

Diesel Subsidy: A Tricky Game for the Government in Coalition Politics

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Abstract

Subsidy is one of the most tricky problems that any policy maker faces, especially in a democratic welfare state where no single party has absolute majority. However, at the same time, they cause some major distortions that may not be visible overtly, but seriously impact the economy not only at the macro level, but also at the micro – level. The present paper specifically looks into diesel subsidy and its impact upon the diesel car industry. The time period chosen for the paper is June 2010 till April 2013. The paper is basically only a theoretical modeling paper and some of the conditions discussed may be hypothetical, but they do help in establishing the boundaries. However, it is to be noted that some data has been used to provide justification for the article. Overall, it was observed that in every scenario, imposition of excise duty on diesel cars somewhere stood justified.

Keywords: subsidies, perfect competition, monopoly, monopolistic competition

JEL Classification: D01, D41, D42

Since the last two decades, the Indian economy has emerged as one of the most keenly observed economies of the world, partly because of the high growth rate, and partly because of its high fiscal deficit that is pulling it down. Thus, an interesting scenario of two opposing forces is being played over here. It has been accepted by our policy makers that in order to maintain the growth momentum, the fiscal deficit has to be curbed. Hence, it became essential to have a re-look at the factors contributing towards the problem, and the most obvious factor that comes to mind, in terms of frequent references it finds itself in most economic discussions, is the high subsidies that are being doled out in the name of a welfare state. However, subsidies effective in one area are not so capable in other areas (Panagariya, 2000), though it is still claimed to be a powerful welfare tool aimed towards increasing the welfare of the people (Tilak, 2004, p. 343) as this results in increased fiscal deficit accompanied by inflation (Tiwari & Tiwari, 2011).

The present paper specifically looks at how the very important diesel subsidy ends up in subsidizing the operation cost of a luxury good - a diesel car, and how can the imposition of excise duty bring about some parity between itself and its close substitute, the petrol variant. It is purely a theoretical paper, where the presence of some conditions is debatable in the practical scenario, but the paper would be helpful in establishing the boundaries within which the industry works.

Market Reflective Petrol Vs. Subsidized Diesel

Alarmed by the rising subsidy bill, the government decided to deregulate diesel and petrol prices. Through a press release on June 25, 2010, the government accepted the recommendation of the expert group established under the chairmanship of Dr. Kirit Parikh, and made the pricing of Petrol and Diesel market determined so that the under-recoveries of the oil marketing companies can be done away with (Ministry of Petroleum and Natural Gas, 2010). Regarding how serious it was about its claim can be gauged by running a correlation test between the percent changes in prices of petrol and diesel and the percent change in international oil prices from June 2010 till March 2013 as shown in Appendix 1 and Appendix 2. Here, the petrol and diesel prices are the average prices of the four metropolitan cities - Delhi, Mumbai, Kolkata, and Chennai. But the results showed no strong correlation either between the percentage changes in price of petrol with percentage change in the international oil prices or between the percentage changes in the price of diesel with the percentage change in international oil prices. This only proves the strong clout still enjoyed by the government in the retail pricing of these products.

A close look at the Figure 1 in Appendix 1 depicting the percentage change in price of petrol and diesel compared

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with the percentage change in international oil prices, one can effectively conclude that the government interference in diesel prices far exceeds its interference in petrol due to the relative consistency enjoyed by the former. This led to an increase in the price gap between these two almost substitutable fuels. The starkest example of this was visible on May 23, 2012, when the oil marketing companies increased the price of petrol by ₹ 7.50 per litre, resulting in a price difference of almost 75.57 %. This was bound to impact the demand for the commodities that for whom they are used as complementary goods, one of them being cars due to cross elasticity of demand (Ahuja, 1994, p. 268). The reaction was almost immediate, with the economy witnessing a sudden surge in its demand of diesel cars. This alarmed both the oil ministry and the finance ministry, who began mulling on various options like removing the diesel subsidy, imposing excise duty on it, etc. to reduce the clearly visible difference. As already stated, immediate removal of diesel subsidy was not a very preferred option due to a serious fallout, therefore, imposition of excise duty proved to be the next-best option. In the following sections, one can see whether such a move will really have any impact.

Micro- Economic Analysis of Diesel Subsidies on Diesel Cars and the Impact of Increase in Excise Subsidies

Under the micro – economic analysis, three scenarios will be considered:

- ❖ Perfect Competition
- ❖ Monopoly
- ❖ Imperfect or Monopolistic Competition

Perfect Competition

The perfect competition condition begins with the assumption that all the firms manufacturing diesel cars are producing exactly identical cars. Though this is practically not acceptable, but this can always be a theoretical proposition. Here, two scenarios will be taken into consideration :

- ❖ Short run scenario
- ❖ Long run scenario

❖ **Short Run Scenario :** In the short run, the industry and the firm will be studied simultaneously because under perfect competition, only the industry is capable of setting prices. The individual firm is incapable of influencing industry prices and hence, acts as a price taker.

