

## Comparing the Impacts of Increased Marketing Efficiency With Agricultural Input Subsidy and Tariff Reform

Reform of India's agricultural subsidy and tariff policies have been topics of debate by Indian policymakers and trade partners since at least the early 1990s. Rising input subsidy outlays are often criticized for causing factor market distortions and diverting public resources from productive investments, but they have been sustained and even enlarged because of concerns for the welfare of India's many small-scale farmers. India's high agricultural tariffs are challenged in the current multilateral negotiations and elsewhere for imposing high costs on consumers and hindering longer term competitiveness, but liberalizing reforms are also strongly resisted largely because of concerns with farmer welfare.

The goal of comparing subsidy and tariff reform with increased agricultural and food marketing efficiency is to assess and compare their effects on the economy, commodity sectors, and households. These broad areas of agricultural policy reform offer a general representation of the policies that might be adopted in India, but they are not necessarily comparable in terms of the magnitude of their impacts.

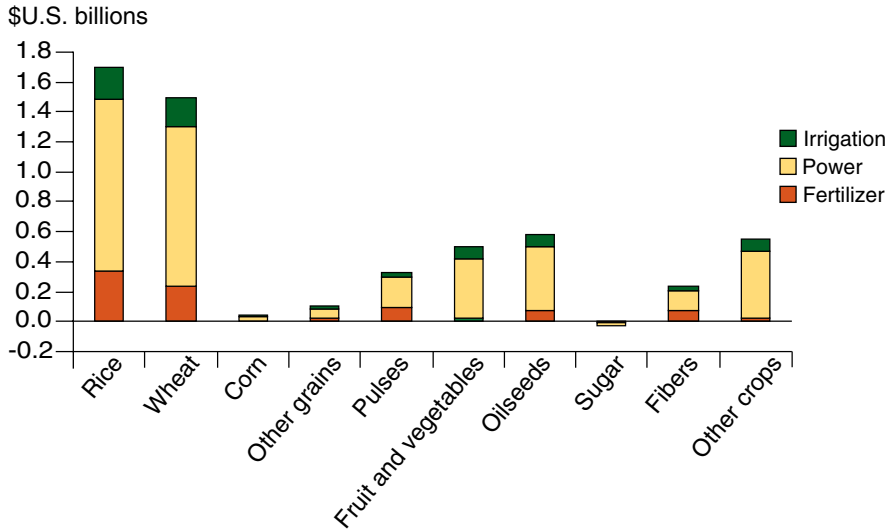
### India's Agricultural Subsidies

The cost of India's major agricultural input subsidies for electrical power, fertilizer, and irrigation water has grown about 6 percent annually in real terms since 1990, reaching nearly Rs500 billion (about \$10 billion) in 2002/03 (fig. 11) (Mullen et al., 2005; Gulati and Narayanan, 2003). The cost of providing free or subsidized (depending on the state) electricity for agriculture accounts for more than two-thirds of total input subsidies, as well as most of the growth since 1990. Irrigation is a key factor in boosting crop yields, but the policy of subsidizing electricity is also now widely acknowledged to be promoting inefficiency in water use and overpumping of groundwater. Fertilizer subsidies are provided to farmers in the form of price subsidies for domestic and imported fertilizers and to the fertilizer industry in the form of preferential prices to offset the losses of higher cost plants. For this study, we include only subsidies going to farmers, which amounted to about Rs70 billion (\$1.4 billion) in 2002/03 and have tended to decline since the mid-1990s. Subsidies for canal irrigation water were about Rs60 billion (\$1.2 billion) in 2002/03 but have shown little growth.

The rising outlays for input subsidies, which were equivalent to about 11 percent of total agricultural output in 2002/03, are of growing concern for Indian policymakers. By comparison, public investment in agriculture and agricultural infrastructure amounted to just 5 percent of agricultural GDP in 1999-2000 (the most recent period available) and has shown relatively sluggish real annual growth of less than 1 percent since 1990. Although reform of India's subsidy policies would potentially make available more public resources for productive investments in irrigation, research, market services, and infrastructure, withdrawing the subsidies has proven difficult because of their popularity with rural voters and, in the case of power and water subsidies, the state governments that administer them.

