Chapter 3. Fixing prices and incentives for growth

Most key economic prices in Iraq are now free—evidence of significant liberalization in the postwar period. Still, the remaining price distortions are exceptional by any measure. Iraq maintains the largest untargeted food subsidy program in the world: the cost of the Public Distribution System (PDS) amounts to 12–14 percent of its gross domestic product, compared with 1–3 percent of GDP for food subsidy schemes in other Middle East and North Africa countries. Domestic fuel prices, electricity, and water tariffs are among the lowest in the world. Subsidies add up to more than 50 percent of GDP and are already squeezing the budget, notwithstanding the currently high oil prices. Iraq faces crucial choices on whether to accelerate price reforms or to continue these untargeted subsidies, which have large fiscal costs and produce serious disincentives in the economy while vast demands for public goods and services remain unmet.

The overall message of this chapter is that carefully planned price reforms can enhance public welfare, since such reforms will: (a) reduce the deadweight losses[i] that result from inefficiency in the economy; (b) improve incentives to private-sector producers; and (c) save fiscal resources for the production of vital public goods and services.

Pricing reforms

In 2003–04, Iraq made progress on a number of pricing reforms:

- For decades Iraq operated a system of multiple exchange rates. The gap between the dinar's official parity of about ID 1/$3.2 and its black market rate was growing ever wider; by 2002 the latter was over ID 2,000/$1/ID. In early 2004, the new dinar was introduced, and old banknotes were exchanged at the prevailing street rate for new ones. Since then, the market has determined the dinar exchange rate. After a short initial period of volatility, the dinar stabilized at around ID 1,465/$1. The daily foreign exchange auctions are open to all competitive bidders. Premiums between the auction rate and the street rates remain under 1 percent. The central bank uses the auction system to maintain exchange-rate stability, which is one of its declared policy goals.
- For prices of goods, the most important development has been trade liberalization. All border tariffs and controls disappeared with the collapse of customs in 2003. Private-sector imports grew twentyfold over 2002–04, quickly saturating the pent-up demand for consumer goods. Most prices on domestic outputs are now free.
- In the past decade, the purchasing power of Iraqi wages waned as the dinar declined. Monthly wages of $10–15 were not uncommon by 2002. The resumption of the flow of oil revenues since mid-2003 allowed the government to begin raising public-sector salaries. The 2005–06 budgets brought further wage hikes, with an average civil service salary exceeding $200 a month. More recently salaries of workers in state-owned enterprises and the private sector began catching up as well.
- Iraq liberalized the interest rates in March 2004—an important step toward creating a modern financial sector and enabling lenders and borrowers to make their own decisions guided by efficiency and profitability considerations. Very little credit is

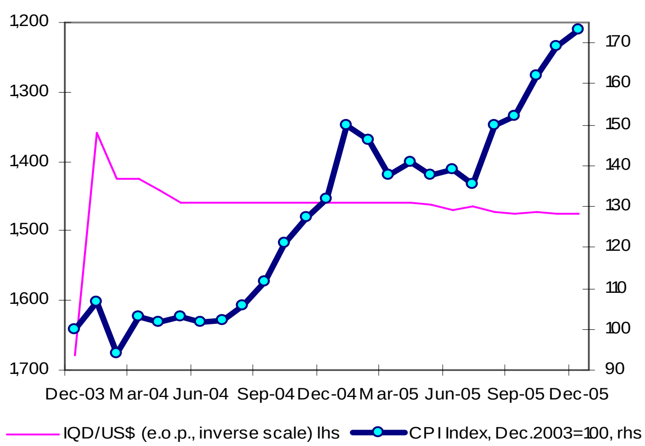
being issued, however, and the interest rates do not yet play a visible role in the allocation of capital. Real interest rates are negative (figure 3.1).

These early pricing reforms have shifted the structure of household consumption. Under the previous regime, consumption was maintained primarily by rations through the Public Distribution System (PDS) and by other subsidies (taken together, these accounted for an estimated 80 percent of total private consumption). The rest was coming from monetary incomes—wages and pensions, which by early 2000s were not buying much. As a result of early pricing reforms and several rounds of salary increases, the share of monetary incomes had risen significantly, but the subsidies continue to account for at least half of consumption (and a higher share in poor households that rely heavily on the PDS).

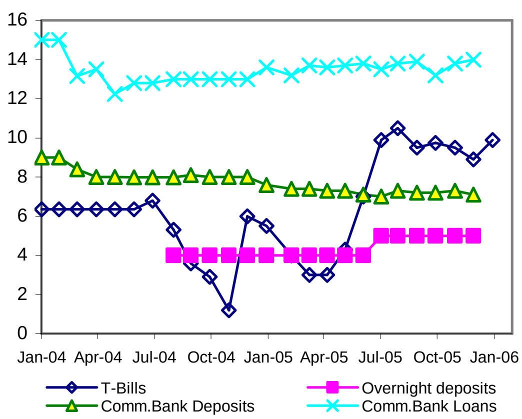
Rapidly rising monetary incomes of households and security-related disruptions of the supply chains were possibly among the key drivers of inflation in 2004–05. Vital needs of households are still met by subsidized goods and services; hence, the families could focus their higher purchasing power on the previously unavailable consumer goods. Until mid-2004 the consumer price index was relatively stable.[ii] However, moving goods in the domestic market was becoming increasingly risky, and security costs and insurance premiums (both formal and informal) shot up. Administrative measures taken in early 2005 to normalize the situation in some key markets (in particular, fuel) had their effect, and the consumer price index declined for two months in a row.

Figure 3.1. Exchange rates, consumer prices, and interest rates in Iraq, 2003–05

Prices accelerated since mid-2004…



…while real interest rates remain negative.



Note: lhs is left-hand scale; rhs is right-hand scale.
Source: CBI 2004; World Bank and IMF staff estimates.

The share of monetary incomes in total household consumption is much higher now, but the subsidies are still pervasive (table 3.1). Some subsidy schemes are on budget, like the PDS, while others are off budget (e. g., the electricity tariff). These subsidies are untargeted and nontransparent. The rest of the chapter suggests that significant efficiency gains are possible from the reform of the subsidy system. Experience of price reforms in

2003 suggests that gains in growth from further reform of the subsidy system can be large.

The Iraqi subsidy system is not unique in the Middle East and North Africa region or among the resource-rich developing countries. Most of them use budgetary subsidies to redistribute oil wealth to the nation and to stimulate growth in the nonoil sector; some use subsidies to foster the private sector. Many governments in the Middle East and North Africa make less than full cost recovery for a variety of public services, such as energy, water, housing, public transportation, and postal service.

Table 3.1. Subsidies in Iraq

Sector	*Type of subsidy*	*Recipients*	*Form of subsidy*	*Estimated volume (% of 2005 GDP)*	*Implications*
Food	Imports of foodstuffs explicitly budgeted	Households	In-kind (ration card)	12–14	Maintains a vital safety net for all the population, but undermines domestic agriculture, distorts domestic food markets, and fuels corruption and smuggling
Fuels (gasoline, kerosene, diesel, LNG)	Only import costs are explicitly budgeted	Households and producers	Official prices at the pump are below operating costs	25–30	Encourages smuggling; black–market dealings, and corruption; anti-poor; reduces ability of refineries to self-finance rehabilitation; results in major quality problems
Electricity	Implicit	Households and producers	Fuel for generators is below opportunity cost; depreciation for equipment is not accounted in pricing; charges to consumers are below the cost of delivery	5–8	Creates major quality problems (cuts, voltage fluctuations); amounts due cannot be collected; the national grid is unable to self-finance rehabilitation
Utilities and urban services	Only partly explicit through budgetary transfers to municipalities	Households and producers	Charges to consumers are symbolic, well below cost of delivery	3–5	Lowers service quality; providers are unable to self-finance rehabilitation
Agriculture	Only a fraction is explicitly budgeted as farmers' support	Farmers	Seeds, fertilizers, fuel, power, and equipment are all at very low official prices; guaranteed purchase prices. Some subsidies are expected to be phased out soon.	8–10	Creates artificial profitability; functions as a major safety net for rural households; anti-poor
Inputs to state-owned enterprises	Implicit	Downstream industries (petrochemical, construction materials, etc.)		Data not available—most state-owned enterprises are idle	Causes operating losses for input providers (oil, gas, refining, and electricity sectors); low efficiency and overstaffing in recipient state-owned enterprises

Not all subsidies are damaging to the economy. A case can be made for subsidizing public goods that increase the human capital of the nation (primary education, primary health care) or support social overhead capital (roads, bridges). If used wisely, such subsidies enhance economic growth and social welfare. To some degree, even liberalized economies subsidize selected public goods, but every country must use care to keep the subsidy programs fiscally sustainable. Experience shows that, in every country that uses subsidies, they tend to become progressively wasteful and pervasive. Subsidies on marketable goods, such as food, fuel, and power, are particularly risky, because they can be a serious barrier to efficient markets. Subsidies crowd out private investment and distort production incentives, leading private producers to supply insufficient quantities or poor quality of goods. Subsidies also adversely impact income distribution, as their incidence is typically proportional to purchases (greater benefits are captured by the rich). If the government is concerned that the poor cannot afford even basic levels of consumption of food, fuel, and power, alternative supports can be explored. Such mechanisms are considered in the following three sections.

Food security

Food security remains the Iraqi government's focus of attention. A survey by the World Food Program in 2004 (WFP 2004) found that food insecurity is persistent, and is an important dimension of poverty in Iraq. A significant part of the population—about 11 percent, or 2.6 million people—faces real difficulties in accessing adequate food, despite the Public Distribution System, while many others—about 25 percent, or some 6 million people—are vulnerable because they depend heavily on the PDS. The nutritional status of the population continues to be a significant problem, with chronic malnutrition rising after the 2003 war as a result of insufficient nutrients and poor infrastructure and services, including, for example, health care, water, and sanitation. Among children under 5 years old, 4.4 percent suffered from acute malnutrition; 11.5 percent were underweight, and 27.6 showed signs of chronic malnutrition or stunting.

The extremely poor lack the income needed to purchase sufficient food for their households. Low purchasing power is associated with high rates of unemployment, underemployment, and illiteracy, particularly in rural areas. In the short term, Iraq's poorest households will continue to need the PDS. For this group, the PDS ration represents by far the single most important food source in the diet. Supply shortfalls thus affect them disproportionately, given their higher dependency rates than other households. Social protection mechanisms targeting these groups must be carefully considered in the context of possible PDS reform.

Box 3.1. Iraq's Public Distribution System

Iraq became a net importer of food 40 years ago and currently imports about 70 percent of its food supply. The Iraqi Public Distribution System (PDS) is the largest public food program operating in the world today and is perhaps the most visible program of the Iraqi government, costing more than 20 percent of government revenue. The PDS provides all Iraqi households with 100 percent of the minimum daily calorie requirement and more than 60 percent of the food consumed in Iraq.