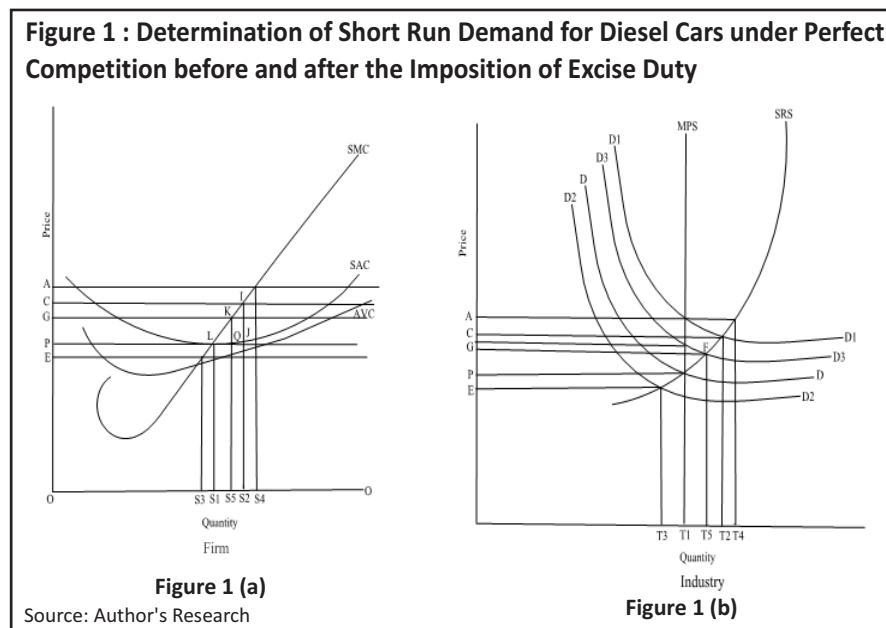


Figure 1(a) and Figure 1(b) simultaneously illustrates the impact of diesel subsidies on the demand of diesel cars both for the firm and the industry respectively, and the subsequent effect when an excise duty is imposed on them. In the following discussion, it is assumed that the cost remains constant for both the firm and the industry. In the Figure 1(b), DD represents the demand curve that the diesel car industry is facing in the equilibrium condition i.e. when the price of petrol was not increased. The market period supply curve is represented by MPS, whereas SRS represents the short run supply curve. Initially, OP is both the market price and the short run price since the demand curve intersects both the MPS and the SRS at F. Hence, individual firms will take OP as the price and adjust their output accordingly at OS1, since here, the price is equal to the marginal cost.

This equilibrium is disturbed with the frequent increase in petrol prices, thus widening the gap between it and subsidized diesel. This has resulted in increased demand of diesel cars, resulting in a shift in the demand curve from DD to D1D1. In the market period, the supply cannot be increased in response to this increased demand because of the vertical supply curve and hence, the price rises to A. However, in the short run, by altering the variable factors of production, the short run supply can be increased. This is shown by SRS in the Figure 1(b). As a result, the price will fall down from OA to OC accompanied with an increase in supply from OT1 to OT2. The increase in supply will no doubt increase consumer welfare by increasing the quantity. The firm, on the other hand, will accept OC as the price and will produce an output of OS2, the price at which OC equals the marginal cost. The firm will make huge profits IJ per unit of output, since the price is above the average cost. Thus, subsidized diesel, that is an imported fuel for which India is simply a price taker, ends up in subsidizing the operating cost of the rich man's car, making the subsidy leakage even starker.

