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Research Essay

Introduction

Economics and its various systems have been a core area of interest and debate for a long period of time and even though economies throughout the world have developed, the research into the field and the presence of debate is still evident.

One particular area of debate is that of social cost and private cost on the basis of which differences between the capitalists and the proponents of state controls exist. What is argued by the latter is the existence of "externalities" that leads to market failures and thus puts a higher social cost or benefit on the economy than the producer or buyer pay for. This essay will be focusing on particularly the issue of negative externality and will be applying the concepts to a real life case study from my home country.

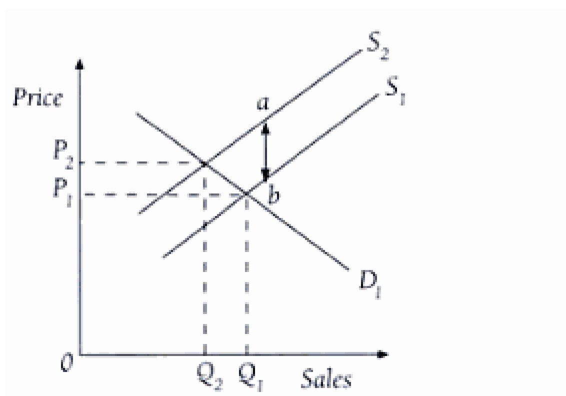
(a) Explain what negative externalities are, and why there may be a case for government intervention to address them. Describe how taxes/charges and regulation can be used to correct the negative externalities and the pros and cons of each method. Provide real life examples.

Buchanan and Stubblebine (1962) described an externality as a cost or benefit that affects a third party which did not originally intend or signed up to incur that cost or benefit. Typical examples of externalities in economic decision making include the rise in air pollution which the industrial or transportation activities incur however it affects the population as a third party who did not do any activity to suffer a rise in air pollution. Laffont (2008) explains that the externalities became an important issue because arguments from a number of authors emphasized upon how producers and capitalist do not pay for the externalities that they cause as a result of which the larger population suffers (in case of negative externality). Laffont (2008) notes this as one of the greatest critiques on the free market theories according to which unregulated markets are efficient and the market forces are corrective in nature. The theory of externality shows that the capitalists only takes into account the private cost of running the business whereas the correct figure to be taken into account is the social cost. An externality can be both positive (third party benefit) and negative (third part cost) in nature.

Nicholas (2006) notes that: a negative externality is an external cost or an external diseconomy in which an unrelated third party faces a negative impact because of the production of goods or services.

Negative externality may be a serious consideration for the government as the government's job is to take the benefits of the total public into consideration and not just the capitalist. For example if a manufacturing plant is disposing its waste in a fresh water stream, then because of the activities of the manufacturer the quality of drinking water of the public will deteriorate. This then is something that the government needs to manage through intervention. The following are the examples in which governmental regulations are necessary to correct a negative externality along with the pros and cons of it.

i) Air Pollution: A common example is the Carbon Emission Charges imposed by the Environmental Protection Agencies. This is basically a carbon charge that puts a cost burden on the manufacturers so that they can reduce their carbon emissions. This carbon emission charge is beneficial because it penalizes the manufacturers for producing air pollution, the proceedings of which can be used by the state to improve the air quality through reforestation. On the other hand an increased cost burden on the manufacturer may make profitability difficult for him as a result of which he may decide to shut down the business. This will result in the loss of output from the economy. This taxing system is also known as the price mechanism and its illustration is provided as under:



