

**THE ECONOMICS IN CRISIS AND  
THE MAIN DIRECTIONS FOR TRANSFORMATION OF  
ECONOMIC SCIENCE**

**ABSTRACT**

The article analyzes the crisis in the field of economics, its primary causes and its manifestations. It shows how traditional economics “turns a blind eye” to many significant aspects of economic reality. Within this crisis, the economics lags behind the economic reality. Some of the clearest examples of economies falling outside of reality are seen in the transition economies of the post-Communist period on their way to a market economy as well as the events of the global financial and economic crisis in 2007-2009. The most recent example of the crisis in economics is cryptocurrency which has already spread over almost the entire world over the past several years but which has not yet become a topic of systematic study in economics. In order to overcome the crisis situation, it will be of utmost importance as to how well the human factor is reflected in economic studies and to what extent it will be approximated to the behavior that is characteristic of human beings in reality. For this purpose, economists must apply the knowledge about human nature that has been amassed in the field of social sciences such as philosophy, psychology, law and political science. For the development of economics and for its relevant transformation, the conditions referred to in the traditionally used phrase “*ceritas paribas*” need to be minimized in economic studies. This will be possible if an economic study relies not only (and in certain cases not to a greater extent) on mathematics but also on the above-mentioned fields of the social sciences. Given the variety of economic theories, seeking possible ways to synthesize them becomes of great importance and this will assist economists in perceiving a given economic reality in a comprehensive way.

**Keywords:** economics, crisis, cryptocurrency, economic science, transformation, human factor, *ceritas paribas*, economic theories

## INTRODUCTION

A number of classic textbooks are available for the study of economics. There is no significant difference among them and they are widely available in different countries around the world.

The widespread opinion about the above-mentioned literature is that they require critical analyses, revision and a reassessment of their key issues. Critical reviews of these kinds of textbooks started in the 1970s (Linder, Sensat, 1977a, 1977b) and the books became a frequent topic of criticism (e.g., Kanth, 1997). Thinking critically about the future of economics is not only characteristic of our modern era (Hey, eds., 1992).

All the above textbooks rely on assumptions which do not always hold true. Therefore, it is very important that the economics has to be free from the illusions (Heath, 2010) and myths (Fox, 2009; Hicks, Klages, Raffa, eds., 1971; Mishan, 1986; Paarlberg, 1968).

Further, there is a number of such phenomena which are not actually reflected in traditional economics. One such example is the so-called “shadow economy.” The traditional textbooks in economics study economic regularities based on the assumption that the economy is totally legal and there is no such phenomenon as a shadow economy. According to the study of the International Monetary Fund (IMF), however, the shadow economy accounted for 31.9 percent in 158 countries totally in the period of 1991-2015 which comprises almost one-third of the global economy (Medina, Schneider, 2018). There are many other problems aside from the shadow economy which are not reflected in traditional economics and additional work is required in order to find their practical solutions.

Equally important is to study issues which will cast light upon the flaws in modern economies. For instance, the unprecedented growth of the financial sector at the expense of squeezing out the real sector of the economy is commonly observed worldwide. Almost all economists agree that this anomaly is the one that causes financial crises (e.g., Kindleberger, Aliber, 2005) and that it is necessary to reform the international monetary and financial systems (e.g., Stiglitz,

at al., 2010). However, no relatively effective mechanism has hitherto been developed in order to solve this issue.

There is a plethora of similar examples as well. For instance, economics is far from searching for solutions to such anomalies as to why an annual remuneration of a famous sportsman playing a popular type of sports (e.g., soccer, basketball, boxing, etc.) exceeds the most authoritative Nobel prize in science by several times (which quite frequently is distributed among two or more candidates) or why a client has replaced the patient in the sphere of health service.

The financial and economic crisis which emerged at the beginning of the 21<sup>st</sup> century posed a number of questions to economists which previously did not fall within the traditional economics. Additionally, this crisis heightened this confrontation to such an extent among economists from various schools that it created the impression that economics, as such, ceased to exist or, even worse, that it had died (Davies, 2010, pp. 175-184).

For this reason Ronald Coase, a Nobel laureate in economics, used the term ‘blackboard economics’ to describe traditional economics (Coase, 1988, p. 3).

The goal of this article is to assess the crisis situation in the economics, analyze its weaknesses and lay out ways for transformation of economic science.

## **TWO CRISES: ECONOMICS AND THE GLOBAL ECONOMY**

The problems in economics are not at all new. The most demonstrative confirmation of this is the statement made by a famous Russian economist, Igor Birman, who emigrated from the Soviet Union. He said that capitalism has been developing over centuries with the participation of neither literate nor illiterate economists and their pieces of advice and their recipes (Birman, 1996, p. 521).

It is an unfortunate fact but we need to recognize that economics is so passive that it oftentimes acquires the function of interpreting actualities. Interpretation will be deemed successful if it turns out to be correct...

Economic science has centuries-old experience but it has not always been ready to provide timely and correct answers to the pressing issues of the time. The history of economic thinking offers successful cases when a ‘drawback’ was overcome over several years which gave a new stimulus to solving the practical tasks of economic development. Namely, the theory of John Maynard Keynes emerged under the conditions of the Great Depression and later developed into the theoretical school of Keynesianism; of necessary highlight is also the fact that the stagflation which emerged in the 1970s gave the impetus to the monetarism of Milton Friedman, a Nobel laureate in economics (Skidelsky, 2018a).