Figure 11

**Major Indian agricultural input subsidies, 2001**



Source: Global Trade Analysis Project Version 6 database; author calculations.

The Government of India has also been incurring substantial and rising budgetary costs for operating the system of minimum support prices (MSPs), public distribution, and storage for wheat and rice. The real cost of what is called the “food grain subsidy” has climbed steadily since the late 1990s, reaching an average of Rs242 billion (\$5.5 billion) during 2004/05-2006/07 (Government of India, Ministry of Finance, 2008). Rising costs have stemmed from increased government procurement and storage costs associated with defending higher support prices and with introducing new and more highly subsidized distribution programs for poor and disadvantaged groups.

Despite these substantial and rising costs, the food grain subsidy is not specifically included in the data and subsidy-reduction scenario used in this study for two reasons. First, the system of supporting MSPs is combined with border policies, such as export restrictions, and domestic measures, such as levies on rice millers and grain movement restrictions, that can also tax producers. Calculations of producer subsidy equivalents (U.S. Department of Agriculture, 1994) and producer support estimates (Mullen et al., 2005) that incorporate careful comparisons of world prices and Indian domestic prices show that these policies net out as subsidies in some years and taxes in others. According to this evidence, there is no clear rationale for characterizing the bundle of expenditures and policies called the food grain subsidy as a subsidy (or tax) on producers. Second, India’s domestic marketing costs are an important factor in assessing levels of market price support, and the impacts of these costs are already being studied separately.

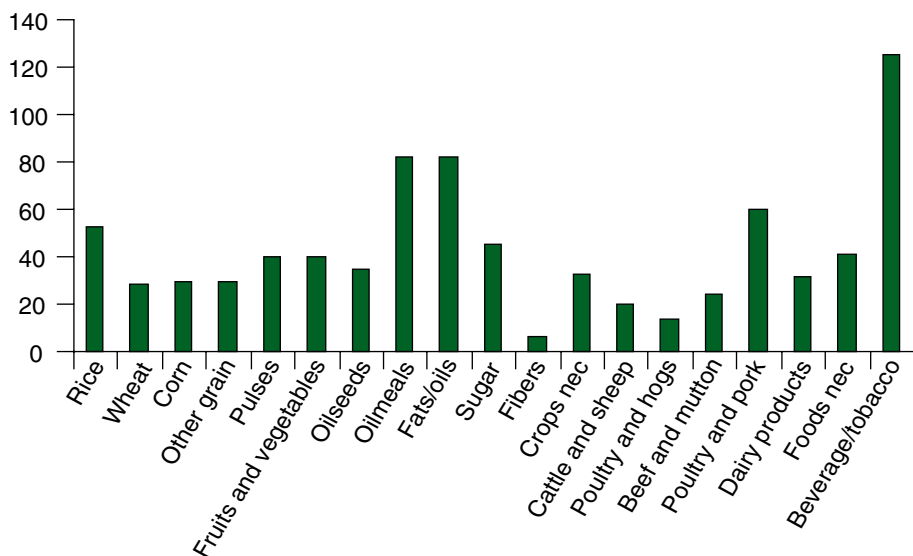
**India’s Agricultural Tariffs**

India completed the elimination of quantitative restrictions on agricultural imports in 2001 but maintains relatively high bound tariffs on most agricultural commodities (fig. 12). Reductions in India’s agricultural tariffs have

Figure 12

**Indian applied agricultural import tariffs, 2001**

Percent ad valorem



nec = Not elsewhere classified.

Source: Global Trade Analysis Project Version 6 database.

been an important target of the United States and other trading partners in bilateral and multilateral settings, including the current Doha Round.

