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**The growth and development analytical
controversies in economic science:
A reassessment for the post-Covid-19 era**

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Abstract. A repositioning of the theoretical instruments of development and growth in the context of economics and political economy that we have at our disposal to date seems necessary, especially after the structural transformation caused by the COVID-19 socio-economic and pandemic crisis. Specifically, the overcoming of the COVID-19 era of crisis seems to depend on how we will manage to re-perceive the theory of economic development and apply its proposals in new economic policies, in global terms. In this context, this article examines whether the conceptual and “therapeutic” foundations of development economics have today the necessary potential to cope with structural changes caused by the ongoing global socio-economic crisis. We assess the current debate in the literature of “economic development versus economic growth” and conclude that a new, comprehensive and evolutionary, orientation to understanding economic development seems necessary to respond to new global challenges for the post-COVID-19 era. We propose a multidisciplinary and evolutionary conceptual direction that suggests the multi-angle understanding of diverse historical configurations. We argue that all socio-economic mutations accelerated by the current pandemic crisis have systemic and evolutionary content and effects and cannot be reliably perceived as mere coincidences of “quantities” and growth “performances.” In this way, we can only disagree with any static and linear approach to the current crisis that directly or indirectly leads to reproducing the rigid enclosure of the analysis in partial specializations of economics. On the contrary, we counter-propose a theoretical response of evolutionary type to assess the contemporary theory of economic development and the political economy in the post-COVID-19 era as an interdisciplinary crossroads for all socio-economic sciences.

Keywords. International political economy, Economic science, Economic development, Economic growth, Economic development versus economic growth, Social science, Socio-economic crisis, Post-COVID-19 era, Evolutionary economics.

JEL. O10, O40, B52.

1. Introduction

The current COVID-19 pandemic seems to be changing our world drastically. COVID-19, in addition to its devastating health consequences in the first phase, is now known as an ongoing economic crisis that speeds up the transition to the next step of globalization and the fourth industrial revolution (Altman, 2020; Bonilla-Molina, 2020; Steiner & Gurría, 2020; Vlados, Deniozos, & Chatzinikolaou,

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2018a). It rearranges all aspects of our socio-economic and political existence profoundly. In effect, the COVID-19 pandemic, even though it rose as an exogenous health shock to the global community, paves the way for significant structural socio-economic mutations that are endogenously produced and reproduced. It contributes to global social turmoil and instability, international recessionary strains, decreasing global wages, and the rise of poverty and unemployment in industries that were efficient until recently (Air Transport Bureau, 2020; Heinonen & Strandvik, 2020; ILO, 2020; OECD, 2020; United Nations, 2020). In this context, reorganizing and enriching the theoretical instruments at our disposal seems essential to perceive, forecast and confront these changes more thoroughly. Even more profoundly, the current pandemic crisis seems to be repositioning the expectations and demands we have from modern economics. Nowadays, approaches that challenge the interpretive validity and predictive credibility of economic science itself do not cease to appear (on “whether economics is a science,” the following are indicative: Appelt, 2016; Davidson, 2012; Eichner, 1983; Hicks, 1984). To what extent is it justifiable to question the scientific character of economics? Nowadays, we think that economic science has relative conceptual, interpretative, and “therapeutic” potential to cope with this unprecedented crisis and ease its effects.

The primary question posed by scholars and policymakers now is what shape the global economy’s recovery and recession will take in the future. We present the main points they make about the global recession’s shape, distinguishing them between V, U, Nike swoosh, W, and L. A “V-shaped” recovery, which signifies a rebound of economic activity after a steep decline, although appeared to have many supporters as a direct perspective on developments in the global economy in the recent past, it now seems sufficiently over-optimistic. A “U-shaped” recovery, which predicts a sharp dip, followed by an extended return to a pre-COVID trajectory, also seems quite uncertain as the second wave of the pandemic nowadays sweeps the planet. The “Nike swoosh-shaped” recovery, named after the famous brand logo, seems to be closer to the future reality, provided that the diffusion of the vaccine is sufficiently rapid and widespread, having prevented the permanent destruction of several businesses, industries and production structures on a global scale. A “W-shaped” recovery also remains quite likely for several regions of the planet as it signifies a possible “double-dip recession” caused by difficulty spreading a treatment or vaccine for the virus, which would shield everyone’s health. Finally, an “L-shaped recession” seems unfortunately quite possible, in our view, for many less developed ecosystems on the planet that do not have sufficient resilience, adaptability and innovation to benefit from the future return of international markets to a positive sign (Beech, 2020; Gómez-Pineda, 2020; Gregory *et al.*, 2020).

However, in most cases, this economic debate does not seem to go beyond the threshold of mere quantitative forecasting and linear understanding of the effects of the COVID-19 pandemic. It continues to be

carried out mostly in terms of simple mapping and superficial investigation of the effects of the crisis on the individual negative growth indicators and the more specific contraction rates of the markets and economies of the international economy, rarely exposing the necessary in our view more profound structural effects that the current crisis incubates (Chodorow-Reich & Coglianesi, 2020; Gallant *et al.*, 2020). Furthermore, it is a crisis that cannot be validly perceived as a mere cyclical fluctuation in the world economy, but rather it is the cradle of a new page in the evolution of the global economy. This crisis signifies the emergence of a “new globalization” which brings a host of new challenges—threats but also opportunities—for all the socio-economic systems—more or less developed—and for all actors—of greater or lesser power—on a global scale (Ahmad, 2013; Bhattacharya *et al.*, 2017; Bremmer, 2014; Laudicina & Peterson, 2016; Namaki, 2017; Vlado, Deniozos, & Chatzinikolaou, 2018b, 2018c; Vlado, 2019c).

