JEL Classification: F41, O30, O47

Inna Cabelkova,
Ph.D., Czech University of Life Sciences, Czech Republic
 ORCID ID, 0000-0002-8302-1004
email: cabelkova@pef.czu.cz
Manuela Tvaronaviciene,
Vilnius Gediminas Technical University, Lithuania
Daugavpils University, Latvia
 ORCID ID, 0000-0002-9667-3730
email:manuela.tvaronaviciene@vilniustech.lt
Wadim Strielkowski,
Ph.D., University of California, Berkeley, United States
Czech University of Life Sciences, Czech Republic
 ORCID ID, 0000-0001-6113-3841
email: strielkowski@berkeley.edu

Correspondence author: cabelkova@pef.czu.cz

INNOVATIONS IN ACHIEVING SUSTAINABLE ECONOMIC PERFORMANCE UNDER INCOME INEQUALITY

Abstract. *The negative effect of income inequality on economic growth represents a topic that constitutes a broad topic of research in the standard economic theory. One of the immediate consequences of income inequality is diminished consumption. Many «poor» customers cannot provide sufficient demand for the producers, causing overproduction that might lead to an economic crisis. It constitutes a problem because sustainable economic performance needs to be achieved under the conditions of income inequality. Reducing social and economic inequality in countries is an essential step towards ensuring that no one is left behind. It is also part of the 10th Sustainable Development Goal aimed to reduce it by 2030. Inequality is based on the income distribution between the top 1% and the bottom 99% of households in any given country. The degree of inequality could play a beneficial role if it is driven by market forces and is associated with incentives to increase growth. In developing and emerging countries, greater equality and improvements in living standards are needed to enable populations to flourish. Inequality reduction is one of the most critical steps a government could take to improve the well-being of its population. The income inequality growth increases human capital in poor countries and reduces it in high and middle-income countries. In poorer countries, it increases them, but in higher – and middle-income countries, it reduces them. Income inequality could be reduced by improving human capital and general skill levels, correcting labor-market policies, and making better use of financial services. In turn, sustainable economic growth could reverse the negative effects of inequality, reducing the need for high-wage and higher-earning households. Thus, it provides higher economic growth. This paper discusses three ways to circumvent the impact of decreasing consumption on economic growth adopted in developing economies over the last fifty years, such as increasing exports, providing loans for consumption, and printing new money. The findings showed that none of these methods seem to be sustainable in the long run. Thus novel and innovative mechanisms that would allow our economy to reduce inequality are necessary and need to be put into place.*
Keywords: income inequality, innovations, economic growth, sustainable management.

Introduction. The effect of income inequality on economic growth was well understood in economic theory from Kalecki (Kalecki, 1942; Kalecki, 1971) to the times of Keynes (1936) through Kuznets (1955). In economic modeling and modeled by Rowthorn (1982) for a closed economy, inequality reduces

aggregate demand and, subsequently, consumption. The detrimental effect of inequality on growth was also confirmed by (Bertola, 1993; Alesina and Rodrik, 1994; Persson and Tabellini, 1991; Benabou, 1996; Perotti, 1996). In democratic societies, a significant inequality makes voters vote for higher taxation of the rich, which reduces the incentive to invest in the short run and leads to a reduction in economic growth in the long run. If the worse comes to worst, excessive inequality may cause political instability and social unrest (Alesina and Perotti, 1996; Keefer and Knack, 2002). On the surface, that might seem sensible, but finding evidence of his support is far from easy. It is essential to know that there is a relatively large middle class. That income development for the lower- and upper-income strata has driven inequality in this part of the distribution relatively more strongly (Philips et al., 2020; Schettino et al., 2021).

This paper is structured as follows: section 2 presents the concise literature review on income inequality and economic growth; section 3 outlines materials and methods and yields the empirical part of the paper; section 4 presents the results of the empirical model and features the discussions of these results; section 5 provides overall conclusions and implications stemming from this research.

Literature review. In general terms, higher growth rates accompany the higher income inequality in the middle- and upper-income brackets and lower growth in the lower-income brackets (Ota, 2017; Huh and Park, 2021). Indeed, inequality in these different parts of our income distribution can affect GDP differently (Machacek et al., 2015; Strielkowski and Höschle, 2016; Jafarzadeh and Shuquan, 2019; Khoshnava et al., 2019; Gunasinghe et al., 2020; Vasconcelos, 2021). For example, in advanced countries, inequalities near the top end could positively affect GDP. In turn, inequalities at or near the bottom could negatively affect (Abakumova and Primierova, 2018; Berg et al., 2018; Tridico et al., 2018).

