

## THE GDP GROWTH SPELL: WHY DO WE NEED TO BREAK IT?

Daniel Caixeta Andrade

*Instituto de Economia da Universidade Federal de Uberlândia. Avenida João Naves de Ávila 2121, bloco J, sala 1J241, campus Santa Mônica, Uberlândia, Minas Gerais (MG), CEP: 38.408-100, Brasil. caixetaandrade@ie.ufu.br*

**Keywords:** GDP growth spell; ecosystems resilience; ecological economics; scale; human prosperity.

The central point of this essay is that managing economic systems focused exclusively on policies aimed at increasing the Gross Domestic Product (GDP) of nations (*growthmania*) can bring disastrous consequences on natural systems and impose huge costs on human societies. Although this has been the situation since the end of World War II, we argue that the increment of an economic system's GDP should not be the only key variable to be considered when implementing economic policies. Other variables, such as natural capital depletion and human well-being, must be constantly monitored in order to build a sustainable and desirable future in which human and non-human species coexist in harmony.

Firstly, we would like to draw attention to the difference between the expressions "GDP growth" and "economic growth". GDP is a monetary measure of the goods and services produced by domestically-located factors of production (Costanza *et al.* 2009). GDP growth relates only to the increase in the monetary value of the goods and services produced from year to year. This cannot be considered "economic" (presumably a good thing) in all cases. This is because GDP growth in some situations can lead a country to a less desirable situation, since the opportunity costs incurred may be higher than the benefits brought by a greater GDP (Lawn & Clark 2008). The most basic explanation for this is that GDP is a methodologically flawed variable (Stiglitz-Sen-Fitossi 2009) since it accounts for both the positive events that increase human well-being (*i.e.*, higher level of consumption of poor people) as well as those events that do not result in increased well-being (like natural capital depletion). Furthermore, GDP ignores some factors that clearly make people better off, such as the reduction in social inequality and the value of unpaid work.

GDP growth is not always a desirable phenomenon, especially in countries where the population has reached a level of basic needs satisfaction (Kubiszewski *et al.* 20013). The use of the adjective "economic" – in common parlance, people usually understand "economic" as something good or desirable – to describe all cases of GDP growth can disguise instances where the increase in GDP leads to a net loss of welfare to society, which is referred to by ecological economists as "uneconomic growth" (Daly 1999). However, uneconomic growth is not a well-known (and accepted) expression in the traditional economic jargon. In this sense, we argue for the abandonment of the term "economic growth" to describe all cases of "GDP growth", and advocate the use of the term "uneconomic growth" when GDP growth makes us worse off.

Once it is clear why it is necessary to adopt the term "GDP growth" to describe the rise in GDP, instead of "economic growth", we ought then to investigate why the objective of growing GDP has become a spell that has ensnared policy-makers. In order to understand the reason behind this, we need to go back and recognize that one of the prominent recommendations of mainstream economics is that all efforts should be devoted to continuously expand the economic system to solve the many problems that afflict humankind. Indeed, as Daly (1999) has pointed out, GDP growth has become the main antidote against problems like unemployment, social inequality, and even environmental degradation. The so-called "Environmental Kuznets Curve" is the main concept supporting the idea that GDP growth is necessary to cope with and eventually undo environmental degradation (Grossman & Krueger 1995).

Due to this ideological defense of a growing capitalism system, mainstream economics has

consolidated GDP growth as the main purpose of any economic system (Daly 1999). This can be considered a real spell as policy-makers assume that the growth goal is beyond reproach with no need to assess whether GDP growth is improving people's lives. Sadly, the power of this spell has become even greater given the political arena is now dominated by the blind pursuit of increasing GDP (Victor 2010). This is particularly the case during times of economic crises, when the application of Keynesian expansionary policies is usually recommended as the main solution to prevent the collapse of the capitalism system. In general, during those moments, government interventions are justified in terms of economic policies to stimulate the level of investment to grow the economy. However, it is unwise to believe that old Keynesian remedies should always be applied to the current situation. This is because the world has undergone a transition from an 'empty' to a 'full' world where the nature of scarcity has shifted from a once relative lack of human-made capital to a contemporaneous lack of natural capital (Daly 2005). Moreover, there is plenty of evidence to suggest we are exceeding some planetary boundaries and approaching many others (Rockström *et al.* 2009, Barnosky *et al.* 2012).