The food basket provided today remains very similar to the ration distributed under the United Nation's Oil for Food Program in 1997–2003. The monthly basket of rationed goods currently includes 9 kg of wheat flour, 3 kg of rice, 2 kg of sugar, 0.2 kg of tea, 1.5 liter of vegetable oil, 1 kg of powder milk, 1.5 kg of dried beans, 0.15 kg of iodized salt, 0.25 kg of soap, and 0.5 kg of detergents. Infants less than a year old get baby care products and formula. Consumers pay ID 250 per ration (ID 50 for flour and ID 200 for the remaining products). The ration's resale market value is estimated at about ID 6,000. In 2000–02 this difference was slightly bigger in terms of Iraqi dinars, but not in terms of U. S. dollars because the Iraqi currency appreciated since 2003. Until 2004, most of the deliveries were imports organized under the Oil for Food Program, and the cost of subsidization was not reflected in the state budget. After the transition in 2004, the PDS is fully included in the 2005 budget.

The PDS is managed by the Ministry of Trade and implemented by a combination of state-owned enterprises and private-sector companies. While importing, rice processing, and warehousing functions are largely performed by state-owned enterprises, wheat processing, transportation, and retailing activities are predominately contracted out to the Iraqi private sector. During the years of economic sanctions, all PDS ration goods were imported directly by the Ministry of Trade. In the past year, efforts have been made to use locally produced goods (especially Iraqi wheat) and to use Iraqi import companies. These efforts have had mixed success because of problems of low product quality and insufficient capacity of the import companies.

Source: Razzaz 2005.

The Public Distribution System has successfully prevented humanitarian crises in Iraq for more than a decade. The 1990 Gulf War and the imposition of sanctions resulted in dramatic declines in the health status of the Iraqi population (see "Iraq at a glance" tables in the annex). Rising poverty and declining access to food imports were a significant part of this deterioration. In response, the government of Iraq in 1991 introduced the PDS, which provided approximately 50 percent of caloric needs. When the Oil for Food Program began in 1997, government revenue and the ability to import food increased, and the PDS rations increased as well (box 3.1). Throughout this period, the PDS has effectively reached the vast majority of the population, dramatically increasing household incomes and insulating households against food shortages and price fluctuations. Although the ration does not provide sufficient micronutrients and malnutrition remains high, the situation would be considerably worse without this food safety net for the Iraqi people. If the PDS were discontinued abruptly, many lower-income households would not be able to meet their food requirements.

What is wrong with the Public Distribution System?

The financial cost of the PDS is extremely high—approximately $4 billion in 2005—implying a transfer from the government of $150 per person per year to each of the 27 million people in Iraq. The program is expensive for two reasons: (a) it provides generous transfers to each beneficiary and (b) even the wealthiest Iraqis receive benefits. Still, the high financial cost is not necessarily unsustainable. To be sustainable, the expenditures of the government of Iraq must be in line with the revenues generated from oil sales and tax collection. The specific programs on which the revenues are spent, however, depend on the priorities of the Iraqi government and public. What the large financial cost of the PDS tells us is that the continuation of such a generous, untargeted program would come at the expense of other services, such as education, health, and infrastructure.

Distortions occur in any market in which government actions impact prices. Distortions occur on the supply side of the food markets—that is, the incentives of private-sector food producers are affected. Distortions also occur on the demand side of food markets—that is, the incentives of consumers are affected:

- *Producers' incentives*. The dominant role played by the PDS in food markets has massively distorted the incentives faced by Iraqi farmers and private enterprises. Because the PDS is a government in-kind transfer of food, the distortions are even greater than they would be in the case of input subsidies paid to the farmers and occur throughout the supply chain. One of the largest distortions created by the PDS is not because of rationing itself, but because the food supplied through the system is imported. This large injection of imported food pushes domestic food prices below international prices, thereby reducing the incentive for domestic production. Artificially low domestic prices of rationed goods create incentives for smuggling goods outside of Iraq, where they can be sold at a higher price.

- *Consumers' incentives*. By providing large transfers to households and changing the relative price of consumer goods, the PDS may distort labor supply and consumption patterns. Consider first the impact of the transfer on the household supply of labor. As with any unearned income, the transfer of resources through the PDS may reduce the incentive to work. Indeed, with the PDS transfer approximately doubling household income, the negative impact on labor supply would be expected to be large. In the current situation, however, the PDS does not appear to be a determining factor for employment rates: labor supply remains significantly greater than demand, as indicated by high unemployment. In terms of consumption patterns, there is little evidence that low prices on rationed foods are causing households to overconsume food, though there is some evidence to suggest that households are consuming too little of the more expensive nonrationed foods, such as fresh produce and animal protein.

Options for reforming the Public Distribution System

The Iraqi National Development Strategy discusses long-term reform of the Public Distribution System, moving away from a universal food ration toward an efficient, targeted safety-net system. Such reform will indeed happen only over the medium –to long term. At this point it is also useful to think of short-term reforms, which can improve the situation incrementally even though they may not solve the problems entirely. A number of ideas have been floated recently about modifying the PDS, which take incremental steps toward long-term reform, but can be implemented in the near term.

In designing the permanent safety-net system, two issues need to be considered. First is the form of the transfer. Cash transfers and food stamps, instead of in-kind transfers, are among the common program types that are being discussed now in the Iraqi context. Each of these program types has different benefits and costs. Second is the issue of targeting. Although most people agree that some targeting is desirable, there is no consensus yet on how narrowly to target—that is, what proportion of the Iraqi public should be eligible—or what targeting mechanism to use. A wide variety of targeting mechanisms have been successfully used in other countries. The question is, what is the most appropriate mechanism for the Iraqi context?

In addition to designing an appropriate permanent safety-net system, the timing and sequencing of reform must be carefully considered. There is a clear need to begin reforms—even if incremental—as soon as possible. Several ideas recently proposed include: (a) removing high-income civil servants from the PDS ration lists as a first step toward targeting; (b) giving households the option of either receiving their regular food ration or a cash transfer worth more than the ration; and (c) increasing the role of domestic food producers and the private sector within the existing PDS. Timing and sequencing issues have to be considered carefully in a broader context, beyond the economic benefits, to ensure that reforms do not trigger humanitarian or political crises.

Implementation

The advantages of cash transfers over the current in-kind rations are clear, since cash transfers do not substantially distort the prices in the economy. If a cash transfer system were implemented, food prices would likely be higher than they are now, thereby increasing the incentives for domestic farmers and food producers. Although food prices may not be a major concern in the long run, they are an important consideration in the medium term. Large fluctuations in prices are likely as the country transitions to a market-based economic model and as security problems may continue to interrupt the availability of commodities. Cash transfers would fail to buffer households from price fluctuations, which are a major form of food insecurity.

Another major question about cash transfers is whether they could be implemented in the current environment. Three concerns need to be studied in detail:

- Iraq’s banking system is not sufficiently developed to handle the huge number of transactions required under the PDS. Rather, cash would have to be physically distributed throughout the country.

- Cash would be vulnerable to theft, particularly in the current security environment. The cost would be enormous to provide reasonable security measures for the transport and distribution of large sums of money.
- If a cash transfer system were adopted, short- to medium-term measures would need to be taken to prevent interruptions in food supplies and extreme price volatility. Although there is little doubt that the Iraqi private sector could eventually provide an efficient supply of food, the government would need to ensure that access to food remains adequate while the private sector adjusts to freer markets.

Food stamps have most of the same problems as cash transfers, though to a lesser extent. Where food stamps are widely distributed, they tend to become a form of currency.

Targeting issues. Many different mechanisms can be used to target safety-net programs to the poor. Options include means testing, proxy–means testing, categorical targeting, and self-targeting. The most appropriate mechanisms must be chosen on the basis of the specific situation of Iraq. Means testing is not yet possible, because data on income and assets are not widely available and are not easily verifiable. Proxy–means testing and categorical mechanisms are useful only if clear associations can be made between easily observable household characteristics (such as the sex of the household head or the district of residence) and need, usually based on a high-quality household survey. This may not be possible to accomplish with existing data, although in the longer term it may be feasible. Proxy–means testing and categorical mechanisms can also be politically contentious if there is any debate over the association of need with certain geographic regions and ultimately the religious and ethnic groups that live there.

Self-targeting can be an extremely useful mechanism and has been implemented successfully in a number of countries, though the program must be carefully designed to avoid creating any unintended incentive effects. Public works projects and food-for-work projects are common examples of self-targeted safety nets. These programs tend to work well if the needy are unemployed. However, if the program benefits are overly generous, the programs may draw individuals out of existing, possibly more productive jobs.

Financial issues. It would be a mistake to think that all reform options would be financially less costly than the PDS. For each option that is considered, it is important to identify whether it will be cheaper than the PDS, and if so, where the cost savings will come from. Two issues are particularly important:

- Targeting is expensive. Data must be collected and verified to identify whether particular households are eligible. Targeted cash and food stamp programs often spend 10 percent of their budget on targeting. While a targeted program may be less expensive than a universal system, there is a tradeoff between the quality of targeting and the administrative costs of the program.
- Even if a food stamp or cash transfer program is adopted, the Iraqi government will need to continue to be involved in the physical distribution of food (at least until the private sector builds sufficient capacity to take over). During this interim period, there are not likely to be any financial savings. In fact, the costs of the program in the

transitional period could be higher than at present.

Considerations before beginning reforms

How to start the targeting process? It is now widely recognized that full means-testing is not possible in the short term, because reliable income data are not available for the general population. Civil servants, however, are the one group for which reliable income data are at hand. The suggestion has therefore been made to eliminate all civil servants whose salaries are above some cutoff (possibly ID 1,000,000) from the ration lists. Two practical issues to consider are (a) how to link the data on government employment with the ration lists and to accurately determine the number of individuals dependent on the civil servant's salary and (b) how to determine the size of the group affected. To significantly lower the financial costs of the PDS, it must impact a reasonably large proportion of the population. Another, more important consideration is the likely reaction of the civil servants. They may have a strong negative reaction because they are singled out—denied eligibility while even more well-off households in the private sector are not affected. And (especially because of their position in the government) a disenfranchised civil service could launch an effective campaign against the reform.

How much choice to give households? The proposal to give households the choice between receiving their ration or a cash transfer is attractive because it could facilitate a gradual transition from the pure ration system to a cash transfer system. However, this proposal is likely to have an even higher financial cost than the existing PDS. To see why, consider the following. To prevent food shortages and extreme price increases, the government is likely to continue to purchase and transport to food agents sufficient food for the entire population. The government's cost to purchase and transport the food is approximately $10 per person per month, and the food itself has a resale value of approximately $4 per person per month. The proposal calls for offering a cash alternative greater than $4 to make it attractive to households. Say the value of the cash transfer is $6. To keep the cost per person per month from increasing to $16, the government would need to be reimbursed $6 by food agents for the food distributed to the households who take the cash option. Clearly food agents would not be willing to pay $6 for food that has a resale value of only $4. In fact, there is no price the food agents would be willing to pay that would not create an increase in the financial cost to the government. Another crucial argument against this proposal is the long-term expectations it creates. Because cash is desirable to all households (including the wealthiest), a cash transfer system could be even more difficult to remove than a food transfer. It could be very risky to convert to a cash transfer before implementing an effective targeting mechanism.

