

costs for the proposed rule, and increase the estimated upper range costs by more than 12 percent.

*Effects on the economy:* The previous section estimated the direct, incremental costs of the proposed rule to the affected firms in the supply chains for the covered commodities. While these costs are important to those directly involved in the production, distribution, and marketing of covered commodities, they do not represent net costs to the U.S. economy or net costs to the affected entities for that matter.

Several analyses have examined the potential market level impacts of the COOL legislation. Lusk and Anderson (Ref. 36) analyzed the effects of mandatory COOL on the U.S. livestock sector by varying the magnitude of the incremental increases in costs and the share of these direct costs incurred by the producer and the combined processor/retailer segments of the beef and pork sectors. There are similarities between their approach and the approach used herein, which is discussed below. In particular, Lusk and Anderson examined market effects stemming from a range of incremental increases in costs for the beef and pork sectors. Their analysis did not, however, include other covered commodities, such as fruit and vegetables, commodities directly affected by changes in livestock production, like corn and soybeans, or the effect of mandatory COOL legislation on the rest of the U.S. economy. Also, the model used by Lusk and Anderson to analyze the impacts on the poultry, beef and pork sectors together did not enable the effects of mandatory COOL on consumers or on U.S. welfare to be estimated.

Grier and Kohl (Ref. 37) examined the impact of mandatory COOL on the U.S. pork sector. Their analysis assessed impacts on employment, the environment, and hog production but did not do so in an integrated framework. As a result, their study does not account for the pork sector's adjustment to changes in consumption and production patterns. In addition, the major impacts of their study result from their assumption that mandatory COOL would cause U.S. imports of Canadian feeder pigs to cease. USDA finds this assumption to be implausible because there is no credible evidence that mandatory COOL, at least as outlined under the proposed rule, will lead to a cessation of the hog trade between Canada and the United States.

The results of these analyses, while instructive, are limited in their usefulness because they only represent the results from an incomplete or partial

adjustment of the agriculture sector and the U.S. economy to mandatory COOL. These analyses are not comprehensive in their coverage of affected commodity sectors, focusing on the livestock sector for instance. Nor are the analyses comprehensive in their depiction of the linkages between the covered commodities and the rest of the U.S. economy and consequently their depiction of the overall economic adjustments that occur as a result of COOL. Consequently the results from these analyses are not readily comparable to USDA's analysis of the impacts of the proposed rule on the U.S. economy discussed below.

With respect to assessing the effect of this rule on the economy as a whole, it is important to understand that a significant portion of the costs directly incurred by the affected entities take the form of expenditures for additional production inputs, such as payments to others whether for increased hours worked or for products and services provided. As such, these direct, incremental costs to affected entities do not represent losses to the economy but rather transfers of money from one economic agent to another. As a result, the direct costs incurred by the participants in the supply chains for the covered commodities do not measure the impact of this rule on the economy as a whole. Instead, the relevant measure is the extent to which the proposed rule reduces the amount of goods and services that can be produced throughout the U.S. economy from the available supply of inputs and resources.

Even from the perspective of the directly affected entities, the direct, incremental costs do not present the whole picture. Initially, the affected entities will have to bear the full cost of implementing the proposed rule. However, over time as the economy adjusts to the requirements of the proposed rule, the burden facing suppliers will be reduced as their production level and the prices they receive change. What is critical in assessing the effect of this rule on the affected entities over the longer run is to determine the extent to which the entities are able to pass these costs on to others and consequently how the demand for their commodities is affected.

Conceptually, suppose that all the increases in costs from the proposed rule were passed on to consumers in the form of higher prices and that consumers continued to purchase the same quantity of the affected commodities from the same marketing channels. Under these conditions, the

suppliers of these commodities would not suffer any net loss from the proposed rule even if the increases in their operating costs were quite substantial. However, other industries might face losses as consumers may spend less on other commodities. It is unlikely, however, absent the proposed rule leading to changes in consumers' preferences for the covered commodities, that consumers will maintain their consumption of the covered commodities in the face of increased prices. Rather, consumers will likely reduce their consumption of the covered commodities. The resulting changes in consumption patterns will in turn lead to changes in production patterns and the allocation of inputs and resources throughout the economy. The net result, once all these changes have occurred, is that the total amount of goods and services produced by the U.S. economy will be less than before.

To analyze the effect of the changes resulting from the proposed rule on the total amount of goods and services produced throughout the U.S. economy in a global context, USDA utilized a computable general equilibrium (CGE) model developed by ERS. The ERS CGE model includes all the covered commodities and the products from which they are derived, as well as non-covered commodities that will be indirectly affected by the rule, such as poultry and feed grains. Peanuts, however, are aggregated with oilseeds in the model, and there is no meaningful way to modify the model to account for the impacts of the proposed rule on peanut production, processing, and consumption. The peanut sector, however, accounts for only 0.2 percent to 0.3 percent of the total estimated incremental costs for all directly impacted entities. Thus, omitting the direct costs on the peanut sector is expected to have negligible impacts with respect to estimated impacts on the overall U.S. economy.

The ERS CGE model traces the impacts from an economic "shock," in this case an incremental increase in operating costs, through the U.S. agricultural sector and the U.S. economy to the rest of the world and back through the inter-linking of economic sectors. By taking into account the linkages among the various sectors of the U.S. and world economies, a comprehensive assessment can be made of the economic impact on the U.S. economy of the proposed rule implementing COOL. The model reports resulting economic changes after a ten-year period of adjustment.

The results of this analysis indicate that the proposed rule implementing