

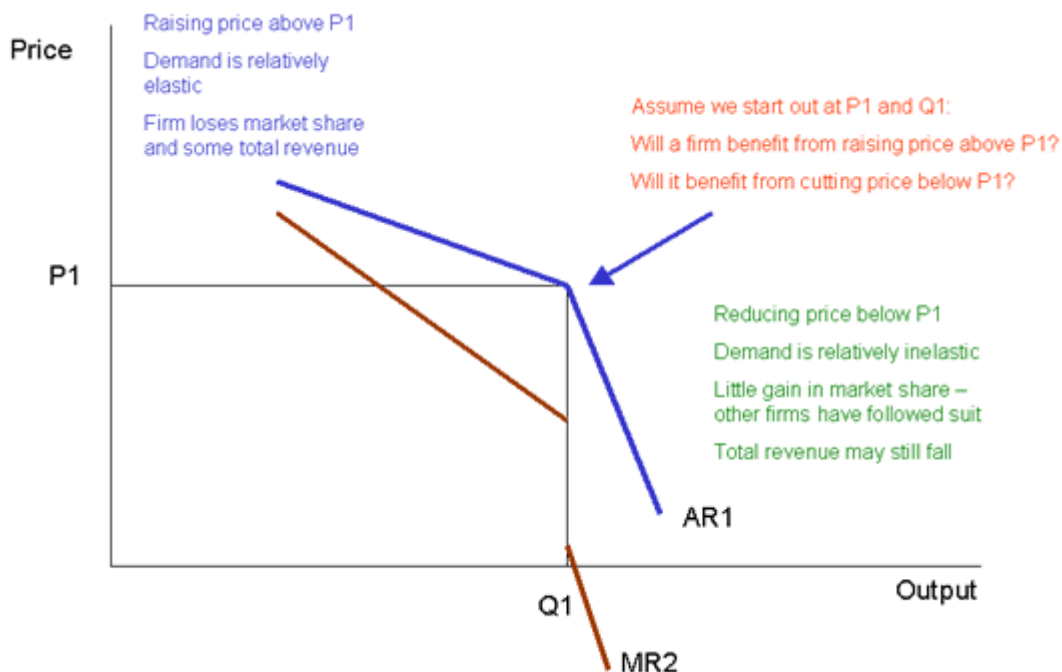
An oligopoly is a situation in which a particular market is controlled by a small group of firms. Each firm in an oligopoly is selling a branded product. Petrol firms clearly brand themselves so everyone knows which petrol firm they are buying from. For example, there are large signs at petrol stations clearly stating which firm it is and petrol is transported in clearly branded trucks. Although only a small number of firms dominate, it is possible for many small firms to also operate in this market. The high sets up costs deter initial market entry because they increase break-even-output and delay the possibility of making profits. There are high startup costs of service stations as they have to secure a source of petrol. Firms in an oligopoly are interdependent and cannot act independently of each other. This is shown by changes in price of petrol firms, if one reduces its price all the others are likely to follow.

Manawatu - Wanganui Fuel Prices					
View Pricing :: Minimum :: Average :: Maximum					
Click on a fuel type to view prices for a region Click on a fuel price to view stations offering this price					
	<u>98</u>	<u>95/96</u>	<u>91</u>	<u>Diesel</u>	<u>LPG</u>
BP	\$2.344	\$2.255	\$2.165	\$1.528	n/a
CALTEX	n/a	\$2.242	\$2.169	\$1.511	n/a
MOBIL	n/a	n/a	\$2.150	\$1.498	n/a
Z ENERGY	n/a	\$2.219	\$2.142	\$1.519	n/a
CHALLENGE	n/a	\$2.259	\$2.179	\$1.549	n/a
GAS ALLEY	n/a	n/a	\$2.216	\$1.595	n/a
-	n/a	n/a	n/a	n/a	n/a
-	n/a	n/a	n/a	n/a	n/a
<input type="checkbox"/> \$ Today <input type="checkbox"/> \$ yesterday <input type="checkbox"/> \$ before yesterday					
Search by Suburb					
Manawatu - Wanganui Suburb Name			<input type="text"/>		
			<input type="button" value="search"/>		