The roots of the GDP growth spell may be found in the mechanistic (Newtonian) inspiration of conventional economic theory, for which it is assumed that all events are reversible (Georgescu-Roegen 1971). The ecological economics approach, however, recognizes the risk of potential catastrophic irreversible losses and the difficulty associated with replacing lost natural capital – that latter rendering natural capital and human-made capital as complementary to each other, rather than substitutes. Therefore, ecological economics is focused on studying the interconnections between economic and natural systems from a biophysical perspective, emphasizing the entropic nature (thermodynamic view) of economic system functioning and the material and energy flows that support it (Gowdy & Erickson 2005, Ozkaynak *et al.* 2012). It recognizes the complex relationship between these two systems as well as the occurrence of irreversible events due to the overshooting of natural thresholds (transgression of ecological resilience).

According to ecological economists, the economic system is an open subsystem of a larger and materially closed system (the biosphere). Thus, there is a thermodynamic relationship between the economic system and the environment, whereby the latter is assumed the latter is assumed as a supplier of low entropy energy and materials as well as a sink to absorb the high entropy waste generated by the former (Georgescu-Roegen 1971). This different pre-analytical view implies serious issues involving the idea of physical scale and ecological limits of the economic system. Despite being scarcely studied, the concept of ecological-economic scale is an important and distinctive feature of ecological economics that must be taken seriously by researchers concerned about the impacts of economic activities on natural systems.

The concept of ecological-economic scale comprises the idea of the biophysical dimension of economic systems relative to the biosphere. In this context, the following questions are relevant: (i) what is the current economic system scale relative to the larger ecosystem (actual economic scale)?; (ii) what is the maximum feasible economic scale supported by biophysical limits imposed by ecosystems resilience (sustainable economic scale)?; and (iii) what is the desirable economic scale that allows the maximization of net benefits derived from its physical expansion (optimal economic scale)? (Daly 1993).

The sustainable economic scale is a biophysical problem, which requires assessments that are beyond economic analyses. On the other hand, the optimal economic scale is an economic problem constrained by the principle of diminishing marginal benefits and increasing marginal costs – the latter being largely the consequence of ecological limits. The actual economic scale, which can be treated as ecological footprint, is a useful indicator of the current anthropocentric pressures on natural systems. The distinction among these three notions is relevant and the failure to recognize them may jeopardize the transition to sustainable development (Lawn 2001).

We believe that breaking the GDP spell requires the full acceptance of the ecological-economic vision of the world. However, this would bring to bear a radical change in macroeconomic theory, since one cannot think about macroeconomic

policies in the context of a world, as it once existed (*i.e.*, an empty world) (Jackson 2009, Harris 2010). If we are transgressing ecosystem resilience, it is urgent that we take into account the pre-analytical vision of an economic system embodied by a larger and finite ecosystem, which may alter our vision about the role of GDP growth in delivering human prosperity. The Earth's biophysical limits and the combination of ecological crises (biodiversity loss, degradation of ecosystem service flows, climate change, etc.) pose challenges to macroeconomic theory in the sense that it is no longer possible to conceive a GDP growth trajectory without questioning whether the biosphere is able to support it. We also need to acknowledge that material affluence may not result in an increase of human well-being, as suggested by studies using alternative measures like the Genuine Progress Indicator (Lawn 2003). Hence, our general conclusion is that the GDP growth spell needs to be broken because it is incompatible with an ecological-economic view in which the idea of scale matters. As one can infer by the points made in this essay, unlimited GDP growth is neither biophysically possible nor economically desirable. Thus, it is pointless to glorify it.