There are also other cases when economics partially overcame a ‘drawback’ or, at worst, failed to overcome it. The first of these is best demonstrated by moving from a command economy to a market economy after the collapse of the Communist regime at the end of the 20<sup>th</sup> century. Many leading economists in the world correctly noted that moving from a command economy to a market economy was the most important phenomenon at the end of the 20<sup>th</sup> century (Stiglitz, 1992, p. 137) and its influence on developing economic thinking can be compared to overcoming the Great Depression of the 1930s (Avtonomov, 1996, p. 11) or the reconstruction of Europe after World War II (Fisher, Frankel, 1992; Sachs, 1992; Wolfson, 1992). At the same time, as was stated independently by Gary Becker and Joseph Stiglitz, Nobel laureates in economics, it was beyond the economics to provide theoretically well-reasoned answers to the many pressing issues of moving to a market economy at the start of the transition process (Becker, Becker, 1997, p. 259; Stiglitz, 1996, p. 3). As a result, the move to a market economy in many cases ended with the creation of a quasi-market economy (Le Grand, Bartlett, eds., 1993).

Unfortunately, we may say that notwithstanding generalizing certain aspects of the experience of moving to a market economy, no relevant economic theory has been developed (Papava, 2002). According to the traditionally radical as-

assessment of Igor Birman, economics repeatedly confirmed its ‘convincing impotence’ for solving the issue of moving to a market economy (Birman, 1996, p. 521).

As a rule, however, economic crises facilitate the development of economics although it is an unfortunate fact that the global financial and economic crisis of 2007-2009 did not lead to any significant breakthrough in economics (Krugman, 2018).<sup>1</sup> This is not at all surprising if we recall that economics turned out to be incapable of solving the issues of a capitalist economy and its future perspectives (Heilbroner, Milberg, 1996).

Further unfortunately, the experience offered by the crisis was not at all taken into consideration in the economic policy implemented during the following ten years (El-Erian, 2017; Pressman, Scott, 2018).

After the global financial and economic crisis, the critical attitude towards economics intensified and discussions on rethinking the basics of modern economics became active (Bookstaber, 2017; Leishvily, 2012; Rodrik, 2015a; Turner, 2012; van Staveren, 2015). The approach which was based on the phrase ‘Economists versus Economics’ (Rodrik, 2015b) referred not only to economics per se (Birks, 2016; Fullbrook, 2016; Marqués, 2016; McCloskey, 2010; Pilkington, 2016; Söderbaum, 2017; Syll, 2016) but also to macroeconomics (Kaletsky, 2017; Di Muzio, Noble, 2017) and microeconomics (Hill, Myatt, 2010). This discussion on the future of economics is significant in order to achieve some consensus (Rodrik, 2014).

It is an unfortunate fact that most of the Nobel laureates in economics avoid discussions on topics such as economic development, international economy, global finances and other practical issues. There are only a few positive exceptions among which Joseph Stiglitz, Paul Krugman, Michael Spence and Robert

---

<sup>1</sup> In the best case, the conversation is not about any new economic theory but about Keynesianism still being used (Krugman, 2012). Those arguments are equally noteworthy in that New Keynesian macroeconomists turned out to be equally weak in confronting the global economic crisis at the beginning of the 21<sup>st</sup> century (Skidelsky, 2018a).

Shiller should be distinguished. It proves to be the case that economists of the highest scientific status in economics avoid economic reality. Likely, this unfortunate fact is due to the circumstance that Nobel prizes in economics are quite often awarded to those economists whose academic papers are not directly related to economic challenges (Offer, 2016; Offer, Söderberg, 2016). It is notable that this unjustified ‘silence’ on the part of economists is not only characteristic for Nobel laureates but is also an apparent global tendency.

## **CRYPTOCURRENCY AND THE HELPLESSNESS OF ECONOMICS**

A clear example of economics lagging behind economic reality is the introduction and dissemination of cryptocurrency – Bitcoin. It was released for the first time on January 3, 2009, or at the time when the bank system faced some challenges owing to the financial and economic crises (Skidelsky, 2018b). Milton Friedman forecast its introduction ten years earlier in 1999 (Cawrey, 2014).

It is not known whether or not Satoshi Nakamoto, the person officially declared as Bitcoin’s inventor, really exists. At the same time, the economic mechanism for the emission of the cryptocurrency is ambiguous (Shiller, 2018). Bitcoin is becoming more popular year after year which is first of all reflected in its increased price. In response to the question as to why people are buying Bitcoin and why there is an increased demand for it, Joseph Stiglitz correctly responds that it is due to its secrecy (Golstein, 2018) which also allows for circumventing legality (Myers, 2017).

Bitcoin’s secrecy (or any other cryptocurrency) turned it into the best mechanism for criminals to conduct financial operations (Roubini, 2018) and it created the opportunity for political belligerents to use it as a financial weapon of mass destruction (James, 2018). In this regard, the Russian experience is interesting. Russia has been officially driving out Bitcoin, although it did propose using the cryptocurrency widely as of 2017 and it did not exclude the fact that it would release its own cryptocurrency as a rival to Bitcoin. By legalizing cryptocurrency, Moscow wants, at a minimum, to circumvent the financial restrictions imposed by the Magnitsky Act (Johnson, 2017).

According to Joseph Stiglitz, a cryptocurrency is to be prohibited (Bach, 2017) and declared illegal (Myers, 2017). However, Japan gave Bitcoin the status of legal tender and thus staked its claim to become the global center of financial technologies (Rogoff, 2017).