This diagram shows that all large petrol firms are prices within a few cents of each other. Therefore this shows the interdependent decision making and limited competition that petrol firms face. A firm operating in a market of just a few competitors must take into account the potential reactions of its closest rivals when making its own decisions. For example, if a petrol retailer like Z wishes to increase its market share by reducing prices, it must take into account the possibility that close rivals like shell and BP, may reduce their prices in retaliation. Therefore firms in an oligopoly use non – price competition. Non-price competition is a market situation in which competitors will not lower prices in fear of price wars. Instead they focus on extensive promotions to highlight the distinctive benefits or features of their products. Firms in an oligopoly sell differentiated products. This is shown by petrol firms through Caltex – cleans your car as you drive, BP and Z have coffee shops, BP says that their fuel “ is our most advanced range of fuels to keep your petrol or diesel engine fitter and healthier” <http://www.bp.com/retail/ultimatearticlesection.do?categoryId=9037221&contentId=7068835>. These are all examples of petrol firms trying to differentiate their product to try and increase their market share without lowering prices. This supports the idea that petrol firms are an oligopoly. As sellers in an oligopoly have differentiated products that are all close substitutes of each other, firms

use aggressive advertising to increase demand for their product. Petrol firms use various forms of advertisements and promotions to increase their demand.

Price elasticity of demand measures the responsiveness of demand to changes in price for a particular good. If the price elasticity of demand is equal to 0, demand is perfectly inelastic (i.e., demand does not change when price changes). Values between zero and one indicate that demand is inelastic (this occurs when the percent change in demand is less than the percent change in price). When price elasticity of demand equals one, demand is unit elastic (the percent change in demand is equal to the percent change in price). Finally, if the value is greater than one, demand is perfectly elastic (demand is affected to a greater degree by changes in price). This is important for setting prices so as to maximize profit. When price elasticity of demand is elastic, if the firm should lower prices, it will result in an increase in demand, increasing your total revenue. When price elasticity of demand is inelastic, if the firm increase prices because there will be only a small decrease in demand, and again, total revenue will increase.



Demand in an oligopoly

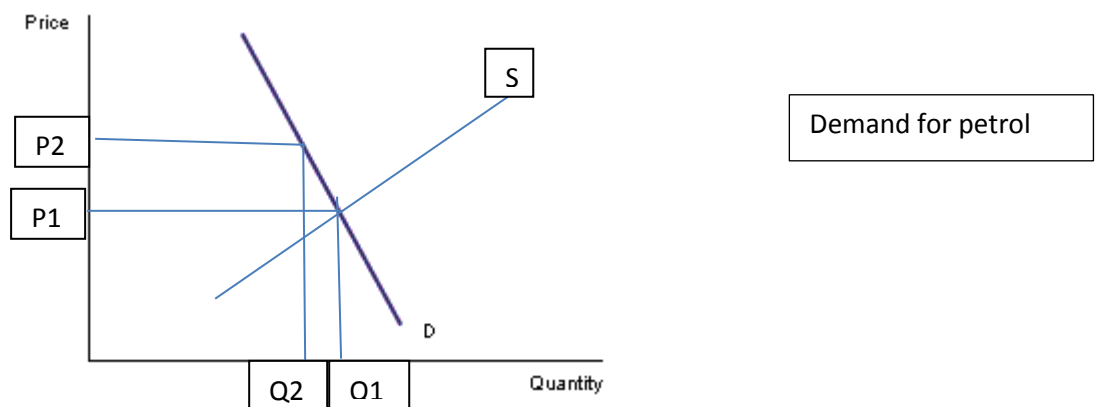
kinked demand curve under oligopoly

An oligopolistic firms face a downward sloping demand curve but the elasticity may depend on the reaction of rivals to changes in price and output. The kinked demand curve shows that Oligopolistic firms face dual demand curves, the one at the higher prices is relatively elastic and

the one at the lower prices is relatively inelastic. Firms are always attempting to maintain a high level of profit and market share. Therefore rival firms are unlikely to match another's price increase as consumers will demand the lower priced good and will choose not to consume from the higher priced competitor. Therefore demand in this situation will be relatively elastic and a rise in price will lead to a fall in revenue of the firm. This is shown by the line with the lower gradient on the demand graph as any increase in price will result in a proportionally larger decrease in the quantity demanded. However rivals are likely to match a price fall by one firm to avoid a loss in market share. This is because if a rival firm lowered their price but other firms did not follow, consumers will demand the lower priced competitor and not consume from the other higher priced firms. In this situation demand will be more inelastic and a fall in price will lead to a fall in revenue of the firm. This is shown by the line with the greater gradient on the demand graph as any decrease in price will lead to a proportionally smaller increase in the quantity demanded. If rival firms keep cutting prices this will only lead to a fall in revenue of all firms and will cause little to no effect on the market share. The market tends to stay at the point P1, Q1 as there is no advantage to petrol firms in increasing or decreasing the price. Even though decreasing the price can lead to price wars, petrol firms do sometimes lower their price for short periods of time to win over some extra market share. This occurs with petrol firms as some firms offer lower prices than others for short periods of time.