Domestic fuel subsidies

Fuel prices in Iraq rank among the lowest in the world. A survey of consumer prices of super gasoline and diesel conducted in 171 countries on November 17–20, 2004, indicated that only Turkmenistan had end-user prices as low as those in Iraq (GTZ 2005). Table 3.2 compares official domestic prices in Iraq with the free-on-board prices in the Gulf countries. The latter do not include the cost of transportation, storage, and distribution, but still are markedly higher than the end-user prices in Iraq.

Table 3.2. Fuel prices in Iraq and on international markets, 2005

	LPG	*Gasoline*		*Kerosene*	*Diesel*	*Fuel oil*	*Natural gas*
		Regular	*Premium*				
Unit	per 12 kg	per liter	per liter	per liter	per liter	per liter	per cubic meter
Domestic price, ID	250	20	50	5	10	10	1
Gulf 2004 average, $	4.18	–	0.28	0.28	0.27	0.16	n.a.
Gulf 2004 average, ID	6,054	–	402	408	391	236	n.a.

Note: – indicates not available; n.a. indicates not applicable; LPG indicates liquefied petroleum gas.
Source: Iraq prices as of January 2005, except for natural gas where the price is as of 2002. Gulf prices are free-on-board as reported in the *Platts Oilgram Price Report* for all the fuels, except for LPG where the price is Saudi Aramco's contract price for propane. Premium gasoline for Gulf is 95 research octane unleaded.

The extremely low consumer prices found in Iraq lead to a number of serious problems. These include an unsustainably large burden on the government budget; undersupply of the domestic market; smuggling of subsidized fuels out of the country; inadequate maintenance, let alone modernization or expansion, of physical infrastructure for production, transport, and distribution of subsidized fuels; lack of attention to fuel efficiency; waste; and overconsumption of fuels for nonessential purposes. In Iraq, all of these adverse effects are observed. Refineries in Iraq are in major need of modernization and incapable of producing adequate quantities of products with appropriate quality (for example, gasoline without lead additives). Despite Iraq's large natural gas reserves, little use is made of gas in the economy, and more gas is flared than consumed. Adverse effects can even extend to other natural resources. An example is the impact of the availability of cheap diesel on underground water in Yemen, where cheap diesel used by farmers has led to the depletion of underground water as a result of excessive pumping for irrigation.

Raising fuel prices to reflect the real cost to the economy is an important consideration in stimulating fuel efficiency, as well as in reducing nonessential fuel use. For example, a recent U.S. study showed that increasing the price of gasoline by raising the fuel tax, rather than tightening fuel efficiency standards, was by far the most cost-effective option for fuel conservation. Higher gasoline prices from higher fuel taxes were estimated to start reducing consumption immediately, and the market effect would gradually drive the transition to more fuel-efficient vehicles (*Automotive Environment Analyst* 2004).

Where trade is permitted and domestic prices are far below those on the world market, refineries have an artificial incentive to export as much product as possible. An example is the Russian Federation following the devaluation of the ruble in 1998, which brought domestic crude and refined product prices well below world levels. Exports surged, and in response to the dwindling supply of fuels on the domestic market, the Russian government in 1999 and 2000 took a series of steps to control the petroleum sector, such as putting quantitative restrictions on product exports and reintroducing export duties.

Because the consumer prices in Iran are closest to those in Iraq among its neighbors, it is informative to review recent developments in the Iranian government's fuel-pricing policy. As in Iraq, there is a serious shortage of gasoline in Iran. For the fiscal year ending on March 20, 2005, the government spent 30 trillion riyals (about $3.4 billion) on gasoline price subsidies, far in excess of the $1.5 billion allocated in the national budget. Iran's gasoline consumption has recently grown at an annual rate of 12 percent, partly because prices are kept artificially low. In January 2005, an Iranian government official reported that the estimated cost to the government of smuggled fuels was 10 trillion riyals annually. Iran's 2004–05 draft budget contained only a modest rise in gasoline prices from 650 riyals ($0.075) a liter to 800 riyals ($0.09). Under a five-year economic plan developed in 2004, fuel prices were to rise gradually to international levels, starting in March 2005, but in January 2005, the Iranian parliament voted to freeze fuel prices for the entire fiscal 2005–06. This setback notwithstanding, even the low officially controlled price of gasoline in Iran is several times higher than that in Iraq, providing ample incentive for fuel smuggling from Iraq to Iran and on to other countries.

Raising prices is the most efficient response to correct the distortions introduced in the economy by fuel subsidies. This raises several questions for the government: to what level, how fast, with what consequences, and are there adverse effects of price increases that would require government intervention?

Target price levels

Broadly, target price levels can be classified into three categories:

- *Cost recovery*. Cost-recovery prices entail no direct subsidy to end-users. Cost-recovery levels account for rehabilitation, modernization, and expansion of oil and gas fields, as well as associated physical infrastructure. Iraq currently imports light fuel products, and for these imported fuels, cost-recovery and economic opportunity costs are the same. Because prices below cost recovery entail direct subsidies and a claim on the government budget, raising prices to recover costs would be an immediate priority.
- *Border prices.* Prices in the countries bordering Iraq vary considerably, ranging from very high prices in Turkey to very low in Iran. Matching border prices would curtail smuggling to a considerable extent. Any reduction in smuggling is expected to affect cost-recovery prices by reducing the quantities of imported fuels.
- *Economic opportunity cost*. Domestically produced crude can be sold on the world market at international prices or to domestic refineries. If the price paid by domestic refineries were below what producers can get on the international market, then given free choice, producers would not sell crude on the domestic market. For refined products, the economic opportunity costs would be either import-parity or export-parity prices, depending on the trade balance. If Iraq were to become self-sufficient with no imports or exports of refined products, then the economic opportunity cost could be defined as the export-parity crude price plus processing and transportation costs, capped by import-parity product prices.

It is almost certain that consumer prices in Iraq will not be raised in one step to economic opportunity costs. It may therefore be helpful to use the first two prices as intermediate targets, while using economic opportunity cost as the benchmark price. Setting prices below the economic opportunity cost would mean a loss of revenue that could otherwise be used by the government for the creation and maintenance of social overhead (roads, bridges, railroads), human capital (education, training), and other vital public programs.
Once fuel price subsidies are phased out, consideration can be given to fuel taxation (e. g., a general consumption tax). Excise taxes are usually imposed on petroleum products, but they tend to be low in major oil-producing countries. That said, excise taxes on transport fuels serve as a means of collecting road-user charges. Many countries have poor road systems because maintenance is not adequately funded. A fuel tax may be the most obvious and acceptable proxy for direct charging. Because diesel-powered trucks cause most of the wear and tear on roads, a diesel tax might be an appropriate proxy for direct road maintenance charges.

Welfare impact

How would fuel price increases affect the welfare of the poor? Unfortunately, data on household spending in Iraq are not available to offer quantitative estimates. We do know, however, that such increases are often regressive: while the rich may pay more in absolute terms following price increases, the poor are adversely affected because the increases affect a greater share of their spending.

The consequences of price increases can be categorized into direct and indirect effects. Direct effects concern the impact arising from consuming the fuels in question. Indirect effects arise because goods purchased have fuels as inputs in their production or transportation. In Iraq, households use liquefied petroleum gas (LPG) and kerosene extensively for cooking and heating. Available data on seasonal variation in demand for kerosene suggest that kerosene is widely used as a heating fuel. Gasoline and diesel are used by vehicle owners, who are not typically among the poorest. Diesel, however, is used in goods transport and agriculture, so a diesel price increase will have an economy-wide impact.

In markets without price subsidies, expenditures on electricity tend to be the highest among the various forms of household energy consumption. Because heating could require considerable energy in a cold climate, expenditures on heating fuels can also be significant. For poor households in Iraq, the impact of large increases in the prices of kerosene, LPG, and electricity (arising from an increase in the input price of fuels at the power plant gate) will require attention from policymakers. Depending on how much public transport is used (usually a substantial amount for the poor, who generally do not own vehicles), the impact of higher public transport costs can also be important, because the fuel cost makes up a significant fraction of vehicle operating costs.

It is important to note that the welfare impact depends on the effective price increases, which differ from the official price increases. Estimating the effective price is complicated by the presence of a large black market with considerable price variation over time and place. No quantitative information is available on the volume-averaged effective prices paid by households for different fuels, but the actual prices paid have been known to be higher by an order of magnitude or more at certain times. For example, in January 2005, some residents in Baghdad were paying ID 300 (against the official price of ID 5) per liter of kerosene and ID 3,000 (against the official ID 250) per cylinder of LPG. The higher prices actually paid would clearly make the direct welfare impact of raising official prices smaller.

To examine the impact of raising the prices of natural gas, fuel oil, and diesel on the cost of power production, illustrative calculations are shown in table 3.3. The results show the incremental impact of raising the fuel price on the cost of power production. Natural gas and fuel oil are assumed to be burned at power plants for supplying grid electricity, and diesel in small generation sets.

Table 3.3. Impact of fuel price increases on electricity production cost

	Price per unit		*Cost per MMBtu*	*Cost per kWh*	
Fuel	*In dinars*	*In dollars*	*In dollars*	*In dollars*	*In dinars*
Natural gas (in cubic meters)	1.0	0.001	0.02	0.000	0
	13	0.009	0.25	0.003	4
	26	0.018	0.50	0.005	7
	38	0.026	0.75	0.008	11
	50	0.035	1.00	0.010	15
Fuel oil (in liters)	1.0	0.001	0.02	0.000	0
	5.0	0.003	0.09	0.001	1
	50.0	0.034	0.87	0.009	13
	100.0	0.069	1.74	0.018	25
	200.0	0.138	3.49	0.035	51
Diesel (in liters)	10	0.01	0.20	0.003	4
	50	0.03	1.00	0.014	20
	100	0.07	2.01	0.027	40
	200	0.14	4.02	0.055	80
	300	0.21	6.02	0.082	119
	500	0.34	10.04	0.137	199

Note: Power plant fuel efficiency of 34 percent for natural gas and fuel oil is assumed, which is currently considered appropriate for Iraqi power plants. Calorific value of natural gas assumed to be 1 MMBtu per 1000 cubic feet. Diesel generation sets are assumed to have 25 percent fuel efficiency

The fuel cost per kilowatt-hour (kWh) in the case of natural gas can be decreased by more than 30 percent if generation is done in a gas turbine with a combined cycle design and fuel efficiency of 50 percent. Cost-recovery prices of associated natural gas at the wellhead in Iraq may be on the order of $0.50–0.70 per million British thermal units (MMBtu). A gas price of $0.75–1.00 per MMBtu at the power plant gate, compared with the current ID 1 per cubic meter, adds another ID 11–15 per kWh to the cost of power production. At a thermal efficiency of 50 percent, rather than the assumed 34 percent, the additional fuel cost falls to ID 7–10 per kWh. In comparison, increasing the price of fuel oil to approach market prices adds considerably to the cost of power production. Even at

ID 100 per liter, which is equivalent to only $11 per barrel, the additional cost from the fuel price increase is about ID 25 per kWh. At 40 percent efficiency (the maximum achievable using fuel oil), the additional cost of power generation for ID 100 per liter is ID 22 per kWh.

