



## Natural Hazards, Poverty Traps versus Economic Growth

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Governments, even in developed countries, devote too scarce resources to coping (ex-ante) with natural hazards; as a consequence of this short-sightedness, (ex-post) direct and indirect effects of catastrophic events deeply compromise the economic growth.

Protective measures against natural hazards mean complex choices involving the opinions of multidisciplinary groups of experts in the fields of ecology, civic and geotechnical engineering, geology, meteorology, law and economics. Moreover, tools and choices affect different stakeholders: politicians, producers, consumers, taxpayers and voters. Complementarity between informed rationality and democracy need to be recognized and guaranteed as too often the perceptions of the majority of the stakeholders involved about natural hazards are not consistent with any objective information about the catastrophic event.

The interaction between strict budget constraints, extremely high degrees of uncertainty, risk-aversion and credit rationing, trade-off between democracy and rationality, are the main causes of potential 'poverty traps'.

First of all we believe that the 'reconstruction output' to be included in GDP as an ex-post effect of a natural hazard is a forced investment much more effective in crowding-out other consumption and investment and less effective for growth than investments aiming at increasing, ex-ante, the resiliency of the economy. Keynes' 'Animal Spirits' are embedded in positive expectation for future gains especially if not concentrated in reconstruction procurement sectors but spread across different sectors of the economy.

The increased demand for reconstruction goods and services may act in both directions depending on the phase of the business cycles in which the economy is. Risk premiums for risk-avertter investors increase in consequence of a natural hazard event; this restrict budget constraints and strengthen credit rationing. A mere replacement effect of the destroyed capital by a more efficient one is not enough to assert a prevalent stimulus effect of disasters on economic growth.

Econometric analyses are not conclusive in the sign of the impact of natural disasters on growth.

The 'poverty traps' effect may be stronger where resources are mainly devoted to the supply of a 'reconstruction output' instead of a 'resiliency output'.

Following the suggestions of financial literature, we believe that a certain (minimum) percentage of GDP may be devoted by Governments to cope (ex-ante) with natural hazards. This will redistribute some resources from the 'reconstruction sector' to the 'resiliency sector' and mainly to a human capital investment. We'll, then, try to link 'resiliency' to economic growth.