Petrol tends to be price inelastic therefore any increase in the price of petrol will result in a smaller decrease in the quantity demand for it. A study done by the Auckland regional transport authority found 7% decrease in traffic volume with a 26% increase in the price of petrol – elasticity is 0.28. Therefore based on this evidence it seems that petrol is inelastic.

<http://www.economics.org.nz/Year%2013/Assessment/3.4%20assessment/assessmenthome.html>

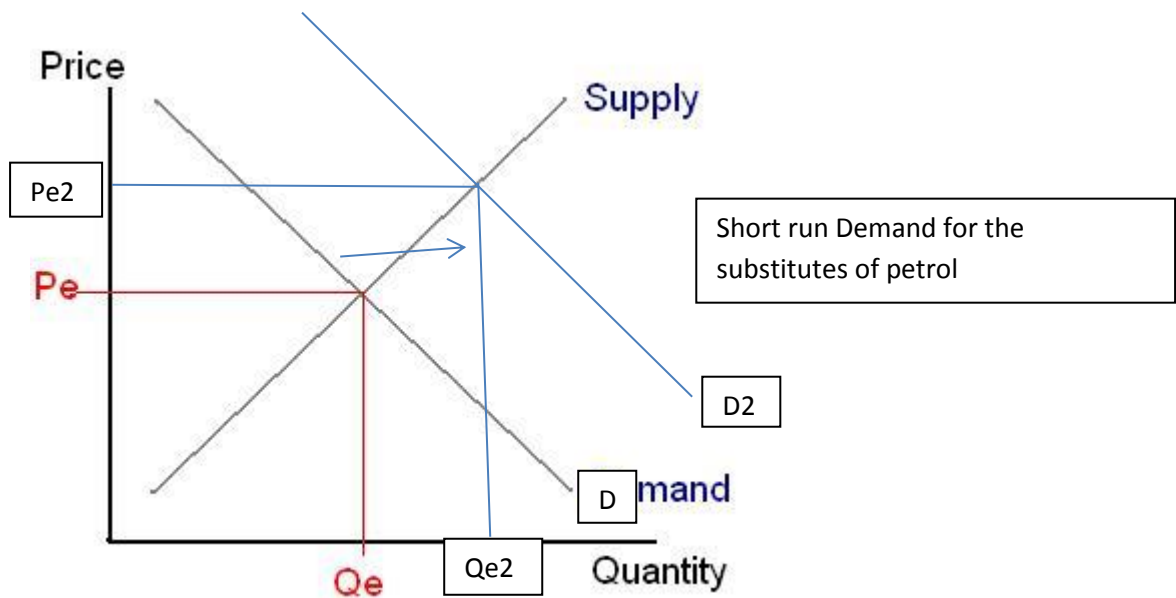


This graph shows the inelasticity of petrol. Any increase in the price (from P1 to P2) causes a relatively smaller decrease in the quantity demanded (from Q1 to Q2)

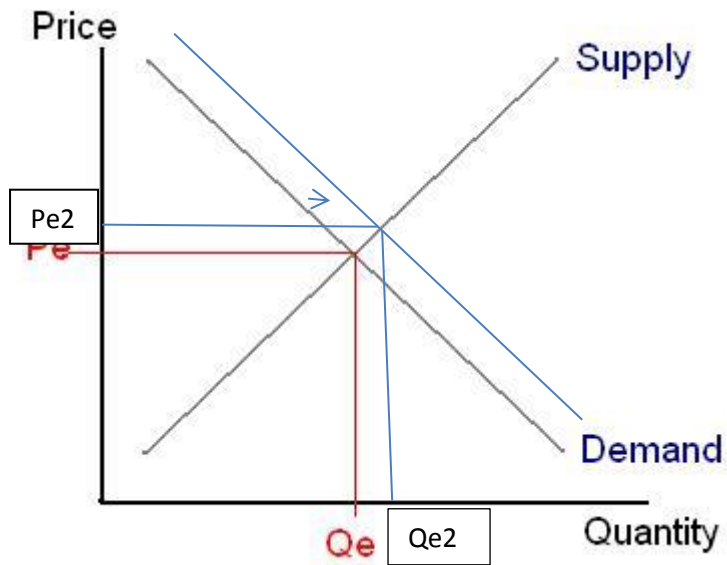
This is because -there are no close substitutes for petrol so even if its price increases, people cannot turn to a cheaper substitute. -it is difficult to postpone the consumption of