In many low-inequality countries like, for example, the United States and Germany, the relationship is becoming positive (Liao, 2021; Szczepaniak and Geise, 2021). Education is key. Notably, lack of investment in education for the poor is the main factor in inequality, which impedes growth (Zhou et al., 2019; Haini, 2020; Prawoto and Basuki, 2020; Gruzina et al., 2021). The most significant impact on growth is simply a widening gap between the top 1% of income earners and the rest of society (Shahrier et al., 2017; Dogan and Inglesi-Lotz, 2020). So far, the prevailing concern has been that inequality could affect estimated outcomes such as life expectancy and happiness (Schneider and Harknett, 2019; Gomez-Lopez et al., 2019). For example, one might expect that greater income inequality contributes to greater inequality between rich and poor, both in life expectancy and happiness (Mikucka et al., 2017; Kollamparambil, 2020). Inequality does not boost income either. Herewith, it creates activities that contribute to a decline in graduates and university degrees and higher poverty rates (Reynolds et al., 2019; Abduvaliev and Bustillo, 2020). On the other hand, economic theory also suggests that inequality could prevent talented but less gifted people from accessing opportunities and credit and create instability in the incentive to work hard, reducing economic growth (Wisman, 2017; Richters and Richters and Siemoneit, 2019). Growing inequality could also create incentives for low-income people to be less willing to invest in health, education, and education, thereby holding back economic growth. Inequality can also promote crime by fueling frustration with perceived relative disadvantage and blocked opportunities (Palma, 2019; Matallah, 2020). Grundler and Scheuermeyer (2015) confirmed the empirical, causal, and negative effect of income inequality on economic growth on a current panel of harmonized worldwide data. The channels through which income inequality affects growth are suggested to be less educated populations and higher fertility rates in more unequal countries. The authors concluded redistribution is beneficial for growth in low and middle-income countries.

Nowadays, globalization with state interventions to interest rates brings an opportunity to import the demand for goods (for example, from the USA and China). Loosened monetary policy also enables to increase current consumption at the expense of future consumption. This appendix aims to discuss mechanisms about how income inequality diminishes consumption and aggregate demand even in the case the demand is exported from abroad, and the new money is printed, as it happens nowadays.

Methodology and research methods. The empirical part of this paper illustrates the development of research argumentation via a macroeconomic model of the structure of aggregate expenditures as an indicator of GDP. The expenditure way to compute GDP usually relies on the following formula that follows below:

$$GDP = C + I + G + X \tag{1}$$

where C – consumption; I – investment; G – government expenditures; X – net export.

For simplifying the reasoning, it was suggested to consider a closed economy with no intertemporal transfer of funds (loans), government expenses, or international trade. The GDP of such an economy will be composed of just consumption and savings equal to investments.

$$GDP = C + I \tag{2}$$

or

$$GDP = Ca + Cb + I \tag{3}$$

where Ca is the employees' consumption who receive the only wage; Cb is the employers' consumption who receive wage and capital income.

Here the employees and employers could also be the overpaid and underpaid people. In the case α is the proportion of the overall income of the firm paid to employees in the form of wage and the rest (1-α) stays with employers in the form of extra profits with they make their incomes:

$$Ca = \alpha \times C \tag{4}$$

$$Cb = (1 - \alpha) \times C \tag{5}$$

Suppose the entrepreneurs reduce (or do not increase proportionally to the firm's profits) the proportion of profit paid to employees (α), which means effective reduction wages proportionally to profits. In that case, they are left with proportionally more money they could either consume or invest. However, the propensity to consume decreases with income (Holman, 2011), so the higher is the income inequality, the lower is next period consumption as a percentage of GDP. Lower consumption leads to lower demand for goods and services in the next period and lower investment returns. The latter, therefore, decreases the next period's real-sector investment as well. If the financial markets are sufficiently developed simultaneously, the funds, which otherwise would be invested in the real economy, may be invested in financial markets. However, that does not necessarily help the real economy to grow.