India remains reluctant to commit to reducing bound agricultural tariffs that afford protection to its large number of small-scale farmers and agribusinesses. However, the government has made unilateral reductions in applied rates to facilitate imports and contribute to increased price stability for commodities in short supply, including pulses, vegetable oils, and, most recently, wheat (Landes, 2008). There is evidence that reductions in at least some currently prohibitive tariffs could yield a significant boost to industries, such as oilseed processing, that lack access to raw materials and to producers who are now isolated from world market prices (Persaud and Landes, 2006). However, in a number of cases, such as rice, oil meals, fruits and vegetables, and poultry meat, India has high applied tariffs on goods for which domestic prices are typically competitive in regional or global markets in order to assure adequate protection and bargaining strength with trading partners. In these cases, tariff reductions would have little or no impact on import demand. The model addresses the impacts of tariff changes by treating imported and exported products separately from domestic goods, thus limiting the impact of tariff reductions on the Indian goods, which, despite high tariffs, tend to have relatively low internal prices and import demand.

Recent studies by Ganesh-Kumar et al. (2006) and Polaski et al. (2008) of the potential impacts of agricultural trade liberalization on the agricultural sector as a whole have indicated that, in the short run, the benefits to India from participating in a global agricultural reform agenda would be positive but modest. Polaski et al. stress the importance of setting negotiating terms that balance the interests of India’s poor households with the benefits of improved efficiency and market opportunities.

## Scenario Comparisons

The subsidy reform scenario simulates removal of all agricultural input subsidies, and the tariff reform scenario simulates the removal of all agricultural tariffs. Because the effects of the subsidy and tariff reform scenarios and the increased marketing efficiency scenarios are not necessarily comparable in terms of magnitude, our discussion focuses on the patterns of their effects on the economy and across commodities and households.

The removal of agricultural input subsidies leads to a relatively small increase in real GDP (fig. 13), but higher producer and consumer prices for staple food commodities, particularly for grains and fibers, which receive the bulk of input subsidies (figs. 14 and 15), cause aggregate real household consumption to fall.<sup>10</sup> Producer and consumer prices of nonsubsidized commodities fall because of an overall decline in consumer expenditures and a shift in land use away from crops that lose subsidies.

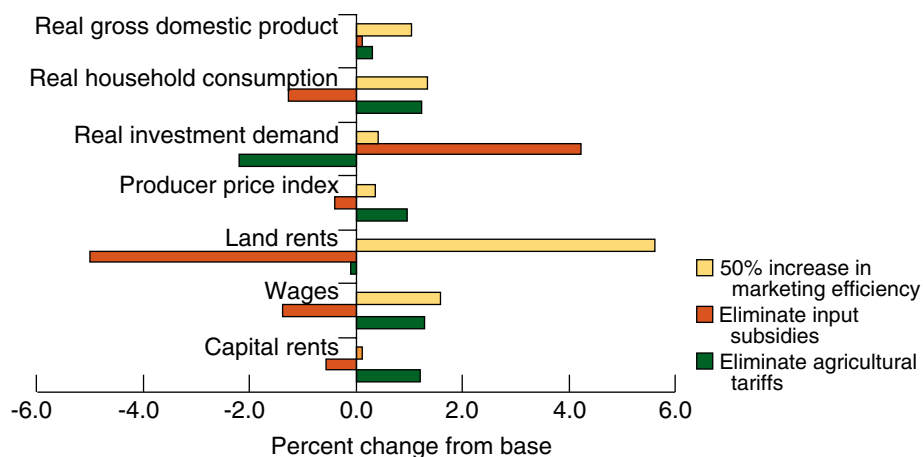
The decline in agricultural production reduces agricultural employment and economywide wages. However, the substantial government savings from eliminating subsidies boost national savings and investment, thus improving prospects for future growth in output, employment, and consumption—dynamic effects that are not accounted for in our static framework. With lower factor returns and higher prices for food staples (wheat and rice), at least in the near term, real consumption declines for all household types (fig. 16). Consumption losses are greatest in poorer and rural households, reflecting the combination of lower returns to land and labor and substantially higher prices for food staples.