Quite naturally, this observed relative “quantitative myopia” of the majority of current approaches to the crisis caused by the COVID-19 pandemic does not seem unexplainable to us. This “analytical restriction” is primarily due to the “perpetuation” of the growth perspective’s dominance over the more comprehensive, substantial, and complex developmental perspective in analytical terms. In practice, this is yet another proof of the continuing existence and reproduction of the interpretive polarization between two central traditions in the context of economic science: the school of thought of economic growth versus the respective school of thought of economic development (Chiras, 1995). In this article, we argue that this analytical dipole (growth versus development) must now be thoroughly reviewed in the context of today’s economic science² and open new paths towards a comprehensive and evolutionary understanding of the contemporary socio-economic reality that begins to emerge through the current crisis.

Given these subversive circumstances of our days, this article precisely aims to answer the following questions critically:

A. What really is economic science, and what can we expect from it in the future? What are the primary ingredients of successful scientific research in economics? From a more generic perspective, can economics be “sterilized” by its ideological and political elements while keeping its vitality and usefulness? What are the main problems and challenges for modern economics in the era of the COVID-19 crisis?

² The reason we use the term “economic science” is aptly explained by Rothschild (1989, p. 12): “But after having tried to draw a line between ‘political economy’ and ‘economics’ I want to stress that, of course, both are part of the wider system ‘economic science’ and that the frontiers between the sub-systems are fluid. This is even more true for persons who cannot be exactly divided along these lines. What is ultimately needed is good economic theory and good economists and the hope that out of the cooperation and confrontation of various attempts and approaches new and fuller insights into the socio-economic process can be gained. If a special plea for a wider use and recognition of political economy is in place to-day, it is because of the hegemonic role which neoclassical and general equilibrium economics has obtained in recent decades.”

B. How is the economic development delineated, and what new dimensions does it seem to take nowadays? How is the theoretical dipole between economic growth and development defined, and how does it evolve conceptually?

C. How could we understand from an evolutionary perspective the problematics of economic development in the post-COVID-19 era?

We will try to answer these questions by performing a semi-systematic analysis and critical evaluation of the available literature (Snyder, 2019). We specifically use the semi-systematic approach to create a broad timeframe that will clarify conceptually how the specific field of the "conflict" between the development and growth perspective has progressed over time and developed across different theoretical contributions and traditions.

2. What does economic science mean nowadays?

Science does not just mean knowing something well enough. Nor does this knowledge derive solely from the etymological interpretation of "episteme," which means in Ancient Greek to know, understand, and be in general acquainted with (Liddell & Scott, 2009). In the definition of today's sciences, the most significant aspect lies in how they manage to know something well enough. In other words, here lies the determination of the method that can be described as scientific (Losee, 1972). F. Bacon, in the early 17th century, claimed that the purpose of science is to improve the fate of man on earth by collecting facts from systematic observation and extracting theories from them. In Galileo's convergent view, the main thing is to accept the facts and build a theory that harmonizes them (Psillos & Curd, 2010).

Young (1927) argues that specific interpretative conditions in all social sciences exist, which, just like in natural sciences, explain the complex evolution of events. These events can give the impression that they are arbitrary or strange. Therefore, they can be integrated into a system that has available space only for reliable uniformity and regularity, and this is every scientist's first article of faith. The second article of this faith is that this hidden uniformity can only be known to us after methodical and patient research (Young, 1927).

More recently, Gould & Kolb (1964) offered an additional definitional aspect of science, noting that the term defines the systematic, objective study of empirical phenomena and all the resulting knowledge. However, according to Gould & Kolb (1964), difficulties also arise in each of these adjectives (systematic, objective and empirical). Apart from the multiple and delicate conceptual questions raised by scientific methods, in all fields of today's scientific research, another significant aspect is the indivisibility between the spheres of theory and practice. The correct scientific approach of any kind can never be cut off from empirical elements since it always starts from empirical reality, synthesizes at the level of theory, predicts and controls the accuracy of its predictions by returning to empirical reality.

C. Vladoš, JEPE, 7(4), 2020, p.209-233.

The fundamental methodological circle of all empirical sciences can be described as follows (Figure 1).

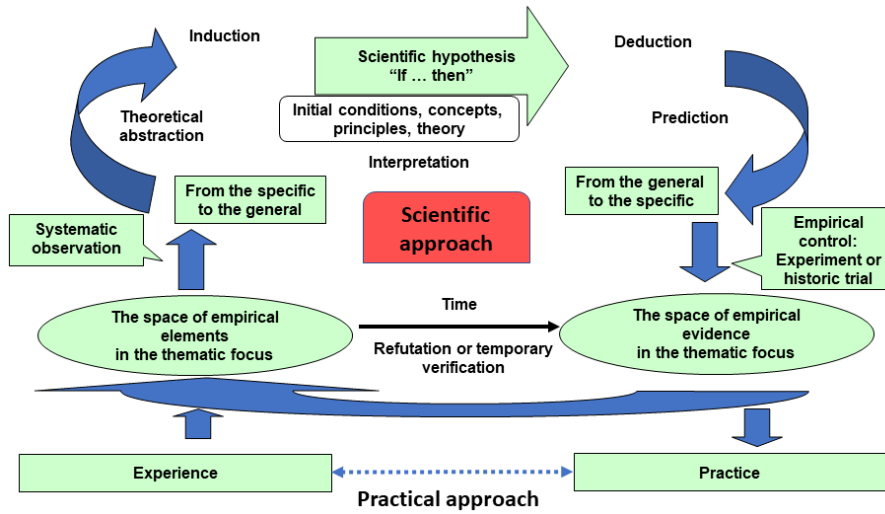


Figure 1. The fundamental methodological circle of empirical sciences

The practical approach to problems and questions arising from the actual world differs from their scientific approach. The scientific method always starts from experienced observations, which, in the next step, should be classified in the different thematic fields concerning them. The aim is to build a theoretical abstraction from the “specific” to the “general” (induction) and to structure a scientific “if-then” hypothesis, expressed in the derivative concepts, principles, theories. In the deduction step, the successful methodological circle proceeds to predictions, as it returns from the “general” to the “specific.” At this point, the researcher must accept and conduct empirical control of both the interpretation and predictions. Finally, the scientific theory is validated or not by reality and according to the elapsed time, after used in practical application and until a new methodological synthesis arises, capable of “rejecting” validly the previously established theory. Therefore, in principle, every science follows an interaction between theory and experience-practice. In this attempt to articulate the scientific “logics,” distinct conceptual spaces exist:

- The “initial conditions” are groups of decisions that determine the context and details in which the investigation occurs.
- The “concepts” make up the intellectual perspectives of any subject, formed by a generalization of facts and related information.
- The “principles,” which the scientist expresses at a specific point in time, are fundamental truths or forms that explain the relationships between two or more classes of variables, and usually between an independent and dependent variable. They may be descriptive and explain what is going to happen, or determinant and show what the individual should do, in which case they involve judgment based on a specific scale of values.

