

## *Extended Abstract*

### Adjusted Net Savings in Latin America (1880 – 2020)

#### Stylized facts on natural resource dependence and development\*

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Climate change has emerged as the main concern in the XXI<sup>th</sup>. The latest report of the Intergovernmental Panel on Climate Change IPCC (2021) has raised the alarm for future trends for earth and humankind. For developing countries, such as Latin American nations, global warming presents several risks for future economic development and the traditional ways to measure progress are changing mainstream goals. Natural resources, one of the bases of foreign trade in Latin America during the last 150 years, have become part of the problem regarding environmental degradation (Infante-Amate et al., 2020). In the next decades, the extractive model characterized by the exports of minerals, wood and sea products should be modified to achieve sustainable development. Meanwhile, Gross Domestic Product (GDP) has become the most used indicator to estimate the progress of nations. The accelerated degradation of environment and biodiversity lost has shown GDP flaws and how misleading it could be to achieve economic progress and well-being.

Many indicators have appeared to complement the *little big number*, but the amount and the features of these indicators have become the best allies of GDP (Hoekstra, 2019). One of the most used it has been Genuine Savings or Adjusted Net Savings. One of the key points behind this method is the accounting of

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natural resources rents Barbier (2011). When they (resource rents) are not reinvested in productive capital, such as education and reproducible fixed capital, it could be harmful for the intergenerational contract (Hartwick, 1977). Counter-factual analysis has suggested that if Latin American countries had followed the so-called “Hartwick Rule” they could five times their current levels of wealth (Hamilton et al., 2006). Moreover, this article contextualize the resource curse in a comprehensive analysis, estimating the savings and the resource depletion in a longer period than previous studies (Atkinson and Hamilton, 2003). A long run analysis allows us to estimate the forecasting accuracy of GS with empirical data.

Genuine Saving measures the “true” (or “genuine”) rate of saving (investment) in an economy after taking into account depreciation of fixed capital, investment in human capital, depletion of natural resources, and damages caused by pollution. GS is an indicator that aims to assess an economy’s sustainability based on the concepts of Environmental Economic Accounting (SEEA, 1993, 2003, 2014).

We followed Hamilton and Clemens (1999) and the World Bank (2006, 2011) methodology<sup>1</sup> for calculating GS by estimating a range of increasingly-comprehensive measures of year-on-year changes in total wealth over time.<sup>2</sup>

Latin American economists (and economic historians) have focused their analyses on convergence with the USA, Western Europe and settler economies (such as Australia, Canada and New Zealand). They have emphasized the period 1919 - 1930 as the origin of divergence. In this article, we have gathered and standardized a long run series of GS for nine Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Mexico, Uruguay and Venezuela. One of the objectives is to show a longer period analysis than previous studies. Our results shed light on the *real* divergence with the developed world, in terms of Genuine Savings. If this gap has been prolonged and constant through the XX century, urgent action is required to achieve sustainable development for future generations. (Mousavi and Edmund Clark, 2021). Our main question is how much better off would Latin American be today if they followed the Hartwick Rule.

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<sup>1</sup>This is outlined in Bolt et al. (2002)

<sup>2</sup>Recent work of the World Bank (2018, 2021) has focused primarily on wealth estimates and estimate the change in wealth as a predictor of sustainability. There is only one study which attempted to do this using historic data but viewed GS as a more reliable indicator of sustainability (McLaughlin and Hanley, 2014).

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