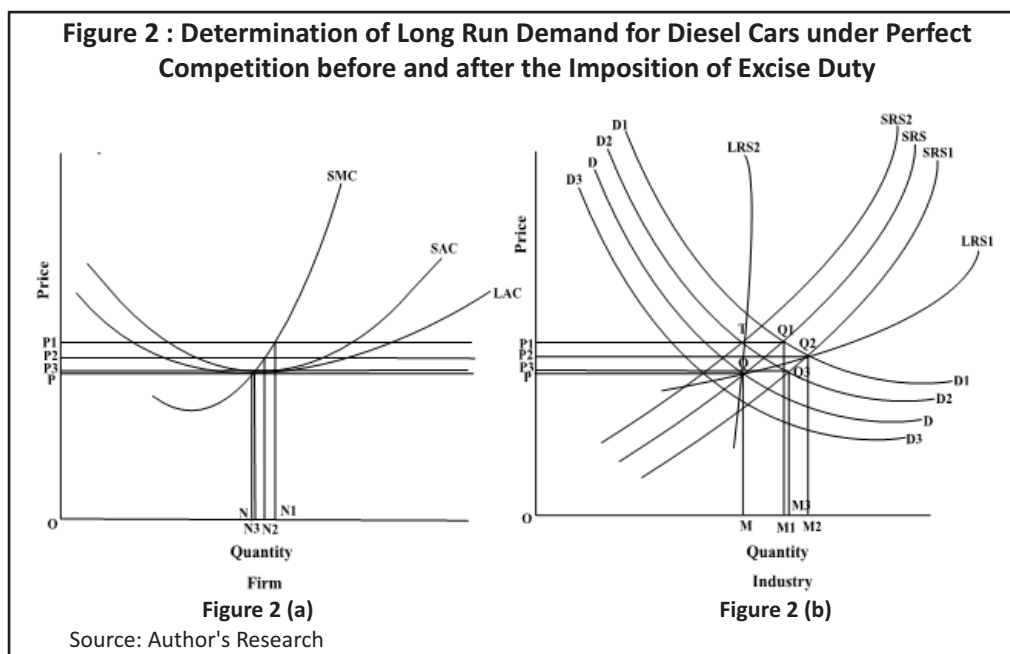
❖ **Long Run Scenario:** Here, three possibilities exist:

- ❖ Long Run increasing cost industry
- ❖ Long Run decreasing cost industry
- ❖ Long Run constant cost industry

It needs to be noted that the present paper considers only the long run increasing cost industry, since it is concerned with the diesel car industry in the present Indian economy, which indicates its presence in an inflationary economy. Therefore, constant cost and decreasing cost industry are only hypothetical assumptions, hence they were ignored.

The Figure 2(b) illustrates the impact of diesel subsidies on the diesel car industry in the long run, and its subsequent impact on the individual firm is shown in the Figure 2(a). It also studies the scenario when an excise duty is imposed on them. Let DD be the demand curve for the industry and SRS the short run supply curve as shown in the Figure 2(b). They meet at Q, producing OM quantity of goods, i.e. diesel cars in the present case, at OP price. The firm also accepts this price (since this is a perfect competition; hence, the firm is simply a price taker) and produces ON quantity of goods. Now, suddenly, the international oil prices increase, leading to an overall increase in the prices of petroleum products. Diesel, which is a subsidized fuel, is shielded from the price rise, but petrol, on the other hand, faces a sharp price increase since it is claimed to be de-regularized, and its prices are decided by the oil marketing companies (OMCs). This results in a huge price gap between petrol and diesel prices; thus, automatically leading to a sudden spurt in the demand for diesel cars. Let the new demand curve shift outward to a position D1D1. Corresponding to the increase in demand, it is impossible to increase the supply curve in the short run. Hence, the supply curve remains in the original position SRS. The demand and the supply curve meet each other at Q1, thus OM1 quantity of goods, i.e. diesel cars in this case, is demanded. The price too rises to OP1.

From the Figure 2(a), it can be seen that the firm too takes OP1 as the price and manufactures ON1 quantity of diesel cars. Both OM1 and ON1 are greater than the original quantity, i.e. OM and ON respectively. Thus, indicating an increase in diesel cars manufactured by both by the individual firm and the industry. This will automatically lead to an increase in demand for diesel, a fuel that is largely imported and also subsidized. Therefore, a subsidy that was supposed to curb inflation ended up in increasing the demand of diesel cars. However, a higher demand accompanied by a higher price will incentivize the diesel car industry to increase its supply. By simply changing the variable factors of production like labor, the industry can increase the supply in the short run. Let the new short-run supply curve be SRS1. It intersects the demand curve D1D1 at Q2, thus producing OM2 quantity of cars at OP2 price. The firm also takes OP2 as the price and produces ON2 quantity of cars. Due to the increase in the supply of cars, the price falls in



accordance with the demand supply rule. Hence, OP_2 is less than OP_1 . However, it is observed from the Figure 2(a) and Figure 2(b) that while OM_2 is greater than OM_1 , ON_2 is less than ON_1 . This is because due to the fall in the price of the industry, the per unit of profit decreases, thus indicating the firm to produce less. By joining QQ_2 , the long run supply curve LRS_1 can be obtained. However, the quantity produced is still larger than the quantity produced in the original scenario for both the industry and the firm.