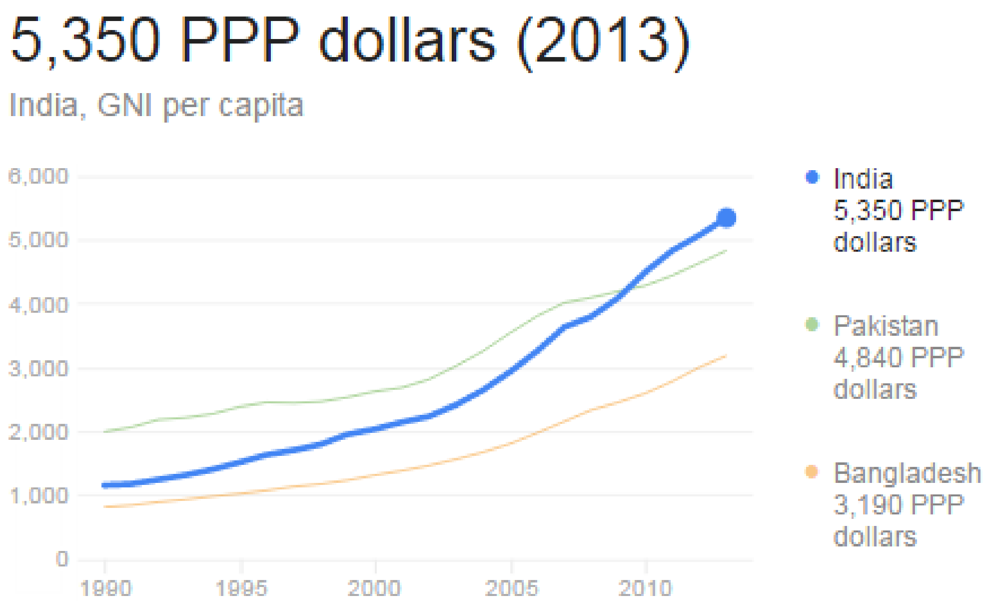
ii) Tobacco Advertisement: Grant and Vidler (2009) give the example of the UK tobacco advertisement the negative externality of which was the unhealthy behavior of the active smokers and the distress that this put on the passive smokers. The possible government intervention in this case is to have direct controls over the related advertisements that otherwise make billions of pounds. The government implements the direct control by limiting the frequency and type of ads and also making it mandatory for the ad agencies to give a public message of “smoking is injurious to health”. The lack of ads automatically leads to lesser demand however the possibility of government failure because of the lobbyists and pressures from both media groups and tobacco makers can challenge the writ of the government.

iii) Landfills and Pollution: Another very common phenomenon that leads to a negative externality is the litter and the solid waste disposal that both individual, household units and organizations practice. In this third parties are affected by the loss of scenic landscape, increase in diseases and smell from the area. In this context an intervention that the government can use is persuasion through public service messages, setting up of dustbins and also by distributing pamphlets to the individual households and schools. The focus of this method is to achieve attitudinal change however as can be seen the issue in this is that the process will take a long time to take effect (for example children will grow up to be more responsible) and also that a behavioral relapse is common. This process may not be able to effectively solve the issue of negative externality as the compliance to it might be low.

(b) Choose a case study from your home country where an externality exists in a current market. Using the key characteristics of the market structures identify the market structure in your case study

The case study I have chosen is that if my home country, India and takes the entire economy as the market under consideration. The externality that has been selected is the "Carbon Emissions" in India. This case holds utmost amount of importance for both the Indian market and the world at large because according to Galluci (2014), India the world's third largest climate polluter with no plan to offer to the United Nations as to how it will be proceeding with this issue. The significance of this issue has been further supported by the findings of First Post (2013) according to which the carbon dioxide discharge in India increased by 7.7% in 2012 and according to the report the rate was expected to increase further by 2.2% in 2013. According to the World Bank Data (2010) the carbon emissions in India in 2010 were as high as 1.67 billion metric tons whereas the same figure for countries similar in geographic, cultural and economic issues, Pakistan and Bangladesh had carbon emission of 0.93 metric tons and 0.37 metric tons. Because of the large contributions to the world's pollution that USA, China and India are making, Zolfagharifard (2014) reports that: the world's carbon emission levels have reached a high of 39.8 billion (36.1 billion metric tons). The result of this is that the + 2 degree Celsius global warming that was likely to be maintained for the next 30 years is going to be changed significantly.

Having presented the nature of the externality, it is important to consider what it is an externality, who are the third parties and what market structure is supporting this phenomenon. Statistics from the World Bank Data (2013) show that India achieved an economic growth rate of 5.0% in 2013. What needs to be noted here is that while a number of economies were struggling to revive from the recessionary impact of 2008, Indian economy was actually growing. Furthermore World Bank Data (2013) reveals that the Gross National Income Per Capita in the country was 5,350 dollars while that of its previously noted neighbors was 4840 dollars (Pakistan) and 3,190 dollars (Bangladesh). This is also illustrated by the figure below:



