Milić Beran, I. (2025). Psychological capital as an intangible driver of economic growth, *SCIENCE International journal, 4*(4), 39-44.
doi: 10.35120/sciencej040439m UDK: [005.962.11:159.923.3]:330.35

PSYCHOLOGICAL CAPITAL AS AN INTANGIBLE DRIVER OF ECONOMIC GROWTH

Ivona Milić Beran[1*]

[1] University of Dubrovnik, Faculty of Maritime Studies, Croatia, e-mail: ivona.milic-beran@unidu.hr

Abstract: The new social and economic paradigm, organised around emerging information technologies, represents profound organizational, political, economic, social and cultural changes at various levels – from individual companies to entire countries, from specific regions to global transformation. Economic development under these conditions cannot be analyzed solely through tangible and measurable inputs such as labor, capital and technology. It is now essential to consider the impact of intangible resources, including human, intellectual, social, moral and psychological capital. Economic growth, educational attainment, business and entrepreneurship, social behavior and inequalities, as well as earnings, are economic aspects of psychological capital. These aspects are key indicators of its significance in both individual personal development and the economic development of society. Despite its well-documented influence on organizational outcomes, the macroeconomic implications of psychological capital remain largely unexplored. This paper addresses this gap by developing a conceptual model linking psychological capital with human capital, social capital, productivity, unemployment and economic growth. The impact of psychological capital on economic growth is demonstrated using the system dynamics method, employing qualitative cause-and-effect diagrams to highlight key variables and feedback mechanisms. The conclusion is that economies with higher levels of psychological capital demonstrate greater productivity, lower unemployment, increased human and social capital and consequently, higher economic growth. The research underscores the need for future empirical validation through system dynamics modelling and simulation.

Keywords: *psychological capital, human capital, economic growth, system dynamic.*
Field: Social sciences (economy)

1. INTRODUCTION

The subject of this paper is qualitative system dynamic modelling of the effects of psychological capital on economic growth. The increasing complexity of production systems and the shift towards knowledge and innovation-based economies underscore the growing importance of intangible assets (Corrado, Crouzet, & Jäger, 2022). In the context of technological disruption and global uncertainty, resources rooted in human psychology have gained renewed attention (Helliwell, Layard and Sachs, 2021). Among these, psychological capital comprising self-efficacy, optimism, hope and resilience has become a crucial determinant of individual and collective performance (Luthans, Youssef-Morgan, & Avolio, 2015).

The objective of this paper is to develop a conceptual model linking psychological capital to economic growth through its interactions with human capital, social capital, productivity, and employment. Using the system dynamics approach (Forrester, 1961), the model identifies key variables and feedback mechanisms that explain how psychological capital contributes to long-term economic development.

Traditional economic models emphasize tangible inputs, but such frameworks do not capture the qualitative aspects of productivity and human well-being essential for sustainable growth. The rise of information societies and digital transformation requires a broader conceptualization of capital, one that incorporates psychological resources into macroeconomic analysis (Bagna et al., 2024; Gumbau-Albert et al., 2022).

Numerous studies have shown that psychological capital positively influences employee motivation, innovation, and performance at the organizational level (Carter & Youssef-Morgan, 2022; Xu et al., 2022) but the macroeconomic implications of psychological capital remain largely unexplored (Tran et al., 2022). Understanding this relationship is critical for explaining how psychological resources, operating through human behavior and cognition, aggregate into national economic outcomes and resilience (Knapp & Wong, 2020). Recent contributions to the "mental wealth" paradigm (Tran, 2022; Bloom et al., 2024) highlight how collective psychological and social resources contribute to national prosperity. These frameworks argue that psychological wellbeing, trust and optimism should be treated as productive assets and as foundations of social cohesion and economic performance. Empirical growth models rarely incorporate such psychological constructs, leaving a significant theoretical and empirical gap between micro-level

*Corresponding author: ivona.milic-beran@unidu.hr

psychology and macro-level economics.