Miffed by this, suppose the government decides to impose excise duty on the diesel car industry, which automatically increases the producer's cost. The diesel car industry decides to pass on the excise duty to the consumer in the form of increased prices. This will result in fall of demand. The new demand curve hence shifts leftwards, and will occupy the position D_2D_2 , DD , or D_3D_3 , i.e. it will fall below D_1D_1 , but will still lie above DD , or it can fall back to the original position of DD , or it can fall further below DD to D_3D_3 , depending upon how much the retail price has increased and how effective this has been in overcoming the perception of lower operating cost of diesel cars.

Assuming that the imposition of excise duty makes the new demand curve fall to a position D_2D_2 (looking at the stiff opposition from auto giants and also to prevent misallocation of resources, the excise duty imposed is not too high) due to the increased prices. But the short-run supply curve will remain SRS_1 , since supply is sticky, and it is not possible to reduce the supply immediately in accordance to the demand. D_2D_2 meets SRS_1 at Q_3 , thus producing OM_3 quantity of goods at OP_3 price. Thus, the quantity of diesel cars demanded witnesses a fall, which will automatically be followed by a fall in price, often acting as an incentive to get rid of the inventories, especially in the short run. This while on one hand will reduce the demand for diesel cars and hence, the demand for subsidized diesel ; on the other hand, it will act as a deterrent for the industry to increase its production. The firm, on the other hand, will take OP_3 and ON_3 quantity of diesel cars. Here, ON_3 is very close to ON i.e. the firm almost reverts to the quantity it was producing prior to the increase in price of petrol. Perturbed by this fall in demand, the industry reduces the production of diesel cars to maintain its profit margins. This reduced supply is represented by an upward shift in the short run supply curve. Let the new position of the short run supply curve be SRS_2 . Here, SRS_2 can be at a position above SRS_1 , but either below SRS , at SRS , or at a position above SRS . Regarding how much the short run supply curve will shift will depend upon how much the demand falls as a result of the rise in prices due to excise duty and how much the industry wishes to improve its bottom line. Thus, here, it can be safely said that the position of the short run supply curve is actually a tradeoff between the top line and the bottom line. It is assumed that SRS_2 occupies the position depicted in the Figure 2(b), since diesel cars are luxury goods with elasticity of demand greater than one. Therefore, production by the industry will also be more skewed towards the bottom line. Here, D_2D_2 intersects SRS_2 at T . At T , the output produce will be nearly equal to OM , though the price will be nearly equal to OP_1 . Hence, it can be

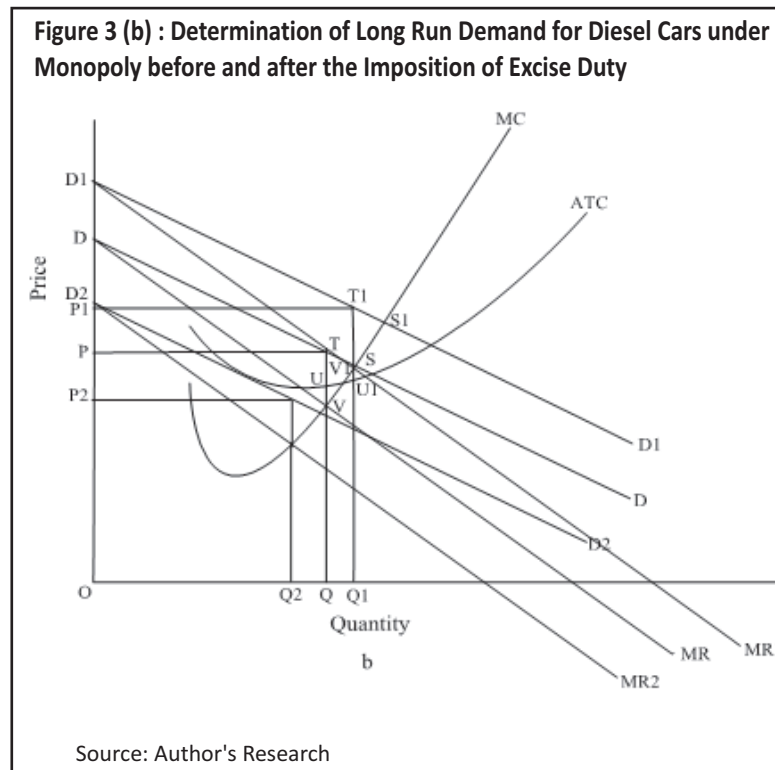
Monopoly

❖ **Short Run Condition :** The Figure 3(a) shows what happens in the short run if there is a sudden huge price difference between petrol and diesel due to the former being market reflective, while the latter being subsidized.