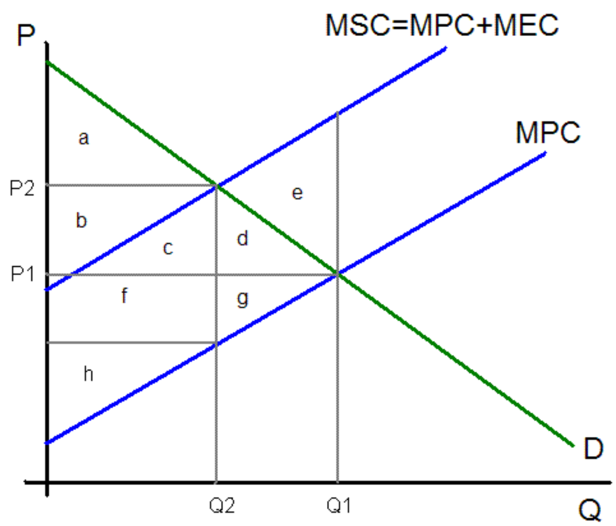
It has been noted above that the year 2012 – 2013 saw an increase in the carbon emissions by 5.5% for India and the graph above shows the main activity for that. In this the collective producers supported by the governmental assistance focused on increasing the level of economic productivity as a result of which the environment suffered. Dogra (2012) notes that: the Power Generation Industry is one of the largest growing sectors in the country. This is because India, on the basis of its population, is the 5th largest power consuming market in the world and the governmental plans (11th Fifth Year Plan) has promised electricity for all. In order to support this level of power generation, India has relied heavily on both hydroelectric power generation and fuel and coal based power generation. The negative externality caused by the production of electricity and consumption by the population is suffered by i) those who did not get the electricity and did not produce the electricity but got the pollution nonetheless, ii) the environment of the country and iii) the biodiversity in the country.

The market structure of Indian market is such that the demand is still much higher than the supply so much around 29.5% of the Indian population still lives under the poverty line (Singh, 2014) which according to the report by the author means that this much population in an growing economic superpower lives on less than two meals a day. Given this issue and the idea to make India the largest super economic power in the World, the state and the manufacturers are solely concerned with the economic growth, output and development of the economy.

The high carbon emission and high pollution levels in the world however mean that the economic development for India itself will become unsustainable (Powell, 2012) and one of the most evident examples of it already affecting the regions is through annual floods. With the rate of global warming of more than + 2 degrees a year, the number of floods are likely to increase further as a result of which the economic development of India itself is likely to be affected by the large negative externality.

(c) Using your case study explain the effect of externality on market outcomes including dead-weight loss and discuss ways that your government has addressed the presence of negative externalities in the market.

In order to understand the deadweight loss caused by the market externality, the following graph needs to be considered;



According to this illustration, the cost that the manufacturer pays is “MPC” that is, the Marginal Private Cost. However the cost that is actually applicable to the society for the production of Q1 is MSC that is, the Marginal Social Cost which means that the MSC > MPC is giving rise to a deadweight loss which in this case is “carbon emissions”. The most important market outcome for this is that the producers by not appreciating the extent of their cost and by not internalizing it are actually forgoing the higher price that they can earn tangibly. Thus the unsustainable business strategy is one thing that the market is facing because of the negative externality.

Another important market outcome consequence because of this externality is the decrease in the scenic landscape, health levels and thus the job performance of the labor and finally the decline in the spending on remainder items when the healthcare expenses for the greater part of the population has increased. What needs to be noted here is that if a child is suffering from excess of lead poisoning will not be able to get educated and contribute his or her share to the economy in the longer run. Finally one of the biggest consequences of global warming and pollution is the increase in natural disasters. Sharma (2014) provides a timeline for 9 of the deadliest floods in India:

1987	1998	2004	2005	2008	2010	2012	2013	2014
Bihar (29 million affectees across 30districts)	Assam (across 21 districts)	Bihar (21.2 million affectees across 20 districts)	Maharashtra (21.2 million affectees across 20 districts)	Bihar	Ladakh	Assam	Uttarakhand	J&S

It takes no econometric tools to see whether the increase in "economic development" is unsustainable or not. There has literally been a flood every year in the country and technically speaking, the amount of funds that the country has to spend in damage control, rebuilding of infrastructure, loss of agriculture and rehabilitation can be more effectively spent on technology development, pollution control strategies and overall reduction of this negative externality.