The question of whether investments in financial markets help the real economy is not an easy one. The classical economic textbooks view financial markets as a facilitator of economic growth. The effectiveness of the distribution of financial resources to the most efficient investments is supposed to guarantee the growth of both the capital market and the real economy. However, the financial markets are also prone to creating financial bubbles, which, if long-lasting, could effectively divert the funds from the real economy. The secondary market of financial instruments does not bring new funds to the real sector.

Moreover, suppose the price inflation on the secondary market brings higher capital revenues than markets of goods and services. In that case, free funds will more likely be invested in financial markets

than in real ones. The disadvantage is that the lives of financial bubbles are usually not long. The bubble burst when buyers lose confidence in investment instruments or the system starts to lack liquidity. However, the first aspect is relative to the other types of investments. If other possibilities to invest are even worse (the real economy does not grow), the investors like to stay with their financial investments. Thus, there is another loop when people investing in secondary financial markets take the money from consumption and investments in the real economy, thus making it unprofitable to invest there. The other factor (the eventual lack of liquidity) could be reduced mainly by the loose monetary policy of the central bank, which, in the hope to resurrect the real sector, prints new money. Instead of creating high inflation on the real market, this new money goes directly to financial markets, making the monetary policy miss the original goal (resurrection of the real economy) and avoiding the biggest problem of printing money, i.e., inflation on the markets of good and services.

To sum it up, from an expenditures point of view, an increase in income inequality in the case of a closed economy with no intertemporal money transfer (loans) leads to a decrease of next period consumption and direct investment to the real sector. However, investments in financial markets are likely to grow. However, these investments do not provide the real sector with new investment funds, but rather help to increase the prices of existing assets on financial markets and create financial bubbles, if they are not directed to purchasing the emissions of new stocks or bonds, but rather to repurchase the existing ones. Figure 1 illustrates this process.
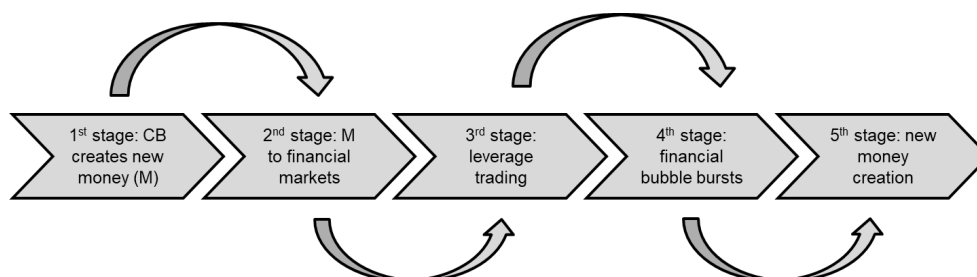

Figure 1. Monetary creation cycle mechanisms in the financial and banking sector
Sources: developed by the authors.

Results. In the case of the open economy, allowed loans, and presented government expenditures, there are three major ways on how to ensure GDP growth follow from the formula 1 (see (1) above):
- increased export;
- increased loans to the domestic or foreign population;
- increased government expenditures.

However, most of these methods are short-term, yet they are employed by developed economies worldwide. The first idea to boost demand is increasing export. Here the formula for aggregate demand would look like the following (I do not take into account the government expenditures yet as the special section will be devoted to the role of the government):

$$GDP = C + I + X \qquad (6)$$

It stands to note that China vastly practiced this idea during the last 30 years. The government re-oriented its external economic policy from the Soviet Union to the United States, which offered a large market for Chinese products. However, this approach requires significant exchange rate regulation. Notably, if left floating, the unbalanced current account is likely to lead to the appreciation of Chinese

currency, eliminating the comparative advantage of cheap exports. One cannot depreciate the local currency forever, as the country gathers a significant amount of foreign currency (or foreign debt obligations denominated in foreign currency). If depreciation is conducted via loose monetary policy, the country is likely to run significant inflation. Thus, it will wipe out the benefits of cheap exports.

Similarly, facing the decreasing demand for their products after the last economic crisis in 2007-2009, many European countries adopted artificial depreciation policy of their currencies to support export. Suppose both of the countries involved in international trade depreciate their currencies by the same amounts. In that case, the exchange rate stays the same, and the countries do not receive the expected benefits but run the costs of extended risk of inflation. The whole idea of depreciation of one's currency may lead to «currency wars», which imply that the short-term benefits of a deprecating country will be wiped out by the tendency of the importing country to reply with depreciation as well. Therefore, all in all, the depreciation of one's currency does not solve the long-term lack of demand. Another, more stable way to boost exports is to look for new markets outside the traditional exporting zones. Undoubtedly, Soviet Union was arguably the biggest market that became open to international exports during the last 30 years and gave the current extent of globalization. However, after the fall of the Soviet Union, there seem to be no new markets with sufficient purchasing power and immediately available for exports. The significant population in India and parts of the African continent, who would like to have the products produced in other countries in most cases, does not possess sufficient purchasing power. Therefore, they cannot efficiently boost the demand for external effects unless given loans to do that, which would be again a short-term solution, though practiced.