Figure 3 (a) : Determination of Short Run Demand for Diesel Cars under Monopoly before and after the Imposition of Excise Duty



running the product is reduced. Apart from this, the complementary good of its close substitute i.e. petrol in this case is market reflective. Being a luxury good, it experiences elasticity of demand greater than 1; this will automatically increase the demand for diesel cars due to cross elasticity.



But in the short run, since the budget allocated for a product i.e. diesel cars in the present case is constant, but the demand elasticity increases, therefore, let DD1 be the new demand curve facing the firm and the industry. Correspondingly, the marginal revenue curve will also shift to the new position of MR1. Accordingly, the amount produced will rise to OQ1 at price OP1, both of which are greater than the original quantity demanded and price asked for respectively. The profits will also increase from TU per unit of output to T1U1 per unit of output. This will incentivize the firm and the industry as a whole to continue increase in production; thus increasing the pressure on the demand for subsidized diesel. The dead weight losses increase to T1S1V1. Thus, the allocative efficiency of the firm decreases in term that the gap between the price and the marginal cost increases due to the presence of diesel subsidy. Hence, the diesel subsidy ends up in subsidizing the producer more than the consumer.

To prevent the huge subsidy leakages, suppose the government decides to impose excise duty on diesel car manufacturers. The manufacturers decide to pass on this excise duty to the consumers in the form of increased price. This increased price will automatically lead to a fall in demand. Moreover, diesel cars being luxury items have an elasticity of demand greater than 1. In the short run, it will automatically shift the demand curve to a new position say DD2. DD2 can occupy three positions less than DD1 - but above than DD, equal to DD, or below DD. Assuming that it occupies the position as shown in the Figure 3(a), it being a luxury good, therefore, a small increase in price can lead to a large fall in demand. The corresponding marginal revenue will be MR2. Hence, the quantity demanded will automatically fall to Q2, and the price will also decrease. The deadweight losses too either decrease or disappear. Thus, the imposition of excise duty even in a monopoly condition, on the diesel car industry, not only reduces the quantity demanded, but will also improve the allocative efficiency.

❖ **Long Run Condition :** The Figure 3(b) tries to show the long run scenario. Here, the consumers have more or less adjusted to their demand elasticity, thus making it consistent. Let initially the demand curve facing the firm, which is the industry in this case, be DD. Thus, at equilibrium OQ, the quantity of goods will be demanded at OP price. The

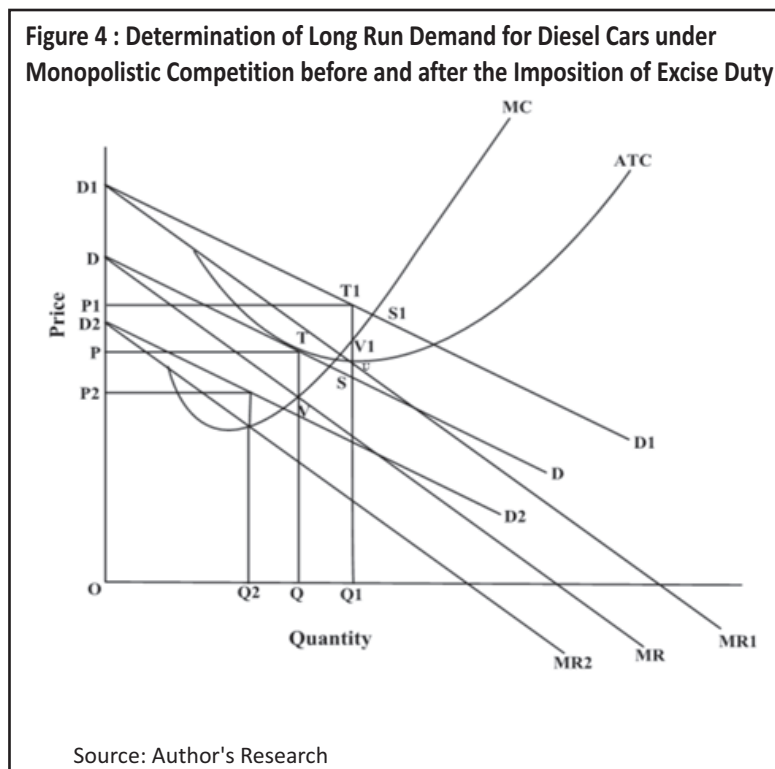
corresponding per unit profit is TU, and the dead weight loss is TSV. Due to the continuously fluctuating price of petrol, more on the increasing side, as compared to the comparatively stable prices of diesel, thanks to the existence of subsidy, the demand curve as a whole shifts from DD to D1D1. This is because in the long run, the elasticity of demand more or less stabilizes, but the total budgetary allocation for the good i.e. diesel cars in this case either decreases or increases depending upon the scenario. The corresponding marginal revenue will be MR1. However, the deadweight losses also increase to T1S1V1. Thus, it can be inferred that diesel subsidies are not only increasing the demand for diesel cars, but are also reducing the allocative efficiencies of the diesel car manufactures.

