Chapter 8.

ECONOMIC PRECONDITIONS FOR THE MODERNISATION OF INSURANCE

The modernisation of insurance is a complex and multidimensional process that includes technological transformation, improvement in risk assessment and prediction, increased cost efficiency, customisation of insurance products and services to meet contemporary customer needs, as well as enhancement of the regulatory framework. This process is driven by changes in the economic, social, and natural environment and is enabled by technological innovations and regulatory reforms. Key economic factors that encourage the modernisation of insurance include: the growth of real income, increased propensity to save, higher returns on insurance premiums, long-term macroeconomic stability, institutional improvements, and accelerated technological development. These factors contribute to creating a stimulating environment for the modernisation of the insurance sector. It is important to emphasise that modernisation is closely linked to the development of insurance. Namely, the factors that drive the growth and expansion of insurance simultaneously influence its modernisation, thereby ensuring greater competitiveness, better customer protection, and a more efficient response to contemporary market challenges.

The advancement of the economy increases the real value of income and assets, thereby enhancing both the capacity and the need for insurance services**.** Growth in real income above the subsistence minimum creates room for an increase in all forms of long-term savings, including insurance services. As the economy grows, the real value of average income reaches a level at which the income elasticity of demand for insurance services exceeds 1. According to the World Bank classification, Serbia is at the upper limit of the middle-income countries, which implies that the average income of citizens falls within the range where the income elasticity of demand for insurance is greater than 1. Similarly, the growth in the real value of assets per capita increases demand for insurance services. The propensity to save, including investment in insurance, increases with rising income but also depends on a number of other factors, such as the return on savings, macroeconomic stability, the quality of institutions, and the population's value system. An increase in returns on insurance premiums has some influence on the willingness to purchase insurance, although empirical research suggests that this is not a decisive factor in the growth of insurance. The underdevelopment of Serbia's financial market directs insurance companies toward investments in government securities and other low-yielding assets. Therefore, expanding

investment opportunities into higher-yielding assets would stimulate the growth and modernisation of the insurance sector. Sustained macroeconomic stability—primarily low and stable inflation, along with relative exchange rate stability—is essential for insurance, as a form of long-term savings, to successfully transfer income from the present to the future and preserve its real value. Over the past two and a half decades, Serbia has made progress in establishing macroeconomic stability, but strong memories of prolonged high inflation and two episodes of hyperinflation still deter people from long-term saving and reduce demand for insurance services.

Institutional improvement involves enhancing the quality of legislation and ensuring its consistent and efficient implementation**.** Serbia ranks 93rd in the world in terms of regulatory quality, and 104th in terms of the rule of law, that is, consistency in the application of regulations—an extremely poor position for a European country. Therefore, in order to achieve economic and social progress, as well as to develop and modernise the insurance sector, it is essential to improve the quality of regulations and ensure their consistent enforcement. In addition to laws and regulations, economic behaviour is significantly influenced by customs, traditions, and the value system of citizens. From the perspective of insurance, it is relevant that Serbian citizens predominantly exhibit short-term orientation, which negatively affects their willingness to engage in long-term saving, including investment in insurance. This short-term orientation is a consequence of historical legacy, which includes frequent wars, sanctions, deep internal political divisions and conflicts, violations of property rights, hyperinflation, and other crises, all of which have led people to focus on short-term survival.

A gradual shift toward long-term orientation among citizens requires a prolonged period of social and economic stability, along with economic incentives and public education. Technological advancement, especially in the field of information technology, enables more accurate risk prediction, lower costs, better customisation of insurance products to user needs, and more. Serbia ranks slightly higher in its ability to adopt advanced technologies than in its overall level of development, which indicates that the current state of technology is not an obstacle to the country's economic progress, including the modernisation of the insurance sector.

Social changes such as increased life expectancy and modest public pensions are driving the need for private pensions and life insurance. At the same time, the shift from multigenerational households to nuclear families—consisting of spouses and minor children—reduces the potential for intra-family financial support, further reinforcing the importance of insurance. In terms of demographic characteristics—an ageing population and the predominance of nuclear families—Serbia increasingly resembles developed countries, which should

contribute to growing demand for insurance services. Additionally, improvements in educational attainment and the rising share of the population living in urban areas have a positive effect on the development of the insurance sector. The growth of real income, combined with limited access to certain services in the public healthcare system and the expansion of private healthcare, further boosts the demand for private health insurance.