Journal of Economics and Political Economy

- The “theory” appears as a systematic classification of interconnected principles and concepts, offering a framework for the systematization of knowledge.

Therefore, the confusion between scientific theory and the analytical axiom is wrong. A. Einstein (1988, pp.322, 355) suggests that an integrated scientific perspective and an “axiomatic” theorem are different. A. Einstein argues, referring to his field of research:

“Physics constitutes a logical system of thought which is in a state of evolution, whose basis cannot be distilled, as it were, from experience by an inductive method, but can only be arrived at by free invention. The justification (truth content) of the system rests in the verification of the derived propositions by sense experiences [...] The skeptic will say: ‘It may well be true that this system of equations is reasonable from a logical standpoint. But this does not prove that it corresponds to nature.’ You are right. Dear skeptic.”

In any direction of investigating how the scientific approach is functionally articulated, we also must deal with significant methodological issues. Such issues are the following:

- How significant are the initial conditions, which define the thematic focus in which the research is conducted (Mill, 1843)?
- Is the vital role of theory accepted before observation (Russell, 1962)?
- How dependent is the observation on the researcher’s pre-existing experiences, knowledge, evaluations and expectations (Popper, 1963)?
- Was refutability recognized as part of the valid scientific hypothesis (Popper, 1934)?
- How are the revolutionary elements involved in scientific progress and the emergence of new paradigms (Kuhn, 1962)?
- How to understand that all scientific methods have their limitations (Feyerabend, 1975)?

A. Young (1927, pp.14, 23) states that in order for scientific research to be successful, the primary criterion is the following:

“In any case, the prerequisites to really successful research are significant questions and fruitful hypotheses. Successful research, of course, calls for industry and a command of the appropriate technical methods. But if it is to be anything more than mere fact-finding, it calls also for imagination, for the ability to see a problem and to devise hypotheses that are worth testing. Industry fortunately is not an uncommon virtue. Technique may be acquired. But imagination, and especially the kind of imagination that keeps its moorings, is rare. [...] The important things are that the investigator concern himself with a real problem; that some goal be seen, however dimly, towards which his inquiries should converge; that he be openminded enough to permit new evidence to lead him in a new direction; that he remember that successful economic research calls for thinking as well as for routine processes.”

In this methodological context, what could be an adequate and inclusive definition for contemporary economic science? From an introductory

Journal of Economics and Political Economy

perspective, economic science is the systematic study of how people and their social formulations choose, in historical terms, between alternative uses of their scarce resources to meet their needs as fully as possible. From Samuelson's perspective (Samuelson, 1997), economic science is the study of how people and their societies choose, with or without using money, to employ the productive means that have alternative uses to produce various goods and to distribute them between the different individual and social groups that consume them, now or in the future, by analyzing the costs and benefits resulting from improving these means of production. A. Marshall (1890) also gives a very comprehensive definition of economic science. Economics studies humanity in the conduct of its daily life, and, in this direction, the role of such science is to group and analyze economic phenomena and use the knowledge learned from observation and experience. Such a comprehensive approach to the problems of economics leaves no dimension of our social life unexamined. Also, considering the classic statement of T. Carlyle that economics is a "dismal science," we affirm that economics cannot, by its very nature, be a "romantic" occupation. Economics deals with lack of resources, poverty and deprivation, hunting down "naivety" and all allegedly "untroubled" ways to fight against humanity's constant and intense problems.

What do we look for as a scientific community and a broader society from modern economic research and science? As A. Young (1927, p.25) states, as early as the third decade of the last century:

"Some eighteenth-century philosophers professed to believe that all the imperfections of human society might be got rid of, if only men would put their trust in reason. The same faith is held today, but the word 'reason' has been replaced by the word 'research.' One does not have to subscribe to this creed—and I cannot subscribe to it—in order to believe that the increase in the number of able men who are bringing the spirit of scientific inquiry into the study of economic problems gives us ground for hoping that we shall learn how to deal with those problems more effectively and more wisely. I say 'more wisely' as well as more effectively, because I believe that social wisdom as well as a better knowledge of ways and means ought to be one of the goals of research in the social sciences."

Moreover, economic science is manifold and fruitfully heterogeneous from its very roots. There are various historical and geographical specificities within economic science and methodological variations, value judgments, ethical orientations, and ideological and political parameters. By extension, economic science hosts and develops a multiplicity of interpretive paradigms. As T. Kuhn (1962, pp.viii, 4) puts it:

"These I take to be universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners [...] What differentiated these various schools was not one or another failure of method—they were all 'scientific'—but what we shall come to call their incommensurable ways of seeing the world and of practicing science in it."

Journal of Economics and Political Economy

Within economic science, metaphysical suggestions are also necessarily involved, and the “problem” of value judgment is addressed. Is this a real problem? According to P. Streeten’s view (1950, p.595):

“Even if it were possible for economists to refrain from value judgments, this would not be desirable. ‘The borderlands of economics are the happy hunting-ground of the charlatan and the quack,’ writes Professor Robbins. Moral philosophers do not tell us what our economic system ought to be like; perhaps because their problem is what ought to be in general. It is up to the economist to evict from the happy hunting-ground the charlatan and the quack. But, granted that value judgments are necessary and desirable, the economist should make them explicit. Thus disputes about facts and logic may be separated from disputes about ends and duties. This separation may not always be easy or possible. But honesty demands that we do it as best we can.”

