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## **Impact**

*A regulatory impact analysis must accompany every economically significant federal rule or regulation. The Office of Policy Development and Research performs this analysis for all U.S. Department of Housing and Urban Development rules. An impact analysis is a forecast of the annual benefits and costs accruing to all parties, including the taxpayers, from a given regulation. Modeling these benefits and costs involves use of past research findings, application of economic principles, empirical investigation, and professional judgment.*

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# **Economic Analysis of Increasing HUD's Manufactured Housing Inspection Label Fee**

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*The views expressed in this article are those of the authors and do not represent the official positions or policies of the Office of Policy Development and Research, the U.S. Department of Housing and Urban Development, or the U.S. government.*

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## **Abstract**

*The U.S. Department of Housing and Urban Development's (HUD's) Office of Manufactured Housing Programs enforces construction and safety standards for all transportable sections of manufactured homes. To fund enforcement activities, HUD collects \$39 per section sold. This amount provided sufficient revenue to fully fund program operations until fiscal year 2014. This article describes HUD's proposal to increase this fee to \$100 per section based on expected manufactured housing production and program costs.*

## Analysis

Enforcement of HUD's manufactured housing standards may be conducted directly by states, with HUD approval, or by HUD on behalf of states. HUD currently provides inspection services for 38 states. These services are prescribed in cooperative agreements between HUD and each state. The cost of these services and other program activities is \$10.0 million annually. Although HUD charges a \$39 fee per transportable section to fund these activities, beginning in fiscal year (FY) 2014, the revenue produced from this fee is no longer sufficient to fully fund program operations.

As directed by HUD's FY 2014 appropriation, the Department proposes to increase the fee to an amount that generates an expected \$10.0 million annually. The following analysis is based on the expected production level of 100,000 transportable sections annually, but it also includes a range of expected production levels to demonstrate how the fee would need to be set if production differs slightly. Increasing the fee does not otherwise affect the cost of production or purchase of manufactured homes. As explained in the following paragraphs, if the fee increase is passed through to the consumer, which makes the purchase price higher, placements of new manufactured homes will decrease below currently forecasted levels. If manufacturers absorb the cost and no marginal producers exit the market, the effect will result only in less profit for the manufacturers while the sales will remain unchanged. The change in fee collections represents a transfer to taxpayers from manufacturers of manufactured housing and consumers who purchase new manufactured housing, because the increased fee collections will replace funds collected through federal tax collections. In addition, to the extent that the fee is passed to consumers, the increase will also create a measurable deadweight loss. Exhibit 1 shows the effect of three production scenarios in response to the fee change.

Basing its analysis on recent label usage and production, HUD expects between 95,000 and 105,000 placements of new manufactured homes during the first full year following the fee increase. This analysis, as shown in exhibit 1, uses a range of 95,000 sections to 105,000 sections to show how the fee must be set to raise the \$10.0 million needed to enforce construction and safety standards. The fee must obviously be set higher for lower levels of expected production. Depending on the market response to the fee increase, which includes the extent to which manufacturers pass the fee increase through to consumers, the fee may need to be set higher than otherwise expected to collect the needed revenue.

### Scenario 1: Annual Production of 95,000 Transportable Sections

Assuming the production and placement of 95,000 sections, Scenario 1 in exhibit 1, the HUD fee would need to be set at about \$105.<sup>1</sup> The fee would raise \$9.975 million in the absence of changes in demand. Increasing the fee by \$66 (\$39 to \$105) would add on average \$103.62 ( $\$66 \times 1.57$ )<sup>2</sup> to the cost of each manufactured home, which is about 0.17 percent of the 2012 average sales price of \$61,900. If producers pass the entire fee increase through to consumers in the form of higher prices, sales of new manufactured homes will decrease. Meeks (1993) estimates the price elasticity of demand for manufactured homes at -2.40. His estimate implies that a 1.00-percent increase in

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<sup>1</sup> To collect at least \$10.0 million, the fee would need to be \$105.26, which would collect slightly more than \$10.0 million if manufacturers absorbed the full fee increase and sales remained at 95,000 sections.