Iraqi households are increasingly turning to diesel generation sets. Raising the price of diesel will raise the cost of electricity from this source further. The economic opportunity cost of diesel, which is imported, is much higher than those of natural gas and fuel oil. Unlike the prices of natural gas and fuel oil supplied to power plants, information on the actual prices paid for diesel for this use is limited, making it difficult to estimate the likely consequences on end-user prices. At ID 500 per liter, which is the import-parity price of diesel, the cost of fuel alone is equivalent to $0.14 per kWh.

Estimated effects of energy price increases in Iran

An examination of energy price subsidies in fiscal 2001–02 in Iran and of the impact of raising domestic energy prices to 10-year average border levels gives useful insights (World Bank 2003c). Domestic Iranian prices in 2001–02 were particularly low compared with border prices for fuel oil (7.8 times lower), kerosene (6.9), diesel (6.9), and natural gas (5.1). The annual average of the energy subsidies over the previous decade was about 11 percent of Iran’s GDP.

The subsidies were found to be inequitable and regressive. For some forms of energy, the price subsidies benefited the richest 10 percent of the population 12 times more than the bottom 10 percent. Energy inefficiencies in industry were large compared with other countries. Cement plants and iron and steel mills in Iran were estimated to consume about 40–60 percent more energy than those in Japan. Domestically manufactured refrigerators and cars were similarly much less efficient than the imported ones.

In aggregate, raising domestic prices to border prices prevailing in 2001–02 entailed a fourfold increase in volume-average prices. The impact on economy-wide price levels was calculated to be 30.5 percentage points above the baseline. This figure represents an upper bound because price and income elasticity effects were not taken into account in the calculation. In practice, an energy price adjustment of this magnitude would be expected to result in more rational or efficient consumption of energy, as well as a fall in demand, reducing the increase in the general price level. Aside from the energy sectors, 5 out of 43 sectors studied (goods transport, brick, gypsum, cement, and water) experienced price increases of more than 70 percent. The proportional loss in welfare arising from higher energy prices declined with increasing household expenditure in both urban and rural areas, but was felt more heavily among rural households. The impact on the poorest rural group (which spent 15 times more on kerosene purchase as a share of their total expenditures than the urban rich) was nearly twice that of the richest urban group. Therefore, in the absence of compensating action from the government, the envisaged energy price increases in Iraq would probably be strongly regressive.

A scenario for fuel price increases in Iraq

As a part of at his study, a standard computable general equilibrium model was developed for Iraq to simulate the impact of a reduction in subsidies to refined oil products (box 3.2). Complementing that modeling exercise, a more detailed analysis of fuel price rises is also useful. When price increases are as large as those in Iran in the preceding study and those envisaged in the model for Iraq, the impact on demand is expected to be significant. Furthermore, in Iraq a sizable fraction of "demand" is actually for fuel smuggling, which is sustained purely by large cross-border price differences. Although the extent of fuel smuggling is not known, estimates range as high as 30 percent of the volume of refined product imports. This not only creates a fuel shortage, raising black market prices inside the country, but also imposes a large drain on the budget by artificially inflating demand for imported fuels. Raising official prices significantly will have a marked and immediate impact on perceived demand by reducing incentives for smuggling.

Box 3.2. The impact of subsidy reforms on the imports of refined oil products

A standard small open economy computable general equilibrium model was developed for Iraq to simulate the impact of a reduction in subsidies to refined oil products. The exercise simulated a sixfold increase of prices of Iraqi refined oil products (ROP). Such an increase would significantly reduce the extent of smuggling and the domestic black market. It would also decrease government expenditures on subsidies to domestically produced refined oil products and imports.

The model includes four producing sectors, three oil sectors (crude oil, refined oil products, and the black market for refined products), and the rest of the economy. There are two factors of production—labor and capital; one household and one account each for government, investment-savings, and rest of the world Domestic production of refined oil products is held constant, reflecting current government policies and security-related supply bottlenecks.

Results indicate that a sixfold increase in domestic prices of refined oil products would lead to a fall of 39 percent in households' consumption of refined oil products, while imports of refined oil products would fall by 15.6 percent. Government savings would amount to ID 2.5 trillion ($1.7 billion), allowing for additional investment or transfers to households to compensate for higher prices. Higher domestic prices of refined oil products would reduce incentives for black market sales—their volume would decrease by 30 percent. As a result of increased spending stimulated by a more efficient use of available resources, production in the rest of the economy would increase by 2 percent.

	Domestic production (trillion ID)		Domestic supply price index		Imports (trillion ID)		HH consumption (trillion ID)	
	Bench-mark	Increase of ROP prices	Bench-mark	Increase of ROP prices	Bench-mark	Increase of ROP prices	Bench-mark	Increase of ROP prices
Crude oil	0.054	0.054	1	1	n.a.	n.a.	n.a.	n.a.
ROP	0.157	0.157	1	6	0.122	0.103	0.055	0.008
Black market	0.617	0.432	1	1.416	n.a.	n.a.	0.546	0.359
ROE	5.252	5.349	1	1.001	28.035	28.599	8.999	8.387

This version of the model is only illustrative. It is now being extended to (a) examine in detail the impact of a reduction of fuel subsidies on the nonoil sectors (agriculture, transport, construction, etc) and (b) incorporate linkages and cross-subsidization among the extraction of crude oil, refineries, and the power sector. A disaggregation of households into rural and urban reflecting their different income and consumption patterns will be undertaken as more data become available.

Note: The data sources used to construct the social accounting matrix (SAM) for this model include the Iraqi government budget data, national accounts statistics, the 1988 input-output table (provided by COSIT), World Bank and International Monetary Fund estimates, UN Comtrade data, International Energy Agency data, and U.S. Department of State data. The construction of the matrix has highlighted severe data problems. Some of the data compilation effort and adjustments have been based on assumptions. With respect to the black market, the simulation assumes that households and enterprises in the rest of the economy consume the same volume of fuel at the subsidized and the black market prices, with black market prices being ten times higher.

The impact of price increases on the demand for fuels by end-users is difficult to forecast even qualitatively. Two factors distort demand at present in ways that make forecasts difficult: wildly fluctuating and occasionally extremely high (even by international standards) black market prices that consumers pay, and serious fuel shortages that deny access to fuels even to those who are willing and able to pay very high black market prices. It is entirely possible that among certain population groups—gasoline purchasers in urban areas, for example—demand could even increase if official prices are raised and fuel shortages are eased. More quantitative data, especially on prices and volumes purchased by end-users, are needed to make a better assessment.

Table 3.4. Scenario for fuel price reform in Iraq

	LPG[a]	*Gasoline*		*Kerosene*	*Diesel*	*Fuel oil*	*Total*
Variable		*Regular*	*Premium*				
Official price (ID per liter or cylinder, early 2005)	250	20	50	5	10	10	
Current consumption (millions of liters or cylinders)	127	5,000	1,200	3,700	5,900	3,100	
Current revenue (millions of dollars)	22	69	41	13	41	21	207
Revised price (ID per liter or cylinder)	1,500	120	150	70	80	50	
Percentage fall in consumption	10	15	5	10	15	0	
Future consumption (millions of liters or cylinders)	114	4,250	1,140	3,330	5,015	3,100	
Future revenue (millions of dollars)	118	352	118	161	277	107	1,132
Incremental revenue (millions of dollars)	96	283	77	148	236	86	925
Fall in imports (millions of liters or cylinders)	13	750	60	370	885		
Import price (dollars per liter or cylinder)	4.18	0.24	0.28	0.28	0.27		
Import savings (millions of dollars)	53	180	17	104	239		592
Net government revenue (millions of dollars)	149	463	93	252	475		1,517

Note: Consumption estimates are from the UK Treasury. Price elasticities are arbitrary. The breakdown of gasoline consumption into regular and premium is not known; an 80/20 split is assumed.
a. LPG price is for a 12 kg cylinder of liquefied petroleum gas, and consumption is in number of cylinders. Import prices are the Gulf prices found in table 3.2, except regular gasoline.

To give some idea of the budgetary impact of fuel price increases, a hypothetical scenario is sketched out in table 3.4. Reductions in consumption ranging from 0 to 15 percent are assumed. The budgetary impact is twofold: the government receives higher revenues from higher fuel prices (much of which is currently captured by the black market) and pays a lower bill for fuel imports (estimated in the 2005 budget to be $2.5 billion). For the four imported fuels, the new prices are in the vicinity of, or lower than, the black market prices quoted in the media.

The incremental government revenue from higher prices amounts to $925 million. A reduction in fuel imports gives savings of $592 million, giving the government net revenue of $1.5 billion. Although all the assumptions in this illustration can be questioned, this calculation gives an order-of-magnitude estimate of the budgetary impact of near-term fuel price increases in Iraq.

International experience on access of the poor to essential household energy

Gasoline prices in Iran, Iraq, and Turkmenistan notwithstanding, it is rare for a government to subsidize gasoline heavily. Gasoline is used almost exclusively as an automotive fuel and to a considerable extent in privately owned vehicles. Given the concentration of car ownership and use in the upper-income groups in developing countries and the weak systems for direct taxation, a high incidence of taxation on gasoline is a progressive tax, making it relatively easy to win political support for high fuel taxes. Most governments in developing countries therefore price gasoline higher, and sometimes much higher, than other fuels.

Diesel is used in goods and public passenger transport, agriculture, and industry. It is viewed as a "social fuel" in many countries, and its price is almost universally lower than that of gasoline through differential taxation. The large difference between gasoline and diesel prices has historically led to much greater consumption of diesel than gasoline as an automotive fuel, with adverse effects on air pollution and public health.

Kerosene has also been considered by many governments to be a social fuel. It can be more easily transported to rural areas than LPG and is used for lighting by those who are not connected to grid electricity. Kerosene has historically been subsidized in a number of countries, at least on paper. But if kerosene is much cheaper than gasoline and diesel, adulteration of gasoline with kerosene and large-scale diversion of kerosene to the automotive diesel sector become widespread. Replacing diesel with kerosene has virtually no impact on vehicle performance and is hence financially attractive. In India, as much as 50 percent of heavily subsidized kerosene intended solely for use by households has been estimated to be diverted to other sectors, costing the government close to $1 billion in 1999–2000 (ESMAP 2003). There is no example of an effective targeted kerosene price subsidy scheme, in large measure because of the nearly perfect substitutability between kerosene and diesel and the ease of transporting and selling kerosene.