Now, if an excise duty is imposed on the diesel car industry, and the industry passes on this to the customer as increased price, then at a higher price, the quantity demanded will automatically fall. However, in the long run, the budgetary allocation for the product i.e. the diesel cars in the present context, will fall. Hence, the new demand curve D2D2 will shift leftwards. Here too, three scenarios are possible, either D2D2 falls below D1D1, but is still above DD, or it falls to its original position, or it falls below DD. Assuming that D2D2 occupies the position granted to it as depicted in the Figure 3(b), since it is a luxury good, hence it is more price sensitive. At the present position, manufacturing diesel cars will incur losses. Even if it does not fall to the level as depicted in the figure, the new position of D2D2 as a consequence of the imposition of excise duty, the quantity demanded will definitely fall and the allocative inefficiencies will decrease. Hence, imposition of excise duty will definitely lead to a fall in the demand of diesel cars; thus halting diesel subsidy leakage to some extent.

Monopolistic Competition

This is the condition that is most relevant to reality. It is a combination of monopoly and perfect competition. Hence, it is ideal for the case under discussion, since each brand has certain uniqueness of its own, and at the same time, it also has many close substitutes. In the short run, the demand curve is flatter than monopoly due to the presence of many firms. The firms under monopolistic competition behave like monopoly.

However, in the long run, the demand curve faced by the industry as well as by the firm touches the average cost curve as shown in the Figure 4 adjacently due to the entry of a large number of firms and the profits being competed away, as a result of which, the demand curve slips downwards till it touches the ATC curve. In other words, super



normal profits are possible for the different brands only in the short run as in the long run, all the supernormal profits are competed away in the form of competitors offering a lower price or other incentives, thus forcing everyone to follow suit to stay in business. Under the long run condition, it is assumed that demand elasticity for the consumers is consistent. Hence, a high difference in the market reflective of petrol prices over the subsidized diesel prices will witness larger budgetary allocation for diesel cars. This can also be verified with the increase in demand for diesel cars across the industry as reported in the various leading newspapers of the country like The Hindu, Business Line, The Economic Times, The Indian Express, etc. Initially, with DD as the demand curve facing the industry, OQ quantities of cars were demanded at the OP price. The dead weight loss is represented by TSV, and the firms will not be making any abnormal profits.

With diesel prices being still strictly monitored by the government, and hence the perception of lower operating cost of diesel cars, let the new demand curve D1D1 shift upwards as depicted in the figure. The industry will also incur a profit of TU per unit of output. The dead weight losses T1S1V1 will, however, decrease i.e. contrary to monopoly, the allocative efficiencies will increase. This is probably due to increase in competition as more and more firms enter the fray. Hence, it can be argued that diesel subsidy improves customer welfare. However, one thing that must be kept in mind is that over here, it is not about a merit good. It is about a luxury good whose complementary good is diesel, and as stated in earlier instances, it is an imported fuel for which India is only a price taker. Therefore, over here, concern over increase in demand will be ranked much higher in the priority list while deciding on policies. The arguments will always be tilted in favor of lower demand advocating an imposition of excise duty.

An increased price is always accompanied by a fall in demand. Therefore, the new demand curve D2D2 will shift downwards. Here again, how much the demand curve will shift will depend upon how much excise duty is imposed and how much it is effectively able to ward off income effect incurred as a result of purchasing a diesel car due to lower operating cost. Going by the same arguments, as given above, if the new demand curve is D2D2, then the diesel car industry will incur a loss. Even if the demand does not fall to such a low level, one thing that is evident is the imposition of excise duty that will lead to a fall in demand.