Loans themselves represent the next, very obvious but rather short-term, way to boost aggregate demand. The beauty of the loans to the general public in boosting consumption is that they can be directed to the part of the public which was denoted in the formulas 3, 4, and 5 as employees, and who, supposedly would use them to increase consumption of «real» goods and services such as housing or education rather than investing the money to the virtual financial projects. However, part of the employees would also do that. In the case of the «employers» group, many (but not all) of them have sufficient resources for consumption, and they might invest the extra loans to the real economy investment projects (like purchasing physical capital) or virtual investment projects (like purchasing stocks, bonds and speculating on financial markets). In other words, this money could be effectively directed to the real needs of the people if they still have a good credit history, stable jobs, and are willing to borrow. Under the current rule of fractional-reserve banking and loose monetary policy of the state, the other advantage of the loans in boosting the short-term consumption is abundant money for the loans. Notably, they are created from thin air by both the central and the commercial banks (see multiplication effect of commercial banks in Holman (2011). The general equilibrium economic model system where saving should be equal to investment for the economy to reach equilibrium is far (Krugman et al., 2007; Crosby, 2012). The money available for investment (like housing, or education, the latter is the investment to human capital) is not limited to the amount of savings of the other part of the population, government or from abroad, but sort-term can be simply created. It is also true that the economy is dynamic and may be far from its equilibrium. Thus traditional static general equilibrium models are hardly applicable.

The last but not least way to boost consumption relies on the formerly Keynesian idea to substitute reduced private consumption with the government's expenditures. In this case, the whole equation for GDP will have the following form, which will take into account all the sources of demand:

$$GDP = C + I + G + X \tag{7}$$

However, government expenditures require additional funds, which have to be generated by some other economic sector. Usually, in the market economy, the government rarely owns factors of production.

In general, there are two ways to generate funds for government consumption: to increase taxation or borrow money from other economic subjects. The third possible option is to make the Central bank print new money to finance government expenses is also discussed below. However, nowadays, the third option is not directly applicable to the economies of developed countries as it violated the independence of the central bank on the government. Therefore, it stands to leave it for a separate section. There is also the third way in case the government controls the central bank. It can just print new money. In the new market economy, this way is frowned upon, as supposedly it would cause inflation in the short run and, if practiced consistently, hyperinflation in the long run. The historical examples are former Soviet Union countries in the 1990th, or the countries like Venezuela, where the government printed new money to finance the expenses, support the conclusion of unavoidable hyperinflation. Historically, sovereigns tended to finance new wars from the inflated money by reducing the content of gold and silver in coins, thus creating additional money. The outcome was also unavoidable inflation.

Table 1. Pathways of circumventing the effect of decreasing consumption on economic growth

	Poor people category	Rich people category
Savings	$Sp = (1 - \beta p) \times \alpha \times M$	$Sr = (1 - \beta r) \times (1 - \alpha) \times M$
Consumption	$Cp = \beta p \times \alpha \times M$	$Cr = \beta r \times (1 - \alpha) \times M$
Printing new money	$\alpha \times M$	$(1 - \alpha) \times M$

Sources: developed by the authors.

Table 1 shows the pathways how to circumvent the effect of decreasing consumption on economic growth comparing two categories of people (rich and poor), with each category having its own ways of saving, consuming (or investing), and/or losing the savings, such as, for example, in the case of people who accumulate their fortunes quickly but also consume above average and spend them quickly.