petrol as it is needed in everyday life so people cannot put off buying it until the price decreases. Petrol is seen as a necessity as it is very useful so people will tend to still consume a similar amount even if the price increases. The steep line of this inelastic demand curve shows that an increase in the price of petrol lead to a much smaller decrease in the quantity demanded. The price inelasticity of petrol is expected as there are few close substitutes and no exact substitutes. If petrol prices increase people will try to decrease the use of their car and try to use available substitutes such as – biking, public transport or even electric cars. However all of these substitutes are less convenient than using a car. Initially when the price for petrol increases, consumers take advantage of the close substitutes for petrol (substitutes are limited in the short run shown by the price elasticity of demand). However over a longer period of time consumers tend to return to their pre-price change patterns. This is likely due to the close substitutes to petrol requiring changes in behaviour and although this maybe ok in the short run, sustaining behavioural changes may be more difficult in the long run. This is shown by the department of economics at the University of Waikato study - they found the price elasticity of petrol to be 0.195 in the short run and 0.065 in the long run. <http://www.economics.org.nz/Year%202013/Assessment/3.4%20assessment/assessmenthome.html>

The price elasticity is 0.195 in the short run and 0.065 in the long run. This means that the price elasticity for petrol in the short run is has a larger impact than in the long run.



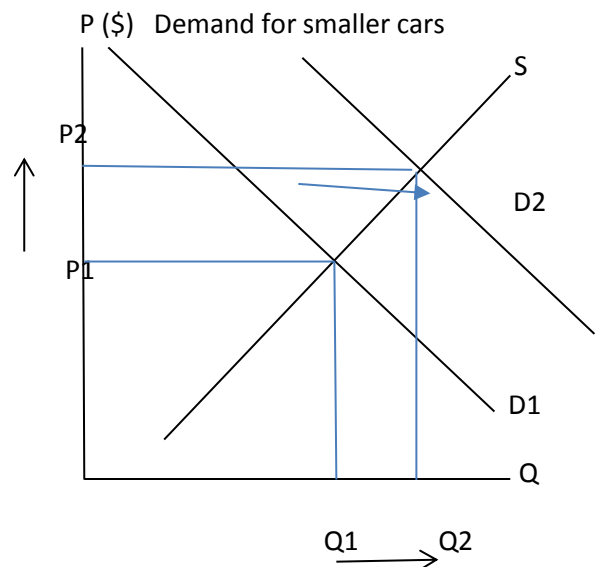
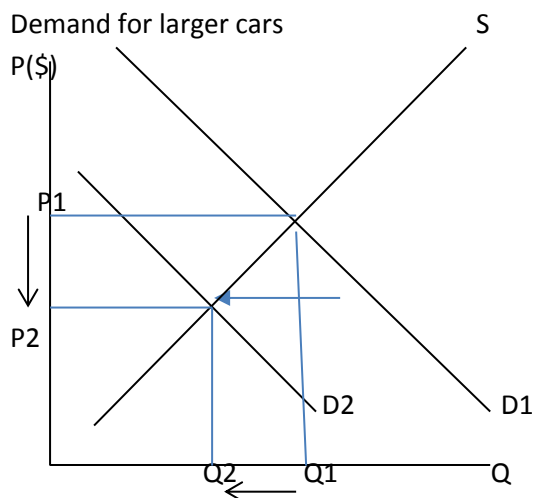
This graph shows the short run impact on the demand for the close substitutes of petrol. In the short run, consumers take advantage of the available substitutes and increase demand for these goods. This is shown by a shift right of the demand curve as consumers will want to consume more of the relatively lower priced substitute.

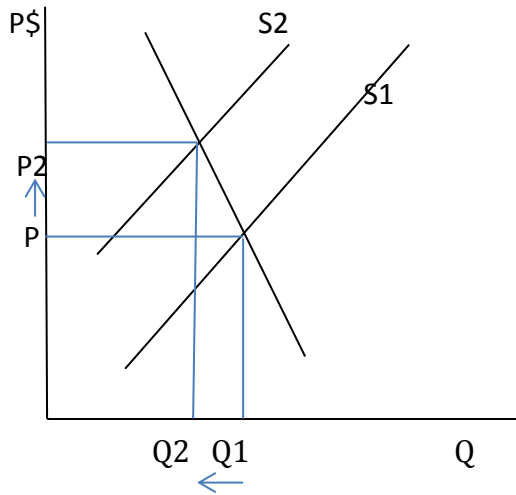


Long run de
of petrol

The substitutes of petrol require behavioral changes as there are no exact substitutes for petrol. In the long run, consumers may find it difficult to sustain these behavioral changes. This means in the long run there is a much smaller increase in the demand for the close substitutes of petrol. This is shown by a small shift right of the demand curve on the graph.

