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The Welfare Effects of Fuel Conservation Policies in a Dual-Fuel Car Market: Evidence from India<sup>\*</sup>

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Running title: Welfare Effects of Fuel Conservation Policies

Abstract

We estimate a model of vehicle choice and kilometers driven to analyze the long-run impacts of fuel conservation policies in the Indian car market. We simulate the effects of petrol and diesel fuel taxes and a diesel car tax, taking into account their interactions with the pre-existing petrol fuel tax and car sales taxes. At levels sufficient to reduce total fuel consumption by 7%, the increased diesel and petrol fuel taxes both yield deadweight losses (net of externalities) of about 4 Rs./L. However, at levels sufficient to reduce total fuel consumption by 2%, the increased petrol fuel tax results in a deadweight loss per liter of fuel conserved that is greater than that caused by the diesel fuel tax. This reflects both the high pre-existing tax on petrol fuel and the high own-price elasticities of fuel demand in India. A tax on diesel cars that results in the same diesel market share as the large diesel fuel tax actually has a negative deadweight loss per liter of fuel conserved. The welfare effects of all three policy instruments are positive, once the external benefits of reducing fuel consumption are added to the excess burden of taxation.

JEL Codes: L9, R48; Q48

Key words:

Indian car market; fuel conservation; diesel and petrol taxes; rebound effect.

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