This paper addresses this gap by developing a conceptual model that links psychological capital to key macroeconomic outcomes: unemployment, productivity and economic growth, through its interaction with human and social capital. In doing so, it integrates perspectives from human capital theory (Becker, 1964), social capital theory (Putnam, 1993), and the resource-based view (RBV) (Barney, 1991), positioning psychological capital as an intangible yet strategic resource that enhances economic performance.

2. METHODOLOGY

In this paper, the system dynamics approach was used to develop a conceptual model of the influence of psychological capital on economic development. System dynamics is suitable for analysing complex, nonlinear systems, such as economic growth, characterised by interdependencies and feedback loops (Forrester, 1961). A causal loop diagram is a simple graphical representation that shows causal relationships between multiple variables, with arrows indicating the direction from cause to effect. It emphasises the feedback structure of a system and represents a qualitative model.

A structured literature review was also conducted to identify empirical and theoretical links between the key variables for the model: psychological capital, economic growth, human and social capital, unemployment and productivity. Human capital theory (Becker, 1964), social capital theory (Putnam, 1993) and psychological capital theory (Luthans et al., 2015) were integrated to frame the conceptual linkages. Psychological capital acts as an amplifier of both human and social capital by enhancing motivation, trust and adaptive behavior (Xu et al., 2022). The study aims to construct a system dynamic qualitative model, which could later be formalized using stock and flow diagrams and simulated with a quantitative system dynamics models.

3. LITERATURE REVIEW

The term psychological capital was defined by Goldsmith and colleagues as “those personality traits that contribute to an individual’s productivity, including personal perception, attitudes towards work, moral orientation, and general worldview.” The definition by researchers (Luthans et all, 2007.) is widely accepted in the literature, according to it, psychological capital is a positive psychological state in an individual’s development, characterised by:

- self-confidence – the willingness to invest the necessary effort to succeed in overcoming challenging tasks,
- optimism – creating a positive outlook about achieving success in the present and future,
- hope – perseverance towards goals and when necessary, the willingness to change the path towards achieving the goal,
- adaptability – surviving and maintaining balance when burdened by problems and adversity, in order to achieve success.

The theory of human capital (Becker, 1964) considers education, experience and skills as investments that increase the productivity and earnings of workers. Over the decades, the accumulation of human capital has been identified as a key determinant of economic growth (Romer, 1990; Lucas, 1988). However, to use human capital, the individual’s readiness, motivation, and ability are necessary, indicating that psychological capital is a prerequisite for the creation, accumulation and use of human capital. Psychological capital can be considered meta-capital, as it increases the efficiency of investment in human capital.

Empirical research (Sweetman & Luthans, 2010) shows that employees with higher psychological capital are more open to learning, more proactive in developing skills and more adaptable to technological changes (Zhao & Hou, 2021). Regions with higher levels of well-being, self-confidence and optimism demonstrate stronger innovation capacity and economic dynamism those facts show importance of psychological capital at societal level (Helliwell & Putnam, 2004; Tran, 2022).

Social capital theory emphasises networks, trust and norms that facilitate cooperation and collective action (Coleman, 1988; Putnam, 1993). High social capital improves the diffusion of information, reduces transactional costs, and encourages civic engagement, all this factors are strongly associated with economic development (Knack & Keefer, 1997). Social capital, characterised by trust, reciprocity and cooperation, depends on individual and collective psychological orientations, particularly optimism and resilience. Psychological capital forms the foundation of social capital. Optimistic individuals are more likely to invest in social relationships and maintain trust. In times of crisis and uncertainty, confident and resilient individuals help sustain social networks and promote civic engagement in problem-solving.

The results of an empirical study (Helliwell & Huang, 2010) indicate a positive feedback loop between psychological and social capital. Economies with strong social and psychological capital demonstrate higher institutional quality, greater diffusion of innovation, and increased resilience to crises.