Conclusion

Thus, it has been observed that in all the above scenarios, a rise in petrol prices is accompanied by a sharp rise in the demand for diesel cars due to the perception of a huge difference in the operating cost of the two versions of cars that are close substitutes of each other. This unexpected turn of events has resulted in the government's welfare measures indirectly subsidizing the rich man's car. But looking at the political compulsions and civil society unrest, Basu (2009) opined that universal removal of subsidies is not possible. Also, there are arguments that all cases of subsidies cannot be painted with the same brush and a case to case analysis needs to be done despite the World Bank's argument of them being counterproductive (Amegashie, 2006). However, there are always high chances of universal subsidy ending up subsidizing a totally unintended segment. This is exactly what happened in the situation discussed in the paper. The viable option is the imposition of excise duty in those unintended segments that has been benefitting at the cost of subsidized fuel, a point also recommended by Centre for Science and Environment (CSE) due to the high revenue loss that the government is incurring (www.cseindia.org, 2012). In developed countries too, this method is often adopted where petroleum products are often subjected to different type of subsidies (Anand, 2012). In all the conditions described above, it was observed that the imposition of excise duty was successfully able to reduce the quantity demanded of diesel cars. However, this is also a move that is vehemently opposed by the industry and also the industry minister. Removal of diesel subsidies is preferred over this.

Limitations of the Study

The present paper is only a theoretical modeling paper, and has not covered the condition of oligopoly since it is very similar to monopoly. It also assumed that a constant elasticity of demand is to be faced by the industry as a whole under perfect condition. This may be true in the long run, but not in the short run. The assumption of constant cost faced by the industry on the whole, and the firm specifically is also debatable, since under monopolistic competition and perfect competition with the constant entry of new firms, there is a very high possibility that the price of the inputs will increase due to increased competition. Even in monopoly, where it is assumed that only a single firm is operating, the cost of production can escalate, since it is operating in an inflationary economy. An upward shift in the cost curve

will lead to a further fall in production.

Policy Implications and Scope for Future Research

The Brazilian way, i.e. reforms occur when people are enjoying rapid economic growth (Victor, 2009) also known as an early front loaded vs the New Zealand way in which major reforms took place only under severe financial crisis, i.e. the back – loaded method. Despite the presence of ample evidence that the first type is always preferred over the second, especially in the Indian scenario, the Government of India time and again follows the second type. This time too, with the fiscal deficit pegged at 5.1 percent of GDP, and GDP growth at 6.2 percent (according to the World Bank) coupled with a down - gradation by the rating agency, the government is forced to act. Small steps were taken towards diesel regularization, with its prices being hiked in small installments about 50 paisa per month so that while the hike being consistent, it is not very visible. With the gap between diesel and petrol prices slowly narrowing down, there are already reports of diesel cars losing their edge over their petrol counterparts (Thakkar & Tongia, 2013).

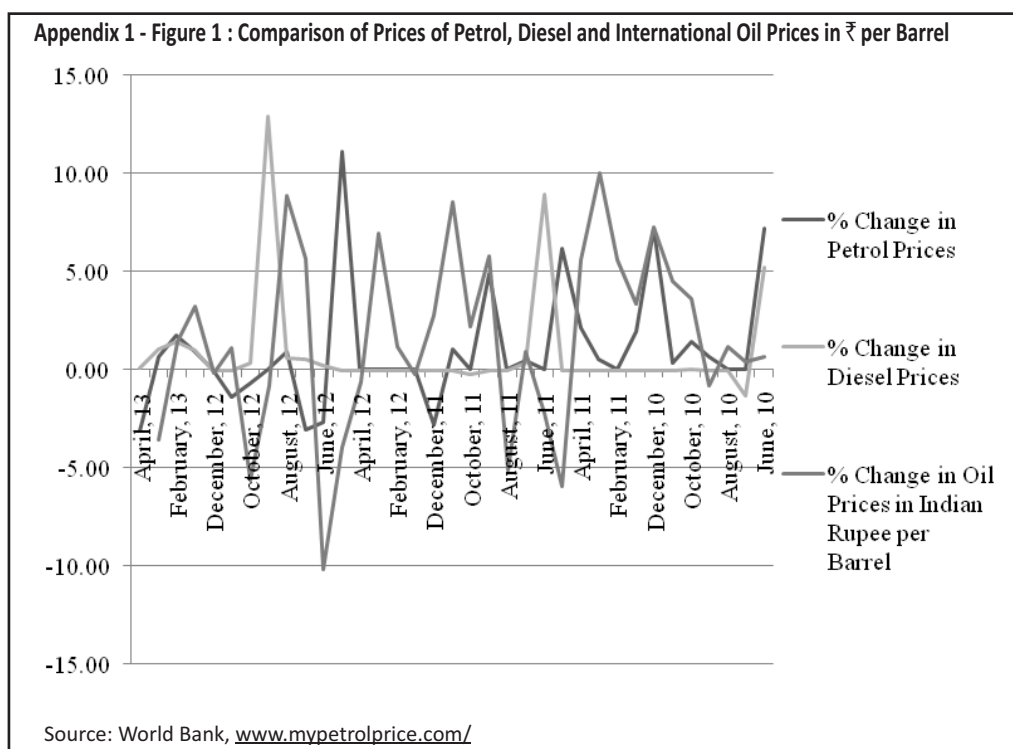
Research is needed for analyzing how these two markets would fare when both the fuels become de - regularized. Furthermore, what can be potentially researched is whether such a move would impact, in any way, the development of cleaner alternative fuel based technologies like CNG in the automotive sector that has a spillover effect in other sectors too.