Conclusions. To sum up the obtained results, this paper presented the argumentation and simple formalization of arguments for how income inequality may lower aggregate demand, and consequently, the returns of capital in the real sector. The case of no significant technological innovation would lower the production costs. In turn, the developed speculation on financial markets could divert the capital from real sector use to creating financial bubbles. In turn, it would reinforce capital drain. Under these conditions, the success of the attempts of the central banks and the governments to restart the economy via financial injection is contingent upon which group will get the most of newly printed money. If this money is directed to a group denoted in the model as «poor», most of the money would be used for direct consumption. Thus, it would increase the overall aggregate demand for real goods and services. If this money would be given to the group we denoted as «rich» or to the financial sector directly, most of the money will be invested. Under the condition of greater return to capital from financial speculation than real production (due to insufficient demand and no technological breakthrough), most of the new money will accelerate the financial bubbles with little or no effect on the real economy. However, the financial speculations will also prevent inflationary pressures on the markets of real goods and services. The interesting effect occurs when the bubble bursts as it extinguishes a significant amount of wealth and helps to start the whole process anew. However, the effects on the real sector may be disastrous. The other ways to boost aggregate demand for real goods and services initially reduced by income inequality (and many other reasons) concerned increasing export via currency devaluation or increasing indebtedness of the population (or the state). Historically there are examples of employing both. The classic example of the export-oriented increase of aggregate demand is China's economic development over the last 30 years after the fall of the Soviet Union. The example of boosting the aggregate demand via credit-financed consumption is the development of the USA and many other developed countries where indebtedness of the population and the state increased many times.

All the ways discussed above are historically applicable, but inherently temporary and potentially inflationary or causing substantial bubbles which eventually burst, causing extreme economic turmoil. The only permanent possible way to achieve stable economic development as described by the aggregate demand formula is to reduce income inequality and/or redirect the investment funds from financial speculations to investment to technological development. However, the latter may be more risky and short term, would not bring high returns to capital. Therefore, the more active role of the government is necessary for both approaches.

References

Abakumova, J., & Primierova, O. (2018). Globalization, growth and inequality: testing causality and asymmetries. Ekonomicko-manazerske spektrum, 12(2), 83-95. [Google Scholar] [CrossRef]

Abduvaliev, M., & Bustillo, R. (2020). Impact of remittances on economic growth and poverty reduction amongst CIS countries. Post-Communist Economies, 32(4), 525-546. [Google Scholar] [CrossRef]

Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. European economic review, 40(6), 1203-1228. [Google Scholar] [CrossRef]

Alesina, A., & Rodrik, D. (1994). Distributive politics and economic growth. The quarterly journal of economics, 109(2), 465-490. [Google Scholar] [CrossRef]

Benabou, R. (1996). Inequality and growth. NBER macroeconomics annual, 11, 11-74. [Google Scholar]

Berg, A., Ostry, J. D., Tsangarides, C. G., & Yakhshilikov, Y. (2018). Redistribution, inequality, and growth: new evidence. Journal of Economic Growth, 23(3), 259-305. [Google Scholar] [CrossRef]

Bertola, G. (1993). Factor shares and savings in endogenous growth. The American Economic Review, 1184-1198. Retrieved from [Link]

Crosby, M. (2012). Macroeconomic Policy: Demystifying Monetary and Fiscal Policy. The Economic Record, 88(281), 295-296. [Google Scholar] [CrossRef]

Dogan, E., & Inglesi-Lotz, R. (2020). The impact of economic structure to the environmental Kuznets curve (EKC) hypothesis: evidence from European countries. Environmental Science and Pollution Research, 27(11), 12717-12724. [Google Scholar] [CrossRef]

Gomez-Lopez, M., Viejo, C., & Ortega-Ruiz, R. (2019). Psychological Well-Being during adolescence: Stability and association with romantic relationships. Frontiers in psychology, 10, 1772. [Google Scholar] [CrossRef]

Grundler, K., & Scheuermeyer, P. (2015). Income inequality, economic growth, and the effect of redistribution (No. 95). WEP-Wurzburg Economic Papers. Retrieved from [Link]

Gruzina, Y., Firsova, I., & Strielkowski, W. (2021). Dynamics of Human Capital Development in Economic Development Cycles. Economies, 9(2), 67. [Google Scholar] [CrossRef]

Gunasinghe, C., Selvanathan, E. A., Naranpanawa, A., & Forster, J. (2020). The impact of fiscal shocks on real GDP and income inequality: What do Australian data say?. Journal of Policy Modeling, 42(2), 250-270. [Google Scholar] [CrossRef]

Haini, H. (2020). Spatial spillover effects of public health and education expenditures on economic growth: Evidence from China's provinces. Post-Communist Economies, 32(8), 1111-1128. [Google Scholar] [CrossRef]