It should be underscored that leading global economists consider Bitcoin and, generally, cryptocurrency to be an unreliable financial instrument. For instance, Paul Krugman, a Nobel laureate, believes that Bitcoin (like any other cryptocurrency) is a bubble (Samaeva, 2017). As the price of the cryptocurrency increases as a result of the increased number of customers, it acquires the character of a financial pyramid or a Ponzi scheme (Sheng, Geng, 2017). However, for some economists it is difficult to imagine the future of Bitcoin (Baker, 2018); moreover, they are unsure how to advise interested persons about buying or not buying since, they say, Bitcoin is the same as purchasing a lottery ticket (Turner, 2018). For some other economists, the greatest problem is that a drastic fall in Bitcoin's price may destroy trust in the efficiency of markets (Quiggin, 2018). Perhaps, the most unexpected was the optimism expressed by Christine Lagarde, IMF Managing Director, about the future of cryptocurrency (Lagarde, 2017) which, in my opinion, was of a more emotional character than a professional opinion. Against this background, there is no surprise that all of Bitcoin's positive and optimistic assessments are from libertarianism representatives (Cox, 2013).

The blockchain-based technology which is used to create Bitcoin is another topic. Some consider that the blockchain has a greater future than cryptocurrency (e.g. Rogoff, 2017). However, there are sceptics who consider that the blockchain's capabilities are limited (Roubini, 2018; Roubini, Byrne, 2018).

Another point of consideration is that the release of Bitcoins requires high-capacity computers and a cheap source of energy (e.g., James, 2018; Popper, 2018). According to the forecast, Bitcoins will consume more energy by 2020 than the world consumed at the end of 2017 (Jezard, 2017). This means that Bitcoin will at the very least create serious energy problems for the whole world in the nearest time.

Unfortunately, it was only after a rather long period of time had elapsed when

economists paid serious attention to cryptocurrency (e.g., Salman, Razzaq, 2018).

It is unfortunate that cryptocurrency has appeared in many countries without having been fully studied by economists. It is quite unfavorable for the economics that scholars started to pay more serious attention to the issue of cryptocurrency only after a decade since the release of the first Bitcoin.

## **MAIN DIRECTIONS FOR TRANSFORMATION OF THE ECONOMIC SCIENCE**

In my opinion, the most serious issue within the study of modern economics is ignoring the human being who, as a rule, is replaced by a simplified model of *homo economicus* traceable to Adam Smith. The model of *homo economicus* is quite sufficient to explain the basic and very simplified regularities of a market economy although it is rather far from the behavior of a real human being.

The correlation of a ‘natural’ human being and an ‘artificial’ human being has long been a challenge for economists. James Buchanan, a Nobel laureate in economics, rightfully noted that: “Man does not want liberty in order to maximize his utility, or that the society of which he is a part. *He wants liberty to become the man he wants to become*” (Buchanan, 1979, p. 112).

Apparent opponents of replacing a natural human being with the artificial one argue that *homo economicus* came to an end (Brockway, 1995) and that *homo economicus* is dead (Tittenbrun, 2013).

Does this mean, then, that economists will refuse to apply the *homo economicus* model at all? In my opinion the answer to this question is negative as the simplified model of a human being can offer us interesting results vis-à-vis certain study goals. For instance, by using transformation on the human factor in order to describe the process of moving to a market economy in the post-Communism period, this process can be regarded as the transformation process of *homo sovieticus* to *homo economicus* as a result of which a new model of the human being; that is, *homo transformaticus*, emerges (Papava, 1996, pp. 260-264). It is interesting that the *homo transformaticus* model is closer to a real human



being than the models of *homo economicus* and *homo sovieticus* taken separately since the characteristics of both of them are reflected in *homo transformativus*. However, *homo transformativus* is apparently far from a real human being.

Thus, one of the most significant tasks for economists is that the model of the human being used in their studies must be approximated to a real human being to the maximum degree possible. This can be done if economists enrich their research instruments with others from other social sciences (namely, those of philosophy, psychology, law and political science).

It is no longer disputable that there is a significant gap between economic practice and economic science. It is difficult not to agree with Robert Skidelsky, a well-known British economist, that a simplified approach, which is dominant in economics, is equating the economy to a 'machine' (even a sophisticated machine), the description of which is quite possible through mathematics. As a result, modern economists became *idiot savants* (Skidelsky, 2016). He also mentions that future economists are unfortunately not taught philosophy, psychology, history and political science which means that their knowledge of modern economics is limited only to economic models (Skidelsky, 2016). This greatly weakens the scientific language used by economists.

There is a number of important studies about scientific language and reality (e.g., Devitt, Sterelny, 1999; Marsonet, 1995). It is known that reality is studied based on existing scientific language which then becomes further enriched in the study process.

As mentioned above, if economics is equated to a sophisticated machine, then the scientific language of economics is too simple in order to study economic reality. Although the application of mathematics deepens the study of economic reality, the application of mathematics alone at the same time decreases the opportunity to reflect the diversity of the reality to a fuller extent. This is not at all surprising as mathematics is not exhaustive enough to adequately reflect the whole social scope.

A simplified approach to study economic reality (or the 'economic machine') is most clearly reflected in those assumptions (or in conditionalities) used intentionally or unintentionally by economists in their studies. Each assumption

simplifies the reality as the researcher focuses only on a certain factor (or a group of factors) while excluding changes in other factors. Such an approach provides fertile ground for the application of mathematics and makes it easier for a researcher to study a given issue more or less in depth. Moreover, following these assumptions, this approach leaves the question unanswered as to the extent the given regularity, which underwent study, is sufficient to correctly reflect the diversity of the reality (Rodrik, 2015a).