LPG is used by households for cooking and heating, especially in areas without piped natural gas. It is also one of the cleanest commercial fuels. LPG price subsidies tend to benefit better-off urban households much more than the rest of the population, and as such are regressive. This also means that eliminating LPG price subsidies would have little welfare impact on the poor. In Iraq, because of the extremely low LPG price in the past, its historical use has reportedly been extensive and common even in remote rural areas. This would need to be verified. If true, the welfare impact of the LPG price subsidy phase-down could be more serious than in other developing countries.

Natural gas has the potential to become the cheapest household fuel in Iraq in the future. Electricity and natural gas, which are delivered through networks, have one advantage over liquid fuels: they are more difficult to divert. One possible approach for protecting the welfare of the poor is to have a rising block tariff structure, whereby a small first block at a subsidized tariff is made available to help the poor, cross-subsidized by higher tariffs for higher blocks. All benefit from the subsidy in the first block, but the rich, who consume more energy, pay more on average on a unit basis. Rising block tariffs are not without problems and are prone to political capture. One serious and commonly encountered problem is the political pressure to increase the size of the first block, a politically popular move that is extremely costly. Careful analysis of the market is needed before deciding whether and how to adopt such tariffs.

International experience amply demonstrates that it is difficult to design an effective targeted subsidy for liquid fuels. The most suitable approach, if administratively and technically feasible, is to shift the focus away from fuels, consider how policies across different sectors (food, water, electricity, fuels, education, health) are affecting the poor in aggregate, and assist them with a direct income transfer to help them purchase the basket of goods they consume. But absent an already existing mechanism, the cost of administration—from identifying beneficiaries to delivering direct cash payments—could far exceed the intended benefits. A direct income transfer is unlikely to be a feasible option in Iraq in the near term.

Because the official fuel prices are extremely low today, even increasing prices fivefold or tenfold to reach ID 100–200 per liter would yield prices that are still low by world standards. It would be best if any compensation in the initial stages of price adjustments were temporary. Over time, if and as fuel prices are raised toward economic-opportunity prices, a sustainable mechanism to enable the poor to meet their household energy requirements will need to be designed as part of a broader social safety-net package.

Integrating fuel price increases with policies in other sectors

Because fuels are inputs in almost all sectors of the economy, fuel price increases need to be coordinated with policies in other sectors, especially those that are fuel-intensive such as transport and power. At present, primary resource prices are set virtually at zero for some users. For example, the price of a barrel of oil sold to local refineries is ID 300 ($0.21). It is important to start raising primary resource prices at the point of origin, to the level sufficient to cover long-run development and operating costs. Raising prices at any point along the supply chain has immediate implications downstream. The input prices at refineries and power plants are likely to be increased at the same time, adding on transportation costs. The first goal is be to raise ex-refinery prices to allow for recovering the cost of maintenance and investing in upgrading processes. Installation of cracking units, which convert fuel oil to lighter products, would substantially reduce the need for product imports in Iraq. Electricity tariffs will need to reflect fuel cost increases. Allowing full cost recovery will not only help sustain current production levels, but will provide incentives for investment in new capacity to meet rising demand.

Electricity pricing and management autonomy

The Iraqi government recognizes that adjusting energy prices is one of the keys to rehabilitating the electricity sector. The adjustment of energy prices can improve cost recovery and help to ensure that the right investment choices are made in that critical sector. Even under a new price regime, however, the electricity sector will not be able to recover unless electricity utilities have greater management autonomy. This section discusses some of the possible approaches to electricity reform and their likely impact on households and the budget.

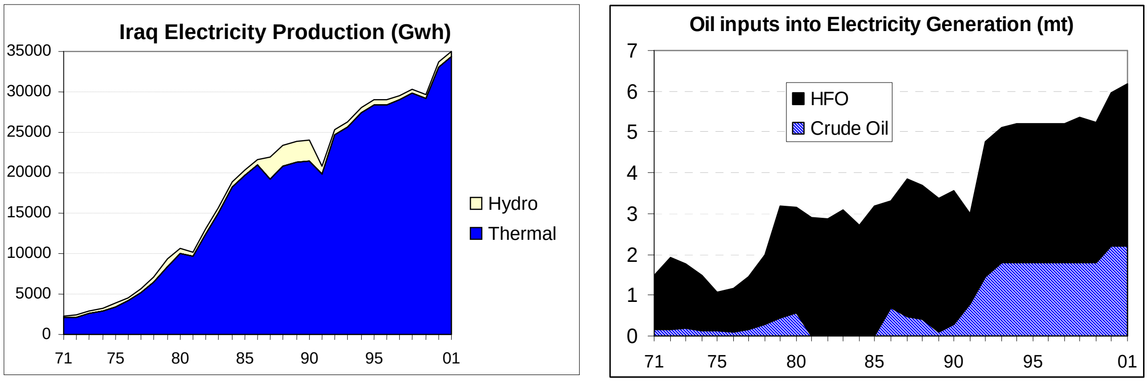
These considerations all bear upon the scope of reform in the electricity sector:

- Reforming electricity price subsidies ought to be part of a broad government effort to free more resources for investment and improve the targeting of the incentives across sectors. In particular, reducing subsidies for electricity needs to be coordinated with similar policies applied to other essential goods (such as food subsidies) to sequence their implementation in a way that reduces the potential political backlash.
- Electricity price reforms are acceptable only if the supply of electricity is reliable, a goal toward which the government is currently working.
- Electricity price reforms have to be conducted in parallel with efforts to improve the management and the use of oil revenues, since current electricity price subsidies (and direct fuel price subsidies) are one of the many ways through which Iraqi citizens perceive a benefit from oil production.

Rebuilding a deteriorated electricity supply

Electricity production has grown by nearly 10 percent per year over the past 30 years—albeit with noticeable bumps along the way—despite war, sanctions, depletion of capital stock, and other major difficulties (figure 3.2). Most of the generation has been fueled by heavy fuel oil, with a smaller contribution from hydropower. Since the Gulf War, a significant share of generation has been from burning crude oil, as the availability of natural gas associated with oil production has fallen. Roughly a fifth of generation was based on natural gas before 1991. After the recent conflict, as oil production fell off from prewar levels, little gas was put into pipelines, which resulted in too little pressure to fuel connected gas turbines. As power plants switched from gas to more crude oil and gas oil, the efficiency of generation has dropped significantly.

Figure 3.2. Iraq electricity production and oil inputs into electricity generation



Note: HFO indicates heavy fuel oil.
Source: World Bank staff estimates.

In 1990, the total installed generating capacity was 9,295MW, with a peak demand of about 5,100 MW. Approximately 87 percent of the population had access to electricity. In 2002, an estimated 2.6 million out of a total 3 million households were connected to the power grid. Households represented 80 percent of all customers and consumed 48 percent of all the power generated. Industry, with less than 1 percent of customers, consumed 20 percent, and much of the rest went to government (13 percent), commercial (6 percent), and agricultural (4 percent) uses. Industry and commercial enterprises also rely on their own standby generators, which could be in excess of 1,000 MW. About 40 percent of electricity is consumed in the Baghdad area. Per capita consumption had been suppressed at around 1,400 kWh from the 1991 Gulf War until the start of the 2003 conflict; recent consumption has been about half of that.

A combination of wars, lack of maintenance, sanctions, looting, and vandalism has severely affected the entire power infrastructure in Iraq. In 1991, the available generation capacity was reduced to 2,325MW, and power cuts of up to 15 hours or more a day were common. Repairs helped make available about 4,500MW of generating capacity in 2002, and about 5,300MW in mid-2004. After the most recent conflict, the situation has considerably deteriorated again. In spite of repairs, generating equipment is aging, fuel supplies are often interrupted, and fuel quality inadequate. As a result, generators frequently fail, and thermal efficiencies are extremely poor. Transmission and distribution systems remain highly unreliable, and total losses are currently about 30 percent. Power cuts have become more frequent. This is the case particularly during the summer, when demand is at its peak. Electricity is currently available only a few hours a day (8.5 hours per day on average throughout Iraq in the first week of January 2005).

Table 3.5. Electricity tariffs in Iraq

Price per kWh (in dollars)	Price per kWh (in dinars)	No. of kWh consumed
Household		
0.0007	1.000	1–1,500
0.0027	4.000	1,1501–2,100
0.0047	7.000	2,101–3,000
0.01	15.000	3,001–5,100
0.02	30.000	5,101 or more
Commercial		
0.0013	2.000	1–300
0.0027	4.000	301–600
0.0053	8.000	601–900
0.008	12.000	901–1,500
0.0013	20.000	1,501–3,000
0.0166	25.000	3,001 or more
Industrial		
0.0057	8.500	0.4 kv
0.002	3.000	11 kv
0.0017	2.500	33 kv
0.0013	2.000	132 kv
Governmental		
0.0013	2.000	1–10,000
0.017	2.500	10,001–20,000
0.002	3.000	20,001–40,000
0.0027	4.000	40,001–100,000
0.0033	5.000	100,001 or more
Agricultural		
0.0033	5.000	

Note: Black market exchange rates as of December each year for 1996 and 2001. These exchange rates fluctuated widely.
Source: Iraqi Ministry of Electricity, World Bank staff estimates.

To reconstruct the existing electricity infrastructure, the World Bank and United Nations have estimated that investments of $13 billion would be needed up to 2007 (United Nations and World Bank 2003a). This amount covers the costs of gradually bringing back the power system to a reliable and efficiently run system similar to the pre-1991 levels of total capacity and service access. The needs were estimated assuming a potential demand in the order of 6,500–7,000MW, to be matched by supply in 2007 with the addition of a little less than 4,000MW over 2005–07.

Getting electricity prices to reflect costs

Iraq has the advantage of being able to shift to natural gas-fired generation over time, which will improve the overall efficiency of operations and substantially reduce emissions. That shift requires significant investments, however. If the government plans to phase out subsidies and attract private capital (and management) into the electricity sector, the legal and regulatory framework will probably have to be updated to enable tariff setting above cost-recovery levels.

Electricity tariffs are now held at very low levels—among the lowest in the world. Although tariffs have increased in recent years, household tariffs, as measured by the black market exchange rate ranged from $0.002 per kWh from low consumption to $0.04 per kWh for high consumption in 2001. Given the features of Iraq's power system (fuel use, generation capacity, consumer density, etc.), tariffs in the range of $0.05–0.07 per kWh would probably better reflect actual cost. The extremely low cost of electricity to consumers provides no incentive to conserve energy, especially for households, and probably lead to wasteful consumption.

In principle, tariffs were set so that operating and maintenance costs would be covered at subsidized fuel prices, but that was barely the case. Total tariffs collected in 2002 were $44 million, compared with costs of about $1 billion, according to estimates made at international fuel prices for the Iraqi Commission of Electricity.

Indeed, the annual fuel bill of about $9 million at subsidized fuel prices would be on the order of $800 million at recent international prices. In the Commission of Electricity's 2002 budget, fuel costs represented only 6 percent of total expenditures, compared with about two-thirds in countries where energy prices are market-based.