Holman, R. (2011). Ekonomie, CH Beck. Retrieved from [Link]

Huh, H. S., & Park, C. Y. (2021). A new index of globalisation: Measuring impacts of integration on economic growth and income inequality. The World Economy, 44(2), 409-443. [Google Scholar] [CrossRef]

Jafarzadeh, E., & Shuquan, H. (2019). The Impact of Income Inequality on the Economic Growth of Iran: An Empirical Analysis. Business Ethics and Leadership, 3(2), 53-62. [Google Scholar] [CrossRef]

Kalecki, M. (1942). Theory of Profits. Economic Journal, 52, 258–267. [CrossRef]

Kalecki, M. (1971). Class struggle and the distribution of national income. Kyklos, 24(1), 1-9. [Google Scholar] [CrossRef]

Keefer, P., & Knack, S. (2002). Polarization, politics and property rights: Links between inequality and growth. Public choice, 111(1), 127-154. [Google Scholar] [CrossRef]

Keynes, J. M. (1936). The general theory of employment, interest, and money. Springer. [Google Scholar]

Khoshnava, S. M., Rostami, R., Zin, R. M., Štreimikienė, D., Yousefpour, A., Strielkowski, W., & Mardani, A. (2019). Aligning the criteria of green economy (GE) and sustainable development goals (SDGs) to implement sustainable development. Sustainability, 11(17), 4615. [Google Scholar] [CrossRef]

Kollamparambil, U. (2020). Happiness, happiness inequality and income dynamics in South Africa. Journal of Happiness Studies, 21(1), 201-222. [Google Scholar] [CrossRef]

Krugman, P., Wells, R., & Graddy, K. (2007). Economics, European Edition. Macmillan. Retrieved from [Link]

Kuznets, S. (1955). Economic Growth and Income Inequality. The American Economic, 45 (1), 1–28. Retrieved from [Link]

Liao, T. F. (2021). Income Inequality, Social Comparison, and Happiness in the United States. Socius, 7. [Google Scholar] [CrossRef]

Machacek, V., Strielkowski, W., Shishkin, A., & Bilan, Y. (2015). Determinants of innovations and competitiveness in the European Union. Marketing and Management of Innovations, 4, 224-232. Retrieved from [Link]

Matallah, S. (2020). Public service delivery, corruption and inequality: key factors driving migration from North Africa to the developed world. Journal of Social and Economic Development, 22, 328-354. [Google Scholar] [CrossRef]

Mikucka, M., Sarracino, F., & Dubrow, J. K. (2017). When does economic growth improve life satisfaction? Multilevel analysis of the roles of social trust and income inequality in 46 countries, 1981–2012. World Development, 93, 447-459. [Google Scholar] [CrossRef]

Ota, T. (2017). Economic growth, income inequality and environment: assessing the applicability of the Kuznets hypotheses to Asia. Palgrave Communications, 3(1), 1-23. [Google Scholar] [CrossRef]

Palma, J. G. (2019). Behind the Seven Veils of Inequality. What if it's all about the Struggle within just One Half of the Population over just One Half of the National Income?. Development and Change, 50(5), 1133-1213. [Google Scholar] [CrossRef]

Perotti, R. (1996). Growth, income distribution, and democracy: What the data say. Journal of Economic growth, 1(2), 149-187. [Google Scholar] [CrossRef]

Persson, T., & Tabellini, G. (1991). Is inequality harmful for growth? Theory and evidence (No. w3599). National Bureau of Economic Research. [Google Scholar] [CrossRef]

Philips, A. Q., Souza, F. D., & Whitten, G. D. (2020). Globalization and comparative compositional inequality. Political Science Research and Methods, 8(3), 509-525. [CrossRef]

Prawoto, N., & Basuki, A. T. (2020). The influence of macroeconomic variables, processing industry, and education services on economic growth in Indonesia. Entrepreneurship and Sustainability Issues, 8(1), 1029. [Google Scholar] [CrossRef]

Reynolds, A. J., Ou, S. R., Mondi, C. F., & Giovanelli, A. (2019). Reducing poverty and inequality through preschool-to-third-grade prevention services. American Psychologist, 74(6), 653. [Google Scholar] [CrossRef]

Richters, O., & Siemoneit, A. (2019). Growth imperatives: substantiating a contested concept. Structural Change and Economic Dynamics, 51, 126-137. [Google Scholar] [CrossRef]

