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Title: Sustainability Assessment for Structural Transformation : Paths for Climate-Compatible Development

Meeting the targets for CO2 emissions reductions demand a significant effort from every country to switch production and consumption patterns towards sustainable models. While several sectoral policies for climate change adaptation are currently pursued (energy, the circular economy, transportation) a comprehensive indicator of success is still missing.

The task is made more difficult by the fact that the indicator should not only reflect accumulation of wealth following current development strategies, but also development through structural transformation towards sustainable asset bases. The tension between «produced» capital accumulation along traditional lines and human natural capital investment is especially strong in Africa today, while European and East Asian country seek a transition path towards a low carbon economy.

In this contribution we offer insights into the role Genuine Savings could play in setting such and indicator. Using a Computable General Equilibrium model with a Resource Balance and Life Cycle Analysis (LCA) component, we model several scenarios of structural transformation, constrained by resource availability, demographics, and produced capital maintenance. Our effort can be linked to the continued push to produce reliable Input-Ouput Tables in monetary and physical terms, with the added benefit of a dynamic setting. We show how structural transformation, understood as a change in the relative value of the different component of wealth, is an essential feature of any adaptation to climate change in the coming decades.

We conclude with suggestions to improve the use and computation of GS in order to make it a privileged marker of sustainable wealth accumulation in the context of energy and ecological transitions. Modeling such as ours would make a useful addition to the macro-development planner toolbox, considering the growing importance of ecosystem services and health valuation for sustainable development.

Putting climate action costs and benefits in a global perspective is one of the key to demonstrate the long run benefits of the new models of development, currently pioneered in various developed and emerging countries.