At present very limited amounts of revenue are being collected, as distributing companies are awaiting security to improve billing and collection procedures. Yet, the capacity of consumers to pay is likely to be much higher than the existing tariff. In spite of the lack of security affecting economic activity, opening Iraq's borders in 2004 has generated a spurt in demand for electrical appliances. As a result, electricity demand has reportedly increased by about 30 percent, mainly from the household sector.

Since the existing centralized grid is currently unable to satisfy all electricity demand, Iraqis are increasingly resorting to producing their own electricity with small, often portable, stand-alone diesel power generators. In densely populated urban areas with sufficient income, private suppliers are providing power to clusters of households with a single generator, charging a flat rate for the connection. This is likely to be much higher than the prevailing electricity tariff. Reducing the subsidies on diesel prices and increasing the reliability of electricity supplied through the grid are likely to boost demand for grid electricity, possibly improving the profitability of the central power supply system. More important, the high price of electricity from stand-alone diesel generators could indicate a significant willingness to pay for electricity services.[iii] Therefore, the Commission of Electricity has a significant margin of maneuver to raise electricity rates, increase revenue collection, and improve the financial health of the utilities.

Increasing tariffs is essential but not sufficient. Iraq used to benefit from a relatively wide access of its population to electricity. This is well worth preserving. Low-income groups already connected to the grid will probably need some kind of subsidized access for awhile. This subsidy could take the form of a cross subsidy built in the electricity tariff, where larger consumers are charged proportionately more than smaller consumers (a block tariff). This type of tariff structure would imply a significant increase in electricity prices for larger consumers; hence the subsidized tariff for small consumers would need to be set for as low a level of consumption as possible, such as 50 kWh per month, and maintained at that level. If the assessed need for social support is expected to put a burden on larger consuming groups with a risk of political backlash, as a very last resort, a block tariff could be associated with a small direct electricity price subsidy, limited in time. Although the direct price subsidy is known to lead to poor targeting and considerable waste of expenditures, since a lot of the recipients are not necessarily the ones who need financial support, its administrative cost is limited, and it could be designed as part of the transition to prices reflecting economic opportunity costs. If chosen, such a system would need to permit monitoring of expenditures. Implementation of support mechanisms with an impact on the public budget would have to be coordinated with the improvement of safety nets (see chapter 4).

In conclusion, Iraq now urgently needs to mobilize efforts to improve the basic functions of electricity service: efficient generation, delivery, metering, billing, and revenue collection. Although raising tariffs is the key to improving service in the long term, the reliability of service needs to improve before consumers will accept price increases.

In parallel, there is a need for a detailed analysis of the use of electricity, the need for social protection, the appropriate tariff structure, and the options available to work out a transparent and well-targeted support mechanism. To work this out, detailed information on the cost of producing and distributing electricity need to be gathered.

Management autonomy of electricity utilities

In spite of its current problems, Iraq's electricity system has several advantages: a large transmission grid and a relatively expansive access to electricity, abundant primary energy resources of oil and gas, competent utility personnel, and an industry structure that has—in the past—experienced a relative autonomy from political interference. Yet, the challenges are huge: first, to rebuild the existing facilities and meet the existing demand and, second, to set the pace for reforming the utilities and providing them with sufficient autonomy to operate and fund their future expansion. For the electricity utilities to reintroduce more internal financial responsibility, better cost accounting, and eventually lower production costs, they will need more management autonomy.

The Ministry of Electricity is currently responsible for policymaking and electricity supply throughout the country. (The ministry is the successor of the Commission of Electricity.) The Commission of Electricity provided corporate services, operated the National Dispatch Center, and oversaw the operation of three regional generation and transmission companies (400kV and 132kV), four regional distribution companies, and four other companies responsible for construction, manufacturing of equipment, and information technology.

The Ministry of Electricity was recently reorganized into a number of directorates largely maintaining the Commission of Electricity structure, but power generation, transmission, and distribution operations are now reorganized into 18 geographically based directorates, which report to a senior deputy minister. Total staff is estimated at about 43,000. The two electricity departments in Kurdistan (Dohuk, Erbil, and Suleimania governorates), which are not connected with the main grid, report to another official in the Ministry of Electricity and have an estimated 7,300 employees.

Electricity supply will have to rapidly revert to its earlier structure of autonomous companies, away from the direct control of the Ministry of Electricity, to enable adequate investment allocations and rapid and optimal deployment of capital investments across the industry. Gradually, financial accountability of the managers at all level will need to be enforced, and three measures will have to be implemented:

- Prepare programs to reduce technical losses within each of the generation, transmission, and distribution entities.
- Set objectives and measures to improve metering, billing, and revenue collection in the four distribution entities.
- Expand financial accounts to assess the true cost of producing, transporting, and distributing electricity.
- Consider reorganizing generation, transmission, and distribution activities into corporate entities.

The Ministry of Electricity has to give careful consideration to moving away from direct management of the electricity utilities and instead playing the following roles:

- Formulating electricity policy on the timetable for switching to natural gas for power generation; the role of the private sector; the rules, monitoring, and regulation of competition; and the goals for electricity access.
- Protecting low-income consumers by defining the size and nature of possible cash supports to soften the negative impact of electricity price rises.
- Monitoring supply, demand, and reliability of electricity services and identifying gaps in generation investments.
- Creating a favorable investment climate and a clear regulatory framework for private and public enterprises to supply electricity to the grid.
- Determining and enforcing safety and environmental guidelines for electricity supply.

As Iraq moves toward reforming its pervasive system of subsidies on food, domestic fuels, and electricity, it may be able to draw lessons from other sectors of the economy, especially experiences in agriculture (box 3.3). By moving on all these fronts to bring domestic prices more in line with world market prices—and in doing so fostering growth and competition in the country's private sector—Iraq would also be positioning its economy to take more advantage of trade and foreign investment opportunities.

Box 3.3. Impact of subsidy reforms on the agricultural sector

Agriculture in the national economy. Decades of war, sanctions, inadequate public resources, limited private investment, and heavy state intervention have degraded facilities and distorted incentives, resulting in low productivity and decreasing the contribution of agriculture to rural incomes. For more than two decades, agricultural production was determined by government intervention, with little regard to efficiency or comparative advantage, creating major disincentives for private initiative. The agricultural strategy of the previous government, aggravated by an embargo, promoted the production of strategic crops (wheat, maize, cotton, and sunflowers). For these crops, the government supplied farmers with inputs and equipment at subsidized prices, provided free extension services, acted as the main buyer of the crops at government-set prices, and arranged storage, marketing, and processing. The UN and World Bank Needs Assessment (United Nations and World Bank 2003a) estimated the total amount of subsidies for agriculture at $582 million for that year. About 45 percent of all subsidies were for fertilizers. Most prices, production, and agricultural commodity markets were controlled by the government. Export markets were lost when an embargo was imposed in 1991. In response, the government established a network of state enterprises for the provision of inputs, purchase of crops, and processing of strategic commodities. In 2003 this network broke down; some private entrepreneurs emerged to fill the void. Although the public facilities and their employees have remained in place, they are now largely inactive. The private sector has only slowly and insufficiently developed the capacity to provide the goods and services that were formerly provided by the government. Nonetheless, agriculture still provides 6–8 percent of Iraq's GDP and absorbs about 20 percent of the Iraqi labor force, supporting a rural population of about 7 million people.

Effect of input subsidies and output price support. Input and output price interventions by the state have created market distortions leading to an inefficient allocation of resources. They created major disincentives for private investment, initiative, and innovation and dramatically reduced sectoral productivity and competitiveness. In addition, large-scale farmers benefited disproportionately from the subsidies, because they used larger amounts of subsidized inputs and outputs. However, price interventions and state procurement systems have generally offered predictable and stable incomes for producers of strategic agricultural products, providing some social safety net for part of the rural population.

Fertilizer production used to be exclusively in the hand of three state-owned factories with a capacity sufficient to meet domestic demand. During the war of 2003, fertilizer production was suspended, and the prewar capacity has never been reached again, primarily because of the lack of electricity. In the absence of governmental supplies, private traders have started to sell imported fertilizers at market prices. The government intends to restore fertilizer production, but gradually to phase out fertilizer subsidies by 2008. Farmers are facing two major issues: the timely availability of sufficient amounts of fertilizers at local markets and the gradual transition to market-based prices for inputs.

Cereal markets are strongly distorted by the Public Distribution System. Before the war, the Ministry of Agriculture used to announce producer prices for wheat and barley before each planting season. The farmers planted according to these prices and received strongly subsidized inputs. The Ministry of Trade's State Company for Trading Grains procured the farmers' produce, stored it at government-operated silos, and fed it into the milling and distribution processes under the Public Distribution System. Although Iraq has begun its transition toward a market-oriented agricultural sector, the earlier system is still in place as well. Farmers are facing two major issues in this transition: they will need to orient their production toward the requirements of domestic and international markets, and they will need to organize the marketing of their products (in the absence of the guaranteed state procurement of agricultural outputs).

Government strategies for the agriculture sector. The objective of the National Development Strategy is to foster market-led growth. A variety of measures are being implemented, to increase agricultural productivity through input and output price liberalization, increased purchase of goods for the Public Distribution System from local farmers at international prices, improvements in input supplies and support services, investment for irrigation and critical rural infrastructure (e.g., storage); improved natural resource management; and the reform of state-owned enterprises. Related strategies on food security and regional development call for procuring more food from domestic suppliers, liberalizing food prices, maintaining an open trade regime, and reducing the disparities among governorates and between rural and urban areas.

Expected impact of price reforms. While a quantitative analysis of the net effect of these reforms has yet to be conducted, the elimination of subsidies and product price supports will change relative prices among agricultural products and between agricultural and nonagricultural products. Resources will move to agricultural products with higher net returns; some resources will shift between agriculture and other sectors. Evidence from other countries shows that the income effect of low producer prices is usually not compensated by input subsidies. The net income effect of eliminating price distortions is therefore expected to be positive. More efficient resource allocation and increased incentives for private investment are expected to lead to increased sectoral productivity and competitiveness, resulting in higher incomes for farmers, but leaving nonfarm rural families more vulnerable because of higher food prices. Policy reforms affecting agricultural input and output prices work best if coordinated with strengthening the social safety nets.

The extent to which the potential for higher productivity and competitiveness can be realized will depend on farmers' willingness and capacity to adapt their production in terms of output type, quantity and quality, intensity level, and long-term investment. Functioning input and output markets, financial services and risk management (crop insurance, floor prices, etc.), marketing and transportation infrastructure, and effective farmer training and information are critical in this transition.

Trade and investment

Trade has a potential to significantly boost the Iraqi reconstruction process. Already in the current tense security situation private trade has been growing rapidly, providing jobs for thousands. This job creation potential will grow manifold as soon as the security risks are addressed.