Modern economics cannot and should not be entrenched in a monolithic and unanimous paradigm. As Guillaume (1986) reminds us, science is not the monopoly of a theory but the product of competition between theories within verification conditions imposed on a scientific community. Besides, economic science could not be “sterilized” by both political and ideological orientations and components because, in this direction, it would lead to conceptual ossification and methodological mutilation. According to J. Robinson (1955), it is foolish to reject a piece of analysis on the pretext that we disagree with the economists’ political judgments. According to Robinson, an economic theory is, at best, only a hypothesis, and if the facts do not allow it to be justified, then it must be rejected. Robinson aptly concludes that to make fair use of an economic theory, we must first remove the elements of propaganda from its scientific evidence, contrast the latter with experience, see to what extent the scientific evidence appears convincing and finally re-combine it with our personal political views.

If we could separate the “technical part” of economics from the inherent ethical and ideological orientation of politics, would this be in economics’ interests in descriptive, predictive and interventional terms? To this question, Galbraith’s response (Galbraith, 1987) is quite comprehensive, arguing that the separation of economics from politics and political motives is always something sterile, which also acts as a cover for the reality of economic power and impulse. This fact is also a significant source of misjudgment and error in economic policy. As Galbraith (1987, p.299) concludes, “No volume on the history of economics can conclude without the hope that the subject will be reunited with politics to form again the larger discipline of political economy.” Equally comprehensive is Galbraith’s response (Galbraith, 1987) on why economists often do not agree with each other, arguing that the most significant reason—and the “most forgivable”—is the problem caused by change. The hypotheses of physics, chemistry, or geology are static, while economics is subject to constant change. Therefore, if economics does not want to fall into a disrepute regime, it must adapt to these transformations by assimilating the latest information and revising its

Journal of Economics and Political Economy

interpretations. Economics must evolve to the extent that the institutions “of the base” are also evolving. Galbraith (1987) argues that a discrepancy settles between economists who react differently to these changes. Some economists are “hinged” at the illusion that the subject of economics remains unchanged, just like other sciences. Other economists accept the obvious fact that what was true yesterday in terms of businesses, trade unions, consumer and government, and economic life structures is no longer true today and will be even less tomorrow.

Therefore, are there specific problems in economic science? Is economic science capable of dealing with tremendous future challenges, especially in the post-COVID-19 era? These concerns are not new to economic reasoning and questions posed. As early as the 1970s, N. Kaldor (1972, p.1240) has sufficiently addressed this concern with the following statement:

“There is, I am sure, a vague sense of dissatisfaction, open or suppressed, with the current state of economics among most members of the economics profession—as is evidenced, for example, by recent Presidential addresses to the Royal Economic Society and to section F of the British Association. On the one hand it is increasingly recognised that abstract mathematical models lead nowhere. On the other hand it is also recognised that ‘econometrics’ leads nowhere—the careful accumulation and sifting of statistics and the development of refined methods of statistical inference cannot make up for the lack of any basic understanding of how the actual economy works. Each year new fashions sweep the ‘politico-economic complex’ only to disappear again with equal suddenness [...] These sudden bursts of fashion are a sure sign of the ‘pre-scientific’ stage, where any crazy idea can get a hearing simply because nothing is known with sufficient confidence to rule it out.”

Is it possible that economic science, as critics argue, can be perceived as merely a modern form of “astrology” (Allum, 2011)? Apart from being unfair, these “aphorisms” are also entirely unsubstantiated. Without the progress of economic science over the last two and a half centuries, where it has a scientific character, our world would be vastly different and much more violently bound to the age-old poverty and scarcity than it is today. Keynes (1936, p.383) addresses this concern eloquently:

“[...] the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. [...] Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.”

In the background, the purpose of economic theory is to embrace as comprehensively as possible the economic act itself (the praxis). Experience can only be the source, the cradle of any theoretical proposal and, simultaneously, the necessary field of control and testing. The practice is both the necessary starting point and the conclusion of scientific inquiry. In this context, the economic theory must follow at least three principles:

Journal of Economics and Political Economy

- Always start from the systematic study of empirical reality, building through theoretical abstraction precise and explicit concepts and general formulas for the phenomena.
- Always compose the produced conceptual potential at the theory level, proposing coherent and complete interpretations of real facts.
- Always predict and evaluate the accuracy of predictions by returning to empirical reality. In other words, to evaluate without ever being caught in any definitive certainty and to not “deify” any finding. Science should leave available space for refutation in light of the latest information.

These principles presuppose a constant denial of the division between economic theory and empirical reality (Andrikopoulos & Nastopoulos, 2015). According to Gillis *et al.* (1996), economics’ ultimate purpose is to develop theories whose validity can be tested with the available data. Therefore, the empirical or evidence-based approach and the theoretical approach are not two separate ways of looking at a given problem, but two parts of a single method. Increasingly, these two approaches are combined in practice.

There is no doubt, then, that man and society’s study will remain a challenging and complicated task in the future. As one of the fathers of economic science, J.S. Mill (1974, pp.912–913), points out:

“The fundamental problem, therefore, of ‘the social science,’ is to find the laws according to which any state of society produces the state which succeeds it and takes its place. This opens the great and vexed question of the progressiveness of man and society; an idea involved in every just conception of social phenomena as the subject of a science. [The progressiveness of man and society is not] peculiar to the sciences of human nature and society, but belonging them in peculiar degree, to be conversant with a subject-matter whose properties are changeable. I do not mean changeable from day to day, but from age to age; so that not only the qualities of individuals vary, but those of the majority are not the same in one age as in another.”