Climate change is also becoming a significant factor. The increased frequency of extreme weather events, such as floods, storms, and droughts, causes damage to property, disrupts economic activity, and negatively affects human health, thus increasing the need for property, life, and health insurance. According to climate models, Serbia is located in a region of the world that is expected to be disproportionately affected by climate change, which presents a major challenge not only for insurance companies but also for the state and policyholders. The following analysis will focus on the economic, institutional, and technological factors of insurance sector modernisation, while the impact of demographic factors and climate change will not be the subject of further discussion.

1. GROWTH OF REAL INCOME AND INCREASED PROPENSITY TO SAVE

Per capita real income represents a fundamental determinant of the demand for insurance services. Cross-sectional data show that more developed countries have a higher share of insurance premiums in GDP compared to less developed countries. This indicates that, in the long run, insurance services grow faster than GDP, meaning they have an income elasticity of demand greater than 1. Most empirical studies[189] find that the relationship between insurance premiums and real GDP per capita follows an S-curve. This means that the income elasticity of demand varies with changes in real income – at low income levels, elasticity is low; it increases at middle levels of development, and then decreases at high income levels[190]. In studies based on time series using threshold models, it was found that the income elasticity of demand for insurance services is less than 1, but the

[189] Carter, R. L., & Dickinson, G. M. (1992). *Obstacles to the liberalization of trade in insurance*. London: Trade Policy Research Centre, Harvester Wheatsheaf; Enz, R. (2000). The S-curve relation between per-capita income and insurance penetration. *The Geneva Papers on Risk and Insurance-Issues and Practice, 25,* pp. 396-406; Wei, Z., Liu, Y., & Dickinson, G. (2008). The Chinese insurance market: Estimating its long-term growth and size. *The Geneva Papers on Risk and Insurance. Issues and Practice, 33*(3), pp. 489-506.

[190] Lee, C. C., & Chiu, Y. B. (2012). The impact of real income on insurance premiums: Evidence from panel data. *International Review of Economics & Finance, 21*(1), pp. 246-260.

elasticity of demand for life insurance increases with rising income[191]. Based on data covering the period from 1850 to 2020, the relationship between insurance premiums and income is best described by a curve with two peaks, reflecting periods of high income elasticity of demand for insurance services. The first peak corresponds to the late 19th century, when the demand for life insurance increased as a means of protecting families from the financial risk of the premature death of the breadwinner. The second peak refers to the late 20th century, when the demand for insurance increased as a form of long-term saving.

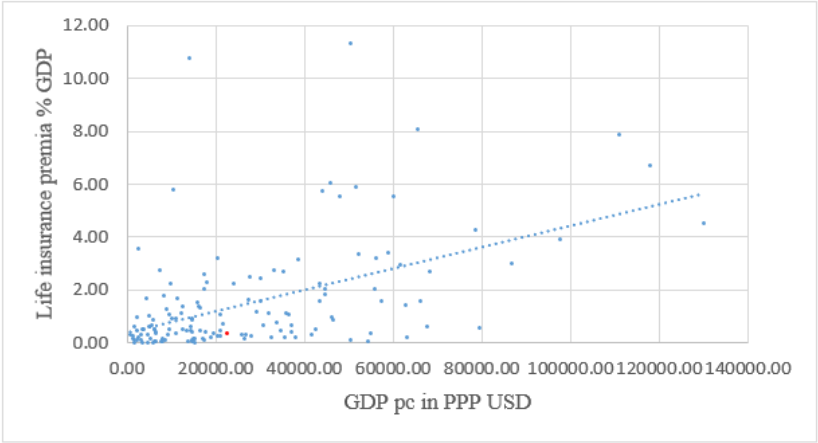
Based on a sample of around 150 countries and using cross-sectional data, Figures 1 and 2 confirm the positive relationship between the share of insurance premiums in GDP and real GDP per capita, measured in purchasing power parity (PPP) dollars. This positive relationship between the share of insurance premiums in GDP and a country's level of development confirms that the income elasticity of demand for insurance services is greater than 1 in the long run. The slope of the line indicating the increase in the share of insurance premiums with rising GDP per capita is not steep, which leads to the conclusion that, on average, insurance premiums grow only slightly faster than GDP in the long run. This finding is consistent with empirical research in which the relationship between insurance premiums and income is described by an S-curve or a curve with peaks, implying that the income elasticity of demand for insurance varies over time but is generally greater than 1 in the long run. However, there are also income levels where the elasticity coefficient is less than 1. The development of life insurance in Serbia, measured by the share of insurance premiums in GDP, is below the level corresponding to Serbia's stage of development (Figure 1), while the development of non-life insurance is above what would be expected for a country at Serbia's level of economic development (Figure 2).