An indicator as to the extent a concrete assumption was knowingly taken into consideration by the researcher is the magic set of words “*ceritas paribas*,” or “all other things remaining equal,” which tells the reader that the reality has been simplified in the study.

Does this mean that economists should refuse to use this magic phrase or apply mathematical methods? Certainly, not: without using them, it would be completely impossible to study the economic reality in general. It is important that findings of such studies should not be regarded as completed and research must be continued by applying the achievements of philosophy, psychology, law, history, social geography and political science. Unquestionably, we should not refuse to apply mathematics to economic studies. On the contrary, along with mathematics, the methods of the above-mentioned social sciences used will enrich the scope of the scientific language of economics. In other words, it is necessary that interdisciplinary research be carried out in order to overcome the existing crisis situation in economic science.

As an example, we can refer to the newly established direction of *geo-economics* (e.g., Gasimli, 2015; Kvinikadze, 2017; Solberg Søilen, 2012) which has hitherto not become the subject of intensive scientific research for economists. It is unfortunate that *geo-economics* is not among the direct scientific interests of economists and *geo-economics* research is mainly regarded as a prerogative of the representatives of political sciences and researchers of international relations. It is *geo-economics*, however, that offers keys to the solutions of many specific economic (and not only economic) issues in any country.

The contradiction existing amongst various economic theories is a separate issue. Due to the contradiction, the general question about which economic theory is correct is less constructive. As in drawing where we have to present an object

with its various angles (perspectives), we can agree that various economic theories are reflections of the same economic reality from different angles (perspectives) and following the changes in economic reality may more adequately reflect the given issue vis-à-vis a particular economic theory as opposed to other theories.

Considering the above mentioned, I think that at the current stage of development of economics, identifying a common component or components from various economic theories will allow us to synthesize these theories (Hsieh, Magnum, 1986). One of the best examples of this is synthesizing *supply-side economics* with *Keynesian economics* (e.g., Ananiashvili, Papava, 2014; Langdana, 2010). Developing integrated economic theories is also important as it allows for making conclusions that are more adequate vis-à-vis the economic reality (e.g., Tuerck, 2015).

Although we have only covered very basic ways for transformation of the economic science in terms of overcoming the crisis, I believe that the steps made towards their implementation will positively impact research findings.

We must also highlight how economic achievements correspond to the economic policies implemented by the governments of different countries. This issue is a separate topic requiring further study.

## CONCLUSIONS

At present no one can doubt that the economics is in crisis. As a result, it cannot satisfactorily reflect economic reality and, at best, it is only capable of interpreting the actualities.

We can say that after John Maynard Keynes developed his famous theory under the conditions of the Great Depression and after the stagflation that developed in 1970s gave impetus to the development of the monetarism of Milton Friedman, no other significant economic theory with practical importance has hitherto been developed. The global financial and economic crisis that emerged in 2007-2009 once again exposed the weaknesses of economics. But more im-

portantly, the lessons of this crisis have not influenced the development of economics in any way.

One of the most vivid examples of the crisis of economics is the global fascination with cryptocurrency which continues to fall outside of the research interests for economists.

Putting forward the human factor in research is of special importance for overcoming the crisis of economics. At present, applying the very simplified *homo economicus* model alone is insufficient. It is essential that the human factor be presented in economic studies from a variety of perspectives. This can be achieved through the comprehensive use of the achievements in other social sciences (philosophy, psychology, law and political science).

Carrying out interdisciplinary research (not only applying mathematics but also philosophy, psychology, law, history, geography and political science) will give the greatest impetus to the development of the economic science. This must significantly weaken the traditional approach which is reflected in the phrase “*ceritas paribas*,” or “other things equal” which is used by economists in their research. Even a small decrease in the number of ‘invariable’ factors in separate cases will ensure that the results of research carried out by economists are much more realistic.

Instead of contrasting economic theories, it will be better if economists focus on identifying common positions which will facilitate a synthesis of these theories. This direction for the development of the field of economics is definitely of a constructive nature.

## REFERENCES

1. Ananiashvili I., Papava V. *Laffer-Keynesian Synthesis and Macroeconomic Equilibrium*. New York, Nova Science Publishers, 2014.
2. Avtonomov V.S. Politicheskaja ekonomija perekhodnogo perioda [Political Economy of a Transition Period]. *Mirovaja ekonomika i mezhdunarodnye otnoshenija* [ *World Economy and International Relations*], 1996, № 9, pp. 7–15 [in Russian].
3. Bach N. This Nobel Prize-Winning Economist Says Bitcoin Should be Banned. *Fortune*, 2017, November 30, available at: <http://fortune.com/2017/11/30/economist-joseph-stiglitz-bitcoin-should-be-outlawed/> (accessed 12.07.2017).
4. Baker D. Tesla, Amazon, Bitcoin, Efficient Markets and FTT. *WEA Commentaries*,