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Appendices

Appendix 1 - Table 1 : Prices of Petrol, Diesel, and International Oil Prices in Rupees per Barrel						
Months/Year	Average Diesel Price of Delhi, Mumbai, Kolkata, and Chennai	Average Petrol Price of Delhi, Mumbai, Kolkata, and Chennai	International Oil Prices in ₹ per Barrel	% Change in Petrol Prices	% Change in Diesel Prices	% Change in International Oil Prices In ₹ per Barrel
April 13	71.62	52.04		-3.12	0.14	
March 13	73.93	51.96	5,580.74	0.68	1.05	-3.55
February 13	73.43	51.42	5,786.01	1.77	1.46	1.42
January 13	72.15	50.68	5,705.06	0.95	1.00	3.25
December 12	71.47	50.18	5,525.53	0.00	0.00	-0.19
November 12	71.47	50.18	5,536.01	-1.36	0.00	1.11
October 12	72.46	50.18	5,475.37	-0.72	0.37	-5.61
September 12	72.98	50.00	5,800.66	0.00	12.93	-0.83
August 12	72.98	44.27	5,849.31	0.95	0.65	8.88
July 12	72.30	43.99	5,372.19	-3.07	0.57	5.68
June 12	74.59	43.74	5,083.60	-2.67	0.21	-10.18
May 12	76.63	43.65	5,659.74	11.11	0.00	-3.95
April 12	68.97	43.65	5,892.63	0.00	0.00	-0.59
March 12	68.97	43.65	5,927.55	0.00	0.00	6.98
February 12	68.97	43.65	5,540.75	0.00	0.00	1.19
January 12	68.97	43.65	5,475.69	0.00	0.00	-0.23
December 11	68.97	43.65	5,488.30	-2.77	0.00	2.76
November 11	70.93	43.65	5,340.76	1.02	0.00	8.55
October 11	70.22	43.65	4,920.06	0.00	-0.22	2.24
September 11	70.22	43.74	4,812.40	4.87	0.00	5.81
August 11	66.96	43.74	4,548.23	0.00	0.00	-5.08
July 11	66.96	43.74	4,791.52	0.45	0.37	0.93
June 11	66.66	43.58	4,747.57	0.00	8.94	-2.25
May 11	66.66	40.01	4,856.74	6.16	0.00	-5.93
April 11	62.79	40.01	5,162.95	2.15	0.00	5.62
March 11	61.47	40.01	4,888.11	0.52	0.00	10.04
February 11	61.15	40.01	4,442.32	0.00	0.00	5.64
January 11	61.15	40.01	4,205.30	1.97	0.00	3.37
December 10	59.97	40.01	4,068.37	7.17	0.00	7.25
November 10	55.96	40.01	3,793.46	0.32	0.00	4.51
October 10	55.78	40.01	3,629.80	1.42	0.03	3.59
September 10	55.00	40.00	3,503.86	0.67	0.00	-0.84
August 10	54.64	40.00	3,533.47	0.00	0.00	1.16
July 10	54.64	40.00	3,492.91	0.00	-1.30	0.38
June 10	54.64	40.52	3,479.77	7.17	5.24	0.64
May 10	50.98	38.51	3,457.51			
Source: World Bank, www.mypetrolprice.com/						



Appendix 2

Table 1 : Correlations between Percentage Change in Petrol Price and Percentage Change in Oil Price per Barrel			
		% Petrol Price Change	% Oil Price Change
Petrol Price Change	Pearson Correlation	1	.002
	Sig. (2-tailed)		.993
	N	34	34
Oil Price Change	Pearson Correlation	.002	1
	Sig. (2-tailed)	.993	
	N	34	34

Source: World Bank, www.mypetrolprice.com/

Table 2 : Correlations between Percentage Change in Diesel Price and Percentage Change in Oil Price per Barrel			
		% Diesel Price Change	% Oil Price Change
Diesel Price Change	Pearson Correlation	1	-.163
	Sig. (2-tailed)		.356
	N	34	34
Oil Price Change	Pearson Correlation	-.163	1
	Sig. (2-tailed)	.356	
	N	34	34

Source: World Bank, www.mypetrolprice.com/