Rowthorn, R. (1982). Demand, real wages and economic growth. Studi Economici, 18(1), 53–54. Retrieved from [Link]

Schettino, F., Gabriele, A., & Khan, H. A. (2021). Polarization and the middle class in China: A non-parametric evaluation using CHNS and CHIP data. Structural Change and Economic Dynamics, 57, 251-264. [Google Scholar] [CrossRef]

Schneider, D., & Harknett, K. (2019). Consequences of routine work-schedule instability for worker health and well-being. American Sociological Review, 84(1), 82-114. [Google Scholar] [CrossRef]

Shahrier, S., Kotani, K., & Saijo, T. (2017). Intergenerational sustainability dilemma and the degree of capitalism in societies: a field experiment (SPECIAL FEATURE: Sustainability Science and Implementing the Sustainable Development Goals). Sustainability science: official journal of the Integrated Research System for Sustainability Science, 12(6), 957-967. [Google Scholar] [CrossRef]

Strielkowski, W., & Höschle, F. (2016). Evidence for economic convergence in the EU: The analysis of past EU enlargements. Technological and Economic Development of Economy, 22(4), 617-630. [Google Scholar] [CrossRef]

Szczepaniak, M., & Geise, A. (2021). Examining the relationships between income inequalities and different dimensions of well-being in selected Central Eastern European (CEE) countries. Plos one, 16(4), e0250469. [Google Scholar] [CrossRef]

Tridico, P., & Paternesi Meloni, W. (2018). Economic growth, welfare models and inequality in the context of globalisation. The Economic and Labour Relations Review, 29(1), 118-139. [Google Scholar] [CrossRef]

Vasconcelos, V. V. (2021). Social justice and sustainable regional development: Reflections on discourse and practice in public policies and public budget. Insights into Regional Development, 3(1), 10-28. [Google Scholar] [CrossRef]

Wisman, J. D. (2017). Politics, not economics, ultimately drives inequality. Challenge, 60(4), 347-367. [Google Scholar] [CrossRef]

Zhou, P., Chen, F., Wang, W., Song, P., & Zhu, C. (2019). Does the Development of Information and Communication Technology and Transportation Infrastructure Affect China's Educational Inequality?. Sustainability, 11(9), 2535. [Google Scholar] [CrossRef]

Інна Чабелкова, Ph.D., Чеський університет наук про життя, Чехія

Мануела Тваронавічіене, Вільнюський технічний університет імені Гедиміна, Литва; Даугавпілський університет, Латвія

Вадим Стріелковскі, Ph.D., Університет Каліфорнії в Берклі, США; Чеський університет наук про життя, Чехія

Інновації для сталого економічного розвитку: вплив нерівності доходів

Статтю присвячено дослідженню впливу нерівності доходів на стале економічне зростання країни. Авторами визначено, що одним із суттєвих наслідків нерівності доходів є скорочення обсягів споживання, адже споживачі із низьким рівнем доходу не спроможні забезпечити достатній рівень попиту. Таким чином, виникає проблема перевиробництва, яка може спричинити економічну кризу в країні. У статті наголошено, що скорочення соціальної та економічної нерівності є суттєвим фактором досягнення сталого економічного зростання. При цьому зменшення нерівності всередині країн та між країнами є однією із цілей сталого розвитку 2030 року. У статті оцінено ступінь економічної нерівності при розподілі доходу між домогосподарствами країн від 1% до 99%. Встановлено, що збільшення нерівності спричиняє зростання людського капіталу у країнах із низьким рівнем доходів, та зменшення у країнах із середнім та високим рівнем доходів. За результатами дослідження встановлено, що для забезпечення добробуту населення у країнах, що розвиваються, необхідним є скорочення нерівності. Авторами наголошено, що це може бути досягнуто за рахунок розвитку людського капіталу, підвищення кваліфікації трудових ресурсів, удосконалення політики управління людськими ресурсами та використання фінансових послуг. У статті виокремлено три методи вирішення проблеми скорочення обсягів споживання, а саме: нарощування обсягів експорту, надання позик та додаткова емісія грошей. Однак, жоден із цих методів не є стійким у довгостроковій перспективі. Таким чином, необхідним є розроблення та впровадження нових інноваційних механізмів управління економічним розвитком країни з урахуванням прийнятих індикативних цілей сталого розвитку 2030 р.

Ключові слова: нерівність доходів, інновації, економічне зростання, стале управління.