THE CONSUMER RESPONSE TO GASOLINE PRICE CHANGES: EMPIRICAL EVIDENCE AND POLICY IMPLICATIONS

A DISSERVATION
SUBMITTED TO THE DEPARTMENT OF MANAGEMENT SCIENCE AND ENGINEERING
AND THE COMMITTEE ON GRADUATE STUDIES OF STANFORD UNDERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

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## The Consumer Response To Gasoline Price Changes

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Summary: Free the consumer response to gasoline price changes pdf download - when gasoline prices rise people notice the news is filled with reports of pinched household budgets and politicians feeling pressure to do something to ameliorate the burden yet raising the gasoline tax to internalize externalities is widely considered by economists to be among the most economic efficiency-improving policies we could implement in the transportation sector this dissertation brings new evidence to bear on quantifying the responsiveness to changing gasoline prices both on the intensive margin i e how much to drive and the extensive margin i e what vehicles to buy i assemble a unique and extremely rich vehicle-level dataset that includes all new vehicle registrations in california 2001 to 2009 and all of the mandatory smog check program odometer readings for 2002 to 2009 the full dataset exceeds 49 million observations using this dataset i quantify the responsiveness to gasoline price changes on both margins as well as the heterogeneity in the responsiveness i develop a novel structural model of vehicle choice and subsequent utilization where consumer decisions are modeled in a dynamic setting that explicitly accounts for selection on unobserved driving preference at both the time of purchase and the time of driving this utility-consistent model allows for the analysis of the welfare implications to consumers and government of a variety of different policies including gasoline taxes and feebates i find that consumers are responsive to changing gasoline prices in both vehicle choice and driving decisions with more responsiveness than in many recent studies in the literature i estimate a medium-run i e roughly two-year elasticity of fuel economy with respect to the price of gasoline for new vehicles around 0 1 for california a response that varies by whether the vehicle manufacturer faces a tightly binding fuel economy standard i estimate a medium-run elasticity of driving with respect to the price of gasoline around -0 15 for new personal vehicles in the first six years older vehicles are driven much less but tend to be more responsive with an elasticity of roughly -0 3 i find that the vehicle-level responsiveness in driving to gasoline price changes varies by vehicle class income geographic and demographic groups i also find that not including controls for economic conditions and not accounting for selection into different types of new vehicles based on unobserved driving preference tend to bias the elasticity of driving away from zero -- implying a greater responsiveness than the true responsiveness this is an important methodological point for much of the literature estimating similar elasticities ignores these two issues these results have significant policy implications for policies to reduce gasoline consumption and greenhouse gas emissions from transportation the relatively inelastic estimated responsiveness on both margins suggests that a gasoline tax policy may not lead to dramatic reductions in carbon dioxide emissions but is a relatively non-distortionary policy instrument to raise revenue when the externalities of driving are considered an increased gasoline tax may not only be relatively non-distortionary but even economic efficiency-improving however i find that the welfare changes from an increased gasoline tax vary significantly across counties in california an important consideration for the political feasibility of the policy finally i find suggestive evidence that the rebound effect of a policy that works only on the extensive margin such as a feebate or cafe standards may be closer to zero than the elasticity of driving with respect to the price of gasoline this suggestive finding is particularly important for the analysis of the welfare effects of any policy that focuses entirely on the extensive margin

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how do consumers respond to gasoline price shocks ... - sions to examine the consumer responsiveness to gasoline price changes on both margins. consumer ... in consumer responsiveness to gasoline price changes, ...

gasoline price changes and the petroleum industry: an update - gasoline price changes and the petroleum industry ... paul a. pautler deputy director for consumer ... other factors associated with gasoline price changes ...

**gasoline taxes and consumer behavior - papersrn** - based on empirical analysis of consumer responses to gasoline price changes. in ... keywords: automobile, consumer response, gasoline tax jel classi cations: ...

**gasoline taxes and consumer behavior** - gasoline taxes and consumer behavior ... consumer response, gasoline tax jel classi?cations: ... changes similarly to gasoline price changes.

**automobile prices, gasoline prices, and consumer demand ...** - automobile prices, gasoline prices, and consumer ... price response, changes in the gasoline price are not fully re?ected ... of gasoline price changes ...

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**crude oil and gasoline accounts for about half the u.s ...** - and an asymmetric response to changes in the wholesale price of gasoline. ... an asymmetric consumer response to changing gasoline prices may contribute to the ...

**using gasoline data to explain inelasticity - u.s. bureau ...** - using gasoline data to explain inelasticity ... other goods may not have the same type of consumer response when a similar price ... changes in response to price ...

**gasoline taxes and consumer behavior - nber** - gasoline taxes and consumer behavior ... based on empirical analysis of consumer responses to gasoline price changes. ... the consumer response to oil-price induced ...

gasoline and crude oil prices: why the asymmetry? - in the retail gasoline market, consumer search costs could lead to temporary market ... response to changes in the wholesale price of gasoline. (see bcg, ...

**title of presentation: consumer heterogeneity and gasoline ...** - title of presentation: consumer heterogeneity and ... title of presentation: consumer ... measuring consumer response to gasoline price changes is a ...

gasoline taxes and consumer behavior - gasoline taxes and consumer ... on empirical analysis

of consumer responses to gasoline price changes. ... is to quantify directly the consumer response to gasoline

**september 2012 er - resources for the future** - september 2012 gasoline taxes and ... gasoline price changes. ... price coefficient should be interpreted as capturing the consumer response to the gasoline tax.

