable prediction is that most individuals will choose to spend parts of the attained funds on other products than oil goods. As a result, it is likely that many non-oil goods will experience an increase in price. However, as disposable income also experiences a large increase, consumers will be significantly better off after the reform than they were before.

SUMMARY

In this report we have investigated the Iranian energy subsidies, primarily in the form of oil products, including petroleum, and natural gas. These subsidies are sizeable, amounting to some $15.6 billion (ca. 118 500 billion Rials) in 2000. This is equal to fully 16% of Iran's GDP, or the cost of providing 8.7 million Iranians a job at a monthly wage of $150 (ca. 1 140 000 Rials). The costs are estimated to have risen to $18 billion (ca. 136 700 billion Rials) by the Iranian year of 2004/2005.

The report concludes that the subsidies do not achieve their stated goals and have negative consequences to the Iranian economy. The subsidies result in

- Substantial economic waste
  - These costs restrain Iran's economic growth and ability to improve living standards for its citizens, in particular the disadvantaged.
- Distribution of wealth from the poor to wealthy groups
  - Of the gasoline subsidies to urban households, 0.1% is used by the 10% poorest households, while 40% is used by the 10% richest households. Funds that could be used to the benefit of the poor are thus given away to the well-off.
- Harmful health and environmental effects
  - Only in Tehran, some 4 600 persons are estimated to die annually from air pollution, largely due to over consumption of gasoline.
- An increase in criminal activities
  - The artificial low prices in Iran lead to organized crime in the form of oil smuggling.

The energy subsidy program does not achieve its goals of aiding lower and middle income households, instead leading to unintentional negative consequences. The program is therefore in need of reform.

As a welfare improving reform we suggest energy subsidies to be completely abolished and an Oil Profit Share shall be established, granting all Iranians aged 25 and above some $650 (ca. 4 900 000 Rials) per year. The benefits of this method include:

- An increased living standard for all Iranians, in particular the poor
  - An Iranian aged 25 years or older with a monthly wage of $150 (ca. 1 140 000 Rials) will experience an income increase of more than one-third. The poor will experience up to 20 times larger increases in income than the well-off
- Improved economic growth
  - Estimates indicate that the removal of the subsidies in Iran will lead to 2.2% annual higher economic growth rates
- Reduced burden on the environment
  - The level of harmful emissions could be reduced by half
- Removal of incentives that give rise to criminal activity
  - It will no longer be as attractive to smuggle Iranian oil products, which will reduce organised criminality

The high costs and inherent flaws in the design of the subsidy program lead us to conclude that reform is likely to bring about noticeable gains for all sections of the Iranian Society. Our report therefore encourages reform of the energy subsidy system.