Young’s (1927) approach is once again nodal to conclude on the meaning of economics as a social science when he argues that every such science must be defined based on its specific problems. In this way, the conditions of any field of analysis must include factors, instruments and objectives, as well as a mechanism for organizing research activities. Even though every social science has a unique orientation, there are two things that we have the right not to tolerate—first, dogmatic misinterpretations of facts or conclusions, and second, the very lack of tolerance. All the previous clarifications create the necessary background to understand that the confrontation between development and growth thematics is neither superficial nor secondary to economic science’s evolution nowadays, as we will examine in the next section.

3. Economics of development and economics of growth

In scholarly literature, research into the root causes of economic growth and development can be traced back to the works of J. Schumpeter (1942) and N. Georgescu-Roegen (1971), although seeds of this distinction also exist in the works of A. Smith (1776), J.S. Mill (1848) and K. Marx (1867). In these works, evolution and economic development are more profound than the mere accumulation of quantities (Alcouffe & Ferrari, 2008). Also, in these central perspectives, it seems that a dialectical way of understanding socio-economic dynamics is activated (Engels, 1873; Hegel, 1812; Pederson, 2015; Sartre, 1960; Vados *et al.*, 2019; Williams, 1989). To what extent has the scientific debate on the theoretical dipole between economic development and economic growth been structured, developed and matured to this day?

3.1. An attempt to delineate the theme of economic development

Economic development theory appears to study “specificities” in the evolution of different (and mostly less developed) socio-economic systems. As Hirschman notes (Hirschman, 2013, pp.50–51):

“Development economics is a comparatively young area of inquiry. It was born just about a generation ago, as a subdiscipline of economics, with a number of other social sciences looking on both skeptically and jealously from a distance. [...] traditional economic analysis, which has concentrated on the industrial countries, must therefore be recast in significant respects when dealing with underdeveloped countries.”

Since the foundation of development economics in the post-WWI period, this scientific inquiry’s identity became clear. According to F. Perroux’s contribution (Perroux, 1969), economic development corresponds to the combination of a population’s moral and social changes, enabling them to increase their actual total product in duration and cumulatively. In a similar vein, D. Hunt (1989) notices two decades later that economic development is the area of study that is simultaneously interested in interpreting resource allocation processes and economic change in the least developed countries, producing recommendations for development-oriented actions, including the choice of development strategy and the policies with which it will be pursued.

In this conceptual context, various traditional focal points in articulating economic development strategies were highlighted and structured. With a concise and accurate wording, A. Sen (1983, p.746) notices the following:

“While there have been differences in assertion and emphasis within the mainstream of the subdiscipline, it is fair to say that in terms of policy the following have been among the major strategic themes pursued ever since the beginning of the subject: (1) industrialisation, (2) rapid capital accumulation, (3) mobilisation of underemployed manpower, and (4) planning and an economically active state. There are, of course, many other common themes, e.g. emphasis on skill formation, but they have not typically been as much subjected to criticism as these other themes.”

Journal of Economics and Political Economy

The content of defining economic development never was—nor will ever be—something static and unanimously accepted. According to Vaitos (1987), to contain development within a single definition is a restrictive task. Supplying a unique definition more excludes than identifies the components that characterize the evolution of society. Vaitos (1987) notices that this happens because the content of development is multidimensional and dependent on the system of values and preferences that society sets for its development. The concept is not neutral, nor does it express abstract meanings that can quickly and uniquely be illustrated by simple and “objective indicators” of socio-economic activity. On the contrary, development is evaluative and stems from the specific social realities to which it refers.

Moreover, other approaches underline that real economic development can only exist when it leads to increased participation. As explained by Gillis *et al.* (1996, pp.8–9):

“A key element in economic development is that the people of the country must be major participants in the process that brought about these changes in structure. Foreigners can be and inevitably are involved as well, but they cannot be the whole story. Participation in the process of development implies participation in the enjoyment of the benefits of development as well as the production of those benefits. If growth only benefits a tiny, wealthy minority, whether domestic or foreign, it is not development.”

3.2. The critical question posed by the theme of economic development

As Stiglitz (1989) argues, a key question of development economics is how to explain income differences and economic growth rates between developed and least developed economies. In the 1950s and 1960s, the primary response was “the poor people are like the rich, except that they are poor.” This diagnosis would lead to a recipe for increasing the resources in the least developed economies, primarily in human and natural capital, either by transferring capital to them (through direct aid or education) or by encouraging savings.

Today, these answers do not seem to convince policymakers and scholars, and, therefore, similar justifiable doubts are raised (see, for example, the discussion on the so-called sustainable development goals; Moore, 2015). According to Stiglitz (1989), if the problem were mainly the lack of natural capital, the return on capital would be much higher in the least developed countries, and the propensity of capitalists to profit would cause capital to flow from the most developed to the least developed economies. How can the high unemployment rates between the educated people, and the migration of educated people from the least developed to the most developed economies, be explained? Furthermore, the standard neoclassical growth theory forecasts for convergence of the per capita income growth, interpreted as deviations in the savings rates, are not confirmed (Stiglitz, 1989).

C. Vladoš, JEPE, 7(4), 2020, p.209-233.

Journal of Economics and Political Economy

Stiglitz (1989) notices that understanding this “paradox” requires observing other significant differences in the least developed countries, a view supported by studies that have examined similar factories’ productivity in developed and least developed economies alike. As Stiglitz (1989) argues, this difference can be shown with a tautological sequence that considers differences in the economic organization, the interaction between individuals (productive factors), and the institutions involved in these interactions. According to Stiglitz (1989), among the most significant of these institutions are the markets.