- 2018, Vol. 8, No. 1, February, available at: <https://www.worldeconomicsassociation.org/newsletterarticles/bitcoin-efficient-markets/> (accessed 12.07.2017).
5. Becker G.S., Becker G.N. *The Economics of Life. From Baseball to Affirmative Action to Immigration, How Real World Issues Affect Our Everyday Life*. New York, McGraw-Hill, 1997.
  6. Birman I. *Ija – ekonomist (o sebe, ljubimom)* [I am an economist (About Me, Beloved by Me)]. Novosibirsk, EKOR, 1996 [in Russian].
  7. Bookstaber R. *The End of Theory. Financial Crises, the Failure of Economics, and the Sweep of Human Interaction*. Princeton, Princeton University Press, 2017.
  8. Birks S. *40 Critical Pointers for Students of Economics*. London, College Publications, 2016.
  9. Brockway G.P. *The End of Economic Man*. New York, W.W. Norton and Co, 1995.
  10. Buchanan J.M. *What Should Economists Do?* Indianapolis, Liberty Fund, 1979.
  11. Cawrey D. How Economist Milton Friedman Predicted Bitcoin. *CoinDesk*, 2014, March 5, available at: <https://www.coindesk.com/economist-milton-friedman-predicted-bitcoin/> (accessed 12.07.2017).
  12. Coase R.H. *The Firm, the Market, and the Law*. Chicago, The University of Chicago Press, 1988.
  13. Cox J. *Bitcoin and Digital Currencies: The New World of Money and Freedom*. Baltimore, Laissez Faire Books, 2013.
  14. Davies H. *The Financial Crisis: Who is to Blame?* Cambridge, The Polity Press, 2010.
  15. Devitt M., Sterelny K. *Language and Reality: An Introduction to the Philosophy of Language*. Oxford, UK, Wiley-Blackwell, 1999.
  16. Di Muzio T., Noble L. The Coming Revolution in Political Economy: Money Creation, Mankiw and Misguided Macroeconomics. *Real-World Economics Review*, 2017, Iss. 80, pp. 85–108, available at: <http://www.paecon.net/PAERReview/issue80/DiMuzioNoble80.pdf> (accessed 12.07.2017).
  17. El-Erian M.A. The Lost Lesson of the Financial Crisis. *Project Syndicate*, 2017, February 2, available at: <https://www.project-syndicate.org/commentary/lost-lessons-of-the-financial-crisis-by-mohamed-a--el-erian-2017-08> (accessed 12.07.2017).
  18. Fischer S., Frankel J. Macroeconomic Issues of Soviet Reform. *American Economic Review*, 1992, Vol. 82, No. 2, pp. 37–42.
  19. Fox J. *The Myth of the Rational Market: A History of Risk, Reward, and Delusion on Wall Street*. New York, Harper Business, 2009.
  20. Fullbrook E. *Narrative Fixation in Economics*. London, College Publications, 2016.

21. Gasimli V. *Geo-economics*. Eskişehir, Anadolu University, 2015, available at: <http://sam.az/uploads/PDF/Geo-Economic.pdf> (accessed 12.07.2017).
22. Golstein S. Nobel Laureate Stiglitz: “Why Do People Want Bitcoin?” *Finance Magnates*, 2018, January 24, available at: <https://www.financemagnates.com/cryptocurrency/news/nobel-laureate-stiglitz-people-want-bitcoin/> (accessed 12.07.2017).
23. Heath J. *Economic without Illusions. Debunking the Myths of Modern Capitalism*. New York, Broadway Books, 2010.
24. Heilbroner R., Milberg W. *The Crisis of Vision in Modern Economic Thought*. Cambridge, Cambridge University Press, 1996.
25. Hey D., eds. *The Future of Economics*. Oxford, Blackwell, 1992.
26. Hicks R.E., Klages W.J., Raffa F.A., eds. *Economics: Myth, Method, or Madness? Selected Readings*. Berkeley, CA, McCutchan Publishing Corporation, 1971.
27. Hill R., Myatt T. *The Economics Anti-Textbook: A Critical Thinker’s Guide to Microeconomics*. Halifax, Fernwood Publishing, 2010.
28. Hsieh C.-Y., Magnum S.L. *A Search for Synthesis in Economic Theory*. Armonk, M. E. Sharpe, 1986.
29. James H. The Bitcoin Threat. *Project Syndicate*, 2018, February 2, available at: <https://www.project-syndicate.org/commentary/bitcoin-threat-to-political-stability-by-harold-james-2018-02> accessed 12.07.2017) (accessed 12.07.2017).
30. Jezard A. In 2020 Bitcoin will Consume More Power than the World does Today. *World Economic Forum*, 2017, December 15, available at: <https://www.weforum.org/agenda/2017/12/bitcoin-consume-more-power-than-world-2020/> (accessed 12.07.2017).
31. Johnson M.C. Why Is the Kremlin Suddenly Obsessed With Cryptocurrencies? *The Daily Beast Company*, 2017, August 5, available at: <https://www.thedailybeast.com/why-is-the-kremlin-suddenly-obsessed-with-cryptocurrencies?ref=scroll> (accessed 12.07.2017).
32. Kaletsky A. A “Macroeconomic” Revolution? *Project Syndicate*, 2017, July 19, available at: <https://www.project-syndicate.org/commentary/replacement-market-fundamentalism-by-anatole-kaletsky-2017-07> (accessed 12.07.2017).
33. Kanth R.K. *Against Economics. Rethinking Political Economy*. Aldershot, Ashgate, 1997.
34. Kindleberger C.P., Aliber R.Z. *Manias, Panics, and Crashes: A History of Financial Crises*. Hoboken, John Wiley & Sons, 2005.
35. Krugman P. *End This Depression Now!* New York, W. W. Norton & Company, 2012.