<sup>2</sup> According to the U.S. Census Bureau, Manufactured Homes Survey, new manufactured homes contain, on average, 1.57 sections per home, and two sections make a double-wide.

## Exhibit 1

### Effect of Fee Increase on Manufactured Home Placements

	Fiscal Year 2015			Fiscal Year 2014 Q4	
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2
Transportable sections produced if no fee change	95,000	100,000	105,000	24,968	17,471
Inspection label fee	\$105	\$100	\$95	\$100	\$100
Average sections per manufactured home	1.57	1.57	1.57	1.57	1.57
Manufactured home placements	60,507	63,692	66,877	15,903	11,128
Average sales price <sup>a</sup>	\$61,900	\$61,900	\$61,900	\$61,900	\$61,900
Price elasticity of demand <sup>b</sup>	- 2.4	- 2.4	- 2.4	- 2.4	- 2.4
Change in price of manufactured homes	\$103.62	\$95.77	\$87.92	\$95.77	\$95.77
Percent change in demand of manufactured homes	- 0.40%	- 0.37%	- 0.34%	- 0.37%	- 0.37%
Change in demand of manufactured homes	- 243	- 237	- 228	- 59	- 41
Total transportable sections	94,618	99,628	104,642	24,875	17,407
<b>Transfer to taxpayers</b>					
Increased annual collection (in millions)					
Fee fully passed to consumers	\$6.230	\$6.063	\$5.846	\$1.514	\$1.059
Fee fully absorbed by producers	\$6.270	\$6.100	\$5.880	\$1.523	\$1.066
Total collections (in millions)					
Fee fully passed to consumers	\$9.935	\$9.963	\$9.941	\$2.488	\$1.741
Fee fully absorbed by producers	\$9.975	\$10.000	\$9.975	\$2.497	\$1.747

Q4 = fourth quarter.

<sup>a</sup> U.S. Census Bureau, *Manufactured Homes Survey*.

<sup>b</sup> Meeks, Carol. 1993. *Price Elasticity of Demand for Manufactured Homes: 1961 to 1989*. Mimeographed reproduction, April 25.

Notes: Fiscal year (FY) 2015 estimates are based on full-year implementation. FY 2014 Q4 Scenario 1 assumes no prepurchased labels used following the effective date of the fee increase. Scenario 2 assumes prepurchased labels are used in the first month following the fee increase. The 17,471 sections in Scenario 2 are production for the last 2 months of the quarter only.

price will decrease demand by 2.40 percent. Thus, for the expected 0.17-percent increase in price, the demand for manufactured housing is expected to decrease by 0.40 percent, or 243 homes (382 sections). Annual collections would increase by \$6.230 million to \$9.935 million.

The elasticity of demand for manufactured housing, however, is relatively high compared with the elasticity for other dwelling types,<sup>3</sup> and manufacturers may choose to not pass the full amount of the fee increase to consumers to avoid decreased sales. If producers fully absorb the increase, sales and placements of new manufactured homes will remain unchanged and annual collections would increase by \$6.270 million, to \$9.975 million.

<sup>3</sup> The price elasticity for newly constructed owner-occupied housing, in general, is between -0.75 and -1.20 (see Polinsky and Ellwood, 1979).

## **Scenario 2: Annual Production of 100,000 Transportable Sections**

Assuming the production and placement of 100,000 sections, Scenario 2 in exhibit 1, the HUD fee would need to be set at about \$100. If producers fully absorbed the fee increase and sales remained at 100,000 sections, the fee would raise exactly \$10.0 million, an increase of \$6.1 million. If the fee increase were fully passed to the consumer, however, the sales price of manufactured homes would increase on average 0.16 percent and sales would decrease to 99,628 transportable sections. Annual collections would increase by \$6.063 million, to \$9.963 million.

## **Scenario 3: Annual Production of 105,000 Transportable Sections**

Assuming the production and placement of 105,000 sections, Scenario 3 in exhibit 1, the HUD fee would need to be set at \$95 per section. If producers fully absorbed the fee increase and sales remained at 105,000 sections, fee collections would increase by \$5.846 million and raise exactly \$9.975 million. If the fee increase were fully passed to the consumer, however, the sales price of manufactured homes would increase, on average, 0.15 percent and sales would decrease to 104,642 transportable sections. The fee would increase by \$5.846 million, to \$9.941 million.