In this sense, according to Assidon (2002), the emergence of the narrowly defined economic development theme is linked to the decline of the colonial empires. Assidon (2002) claims that the idea of development serves the claims of political independence of nationalist movements, while it is also present within the economic order brought about by the Bretton Woods agreements. In this first approach, as the author argues, development economics are of interest to emerging economies because economic development defines a limit related to both means of geography and wealth. Assidon (2002) concludes that economic theories of development will have in the future a subject defined by geography, with growth being a central issue and, from this point of view, there is no economic development but always comparative economics.

However, according to our critical examination of the topic, today’s theory of economic development cannot concern social phenomena separately; the poor and the rich (Reinert, 2019), the underdeveloped and the developed (Bauer, 2015), the “Third” and the “First World” (Lee, 2011), the “South” and the “North” (Antunes de Oliveira, 2020). The reason behind this “failed” distinction is that all such divisions are artificial, historically fluid, and necessarily co-defined within today’s global “game” of economic development (Vlados, 2019c).

3.3. The economics of growth and development economics

According to Krugman (1996), both economic growth and development appeared as separate research areas at the beginning of the post-WWII period. The economics of growth arose from the interest in maintaining full employment in modern capitalist economies. Development economics focused on accelerating the process of economic growth in less developed, traditional societies. The economics of growth had a clear macroeconomic orientation and belonged to those who had already dealt with economic theory. Development economics was more “micro-economically” oriented and was gaining knowledge from relevant research in anthropology, sociology, and political science, as well as from the “preceptive” observations of economists with practical experience in the management of the development process (Krugman, 1996, pp.1-29).

In this context, it is not a coincidence that the relationship between the two related areas of economic growth and development has been turbulent to date. According to Ruttan (1998), “growth economists” tend to think that

C. Vlados, JEPE, 7(4), 2020, p.209-233.

Journal of Economics and Political Economy

development economics literature lacks precision and is loaded with irrelevant details of organization and behavior. “Development economists” often believe that the only message sent to them by the opposite side is to correctly determine interest rates (and other forms of prices) without emphasizing the most significant structural dimensions of the development process. After a “schism” that lasted more than two decades, there has been a renewed interest in economic growth theory (Ruttan, 1998).

Therefore, the concepts of economic development and growth are not the same. Growth means the sustained over the years of one or more indicators, which, for a nation-state, reflect a significant economic size or flow. The GDP (gross domestic product) is mostly used as the primary indicator, usually divided by the domestic population (average GDP per capita). On the contrary, the concept of economic development is inextricably linked to evolution, meaning irreversible changes in events and structures bound to each other instead of a succession of random elements (Perroux, 1981).

From our perspective, we are convinced that development economics must encompass and re-fertilize the economics of growth towards an evolutionary orientation. Although economic development is impossible in the long term without parallel economic growth, the two concepts must be distinguished analytically but can only be complementary in hermeneutic terms. Ultimately, it is clear that the “conventional” approach to economic growth only studies the accumulation of quantities, while economic development refers to profound, qualitative and structural, socio-economic transformations (Vlados, Deniozos, Chatzinikolaou, *et al.*, 2018). The latter’s study seems increasingly necessary to conceive the concept of crisis and the necessary terms to exceed this phase in the context of today’s economic science. Using a metaphor (Lakoff & Johnson, 1990; McCloskey, 1998), we could argue that economic growth studies the “physics” of the economic system, while development economics ought to focus on the system’s “biology” and the “living organizations” it hosts (Vlados, 2019a).

From this perspective, standard neoclassical economics considers that critical development issues, such as distribution, poverty, technological change, political power, crisis, innovation and other socio-economic dimensions, are “external” to the interpretive scope of “pure” economics (Nelson, 2018; Vlados, 2019b). In other words, they implicitly assume that development is ultimately an un-historic, uniform, and mechanistic process of quantitative accumulations, carried out within a static framework of unaltered social forms and political priorities (Chatzinikolaou & Vlados, 2019). These mechanistic approaches argue that the exclusive study of market flows—and not the study of the complex socio-economic structures based on these flows—is sufficient to capture society’s economic progress. They also tend to think that economic development is merely a “matter of time” for an economy that grows since the wealth provided by economic growth will eventually spread to all areas of economic interest (Coad, 2010; Ghazinoory *et al.*, 2017; Nelson & Winter, 1974). In this context, various

approaches unfold in scholarly literature over the past years that discuss the contradictions and the prospects of the economic development and economic growth theoretical dipole (Table 1).

Table 1. Contributions in the dipole “economic development versus economic growth” over time

Author	Main questions researched on the issue under analysis	Respective main ideas or conclusions proposed
Zuvekas (1980)	How can we define and measure economic growth and economic development, and what are the obstacles to achieve them? What are the limits to growth by also considering other social parameters and dimensions, such as the influence of population growth and government role?	Economists commonly use the term economic growth to refer to gains over time in the real production of a country’s goods and services—or, more accurately, the actual output per capita. On the contrary, economic development is a more complex issue; economists have described it as growth followed by changes in the country’s economic structure and social and political system.
Brown <i>et al.</i> (1992)	How can we design a dynamic and sustainable economic system that does not harm the natural environment and its underlying structures? What are the primary instruments for reforms toward greater efficiency and equity, and what is the difference between conceptualizing qualities and quantities in economic analysis?	Gross National Product is an outdated indicator of success in a society that aims to address people’s needs efficiently and with the least environmental impact. What matters is not production growth but the quality of services provided. With the end of the Cold War and the presumable fading of ideological barriers, there is a chance to build a new world upon the foundations of peace through a sustainable economy.
Brinkman (1995)	How can we conceive science within specific paradigmatic boundaries? Is a criticism on growth economists justified when their analyses perceive development as the independent variable upon which growth is dependent?	The quantitative statics of economic growth is considered synonymous with economic development frameworks and structures. Both growth (reproduction and replication) and development (mutation and transformation) are prerequisites of economic evolution. However, a leveling based on the logistic growth curve can be the only outcome of economic growth.
Chiras (1995)	What are the principles of sustainable development in ecological, social, economic, and political terms? In this context, what can be a form of a sustainable public policy?	In the 21 st century, a new “paradigm” of sustainable development appears. Some economists seek “infinite” economic growth within a finite system, which is clearly unsustainable and potentially catastrophic. Economic growth policies that promote an “uninterrupted” economic expansion are unsustainable.
Papanek (2002)	Why is economic development different from growth? How can economic development be promoted and supported in Central-Eastern European countries?	Mainstream twentieth-century theories often do not differentiate between growth (rise in Gross Domestic Product) and development. For them, both concepts are synonymous. Economic development complements the quantitative perspective with the qualitative conditions for long-term success and sustained national enrichment.
Hosseini (2003)	What are the confusions in defining economic development and growth, and what are the consequences? Is “monoeconomics” a limiting approach to understanding	The simplifying view of growth in the early days of development economics led to the confusion of development with the less complicated economic growth notion. This confusion was the main reason behind using GDP per capita as economic development’s sole measure, using models such as