The interaction between psychological and social capital can determine a society's ability to coordinate collective economic behaviour. In a society where trust prevails among individuals, as well as trust in institutions, there is a more optimistic outlook for the future, social transaction costs are reduced and productivity increases. Empirical studies (Chen et al., 2021) analysing the impact of team psychological capital on innovation performance has shown that psychological capital correlates with greater number of innovations.

Psychological capital affects both employment dynamics and productivity. Researchers (Larson and Luthans, 2006; Snyder et al., 2002) have found that individuals with high levels of hope and self-efficacy persist in job searches, achieve faster re-employment after dismissal and show greater adaptability in unstable labor markets, reducing unemployment costs and enabling more effective reintegration.

Psychological capital increases labour market flexibility, a key determinant of macroeconomic stability. Workers with higher psychological capital adapt to changes more readily and are more willing to undertake retraining. At the aggregate level, these micro-level behaviours lead to macro labour market outcomes.

Recent interdisciplinary research suggests broadening the definition of national wealth to include mental and social assets, introducing the concept of "mental wealth" (Tran, 2022; Bloom et al., 2024). This framework integrates mental health, well-being, and psychological resources as key determinants of sustainable prosperity.

Countries with higher levels of well-being and optimism tend to recover more quickly from crises, exhibit higher rates of entrepreneurship, and possess stronger innovation systems (Helliwell et al., 2021). Psychological capital therefore contributes to what may be termed economic resilience – the ability of an economy to maintain and restore productive activity aftershocks.

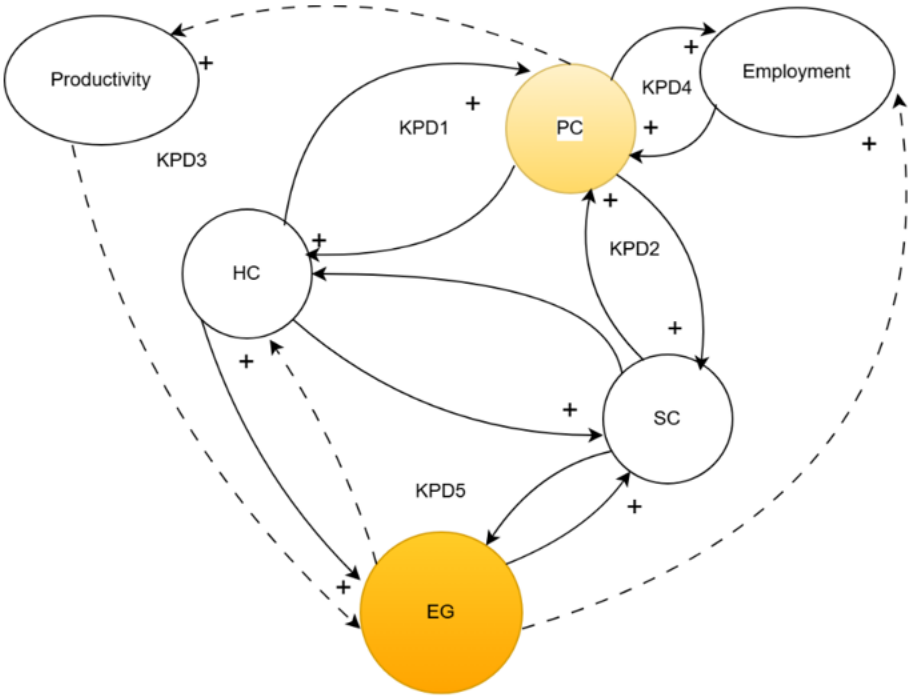
However, the empirical integration of psychological capital into macroeconomic models remains limited. Standard growth frameworks (Solow, 1956; Romer, 1990) include human capital and technological progress but omit motivational and affective factors. This study proposes that psychological capital serves as an intangible driver of growth, increasing the returns to human and social capital and strengthening adaptive capacities in complex economic systems.

