

## What's the 8th Way to Think Like a 21st Century Economist?

Name of 8<sup>th</sup> way:

### *Time matters: Acknowledging comprehensive wellbeing*

In many societies, individuals, while they have been able to satisfy most of their material needs, have found that the income constraint in their consumption has been supplanted by a time constraint.

***The 8<sup>th</sup> way of thinking like a 21<sup>st</sup> century economist explicitly acknowledges time as equally as important as money in every aspect of formal economic analysis.***

Time is a basic element that builds all human behavior. Public policy regularly aims to encourage some behaviors (e.g. physical activity) and discourage others (e.g. smoking). At times, governments and agencies seek to incentivize people to alter their behavior (such as encouraging a reduction in the impact of our daily activities on the natural environment).

Time-use data facilitate the understanding of people's activities for the formation of policy and can reveal the outcomes of policy initiatives. This type of data is particularly effective for investigating topics that cover a vast array of activities - such as work-life balance or gender equality.

Time-use data also are the most effective mechanism for measuring unpaid household production (housework), and a key element for measuring travel and physical activity. Many analyzes can be performed using time use data, from descriptive and comparative analysis, to modeling.

The study of time allocation and individual behavior has been supported explicitly or implicitly by models based on an expansion of the classical consumer theory by including time as an individual resource, and time use as a source of (dis)utility.

The temporal limitation induces the existence of options, so that the decision on the use of time involves an implied and relative valuation of the time allocated to various activities; therefore, use and value are inextricably linked. From these models, different types of time values emerge, which are important in the evaluation of public policies because the value individuals assign to their time can be economically measured.

Time use models are relevant and useful tools for public policy measures, but they have limitations regarding computational and methodological procedures that have led to the specification of models that consider simplified relationships between time allocated to different activities and goods consumption. These simplifications have significantly reduced the ability to perform adequate policy analysis and have consequently limited the ability to consider time related decisions regarding topics such as transport, leisure, paid and unpaid work, domestic production, physical exercise, childcare and sleep.

The proper valuation of time as an economic variable has had practical and operational applications within: transport project analysis, users' benefits estimations and the value of travel time savings; the valuation of unpaid labor and its impact on the division of labor which is becoming more relevant on formal national statistical accounts; labor theory and work-life balance research, among other areas.

The collective interaction of the time allocation of individuals within the society is the end result of the choices made by millions of heterogeneous agents, with varying levels of information, unique motivations, and at distinct time and space scales. Since real experiments are usually unfeasible and people are not always willing to participate in the exhaustive recollection of their every move, having appropriate modeling tools is critical for supporting public policy analysis.

By possessing information about time allocation of people, their individual and/or collective characteristics, and the expenses related to those activities, one could dimension such things as: gender inequities associated with unpaid work; size the main gaps in the distribution of time at a family and a social level (e.g. education, employment, use of leisure time); study the time distribution of people in a given period (segmented by gender, age, socioeconomic status, education, employment status, etc.); estimate different values of time, examine the structure of interpersonal relationships and family dynamics, among other things.

***One key example where Time has been gradually included is Poverty.***

Since the 1960s some economists have incorporated time use in the analysis of poverty, understanding that the allocation of time is a significant element when identifying well-being and quality of life.

It has been long argued that standard poverty measures - framed within the neoclassical approach which assumes that people can obtain a higher level of well-being if they have higher incomes- are far from adequate. The traditional income-based poverty methods have been widely criticized because they are a simplistic view of a complex phenomenon. Official estimates of poverty continue to ignore the fact that households need to allocate time to domestic production in order to properly function. Standard measurements of poverty assume that all households and individuals have enough time to satisfy their needs, although this assumption is false. If a household classified as nonpoor does not possess – between all of its members – enough time to perform essential activities (e.g. cooking, cleaning and caregiving) and cannot afford nor find market substitutes, that household will go through important obstacles currently not accounted for by official poverty measurements.

This measure allows policymakers to identify “hidden” poverty, as there are some households that by standard measurements they are just above the income-based poverty line but fall below it when adjusting for time deficits. By combining time and income into the measure of poverty, indices can create a four-way classification of households: income nonpoor and time nonpoor; income nonpoor and time poor; income poor and time nonpoor; and income poor and time poor.

This way of measuring poverty offers an improved way of thinking about policy implications, given that, for example, there will be certain households that may not be able to escape income poverty via employment because they will not earn enough to offset the monetized value of their time deficit. What this adjusted measurement provides is an argument to support the explicit and urgent inclusion of time into poverty measures in a consistent manner together with social and economic policies aimed at addressing income poverty.

***The 8<sup>th</sup> way of thinking presents time as an indisputable variable that carries the importance of individual decision-making together with money.***