36. Krugman P. Good Enough for Government Work? Macroeconomics Since the Crisis. *Oxford Review of Economic Policy*, 2018, Vol. 34, Iss. 1-2, January 5, pp. 156–168, available at: <https://academic.oup.com/oxrep/article/34/1-2/156/4781811> (accessed 12.07.2017).
37. Kvinikadze G. Conceptualization of Geo-Economic Threats in Small Countries with Transition Economies. *Economic and Regional Studies*, 2017, Vol. 10, No. 3, pp. 42–52.
38. Lagarde C. Central Banking and Fintech—A Brave New World? *IMF Communications Department*, 2017, September 29, available at: <http://www.imf.org/en/News/Articles/2017/09/28/sp092917-central-banking-and-fintech-a-brave-new-world?cid=em-COM-123-35955> (accessed 12.07.2017).
39. Langdana F.K. *Macroeconomic Policy: Demystifying Monetary and Fiscal Policy*. New York, Springer Science+Business Media, 2010.
40. Le Grand J., Bartlett W., eds. *Quasi-Markets and Social Policy*. Basingstoke, UK, Macmillan Press, 1993.
41. Leishvily P. *Economic Activity: Teleological Analysis*. New York, Nova Science Publishers, 2012.
42. Linder M., Sensat Jr.J. *Anti-Samuelson. Vol. One. Basic Ideological Concepts. Crises and Keynesianism*. New York, The World Market, Urizen Books, 1977.
43. Linder M., Sensat Jr.J. *Anti-Samuelson. Vol. Two. Money and Credit. Value and Price Theory. Factors of Production*. New York, The World Market, Urizen Books, 1977.
44. Marqués G. *A Philosophical Framework for Rethinking Theoretical Economics and Philosophy of Economics*. London, College Publications, 2016.
45. Marsonet M. *Science, Reality, and Language*. Albany, N.Y., State University of New York Press, 1995.
46. McCloskey D.N. *Bourgeois Dignity: Why Economics can't Explain the Modern World*. Chicago, The University of Chicago Press, 2010.
47. Medina L., Schneider F. Shadow Economies Around the World: What Did We Learn Over the Last 20 Years? *International Monetary Fund WP/18/17*, 2018, January, available at: <https://www.imf.org/en/Publications/WP/Issues/2018/01/25/Shadow-Economies-Around-the-World-What-Did-We-Learn-Over-the-Last-20-Years-45583> (accessed 12.07.2017).
48. Mishan E.J. *Economic Myths and the Mythology of Economics*. Atlantic Highlands, NJ, Humanities Press International, 1986.
49. Myers J. Joseph Stiglitz: Bitcoin ought to be outlawed. *World Economic Forum*, 2017, November 30, available at: <https://www.weforum.org/agenda/2017/11/joseph-stiglitz-bitcoin-ought-to-be-outlawed/> (accessed 12.07.2017).

50. Offer A. Nobel Economics Versus Social Democracy. *Project Syndicate*, 2016 October 10, available at: <https://www.project-syndicate.org/commentary/economics-nobel-versus-social-democracy-by-avner-offer-2016-10?barrier=accessreg> (accessed 12.07.2017).
51. Offer A., Söderberg G. *The Nobel Factor: The Prize in Economics, Social Democracy, and the Market Turn*. Princeton, Princeton University Press, 2016.
52. Paarlberg D. *Great Myths of Economics*. New York, The New American Library, 1968.
53. Papava V. On the Theory of Post-Communist Economic Transition to Market. *International Journal of Social Economics*, 2002, Vol. 29, No. 9-10, pp. 77–97.
54. Papava V. The Georgian Economy: From “Shock Therapy” to “Social Promotion”. *Communist Economies & Economic Transformation*, 1996, Vol. 8, No. 2, pp. 251–267.
55. Pilkington P. *The Reformation in Economics. A Deconstruction and Reconstruction of Economic Theory*. London, The Palgrave Macmillan, 2016.
56. Popper N. There Is Nothing Virtual About Bitcoin’s Energy Appetite. *The New York Times*, 2018, – January 21, available at: <https://www.nytimes.com/2018/01/21/technology/bitcoin-mining-energy-consumption.html?action=click&contentCollection=Times%20Insider&module=RelatedCoverage&region=Marginalia&pgtype=article> (accessed 12.07.2017).
57. Pressman S., Scott R. Ten years after the crisis: a lost decade? *Real-World Economics Review*, 2018, Iss. 83, March 26, pp. 2–19, available at: [www.paecon.net/PAEReview/issue83/PressmanScott83.pdf](http://www.paecon.net/PAEReview/issue83/PressmanScott83.pdf) (accessed 12.07.2017).
58. Quiggin J. What Bitcoin Reveals About Financial Markets. *The New York Times*, 2018, February 8, available at: <https://www.nytimes.com/2018/02/08/opinion/bitcoin-financial-markets.html?rref=collection%2Fsectioncollection%2Fopinion&action=click&contentCollection=opinion&region=rank&module=package&version=highlights&contentPlacement=8&pgtype=sectionfront> (accessed 12.07.2017).
59. Rodrik D. The Perils of Economic Consensus. *Project Syndicate*, 2014, August 14, available at: [https://www.project-syndicate.org/commentary/dani-rodrik-warns-that-agreement-among-economists-can-create-an-illusion-of-certain-knowledge?utm\\_source=MadMimi&utm\\_medium=email&utm\\_content=Dani+Rodrik%3a+%22The+Perils+of+Economic+Consensus%22&utm\\_campaign=20140817\\_m121761177\\_Dani+Rodrik%3a+%22The+Perils+of+Economic+Consensus%22&utm\\_term=The+Perils+of+Economic+Consensus&barrier=accessreg](https://www.project-syndicate.org/commentary/dani-rodrik-warns-that-agreement-among-economists-can-create-an-illusion-of-certain-knowledge?utm_source=MadMimi&utm_medium=email&utm_content=Dani+Rodrik%3a+%22The+Perils+of+Economic+Consensus%22&utm_campaign=20140817_m121761177_Dani+Rodrik%3a+%22The+Perils+of+Economic+Consensus%22&utm_term=The+Perils+of+Economic+Consensus&barrier=accessreg) (accessed 12.07.2017).
60. Rodrik D. *Economics Rules: The Rights and Wrongs of the Dismal Science*. New



