

Climate change a big market failure politics essay



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Lord Stern has described climate change as “ the biggest market failure the world has seen”. What are the major economic features of climate change that make it such a significant market failure? Outline carefully the policy challenges of addressing two of these features.

He, who knows what sweets and virtues are in the ground, the waters, the plants, the heavens, and how to come at these enchantments, is the rich and royal man. Only as far as the masters of the world have called in nature to their aid, can they reach the height of magnificence.

Whilst thinking about which topic to choose amongst I got this “ Having covered environmental issues as a journalist for many years, I have become increasingly alarmed about the problem of climate change and its negative impacts, so I decided to join the Scottish Green Party as the party that I have seen taking this issue most seriously.” - from web site of The Scottish Green Party quoted by Louise Batchelor who has received the British Environment and Media prize twice for her reporting of environmental issues on BBC Scotland. If today climate change is being made slogan of political campaign, that means it is worth to think about it.

Market failure is a theory which arises when the distribution of goods and services by a free market is not Pareto efficient. Market failures are generally linked with failure of competition, public goods, externalities, incomplete markets, information asymmetries and other macroeconomic disequilibrium. (Joseph Stiglitz, Economics of Public Sector, 3rd ed, p. 77-85)

In economic terms externality stems from actions of subject which affect others in positive or negative way. In first case person or organization may

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impose cost on others but does not reimburse it, whereas the latter may cause benefit to others without reaping all of the benefits of the activity. Models where the actions of individual or the firm injures others is called negative externality, however the opposite is referred to as positive externality. The most obvious patterns include climate change and water pollution. Since the end of XX century world community has been facing serious environmental problems, so economic studies of climate change are juvenile and will develop as we face new policy challenges. Emissions by previous generations which polluted our ecosystem demonstrate damage for contemporary society as well as for posterity. While occasionally used synonymously with “ global warming,” the climate change implies a considerable change in a climatic condition which has significant economic, environmental and social effects. It may be restricted to a specific locality, or may happen across the whole globe. Not surprisingly, humankind is in the central figure that causes this.

Certainly the world’s environment has always changed owing to natural reasons. But what is going down presently is that man-made aspects are now warming up the world’s climate at a more rapidly pace. This increase of carbon emissions set in motion through the industrial revolution. In pre-industrial era – that is, the time prior to the Industrial Revolution – none of modern technologies – automobiles, aircrafts, plant, phones, TV sets existed. The Industrial Revolution came about when people commenced to mass scale production in industries by means of machinery that worked with energy from coal, and later on using oil, gas, and electrical power. This made it much easier for people to produce goods and facilitated the

advancement of new technology. Since Industrial Revolution which started round 1750 and picked up the pace in the 1800s and 1900s, civilization has been using fossil fuels in an intensive way. As a consequence of this actions atmosphere has been polluted with large amount of greenhouse gases. The more society manufactures and devours, the more environment is changed we are surrounded by.

Climate change is an unavoidable and important worldwide challenge with enduring effects for the sustainable growth of all states that world society has had to deal with up to present time. The relationship connecting climate change and sustainable growth are strong. Climate change influences roundabouts through some channels such as storms, heatwaves, sea level rise, hurricanes, droughts, and floods – create threats for resources of water, food and agriculture. In its turn these unquestionably living standard of population of developing countries. So, developing countries are expected to get the hardest destruction by climate change. Techniques to tackle climate change necessitate worldwide society's aims to be completely consistent with for economic and civil progress. This task that go beyond national frames and calls for solutions at the global plane.

According to Nicholas Stern, climate change should be regarded as externality, because people who release emission to nature do not compensate for it. As a greatest and widest-ranging market failure, it is a challenge for economists itself. Influence of climate change very expansive and interrelate with other types of market failures, from which additional complicated policy problems stem. Lord Stern states that if world society does not take action, the on the whole, overheads and risks of climate

change will be correspondent to losing at least 5% of world GDP continuously. If a broader series of shocks is taken into consideration, the approximation of harm could rise to more than 20% of total output. Let's see it in examples of sectoral perspectives.

(The Economics of Climate Change. The Stern Review. Nicholas Stern. Cabinet Office - HM Treasury, 2006, UK. <http://www.webcitation.org/5nCeyEYJr>. Retrieved 2010-01-31.)

Agriculture is sphere of influence of humankind extremely responsive to climate changes. Forces changing our climate are as well important to farm production. Anthropological actions have already changed atmospheric features such as ozone, rainfall, carbon dioxide level. Although production of food may take advantage of warmer climate, the increased probability of natural disasters like heatwaves, floods and droughts will generate problems for agricultural producers. Actually Paul Krugman's statement in his article on NY Times shows the trouble with its seriousness: " But the evidence tells a different, much more ominous story. While several factors have contributed to soaring food prices, what really stands out is the extent to which severe weather events have disrupted agricultural production. And these severe weather events are exactly the kind of thing we'd expect to see as rising concentrations of greenhouse gases change our climate - which means that the current food price surge may be just the beginning."