For trade to play this facilitating role, however, a trade regime must be designed that is transparent, open, and resistant to instability stemming from highly volatile oil markets. Trade reforms are part of a broader development and reconstruction strategy that will succeed only if harmonized with the domestic price liberalization and reform of Iraq's complex subsidy system. This section examines Iraq's trade structure and recent performance; key underlying issues in mainstreaming trade in Iraq's development strategy; components of a sound trade agenda; and short-term challenges.

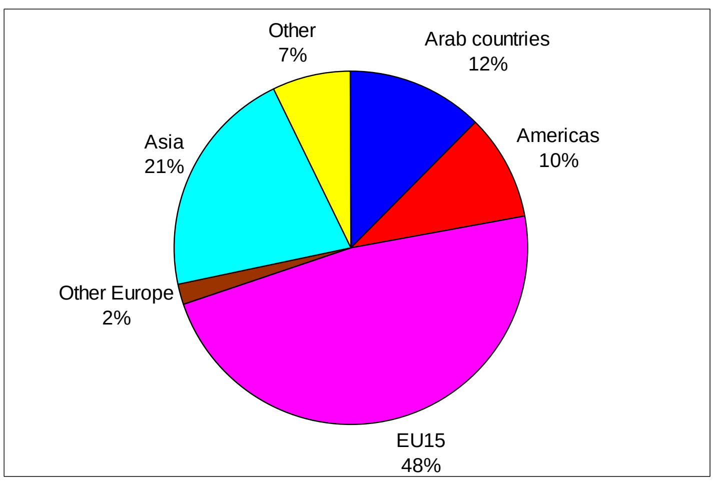
Iraq's trade structure and recent performance

It should not be surprising that Iraq's exports are currently highly concentrated in petroleum and other oil-related products (98 percent), given the recent history of conflict and sanctions. Such concentration was not always the case, however. By the mid 1970s, Iraq was well on its way toward developing a more diversified export structure, with over 90 partners and a wide range of export products. Trade expanded rapidly from the mid-1960s to the mid-1970s, with a 40 percent increase in the number of trade partners and nearly 20 percent increase in total export products. Total exports increased in value by over 700 percent between 1965 and 1975, decelerating a bit by the mid-1980s. In the mid-1970s, Iraq's trade partners spanned countries in the Middle East and North Africa, the Organisation for Economic Co-operation and Development, Latin America, and Asia, and reached to markets as distant as Iceland. Few of the export sectors were competitive on a global scale, with the exception of dried fruit, sulfur, and petroleum. Sanctions have cost these nonoil exporters their foreign markets. These producers have either disappeared completely or are currently idle. The only noticeable nonoil exports are now dates and other food products, amounting to 1 percent of total exports.

The export volume of oil and related products increased significantly in the late 1990s, reaching $16.5 billion in 2000, before following a declining trend ever since. Exports in 2003 were just about half of the level reached in 2000. Imports followed a similar trend. They increased gradually to reach a maximum of $10.5 billion in 2002, and then declined sharply in 2003. Iraqi imports are much more diversified than exports, with machinery, food, and a large number of other products imported. The collapse in imports of machinery, which dominated imports in 2001–02, drove the total decline in imports in 2003. At the same time, Iraq experienced a boom—almost a twentyfold rise since 2003—in private-sector imports. This has filled the Iraqi markets with a variety of previously unavailable goods. Overall, Iraq's trade surplus remains high at $4.5 billion in 2003.

Iraq's major partners for imports include Germany, Iran, Jordan, Turkey, United Kingdom, and United States. Iraq actively pursued bilateral regional trade arrangements with its Arab neighbors before the 2003 invasion. According to the Ministry of Trade, the government signed free trade agreements with 11 Arab countries. Most of these agreements were signed in 2001–02 as part of Iraq's efforts to skirt the UN international trade embargo (Kaminski 2004). As shown in figure 3.3, however, Arab countries accounted for only 12 percent of Iraq's imports in 2004.

Figure 3.3. Geographical distribution of Iraq's imports, 2004



Source: Central Bank of Iraq 2004.

Mainstreaming trade in Iraq's development

To integrate trade policy into Iraq's broader development and reconstruction strategy, three issues are worth considering:

Fiscal consolidation, restructuring, and diversification. While oil revenues will continue to be the mainstay of government revenue streams, it will be important to encourage development of a more diverse fiscal base, reflecting the underlying volatility of oil, the high demand for reconstruction, and the need to service debts in the short and medium term. Within such a diversified structure, sensibly chosen taxes on imports can play a modest but nonetheless important role, especially when world prices of oil are low. Tariff revenues will supplement oil royalties to fund government expenditure without resort to additional taxation, largely or wholly relieving the nonoil traded sector and the private service sector of other forms of direct and indirect taxations. Whatever the difficulties of creating customs administration and working tariff regimes, they are likely to be easier and more immediate to achieve, and easier to sustain, than introducing more broad-based domestic taxes (income tax, value-added tax, or sales tax) or export-supporting schemes, such as duty drawbacks.

Minimizing Dutch disease effects. Iraq is an oil-rich economy with tangible prospects for expansion of production. Income per capita is likely to increase significantly over the coming ten years. Higher income will boost consumption of nontraded goods and services, bidding up their prices, resulting in overvalued and uncompetitive exchange rates and reduced relative profitability of the nonoil traded goods sectors (agriculture and industry). These are the classic symptoms of Dutch disease. To minimize such problems and maintain a diversified economy, it is necessary to ensure that the nonoil traded sector remains lightly taxed, flexible exchange rate policy and labor legislation is in place, red tape is kept to a minimum, and capital goods and inputs are not subject to high tariffs.

Improving the investment climate. The success of trade reform will heavily rest on private investment response and job creation. Combined with policies friendly to foreign direct investment and other measures to improve the investment climate, this is likely to encourage both foreign and domestic investment in the nonoil sector and increase the likelihood of absorbing workers currently unemployed, as well as new entrants to the labor force. Changes in the trade and investment climate are critical complements in benefiting labor markets. Reinvigorating trade reforms, when combined with complementary actions to spur private investment, will likely lead to much faster employment growth in aggregate.

A proposed trade agenda

As Iraq reconfigures its agenda for trade, it should consider reforms to streamline the tariff structure, stimulate trade in the service sector, and, encourage foreign direct investment.

Tariff policy. In the prewar period most of Iraq’s trade was through the U. N. Oil for Food Program, under which imports entered the country tariff free. Private-sector imports that took place outside the program were subject to tariffs in the 15–20 percent range, with tariff peaks of 100 to 200 percent on some products, including luxury cars.

In 2003–04, the Iraqi government took a number of trade policy measures. Border restrictions to merchandise trade were lifted, a uniform tax of 5 percent instituted, foreign exchange markets liberalized, and the decision was made to negotiate membership in the

World Trade Organization. Iraq has started to unwind decades of state control, price distortions, and high protection. Over the longer term, the main task will be to put in place a tariff structure that can yield important benefits to the country's broader policy objectives. International experience suggests a few rules of thumb that could guide policymakers when designing a tariff structure:

- *Simpler is better.* A regime with a uniform moderate rate that injects efficiency in the economy while providing a degree of support for domestic value added is preferable to one with multiple levels and peaks on individual products. Multilevel and specific product tariffs can foster fraud, corruption, and economic distortions.
- *Lower is better.* A low uniform tariff (e. g., not exceeding 10 percent) provides domestic value added with a modest degree of protection, but also exposes the tradable sector to some international competition, which places an upper bound on the inefficiencies that can emerge in closed markets.
- *Broader is better.* Even simple structures can be hard to administer if there are countless ways to legally avoid paying duties, e. g., exemptions for the government, for nonprofits, or for specific expenditures and industries.

The proposed tariff structure—low uniform tariff across all goods and all importers—has many advantages. It would send a clear signal to investors, reduce the cost of much needed capital and intermediate goods, provide increased access to modern technologies, facilitate trade by simplifying customs clearance procedures and customs valuation, and put Iraq's trade regime close to that of the Gulf Cooperation Council with which Iraq may want to eventually affiliate. In addition to the free trade agreements signed with Arab countries, Iraq is likely to engage in an agreement with the United States and, possibly, with the European Union. The bulk of Iraq's trade may be governed by trade agreements in the medium run, and a low uniform tariff could help avoid costly trade distortions. To put Iraq's trade regime into perspective, it is worth noting that the simple average tariff in Middle East and North Africa is 16.5 percent—higher than any region except South Asia. About 16 percent of tariff lines are subject to at least one nontariff barrier in the Middle East and North Africa. Only Jordan, which has an average tariff of 16.2 percent, has done away completely with its nontariff barriers. Syria has high protection, with an average tariff of 21 percent, and Saudi Arabia also has moderate protection (12 percent average tariffs), as well as fairly prevalent nontariff barriers.

The proposed tariff reform should also be consistent with overall tax policy. If the objective is to introduce a value-added tax, such taxes would have to be collected at the border. If the same principles of simplicity and broadness are applied to the tax reform, then the efficiency of the tariff reform will be enhanced.

Trade in services. The service sector is likely to be the largest source of employment and, to a lesser degree, value added in Iraq. A vibrant service sector can also be a source of exports—for example, the United Arab Emirates have been moderately successful in developing tourism, re-export trade, shipping, telecommunications services, broadcasting and media, and financial services (World Bank 2003d). Efficient provision of so-called backbone services, including telecommunications, power, transportation, and finance, is crucial to economy-wide productivity and therefore to international competitiveness. These services also have a direct impact on living standards.

Stimulating competition in the service sector and providing access to state-of-the-art technologies and management practices, by allowing foreigners access to the domestic market for services, should be a central thrust of Iraq's development strategy. The benefits of this strategy are clearest in sectors that are normally the province of the private sector throughout the world, such as retailing and wholesaling, banking, even though many of these sectors are state-driven at present in Iraq.

The regime for foreign direct investment. Foreign direct investment—or foreign establishment—is by far the main vehicle through which the domestic service sector can be exposed to international competition. Other modes of international service provision identified in the General Agreement on Trade in Services include temporary movement of workers, remote provision (e. g., through the internet), and movement of consumers (e. g., tourism). Thus, a new regime for foreign direct investment is a crucial platform for facilitating trade in services and promoting efficiency across the Iraqi economy.

As in the case of services, a liberal foreign direct investment regime is also essential to promoting Iraq's trade integration in global markets for manufacturing, agriculture, and food processing by providing risk capital, technology, access to markets, and management know-how, as well as enabling Iraq to enter the international value chain in sectors where it has comparative advantage. Finally, foreign direct investment can be a crucial source of development finance during Iraq's reconstruction phase. Increased reliance on foreign direct investment may help to develop Iraq's still largely unexploited oil production potential and also contribute to the country's debt-reduction objective.