When agricultural tariffs are removed, the more efficient allocation of resources leads to growth in real GDP and increases in the returns to labor and capital and in aggregate real household consumption. But, the decline in government tax revenue in this scenario causes aggregate savings and investment to fall. The removal of agricultural tariffs has minor impacts on overall producer and consumer prices and farm output, reflecting relatively

<sup>10</sup>See appendix 3 for complete numerical results from the scenarios.

Figure 13

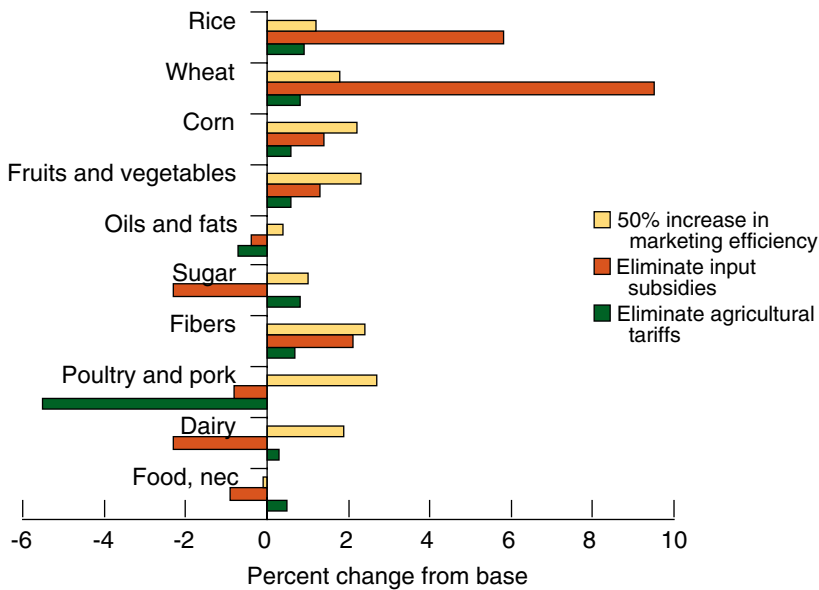
### Economywide effects of alternative agricultural and food marketing policy scenarios in India



Source: ERS model results.

Figure 14

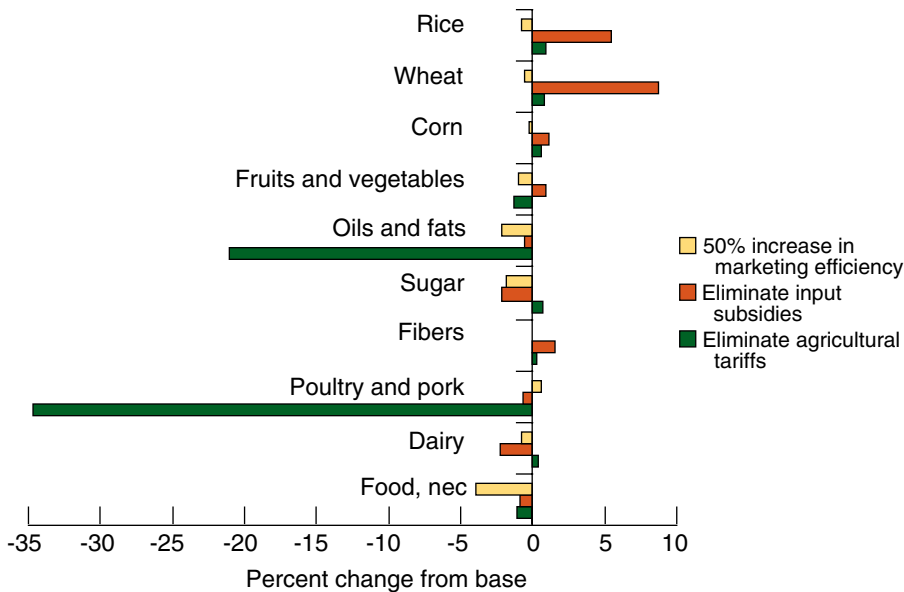
**Producer price effects of alternative agricultural and food marketing policy scenarios in India**



nec = Not elsewhere classified.  
Source: ERS model results.