4. RESULTS

Based on the analysis of parameters influencing psychological capital and interaction of social, psychological and human capital, its structural model is designed (Figure 1) The basic variables in this model are: productivity, employment, human capital (HC), social capital (SC), economic growth (EG) and psychological capital (PC).

Psychological capital plays an important role in increasing the efficiency of human capital, social capital and improving economic performance. The system dynamics model integrates both economic variables and the perceived psychological capital of the state. The economic variables are employment and productivity.

Figure 1. Psychological capital structural diagram



Source: Author's own

The structural diagram of psychological capital shows five feedback loops through which psychological capital influences economic growth.

Feedback loop KPD1 includes a link between the psychological capital and human capital. The link between psychological capital and social kapital is described by feedback loop KPD2. Feedback loop KPD3 includes lincks between psychological capital, productivity, ekonomic growth and human capital (PC – productivity – EG – HC – PC). Feedback loop KPD4 includes links between the psychological capital and employment. Feedback loop KPD5 comprises links between psychological capital, social capital, human capital, economic growth and employment (PC – SC – HC – GR – employment – PC). All included links in this five feedback loops are positive, meaning that loops have a global positive character. As the psychological capital increases, values of all include variables increase as well.

Higher psychological capital enhances motivation, adaptability and learning persistence, which strengthen human capital and, in turn, reinforce psychological capital through increased self-efficacy and competence (Xu et al., 2022).

Positive psychological states foster cooperation and civic trust, enhancing social capital and collective productivity (Putnam, 1993; Tran et al., 2022).

Individuals with higher psychological capital exhibit greater creativity and engagement, increasing organizational productivity (Carter & Youssef-Morgan, 2022; Luthans et al., 2015).

Thus, economies with higher average levels of psychological capital display greater adaptability, lower unemployment and higher long-term growth potential (Gumbau-Albert et al., 2022; Bagna et al., 2024).

All feedback loops in the system dynamics model are positive, meaning they have a reinforcing effect. Greater psychological capital increases productivity and employment, which in turn increases economic growth, resulting in further increases in psychological capital.

5. DISCUSSIONS

This conceptual framework expands traditional growth theory by introducing psychological capital as a fourth form of intangible capital, complementing human, social and intellectual capital (Corrado et al., 2022). It demonstrates that psychological capital not only contributes to firm-level performance but also exerts macroeconomic effects through productivity and labor market channels.

The theoretical implications of research lie in the fact that the inclusion of psychological capital in growth models enriches behavioral economics, integrating emotional and cognitive factors that influence

economic decision-making (Knapp & Wong, 2020). It also aligns with the "mental wealth" paradigm, which treats collective psychological assets as national productive resources (Tran et al., 2022).

Economic policy should extend beyond education and skills to include psychological resource development, such as training programs that cultivate optimism, resilience and self-efficacy (Carter & Youssef-Morgan, 2022). Empirical validation is the next step. Future research should operationalize national psychological capital indices and simulate the proposed system using real-world data. Despite being conceptual, this model lays the groundwork for empirical exploration of the psychological foundations of economic growth that is a domain largely overlooked in macroeconomic theory.

6. CONCLUSIONS

Psychological capital is a core intangible asset with significant implications for economic development. It serves as an intangible driver of growth, increasing the returns to human and social capital and strengthening adaptive capacities in economic systems.

This paper presents the complexity of the influence of psychological capital on the economic growth. The structural diagram of psychological capital provides a graphical representation of the interaction of individual factors under direct and indirect influence. This paper demonstrates that higher levels of psychological capital increase productivity, increase employment and enhanced human and social capital, resulting in stronger and more resilient economic growth.

The impact of social capital on economic growth is a topic that undoubtedly can and must be discussed further. The foundations of sustainable economic development are increasingly intangible resources, among which psychological capital plays an important role. Countries that invest in developing psychological capital through education, workplace culture and public policy will be better equipped to respond to the challenges of the global economy.