## ACKNOWLEDGEMENTS

The author would like to thank CAPES Foundation (Ministry of Education of Brazil) for granting a post-doctoral scholarship (process number 3142/13-2). Likewise, the author would like to thank Dr. Philip Andrew Lawn (Flinders University of South Australia) for valuable inputs and suggestions.

## REFERENCES

- Barnosky, A.D., Hadly, E.A., Bascompte, J., Berlow, E.L., Brown, J.H., Fortelius, M., Getz, W.M., Harte, J., Hastings, A., Marquet, P.A., Martinez, N.D., Moorser, A., Roopnarine, P., Vermeij, G., Willians, J.W., Gillespie, R., Klitzes, J., Marshall, C., Matzke, N., Mindell, D.P., Revilla, E. & Smith, A.B. 2012. Approaching a state shift in Earth's Biosphere. *Nature*, 486: 52-58.
- Costanza, R., Hart, M., Posner, S. & Talberth, J. 2009. Beyond GDP: the need for new measures of progress. The Frederick S. Pardee Center for the study of the longer-range future. Boston University. The Pardee Papers, January (n. 4).
- Daly, H.E. 1993. Ecological economics: the concept of scale and its relation to allocation, distribution, and uneconomic growth. Discussion Paper: School of Public Affairs, University of Maryland.
- Daly, H.E. 1999. Uneconomic growth: in theory, in fact, in history, and its relation to globalization. Clemens Lectures Series, Saint's John University.
- Daly, H.E. 2005. Economics in a full world. *Scientific American*, p. 100-107.
- Georgescu-Roegen, N. 1971. The entropy law and the economic process. Cambridge: Harvard University Press.
- Gowdy, J. & Erickson, J.D. 2005. The approach of ecological economics. *Cambridge Journal of Economics* 29: 207-222.
- Grossman, G.M. & Krueger, A.B. 1995. Economic growth and the environment. *The Quarterly Journal of Economics*, 110(2): 353-377.
- Harris, J.M. 2010. The macroeconomics of development without throughput growth. Global Development and Environment Institute. Working Paper *n° 10-02*.
- Jackson, T. 2009. Prosperity without growth: economics for a finite planet. 1<sup>st</sup> Edition. London, UK: Earthscan.
- Kubiszewski, I., Costanza, R., Franco, C., Lawn, P., Talberth, J., Jackson, T. & Aylmer, C. 2013. Beyond GDP: measuring and achieving global genuine progress. *Ecological Economics* 93: 57-68.
- Lawn, P. 2003. A theoretical foundation to support the Index of Sustainable Economic Welfare (ISEW), Genuine Progress Indicator (GPI), and other related indexes. *Ecological Economics*, 44: 106-118.
- Lawn, P. 2001. Scale, prices, and biophysical assessments. *Ecological Economics*, 38: 369-382.
- Lawn, P. & Clarke M. (Eds.). 2012. Sustainable welfare in the Asia-Pacific: studies using the Genuine Progress Indicator, Cheltenham, UK: Edward Elgar Publishing.
- Özkaynak, B., Adaman, F. & Devine, P. 2012. The identity of ecological economics: retrospects and prospects. *Cambridge Journal of Economics*, 36: 1123-1142.
- Rockström, J., Steffen, W., Noone, K., Persson, A., Chapin, F.S., Lambin, E.R., Lenton, T.M., Scheffer, M., Folke, C., Shellnhuber, H.J., Nykvist, B., Wit, C.A. de, Hughes, T., Van Der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. & Foley, J. 2009. A safe operating space for humanity. *Nature* 461: 472-475.
- Stiglitz-Sen-Fitoussi. 2009. Report by the Commission on the Measurement of economic Performance and social Progress. Paris. Available at: <<http://www.stiglitz-sen-fitoussi.fr>>.
- Victor, P.A. 2010. Questioning economic growth. *Nature*, 468: 370-371.