**gasoline taxes and consumer behavior** - gasoline taxes and consumer behavior ... respond to gasoline price changes. ... literature identi?es the consumer response to gasoline prices using recent variation ...

heterogeneity in the response to gasoline prices: evidence ... - evidence from pennsylvania and implications for ... the consumer response to changing gasoline prices has long ... inelastic in response to gasoline price changes.

do retail gasoline prices rise more readily than they fall ... - readily than they fall? a threshold cointegration approach ... and consumer response to ... daily percentage changes of the retail gasoline price and the crude ...

**automakers' short-run responses to changing gasoline ...** - response to changes in gasoline prices? ... that the vehicle price response to gasoline prices is coming from ... a ected by consumer substitution based on changing ...

how do consumers respond to gasoline price shocks ... - how do consumers respond to gasoline price shocks? heterogeneity in vehicle choice ... to gasoline price changes ... in consumer responsiveness to gasoline price

(un?)happiness and gasoline prices in the united states - (un?)happiness and gasoline prices in the united states ... crisis and consumer spending patterns had changed. ... suggest that gasoline price changes have

**vehicle scrappage and gasoline policy - uc san...** - vehicle scrappage and gasoline policy ... the nexus between gasoline price changes and changes in used vehicle prices. ... consumer response to gasoline costs.

does the quality of public transit affect commuters ... - does the quality of public transit affect commuters' response to gasoline ... how price changes affect emissions and consumer ... these changes in the price of ...

**vehicle scrappage and gasoline policy** - the nexus between gasoline price changes and changes in used vehicle prices. ... consumer response to gasoline costs. li, timmins and von haefen (2009) ...

**automobile prices, gasoline prices, and consumer demand ...** - automobile prices, gasoline prices, and consumer demand ... due to the manufacturer price response, changes in the gasoline price ... price changes (or gasoline ...

**vehicle scrappage and gasoline policy - national bureau of ...** - vehicle scrappage and gasoline policy ... by differential impacts of gasoline price changes on models of different fuel ... consumer response to gasoline costs.

**price transmission: from crude petroleum to plastics products** - price transmission: from crude petroleum to ... consumer inflation. price changes in ... forward to consumer gasoline prices, but that the response of gasoline ...

heterogeneity in the response to gasoline prices: evidence ... - the consumer response to changing gasoline prices has long interested economists and policymakers, for it has ... line price changes. further, ...

gasoline prices and mergers paperusaee+pub - market structure and price adjustment in the u.s ... speed of price adjustment in the response of wholesale gasoline price changes to ... consumer search ...

gasoline prices and the american auto industry: repeated ... - organization that implements changes on the basis of its acquired knowledge? ... examine the consumer response to sharp

gasoline price increases, ...

**identifying the elasticity of driving: evidence from a ...** - identifying the elasticity of driving: ... gasoline price shock in ... this paper focuses on the intensive margin of consumer response to the recent gasoline price

what drives u.s. gasoline prices? - eia - in response to multiple requests, eia is ... crude oil is the main input cost in the production of gasoline, and changes in crude oil price, along with

**asymmetric price adjustment and consumer search: an ...** - asymmetric price adjustment and consumer ... asymmetric price adjustment and consumer ... margins and a slower price response to cost changes than when margins ...

household adjustment to gasoline price change: an analysis ... - households respond to gasoline price changes. ... gasoline demand; consumer behavior 1. ... sumer response to changes in the price of gasoline so as to design ...

us consumer and corporate behavior in a low oil price world - us consumer and corporate behavior in a ... at the current average retail price for regular gasoline ... it is important to note that consumer spending on gasoline ...

effects of gasoline price levels on gdp per capita: a ... - effects of gasoline price levels on gdp per capita: a cross-country analysis ... complementary factors that account for why certain periods of gasoline price changes

effects of changes in alcohol prices and taxes - effects of changes in alcohol prices and taxes 341 ... the precise magnitude of consumer response to price or tax changes has been somewhat harder to determine.

a meta-analysis of the price elasticity of gasoline demand ... - and useful approach to study the price elasticity of gasoline ... changes in the gasoline price may lead ... the behavioral response of the consumer when faced ...

**symmetric rice djustment and onsumer earch n xamination of ...** - i develop a "reference price" consumer search model ... a slower price response to cost changes than when ... price response observed in the gasoline ...

**anticipation, tax avoidance, and the price elasticity of ...** - anticipation, tax avoidance, and the price elasticity of gasoline demand ... changes are highly predictive of gasoline price changes.

**differential demand response to gasoline taxes and prices ...** - differential demand response to gasoline taxes and prices in the u.s. ... of the u.s. consumer ... to gasoline tax and price changes to the difference in ...

**new evidence on asymmetric gasoline price responses** - new evidence on asymmetric gasoline price responses ... feathers in response to negative oil price shocks.2 this ... spot market price to changes in crude oil prices ...

**traveler response to the 2005 gas price spike** - on gasoline price elasticity and ... stronger consumer response, ... recognized three behavioral changes that households make in response to fuel price changes:

**cross entropy error function in neural networks** ... - cross entropy error function in neural networks: forecasting gasoline ... understand consumer response to changes in the price of ... gasoline price (p) and car ...

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**fuel excise taxes and consumer gasoline demand** - fuel excise taxes and consumer gasoline ... this study asks three questions to help determine how consumer gasoline ... differently to changes in gasoline prices ...

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transportation and residential sectors ...

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