REFERENCES

Bagna, E., Gumbau-Albert, M., & Corrado, C. (2024). Intangibles and economic resilience: Measuring mental and social assets. Journal of Economic Perspectives, 38(1), 45–68.
Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.
Bloom, D. E., Tran, T. D., & Coyle, D. (2024). The mental wealth of nations: Integrating well-being into economic policy. Oxford Economic Papers, 76(3), 401–426.
Carter, M. Z., & Youssef-Morgan, C. M. (2022). Positive leadership and psychological capital: Pathways to organizational performance. Journal of Leadership & Organizational Studies, 29(2), 118–134.
Chen, Y., Li, W., & Zhao, H. (2021). Team psychological capital and innovation performance: Evidence from Chinese startups. Technological Forecasting and Social Change, 168, 120797.
Coleman, J. S. (1988). Social capital in the creation of human capital. American Journal of Sociology, 94, S95–S120.
Corrado, C., Crouzet, N., & Jäger, K. (2022). Measuring intangible capital and its contribution to economic growth. Review of Income and Wealth, 68(1), 1–26.
Diener, E., Oishi, S., & Tay, L. (2017). Advances in subjective well-being research. Nature Human Behaviour, 1(5), 253–260.
Forrester, J. W. (1961). Industrial dynamics. MIT Press.
Graham, C., & Pettinato, S. (2002). Happiness and hardship: Opportunity and insecurity in new market economies. Brookings Institution Press.
Gumbau-Albert, M., Corrado, C., & Jäger, K. (2022). Intangible investment and growth resilience in the EU. Structural Change and Economic Dynamics, 61, 1–14.
Helliwell, J. F., Layard, R., & Sachs, J. (2021). World happiness report 2021. Sustainable Development Solutions Network.
Helliwell, J. F., & Huang, H. (2010). How's the job? Well-being and social capital in the workplace. Industrial and Labor Relations Review, 63(2), 205–227.
Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. Philosophical Transactions of the Royal Society B: Biological Sciences, 359(1449), 1435–1446.
Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. Quarterly Journal of Economics, 112(4), 1251–1288.
Knapp, M., & Wong, M. (2020). Behavioral economics and mental health: The role of psychological capital. Journal of Behavioral Economics for Policy, 4(1), 9–17.
Larson, M., & Luthans, F. (2006). Potential added value of psychological capital in predicting work attitudes. Journal of Leadership & Organizational Studies, 13(2), 45–62.
Lucas, R. E. (1988). On the mechanics of economic development. Journal of Monetary Economics, 22(1), 3–42.
Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). Psychological capital and beyond. Oxford University Press.
Putnam, R. D. (1993). Making democracy work: Civic traditions in modern Italy. Princeton University Press.
Romer, P. M. (1990). Endogenous technological change. Journal of Political Economy, 98(5), S71–S102.
Snyder, C. R., Irving, L. M., & Anderson, J. R. (2002). Hope and health. In C. R. Snyder & D. R. Forsyth (Eds.), Handbook of social and clinical psychology (pp. 285–305). Pergamon Press.

Sweetman, D., & Luthans, F. (2010). The power of positive psychology: Psychological capital and work engagement. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 54–68). Psychology Press.

Tran, T. D. (2022). The mental wealth of nations: Measuring and managing psychological capital for sustainable development. Journal of Economic Behavior & Organization, 200, 1–15.

Tran, T. D., Bloom, D. E., & Coyle, D. (2022). The mental wealth framework: Integrating psychological and social capital into national accounts. Futures, 136, 102905.

Xu, L., Zhao, Y., & Hou, J. (2022). Psychological capital and employee performance: The mediating role of job engagement. Frontiers in Psychology, 13, 819872.

Zhao, Y., & Hou, J. (2021). Psychological capital and adaptability in technological change: Evidence from the manufacturing sector. Industrial Management & Data Systems, 121(7), 1569–1585.