The complement good to petrol is cars as they are used together. If the price of petrol increases, small cars that require less petrol will gain popularity as they let people save money. Larger cars will now be more expensive to run and will lose popularity. Therefore if the price of petrol increases, there will be an increase in demand for smaller cars and a decrease in demand for larger cars. This is shown on the graphs below.



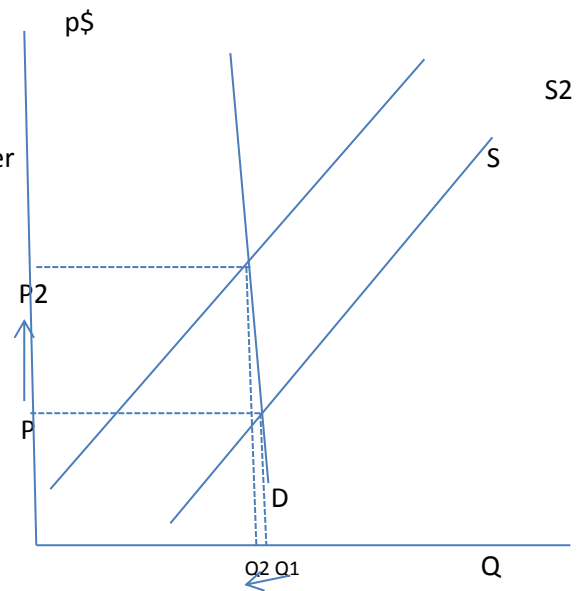


Short run impact of increase in petrol prices

This graph shows that in the short run, demand is relatively elastic compared to the long run. This is shown by the demand curve having a lower gradient in the short run than in the long run. This means that any increase in price will have a relatively greater decrease in the quantity demanded.

Long run impact of increase in petrol price

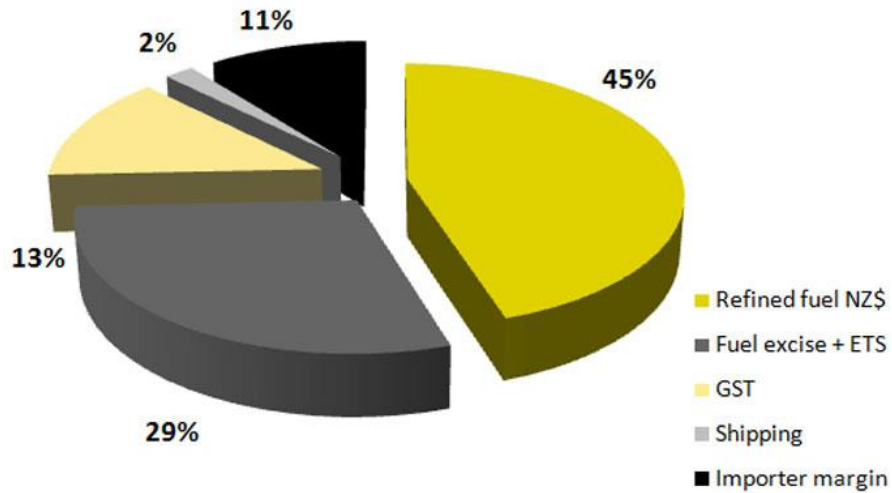
This graph shows that in the long run, petrol is relatively inelastic. This is shown by the demand curve having a higher gradient in the long run than in the short run. This is due to consumers returning to pre-price change habits in the long run. This means that any increase in price will have a relatively smaller decrease in the quantity demanded.