As Iraq undertakes these much-needed, but technically difficult regulatory reforms in services, it may wish to focus initially on services directly related to logistics and facilitating trade. These backbone services facilitate resource flows and economic transactions between countries. They are critical to attracting "production blocs" from abroad because they allow for production fragmentation. Without high-quality backbone services, Iraq's domestic and foreign investment will be hindered, with resulting loss in trade (Kaminski 2004)

Membership in the World Trade Organization. Iraq's application for World Trade Organization membership in 2004 sent an important signal to investors that Iraq is willing to commit to transparent, rule-based liberal trade policies. It also had a symbolic dimension, signaling to the world that Iraq wants to reintegrate into the broader world community after a long period of diplomatic isolation and war. The move will further help to ensure that products originating in Iraq would be subject to most favored treatment across the World Trade Organization membership. If Iraq binds its tariffs at a lower level (e. g., 10 percent), it would send a strong signal of stability to its partners.

Since the Uruguay Round in 1994, the accession process has been notably successful in helping countries shift toward stable, transparent, rule-based foreign trade regimes.

Beyond traditional trade policies, there has been a tendency among current World Trade Organization members to insist that new entrants remove even a wide range of behind-the-border barriers, frequently compelling them to introduce far-reaching institutional reforms. In the case of Iraq, World Trade Organization members will likely push Iraq to reduce or eliminate certain discriminatory policies and laws, as well as discretionary import licensing, subsidies, monopolistic state-owned enterprises, and similar harmful practices. There are practical limits, however, in using World Trade Organization accession as a "lock-in" mechanism to meet demand for reforms in these areas and implement regulatory agreements that emerged from the Uruguay Round. Contrary to tariffs that have to be bound in the World Trade Organization, many of these reforms are not requirements of World Trade Organization members. The government has to choose to implement them.

Furthermore, simply promulgating domestic regulations and policies compatible with World Trade Organization standards does not in itself create a high-quality institutional environment. Nor does it ensure that rent-seeking will disappear. In the case of Kyrgyzstan, the World Trade Organization accession process itself had opened the door to domestic special-interest lobbying. That country started the accession process with a low, uniform tariff and ended it with 11 tariff bands and the maximum rate triple the level of the preaccession tariff. Accession means having to bargain with other World Trade Organization members over conditions for opening to competition from imports. For a particular country eager to join, the exchange of "concessions" may not necessarily add up to the best and most productive trade regime. There are many paths to the World Trade Organization, and most countries look at the process as one of mercantilist bargaining, treating liberalization and compliance with World Trade Organization rules as bargaining chips rather than as opportunities to improve overall economic welfare.

For these reasons, the key factor in reforming trade and institutions is likely to be the political will to modernize institutions. Using World Trade Organization commitments as a strategy to leverage domestic reforms and to integrate Iraq's economy into global markets could thus be effective if two conditions are met. First, the Iraqi government must genuinely commit itself to multilateral liberalization, with the accession process serving as a shield and driver of reforms. Second, accession must fit within a broader strategy of structural reforms. The primary objective is not compatibility with the World Trade Organization, but a high-quality institutional environment that ensures macroeconomic stability and a healthy climate for economic activity.

Short-term challenges

Priorities include the rehabilitation of the customs administration, the establishment of safety standards for imported and exported products, and need to link trade liberalization with domestic reform of price subsidies and state-owned enterprises

Customs administration. In the past year, important steps were made in this area. Customs were transferred back under the control of the Ministry of Finance, with a new director general and key staff appointed. Several points of entry were made operational, with the basic infrastructure rebuilt and basic information technology installed. Customs regulation and procedures were clarified and disseminated. Customs staff has made study tours to well functioning customs operations in the Arab world and elsewhere.

Still, there remain significant deficiencies: transport and communications equipment is often lacking, and many staff positions are vacant. Customs operations consist of sets of interlocking processes. To be efficient and effective, they need to be adapted to changing trade practices and modern management approaches, and they need to reflect the various objectives of the country. Simplified customs procedures will therefore need to be established with modern techniques of risk management and selectivity, and staff will need to be intensively trained in these procedures. While the present legislation is judged adequate for the time being, new simplified customs procedures and tariff classification need to be made available in Arabic to the business community and customs officers.

International experience shows that effective customs modernization processes generally start with good initial diagnostic work to identify the shortcomings of the existing system, to define a strategy for the reform, and to mobilize stakeholder support. It also requires a comprehensive approach, i. e., one that encompasses all aspects of a customs administration to address the issues identified, as well as an adequate sequencing of actions. Strategies need to be realistic and consider the country’s capacity for implementation, the time that is required, and the level of stakeholder and political support that is needed. The overall modernization program would aim to assist the Iraqi customs to adhere to professional standards as close as possible to those provided in the Revised Kyoto Convention of the World Customs Organization.

Safety standards. The 2003–04 import boom experienced in many nonmachinery products has filled the Iraqi markets with a variety of previously unavailable goods. There have been many reported cases of imports of unsafe or adulterated products. The Iraqi government is moving to assess the current and prospective safety hazards associated with expanded private-sector imports. Then, it will strive to design an appropriate set of public actions, involving tighter and more systematic inspections (at border sites or in the distribution system)—either by government agencies or contracted third parties—recognition of product certification from accredited trade partner agencies, and other measures as necessary.

These steps are important for both imports and future nonoil exports. The ability of Iraq to expand exports of agricultural and manufacturing products will require measures to enhance the quality consciousness of producers, induce wider adoption of recognized good practices—which impart safety and quality—in agriculture and manufacturing and put in place product conformity systems which are recognized and accredited internationally. To identify current capabilities and weaknesses, as well as near-term priorities for technical assistance and capacity building, an assessment is needed of Iraq’s system of standardization, accreditation, and quality certification, reflecting capacities in both the public and private sectors.

The development of organizational capacities—for example, the State Standardization and Metrology Agency, which is accredited to issue certificates on ISO 9000 standards on quality or IS 14000 series—would encourage improvements in the quality of domestically produced goods. The issuance of local “quality markings,” certificates that Iraq meets international standards, and contests for the best-manufactured products would be a good investment. The best option would be to follow international practice by accepting standards and certificates from recognized international and national bodies. Iraq should take a first step—establishing a modern, market-based system of technical regulations, product standards, and certification. This requires a legal framework to ensure that there is an organizational split between accreditation or certification processes and privatizing laboratories.

While more general reforms and institutional strengthening are being planned, there may be scope for some near-term initiatives involving training, technical assistance, and other support directed at selected industries or commodity subsectors that have an established export track record, yet are likely to face market access problems because of nonconforming product quality, safety, or certification systems. Any such pilot initiatives will benefit from strong private-sector involvement, in both their design and implementation.

Domestic price liberalization and state-owned enterprise reforms. Iraq will remain a large net importer of food, and it will benefit from a liberal trade environment. However, the country has a complex system of controlled prices, and the establishment of the proposed uniform tariff for finished goods may be difficult in the face of continued domestic price controls. If the timing of trade policy reform and price liberalization is not worked out carefully, the response is likely to be a long list of exemptions. Furthermore, as long as food and other products are subsidized so heavily, some export controls will be necessary to avoid smuggling. Trade reforms will be more effective if closely linked to gradual food and energy price liberalization. At the same time, the food distribution system needs to be adapted to the new context, and adequate safety-net arrangements need to be put in place to protect the poor and vulnerable. Needless to say, moving forward on these reforms (price liberalization and privatization of the food distribution system) would need to be carefully timed, taking into account the current highly volatile security situation. Chapter 4 discusses some of the possible safety-net solutions.

Summary of recommendations

Price adjustments of the magnitude required in Iraq carry large and complex implications for the economy and society. Care is needed to evaluate the likely consequences and to formulate a coordinated approach. The following recommendations can be offered for the short term:

Food security

- Give careful consideration to the speed and sequencing of reforms before choosing a future direction for the Public Distribution System or its replacement system.
- Maintain the existing inefficient safety net (i. e., the PDS) until a more efficient safety net is in place.

- Prioritize collecting and analyzing data on poverty and assessing the institutional capacity of the government to implement safety-net programs.

Domestic fuel subsidies

- Raise prices at least to the level that eliminates or significantly reduces smuggling, as a first step toward reforming fuel subsidies. Given the very low fuel prices today, immediate price increases are warranted, in coordination with price adjustments in other affected sectors.
- To the extent possible, set prices of gasoline, kerosene, and diesel at comparable levels to minimize interfuel substitution.
- Minimize the use of fuel price subsidies, as these are not pro-poor. Include compensation for fuel price increases as a component of a broader social safety-net package.

Electricity pricing and management autonomy

- Launch a detailed analysis of energy use and costs of producing and distributing electricity to evaluate the precise need for social protection, to define the appropriate electricity tariff structure, and to determine the nature of a social support mechanism that is transparent in the public budget and well targeted.
- In coordination with end-user electricity price reforms, initiate a move toward pricing heavy fuel oil at international parity price levels for the power sector.
- In coordination with price subsidy reforms in other sectors (in particular, food), design a sequence to gradually bring back electricity prices to cost-recovery levels.
- Revert electricity supply to its earlier structure of autonomous companies, away from the direct control of the Ministry of Electricity, to enable adequate investment allocations and a better control of costs.

Trade and investment

- Maintain a low uniform tariff across all goods and all importers. This will reduce the cost of much-needed capital and intermediate goods, provide increased access to modern technologies, and facilitate trade by simplifying customs clearance procedures and customs valuation. It will also put Iraq's trade regime close to that of the Gulf Cooperation Council, with which Iraq may want to eventually affiliate.
- Bind the tariff structure at a lower level (e.g., 10 percent) at the World Trade Organization, to send a strong signal of transparency and stability to Iraq's partners.
- Seek coherence between the proposed tariff reform and overall tax policy. If a value-added tax is to be introduced, it is best implemented using the same principles of simplicity and broadness underlying the proposed tariff structure.
- Revise the foreign direct investment regime to allow greater foreign investment in Iraq. Foreign direct investment is by far the main means through which the domestic service sector can be exposed to international standards. World Trade Organization accession can be used to make "opening offers" in the services sector.
- Rehabilitate the customs administration by investing in new communications equipment and training staff. The present legislation is judged adequate for the time being, but new simplified customs procedures and tariff classifications need to be made available in Arabic to the business community and customs officers.

- Assess Iraq's system of standardization, accreditation, and quality certification, reflecting capacities within the public and private sectors, to identify current strengths and weaknesses, as well as near-term priorities for technical assistance and capacity building.
- Link very closely the timing of trade policy reform and price liberalization to avoid a long list of tariff exemptions. As long as food and other products are subsidized heavily, maintain some export controls to avoid smuggling.

Notes

---

[i] Deadweight loss is the costs to society created by market inefficiency. It can result from government actions (taxes, price controls) or from market failures (externalities, market control).

[ii] The introduction of the new dinar in early 2004 produced a short-lived decline in prices

[iii] The cost of distributed generation depends in part on the price paid by the generators for primary fuel. Further analysis would have to investigate the price of electricity from distributed generators to analyze the precise capacity of Iraqi consumers to pay. Worldwide, the average cost for household consumers of electricity production by such distributed-generation technologies is around $0.11–0.17 per kWh.