(<http://www.nytimes.com/2011/02/07/opinion/07krugman.html>)

Source: " Escalating food prices", UNICEF February 2011 report.

Analyses of the effects of global climate change imply that climate change may lead to significant decline in agricultural output in developing nation states. Nowadays international community is getting more concerned about matters vital to developing countries, such as potential changes in total food availability and world food prices. Among other causes 2007-2008 and recent 2011 food crisis are attributed to climate change. First one, was due to the catastrophe of the most terrible drought in a century in Australia, that is why the 2006 crop summed only 9. 8m tonnes. After America, Australia is on average the second leading exporter of grain, and in normal times crop would be about 25 million tonnes. Because of that drought world stock of wheat has reached it lowest possible level since 1979. The drought's impact on rice has made the greatest shock on the rest of the world, to date. It is one factor causative to bubbling prices which is supposed it is among the initial signs that a warming planet is starting to have an effect on production of food.

(<http://news.bbc.co.uk/1/hi/world/asia-pacific/7289194.stm>)

According to Reuters food prices have increased by 11. 7% in 11 months of 2010 while the general price level (inflation) has upsurged only by 1. 9%. This fact indicates a severe difference and obliges preventative measures to impede food crisis founding starving nations. The caution for food crisis in Sri Lanka was issued due to the bad weather condition occurred during the first few weeks of 2011 which caused massive floods in eastern, northern and north central regions of Sri Lanka where the extensive crop growing were taking place. More than 50% season harvest was destroyed resulting in 21% of the rice cultivation of Sri Lanka being

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destroyed. And the irrigation system of the country is damaged making it unworkable to do forthcoming season cultivation which will promote reduction of the rice cultivation in the future. Apart from that vegetable prices have gone up by more than 200% as a result of floods and the live stock of 240, 000 were destroyed which will again result in high price of meat, milk and eggs. And Meteorological Department of Sri Lanka predicts for a drought period towards the mid 2011 which will once more upshot in damage of crops and make people starve again.

(<http://www.tutebox.com/business/economics/what-is-foodflation/>)

Africa responds especially badly to climate change given that it is principally agrarian, suffers an undesirable price shock to its exports, has a low capacity to regulate agricultural portfolios, and has a low elasticity of substitution between domestic and imported cereals. The orientation in the direction of cereal self-reliance averts the economy from taking benefit of lower world cereal prices by changing expenditure towards imported cereals. The remarkable raise in cereal imports in Asia and Latin America leads to a high demand for foreign currency. Balance of trade stability is realized by currency devaluation, by 3. 5% in Asia and 1% in Latin America. Real exchange appreciation lessens openness of African economy. There is a 5% appreciation of the currency in response to a complex of changes, but primarily due to a large decline in demand for imports. The cereal sector yield shock of -17% cannot be compensated by an increase in cereal imports. In response, the domestic price of cereals rises which induces resource reallocation towards cereal production. Import demand for cereals and industrial goods declines, since real incomes of all households decrease, <https://assignbuster.com/climate-change-a-big-market-failure-politics-essay/>

leading to a lower demand for foreign exchange. The supply of foreign currency falls as export crop production decreases both because productivity falls and in order to allow a shift towards cereal production. The depreciating effect from lower supply of foreign currency is overwhelmed by the significant decrease in industrial imports, which are much larger in value terms than export crops, causing a net appreciation. (Economic and Welfare Impacts of Climate Change on Developing Countries by Paul Winters et al.)

Some restricted views claim that climate change will not greatly affect other sectors than agriculture. But according to well constructed climate-economy models, which go beyond above, environmental changes have great influence on other spheres of economy as well. More broadly still, climatic effects may extend to health, crime, conflict, and migration, all of which could have first-order implications for measuring the policy response.

(<http://wallstreetpit.com/23481-what-are-the-likely-economic-effects-of-climate-change>)

Dell et al. 2008, find that warming has historically had negative impacts on economic growth - but only in poor countries. The effects in poor countries are remarkably large - with a 1 degree Celsius rise in temperature reducing economic growth by about 1.1 percentage points. Looking underneath national growth, the study also finds large effects on both agriculture and industrial value added, in addition to effects on aggregate investment, political stability, and innovation.

Furthermore, study of historical data relating national weather variation to export performance. The findings confirm large negative impacts of

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temperature on poor countries. On average, we find that a poor country being 1 degree Celsius warmer in a given year reduces the growth of that country's exports by between 2.0 and 5.7 percentage points in that year. As in Dell et al. (2008), we find no effect on rich countries' exports. The fact that exports are even more sensitive to temperature than overall GDP is consistent with the idea that domestic consumption is relatively steady, so that volatility in domestic production translates into greater volatility in net exports.

(Dell, Melissa, Benjamin F Jones, and Benjamin A Olken (2008), "Climate Shocks and Economic Growth: Evidence from the Last Half Century," NBER Working Paper 14132.)