York, W. W. Norton & Company, 2015a.

61. Rodrik D. Economists vs. Economics. *Project Syndicate*, 2015b, September 10, available at: [https://www.project-syndicate.org/commentary/economists-versus-economics-by-dani-rodrik-2015-09?utm\\_source=Project+Syndicate+Newsletter&utm\\_campaign=be2a176f93-Sept\\_13\\_20159\\_5\\_2015&utm\\_medium=email&utm\\_term=0\\_73bad5b7d8-be2a176f93-93567601&barrier=accessreg](https://www.project-syndicate.org/commentary/economists-versus-economics-by-dani-rodrik-2015-09?utm_source=Project+Syndicate+Newsletter&utm_campaign=be2a176f93-Sept_13_20159_5_2015&utm_medium=email&utm_term=0_73bad5b7d8-be2a176f93-93567601&barrier=accessreg) (accessed 12.07.2017).
62. Rogoff K. Crypto-Fool's Gold? *Project Syndicate*, 2017, October 9, available at: [https://www.project-syndicate.org/commentary/bitcoin-long-term-price-collapse-by-kenneth-rogoff-2017-10?utm\\_source=Project+Syndicate+Newsletter&utm\\_campaign=724ae23045-sunday\\_newsletter\\_15\\_10\\_2017&utm\\_medium=email&utm\\_term=0\\_73bad5b7d8-724ae23045-93567601](https://www.project-syndicate.org/commentary/bitcoin-long-term-price-collapse-by-kenneth-rogoff-2017-10?utm_source=Project+Syndicate+Newsletter&utm_campaign=724ae23045-sunday_newsletter_15_10_2017&utm_medium=email&utm_term=0_73bad5b7d8-724ae23045-93567601) (accessed 12.07.2017).
63. Roubini N. Blockchain's Broken Promises. *Project Syndicate*, 2018, January 26, available at: <https://www.project-syndicate.org/commentary/why-bitcoin-is-a-bubble-by-nouriel-roubini-2018-01> (accessed 12.07.2017).
64. Roubini N., Byrne P. The Blockchain Pipe Dream. *Project Syndicate*, 2018, March 5, available at: <https://www.project-syndicate.org/commentary/blockchain-technology-limited-applications-by-nouriel-roubini-and-preston-byrne-2018-03> (accessed 12.07.2017).
65. Sachs J. Privatization in Russia: Some Lessons from Eastern Europe. *American Economic Review*, 1992, Vol. 82, No. 2, pp. 43–48.
66. Salman A., Razaq M.G.A. Bitcoin and the World of Digital Currencies. In: *Financial Management from an Emerging Market Perspective*, G. Kucukkocaoglu, S. Gokten, eds. InTech, 2018, pp. 269–281, available at: <https://www.intechopen.com/books/financial-management-from-an-emerging-arket-perspective/bitcoin-and-the-world-of-digital-currencies> (accessed 12.07.2017).
67. Samaeva Ju. (2017). Paul Krugman: Nuzhno govorit' ob opredeljajushchei roli gosudarstva v preodolenii krizisa, o neobkhodimosti vmeshatel'stva v rynochnye mekhanizmy i ruchnogo upravlenija [Paul Krugman: It is Necessary to Speak about the Defining Role of the State in Overcoming Crisis, about Need of Intervention in Market Mechanisms and Manual Control]. *Zerkalo nedeli [Mirror of week]*, 2017, September 18, available at: [https://zn.ua/macrolevel/nobelevskiy-laureat-pol-krugman-nuzhno-govorit-ob-opredelyayuschey-rol-i-gosudarstva-v-preodolenii-krizisa-o-neobkhodimosti-vmeshatelstva-v-rynochnye-mehanizmy-i-ruchnogo-upravleniya-260407\\_.html#comment](https://zn.ua/macrolevel/nobelevskiy-laureat-pol-krugman-nuzhno-govorit-ob-opredelyayuschey-rol-i-gosudarstva-v-preodolenii-krizisa-o-neobkhodimosti-vmeshatelstva-v-rynochnye-mehanizmy-i-ruchnogo-upravleniya-260407_.html#comment) [in Russian] (accessed 12.07.2017).
68. Sheng A., Geng X. Barbarians at the Monetary Gate. *Project Syndicate*, 2017, August 30, available at: <https://www.project-syndicate.org/commentary/bitcoin->