	economic development when considering the economic laws to be universal and apply everywhere?	the Harrod–Domar, which is inherently a growth model, not an economic development approach.
Alcouffe & Ferrari (2008)	What are the views of Georgescu-Roegen and Schumpeter on economic evolution and development beyond growth? Are their perspectives evolutionary and dialectical? What are their differences?	Schumpeter and Georgescu Roegen have endorsed the development approach. Georgescu-Roegen characterized evolution as the degradation of energy and matter (physical law of entropy). Schumpeter considered the occurrence of new combinations or the accumulation of capital (innovations) as the primary factors behind the economy's materialization (economic law of competition).
Wang <i>et al.</i> (2008)	Is there a difference between economic development and growth? What do development economics theories mean for human resource development?	Economic growth assumes that some variables stay unchanged from a comparatively static perspective (<i>ceteris paribus</i> hypothesis). In contrast, a dynamic development analysis deals with successive structural transformations through processes where multiple variables are in constant motion.
Peet & Hartwick (2015)	How have development theories unfolded throughout history? Are there differences between conventional and non-conventional development perspectives?	Economic development focuses on all aspects of economic and social activity, for example, simultaneously on the environment and labor relations. Economic transformation and development mean a change of the world for the better, being both "optimistic" and "utopian," starting from the bottom up and not the other way around.
Xu & Liu (2017)	Why has China a high growth rate and low development level? What theoretical and practical pitfalls exist in understanding and supporting social stability and development while achieving high growth?	People believe that all their social problems will be resolved by merely raising the GNP growth rate by an average of five percent. Despite the academic consensus that the term development has a broader connotation than growth, it is a great misfortune that nations still refer to the GNP growth rate as their primary or even sole national concern.
Marinelli (2018)	What does the term eco-civilization bring to the political discourse? Can global prosperity be achieved based on eco-civilization, and how this term differs from traditional economic growth and development theories?	Eco-civilization means managing more comprehensively and rethinking the relationship between humans and nature. This concept allows us to move from the binary political discourses of "development versus growth" and "capitalism versus socialism" to a new understanding where prosperity is paramount in ecologically and socially sustainable terms.
Nnadozie & Jerome (2019)	How economic development and growth can be defined measured? What are the usual misconceptions conveyed in the analysis of the concepts? Is economic growth different from economic development and welfare?	Economic development and economic growth are two different concepts. Economic growth reflects the increase in national or per capita income and GDP. On the other hand, economic development refers to improving the quality of life, poverty reduction, and the fundamental changes in the economy's structure. Citizens must take part in the structural transformation processes that concern them and benefit from this change.

Finally, agreeing to a great extent to the previously presented approaches and conclusions in the "economic development versus economic growth" dipole, we also consider that the institutional dimensions to deal with this issue is of paramount importance nowadays

C. Vlado, JEPE, 7(4), 2020, p.209-233.

(Vlados & Chatzinikolaou, 2020). As Acemoglu (2012, p.545) argues, “[while economic growth is] one of the most relevant and exciting sub-areas of economics [the] problem of economic development remains a major one for humanity at large and for economics as a science.” Acemoglu *et al.* (2004) also propose an institutional framework that explains why some countries grow and develop faster than others, arguing that politics, the structure of political power, and the nature of political institutions are the basis for a valid theory of why different countries have different economic institutions and not the neoclassical growth model and its extensions.

4. Towards a multidisciplinary socio-economic and evolutionary understanding of crisis and development in the post-COVID-19 era

Is development economics a declining branch of economics? Is the theory of economic development a “not so useful” science that has exhausted the possibilities for further interpretive progress and sophistication (Cristaldo *et al.*, 2018; Easterly, 2002)? Our answer is categorically negative. Is growth economics also pointless and of reduced usefulness (Aidt & Dutta, 2007; Barro, 1997; Passet, 1979)? We would not agree to that either, to the extent that growth economics is still a source of useful information through its firm commitment to quantifying the effects of the crisis and growth.

However, the role of contemporary development economics seems to us to be much broader. Development economics is a challenging and complex area of today’s economics, which seems crucial nowadays, in the face of the new post-COVID-19 era. However, we think that contemporary economic development must be conceptually expanded and enriched as a field of research. According to the methodological framework proposed by Gillis *et al.* (1996, pp.xiv-xv), for their textbook on development economics, there are at least five elements that the scholar of development must take into account:

“The forces underlying economic change [the truly enduring aspects of development] may be barely perceptible, but they can be powerful and can radically alter a country’s standard of living in two or three generations. To meet these challenges, Economics of Development continues to rely on five distinguishing features: (1) It makes extensive use of the theoretical tools of classical and neoclassical economics, in the belief that these tools contribute substantially to our understanding of development. (2) It draws heavily on decades of empirical studies by economists and economic historians, studies that have uncovered and explained the structure of development, or at least narrowed our zones of ignorance. (3) Economics of Development deals explicitly with the political and institutional framework in which economic development takes place. (4) It presents many real-country examples to illustrate major points, drawing on the authors’ collective experience of—hard as it is for us to believe—more than a century of work on development issues. (5) The book recognizes the

C. Vlados, JEPE, 7(4), 2020, p.209-233.

Journal of Economics and Political Economy

diversity of development experience reflected in these country examples and acknowledges that the lessons of theory and history can only be applied within certain institutional and national contexts.”