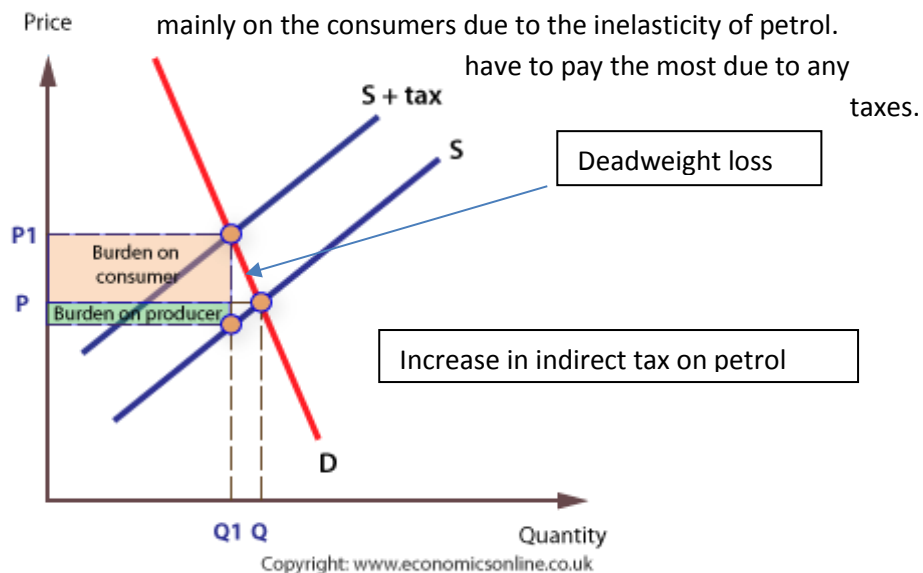
Price components of a litre of petrol (\$2.21)

as at 27 August 2013

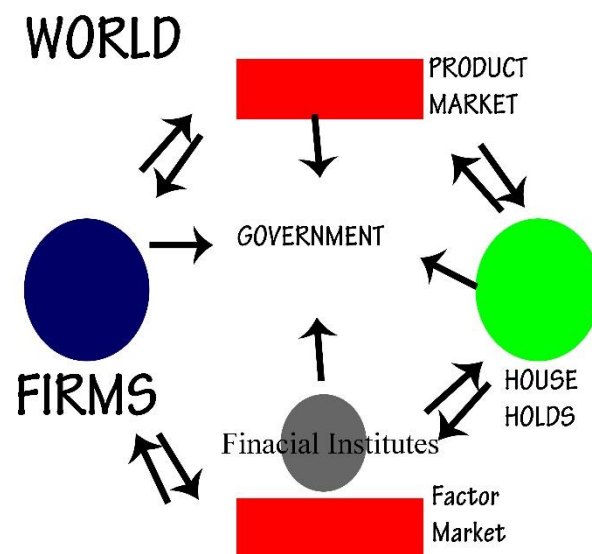


An excise tax is an indirect tax charged on the sale of a particular good. The chart shows that 29% of the price of a litre of petrol is claimed by the government as fuel excise. This amounts to about 64 cents on every litre of petrol. The other government tax placed on petrol is GST. GST (of 15%) is added after the excise tax which increases the amount of GST paid to the government <http://www.aa.co.nz/cars/maintenance/fuel-prices-and-types/petrol/>. The government uses this revenue from indirect tax to spend on other areas of the economy (mostly public transport). If the government were to increase the excise tax on fuel, as petrol is an inelastic good, the government revenue from tax will increase. However, increasing the indirect tax will cause a loss in efficiency of the petrol market so there is a deadweight loss.

An increase in excise tax will cause a shift left of the supply curve from S to S+tax. This is due to producers of petrol now being less willing to supply as much at each and every price. This causes the price to increase from P to P1 and a relatively smaller decrease in the quantity demanded from Q to Q1 due to the inelastic demand curve. The consumer and producer surplus is reduced due to the tax but the burden falls mainly on the consumers due to the inelasticity of petrol. Therefore consumers have to pay the most due to any increase in indirect taxes.



Petrol is considered a necessity therefore even if the price increases, consumers will still consume a similar amount. Therefore if the price of petrol increases, consumers will have less income left over to spend on other things. This causes inequity as lower income families will now have less money to spend on other necessities. Households will decrease spending in other areas, especially on luxury goods and will try to consume more inferior goods. Consumers will now have less money left over to save therefore household savings will decrease.



This circular flow model shows that all sectors of the economy are mutually reliant so if household are worse off there is a flow on effect making other sectors worse off.

In the short run consumers will increase demand for close substitutes to petrol but in the long run will accept the petrol price and return to pre-change habits. (as explained in detail on pages 4 and 5).

Demand for larger cars will decrease due to the extra fuel consumption needed for running these cars but demand for smaller more fuel efficient cars will increase. (as explained in detail on pages 5 and 6).