- cryptocurrencies-monetary-risk-by-andrew-sheng-and-xiao-geng-2017-08?utm\_source=Project+Syndicate+Newsletter&utm\_campaign=e8bef8a0bc-sunday\_newsletter\_3\_9\_2017&utm\_medium=email&utm\_term=0\_73bad5b7d8-e8bef8a0bc-93567601 (accessed 12.07.2017).
69. Shiller R.J. The Old Allure of New Money. *Project Syndicate*, 2018, May 21, available at: [https://www.project-syndicate.org/commentary/cryptocurrencies-scientific-narrative-by-robert-j--shiller-2018-05?utm\\_source=Project+Syndicate+Newsletter&utm\\_campaign=c4c50cbcd2-sunday\\_newsletter\\_27\\_5\\_2018&utm\\_medium=email&utm\\_term=0\\_73bad5b7d8-c4c50cbcd2-93567601](https://www.project-syndicate.org/commentary/cryptocurrencies-scientific-narrative-by-robert-j--shiller-2018-05?utm_source=Project+Syndicate+Newsletter&utm_campaign=c4c50cbcd2-sunday_newsletter_27_5_2018&utm_medium=email&utm_term=0_73bad5b7d8-c4c50cbcd2-93567601) (accessed 12.07.2017).
  70. Skidelsky R. Economists versus the Economy. *Project Syndicate*, 2016, December 23, available at: <https://www.project-syndicate.org/commentary/mathematical-economics-training-too-narrow-by-robert-skidelsky-2016-12> (accessed 12.07.2017).
  71. Skidelsky R. How Economics Survived the Economic Crisis. *Project Syndicate*, 2018a, Jan 18, available at: [https://www.project-syndicate.org/commentary/why-no-intellectual-shift-in-economics-by-robert-skidelsky-2018-01?utm\\_source=Project+Syndicate+Newsletter&utm\\_campaign=6b6f82ce43-sunday\\_newsletter\\_21\\_1\\_2018&utm\\_medium=email&utm\\_term=0\\_73bad5b7d8-6b6f82ce43-93567601](https://www.project-syndicate.org/commentary/why-no-intellectual-shift-in-economics-by-robert-skidelsky-2018-01?utm_source=Project+Syndicate+Newsletter&utm_campaign=6b6f82ce43-sunday_newsletter_21_1_2018&utm_medium=email&utm_term=0_73bad5b7d8-6b6f82ce43-93567601) (accessed 12.07.2017).
  72. Skidelsky R. Why Reinvent the Monetary Wheel? *Project Syndicate*, 2018b, May 23, available at: [https://www.project-syndicate.org/commentary/cryptocurrencies-false-promise-by-robert-skidelsky-2018-05?utm\\_source=Project+Syndicate+Newsletter&utm\\_campaign=c4c50cbcd2-sunday\\_newsletter\\_27\\_5\\_2018&utm\\_medium=email&utm\\_term=0\\_73bad5b7d8-c4c50cbcd2-93567601](https://www.project-syndicate.org/commentary/cryptocurrencies-false-promise-by-robert-skidelsky-2018-05?utm_source=Project+Syndicate+Newsletter&utm_campaign=c4c50cbcd2-sunday_newsletter_27_5_2018&utm_medium=email&utm_term=0_73bad5b7d8-c4c50cbcd2-93567601) (accessed 12.07.2017).
  73. Söderbaum P. Do We Need A New Economics for Sustainable Development? *Real-World Economics Review*, 2017, Iss. 80, pp. 32–44, available at: [www.paecon.net/PAERreview/issue80/Soderbaum80.pdf](http://www.paecon.net/PAERreview/issue80/Soderbaum80.pdf) (accessed 12.07.2017).
  74. Solberg Søilen K. *Geoeconomics*. London, Bookboon, 2012, available at: <https://bookboon.com/en/geoeconomics-ebook> (accessed 12.07.2017).
  75. Stiglitz J.E. Another Century of Economic Science. In: *The Future of Economics*, D. Hey eds. Oxford, Blackwell, 1992, pp. 134–141.
  76. Stiglitz J.E. *Whither Socialism?* Cambridge, The MIT Press, 1996.
  77. Stiglitz J.E., et al. *The Stiglitz Report. Reforming the International Monetary and Financial Systems in the Wake of the Global Crises*. New York, The New Press, 2010.

78. Syll L.P. *On the Use and Misuse of Theories and Models in Mainstream Economics*. London, College Publications, 2016.
79. Tittenbrun J. The Death of the Economic Man. *International Letters of Social and Humanistic Sciences*, 2013, Vol. 11, pp. 10-34, available at: <https://www.scir-ess.com/ILSHS.11.10.pdf> (accessed 12.07.2017).
80. Tuerck D.G. *Macroeconomics: Integrating Theory, Policy and Practice for a New Era*. New York, Business Expert Press, 2015.
81. Turner A. *Economics after the Crises. Objectives and Means*. Cambridge, The MIT Press, 2012.
82. Turner A. Should You Buy Bitcoin? *Project Syndicate*, 2018, February 2, available at: <https://www.project-syndicate.org/commentary/bitcoin-collapse-low-macro-economic-risk-by-adair-turner-2018-02> (accessed 12.07.2017).
83. van Staveren I. *Economics after the Crises. An Introduction to Economics from a Pluralist and Global Perspective*. London, Routledge, 2015.
84. Wolfson M. Transitions from a Command Economy: Rational Expectations and Cold Turkey. *Contemporary Policy Issues*, 1992, Vol. 10, Iss. 2, pp. 35–43.

---

**Prof Vladimer Papava** – Ivane Javakhishvili Tbilisi State University

**e-mail:** vladimer.papava@tsu.ge