Although these general guidelines of Gillis *et al.* (1996) continue to be valid as an orientation for modern development economics, we also think that additional “ambitions” should be formulated for the progress of development economics, especially in the light of recent global changes. The main methodological principles that seem to be of critical importance nowadays for the “physiological” transformation of development economics are the following:

- Understand the continuous contact and “communication” with the real (empirical) data provided by economic history.
- Realize the progressive assimilation of a systemic and evolutionary way of conceiving and analyzing the development phenomenon.
- Deny any rigid perspective that entrenches and “over-specializes” the different branches of economics.
- Claim an initiative-taking and interdisciplinary spirit that involves all research components of today’s social sciences.

4.1. Focus on the indivisibly historical nature of development dynamics

The analysis of contemporary development dynamics must always start from the historical examination that focuses on the specific and structural socio-economic forms and situations. Otherwise, development economics can turn into a dogmatic—almost “prophetic”—exercise that necessarily results in “theoretical” naivety and interpretive disorientation. As there is no “end of development history” (Fukuyama, 1992) for any socio-economic formation, there is also no “definitive theoretical understanding” of development. Especially in the emerging post-COVID-19 era, we think that development economics must be prepared and quickly offer new “therapeutics” that derive from new and “paradoxical” phenomena and situations on a global scale which we will face in the near future. For example, we think that many less resilient and adaptive socio-economic systems on the planet at both spatial and sectoral levels will face idiosyncratic and relatively unprecedented difficulties in re-entering the global economic development trajectory after the end of the direct consequences of the pandemic (Nunn, 2009).

4.2. The efficient approach to economic development now requires an explicitly systemic and evolutionary way of thinking

The conventional linear and static way of thinking now seems to face a “dead end.” Even today, many economic policy makers continue to use this way of thinking, considering that every economic problem has only one “solution,” that the “solution” does not affect the socio-economic organization altogether, and that once this “solution” is found, is continuously valid. On the contrary, the systemic and evolutionary way of

C. Vladoš, JEPE, 7(4), 2020, p.209-233.

development thinking, which is urgently required now, realizes that developmental problems are complex and inherently conflicting, created and reproduced as systems of problems that have more than one cause and accept more than one solution, affecting the entire evolving socio-economic organization. The process of selecting development solutions using systemic thinking involves assessing the impact of the solution on the “organic whole” and not only on the narrow area of the “economic problem.” This thinking also considers that the problems and solutions do not remain constant, but they are always changing. Solving development problems, i.e., overcoming specific developmental obstacles, always appears as a dynamic and evolutionary process (Andersen, 2009; Boulding, 1981; Hodgson & Lamberg, 2018; Nelson & Winter, 1982).

4.3. Removal of entrenchment in unidimensional specializations of economics

The different dimensions by themselves are not sufficient for a fruitful approach to the complex phenomenon of economic development, fragmentarily and in the context of “autonomously” perceived scientific theorizations. Development economics requires a consistently synthetic interpretation attempt, approaching the problem’s components in a dialectical way. In this respect, the economist of development must fully understand the “living evolution” of all socio-economic structures, which regularly change their different components and evolution patterns. The dynamics of development means qualitative transformations that occur step by step in every living socio-economic actor and system (Costa, 2003; Robert & Yoguel, 2016; Saviotti & Pyka, 2004).

4.4. The theory of economic development should function as a research crossroads for all socio-economic disciplines

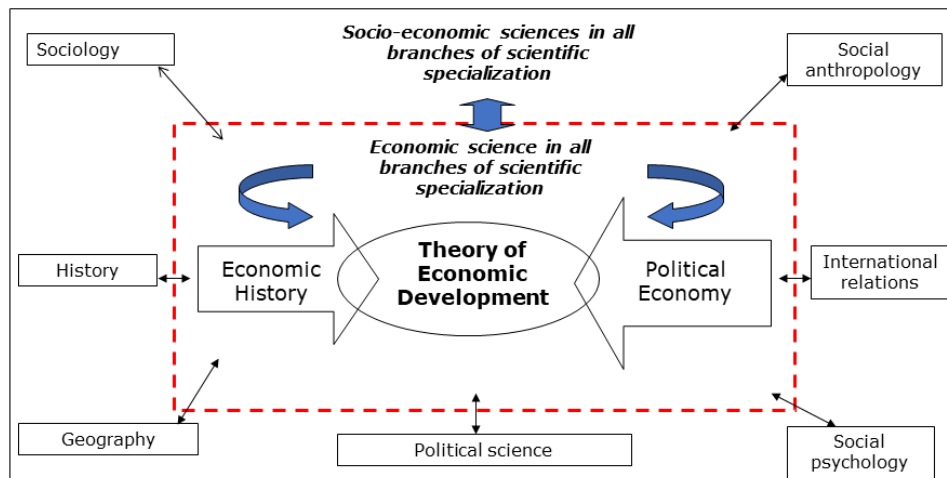


Figure 2. Cross-fertilization between socio-economic scientific disciplines

Journal of Economics and Political Economy

Nowadays, and for the post-COVID-19 era, it seems that the theory of economic development must function as a research crossroads for all socio-economic disciplines. In its interpretive and “projectional” dynamic, development economics should include and synthesize elements from social anthropology, international relations, social psychology, political science, geography, history and sociology (Figure 2).

All these aspects can and should be cross-fertilized in the context of today’s economic science, creating the basis for continuous communication and mutual enrichment between the scientific fields of economic history and the broader field of political economy (Fine, 2019; Gasper, 2001; Neves & Neves, 2017; Siegers, 1992).

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