Figure 15

**Consumer price effects of alternative agricultural and food marketing policy scenarios in India**

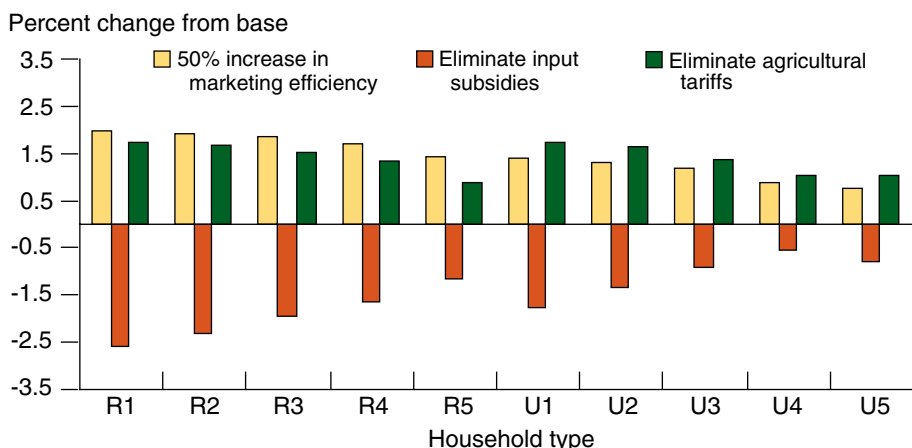


nec = Not elsewhere classified.  
Source: ERS model results.

competitive domestic prices and generally small amounts of trade in such sectors as food grains, fruits and vegetables, fibers, and dairy. However, more heavily protected sectors with less competitive domestic prices, including fats and oils and poultry, face potentially significant producer

Figure 16

### Household real consumption effects of alternative agricultural and food marketing policy scenarios in India



R = Rural; U = Urban; R1, U1 = Abject poverty; R2, U2 = Poverty; R3, U3 = Middle income; R4, U4 = Upper income; R5, U5 = High income.

Source: ERS model results.

price and output shocks when tariffs are removed. Higher returns to labor and capital lead to increased real consumption by all rural and urban households. Consumption gains are largest in lower income households, driven by higher wages, relatively small increases in staple food prices, and significant consumer price declines for highly protected items, particularly fats and oils.

Comparisons across the three scenarios suggest that improved agricultural and food marketing efficiency can increase returns to land and labor and significantly boost aggregate real consumption relative to the other scenarios. The magnitude and distribution of household consumption gains associated with improved marketing efficiency are similar to those in the tariff removal scenario but in sharp contrast to the potentially adverse consequences of subsidy removal, at least in the near term. Unlike the subsidy and tariff reform scenarios, improvements in marketing efficiency have the potential to provide price benefits to both producers and consumers, particularly lower income and rural households. In contrast, the results suggest that removing subsidies could substantially raise consumer prices for food staples, while lowering tariffs could substantially reduce production in currently protected sectors, such as oilseed products, poultry, and processed foods.

Finally, although the model does not account for dynamic changes in savings and investment over time, the scenarios differ substantially in their implications for economywide savings, investment, and future growth. The marketing efficiency scenario suggests modest increases in savings and investment, tariff elimination reduces savings and investment, and the removal of subsidies generates substantial gains in government savings and investment. A dynamic framework that accounts for the effects of investment on economic growth would likely indicate stronger growth benefits from improved marketing efficiency and reduced subsidies compared with that arising from the removal of trade-distorting tariffs.