The negative externality that the According to Reuters (2014) the officials of India report that the carbon emissions will grow as the poverty declines in the country. The report by Reuters (2014) further goes on to support the "Differentiated Responsibility" principle according to which the burden to tackle the carbon emissions rests on the shoulders of the developed countries as their economic development contributed more to the piled up pollution and negative externalities that the rest of the world is facing today. Reuters (2014) specifically noted Environment Minister Prakash Javadekar to have said that,

"They (China and the U.S.) have accepted the differentiated responsibility and the need for time to be given for growth and China is four times ahead of us. So you calculate"

The government of India is no where near realizing the issue that they stand facing. The same report says that,

"India's emissions are around 1.9 tonnes per person - less than China, which emits around 7.2 tonnes per person and the 5 tonnes world average - but with a population of 1.2 billion people it is the third largest emitter and heavily reliant on thermal coal for its energy needs."

Conclusively then, the role that Indian government is playing to reduce this externality is negligible as officially declared.

(d) Suggest other options for dealing with negative externalities in your case study.

As has been explained above, a negative externality occurs when a third party accrues a cost for an activity otherwise unrelated to him or her. One of the biggest economic externality is the level of increase in pollution in the world because of which the nature and the general population is suffering from increased diseases, loss of biodiversity and environmental sustainability.

Through the case study it has been seen that Indian economic growth is leading to a high rate of carbon emission such that the statistics have made India the third largest polluter in the world following China and USA. The government of India seems to be steadfast at its notion of focusing only on economic development with the argument of differentiated responsibility being emphasized upon under which the developed countries of the world which have historically created the level of pollution that has led the world to this environmental issue in the first place, and, have the resources to tackle the issue, are the once responsible to do so and no the developing countries such as India which still have a long way to go in terms of actual economic and humanity issues.

After taking these issues into account, what is recommended to the Indian government is that the idea of economic development superseding environmental concerns for a country like India where the level of poverty is still as high as around 30% is justified however the argument of differentiated responsibility is not. The point of argument here is that while the western and the European Economies were developing the amount of literature as well as a general lack of maturity regarding environmental and sustainability approach was absent. Moreover the era was marked by significant degree of wars which itself did not let economic development of the level that is taking place today thus meaning that all stakeholders of today share greater informed responsibility than the historic stakeholders (Peters, 2008 and Pan et al, 2008) . The state of India cannot completely oust the fact by saying that "it is their chance of economic development because USA and Europe had theirs". One of the many elements that the business managers and policy makers of today are proud of today is the large availability of information on the basis of which better and more strategic decisions can be taken (Blaskova, 2014). It is therefore a willfully wrong and ignorant strategy at the hand of Indian government to justify the 1.63 billion metric ton of pollution contribution to this world by stating that they are eliminating poverty.

What need to be focused upon here is better and more environmental friendly technologies which can allow both economic development and environmental sustainability at the same time thus eliminating the negative externality of economic growth that the country is facing (Zhou and Wu, 2010). This strategy then is a win win situation. For example the government needs to try and rely less on coal and carbon generated electricity, subsidize hybrid cars and solar panels and use public lavatories for biogas generation.

On an industrial level, the government can motivate organizations to invest in research and development through not only the efficiency of the businesses will enhance but the breathing air which is becoming more and more polluted for the Indian Population will be improved significantly (Perkmann et al, 2011; Eom and Lee, 2010 and Eun et al, 2006).

Conclusion

This essay has looked at the issue of "negative externality" in an unregulated market system. According to the findings of the research, a negative externality is a cost that a third part faces because of a transaction that has occurred between two parties in the market. The issue of negative externality has been found to be important because it is a type of market failure that usually goes ignored by the policy makers however has a large long term impact on the sustainable performance of the economy.

The same was applied to the issue of high carbon emissions externality as a result of high economic growth in India. It has been found that India as a GDP growth of 5.0% in 2013 and that the key goals of the economy are to eliminate poverty and to provide electricity to everyone in the country. The country however has been found to be the third largest polluter in the world because of which the environmental sustainability of the country is declining has shown by the increased frequency of natural disasters in the country. The government's present stance is to focus on economic development however it has been proposed to develop the relevant technologies and measures on the basis of new research and information available to have better and more sustainable economic development (Perks et al, 2008).

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