## **Social Costs**

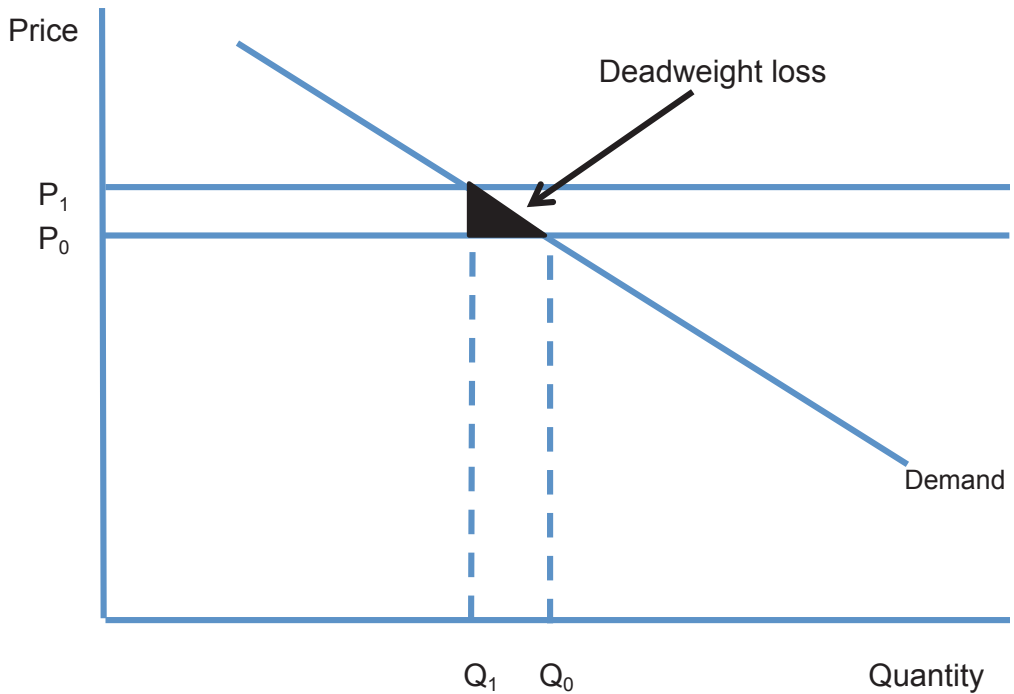
One commonly used measure of the social cost of price distortions imposed by taxes or government-imposed fees is deadweight loss. Deadweight loss is the sum of lost consumer and producer surplus due to the deviation in price from equilibrium. The higher price, in this case due to the higher inspection fee, causes the quantity of manufactured homes demanded to decrease. In exhibit 2 the deadweight loss is represented by the shaded triangle. This scenario reasonably assumes a perfectly elastic long-run supply curve. Given a linear demand curve, the social cost associated with the fee increase is approximated at one-half of the change in price times the change in quantity. Based on the information presented in exhibit 1, the change in price for a production level of 95,000 sections is \$103.62 and the change in quantity of homes sold is -243. Thus, the deadweight loss, or social cost, totals \$12,590. Higher production levels of 100,000 and 105,000 sections require smaller increases in the fee, which in turn induces smaller changes in price and quantity. The deadweight loss associated with an expected production of 100,000 and 105,000 sections totals \$11,349 and \$10,023, respectively.

The social costs of the fee are offset by the benefits supported by the fee revenue. A full account of the social benefits include the positive impact on the market through the enforcement by HUD of HUD's safety standards, all of which have passed the benefit-cost test and are documented in previous analyses of HUD's manufactured housing safety rules.

## Exhibit 2

### Deadweight Loss of Manufactured Housing Fee Increase

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## Author

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## References

Meeks, Carol. 1993. Price Elasticity of Demand for Manufactured Homes: 1961 to 1989. Mimeo-graphed reproduction, April 25.

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