Figures 1 and 2 show that at a given level of economic development, there is a relatively large dispersion in the share of insurance premiums in GDP. This suggests that, in addition to a country's level of economic development, other factors also influence the demand for insurance[192].

[191] Kohl, S., & Römer, M. (2024). Insurance demand: a historical long-run perspective (1850–2020). *The Geneva Papers on Risk and Insurance - Issues and Practice,* pp. 1-24, https://doi.org/10.1057/s41288-024-00339-8

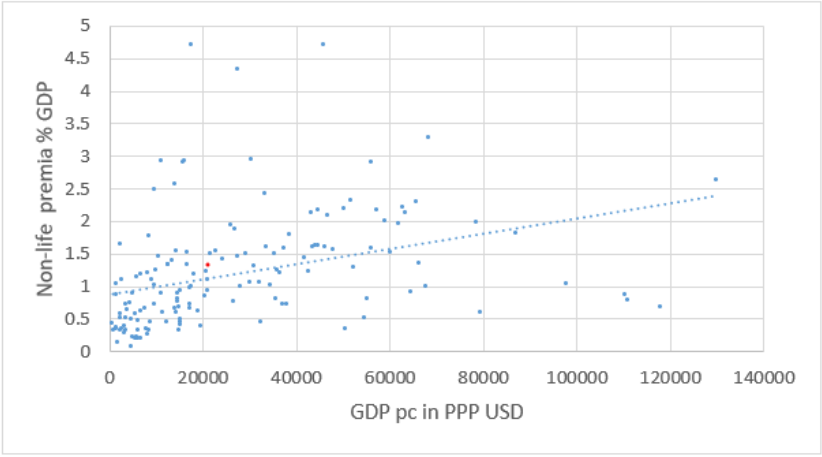
[192] Arsić, M. (2024). Long-term determinants of insurance development in CEE countries. In: *Transformation of the insurance market: Responses to new challenges,* Kočović, J. et al. (eds.), Belgrade: University of Belgrade, Faculty of Economics and Business, pp. 47-76.

Figure 1. Real GDP per capita and life insurance premiums by country, 2018–2020



Source: World Bank Database

Figure 2. Real GDP per capita and non-life insurance premiums by country, 2018–2020



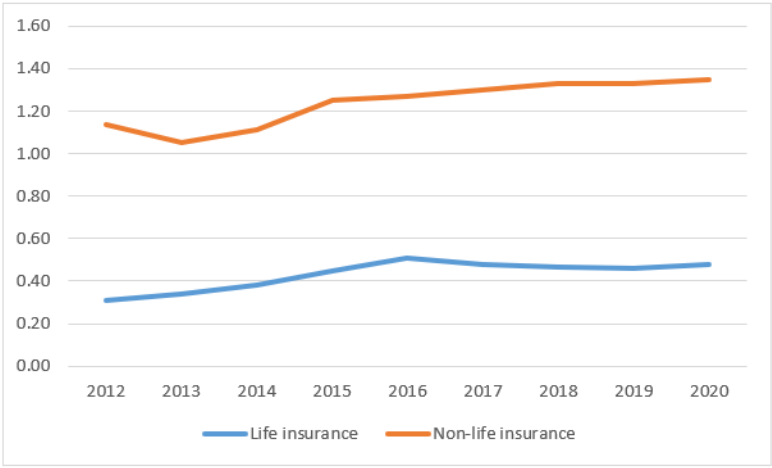
Source: World Bank Database

The low level of development of life insurance in Serbia can largely be attributed to non-economic factors such as the dominant short-term orientation of Serbian citizens, low trust in institutions, and limited public awareness of the benefits of life insurance. Expanding tax incentives could potentially support the development of life insurance, but this effect is unlikely to be strong. This is evidenced by the stagnation of private pension insurance in Serbia despite the existence of tax incentives. For life insurance to grow, an increase in real incomes

in the coming years is essential, along with broader social and economic stability. Additionally, the development of life insurance could be further encouraged through better public education and communication about how life insurance works, its advantages, and related benefits.

The share of life and non-life insurance premiums in Serbia's GDP increased slightly during the period 2012–2020, but it remains significantly lower than in most European countries. Non-life insurance premiums, with the exception of 2013, show a slow but steady increase in their share of GDP, while life insurance premiums have stagnated since 2016 (Figure 3). When analysing the share of insurance premiums in GDP, it is important to note that Serbia's GDP stagnated during the 2012–2016 period and experienced relatively strong growth afterwards. This implies that despite the stagnation of life insurance premiums relative to GDP, their real value has increased since 2016.

Figure 3. Insurance premiums in Serbia as a percentage of GDP (2012–2020)



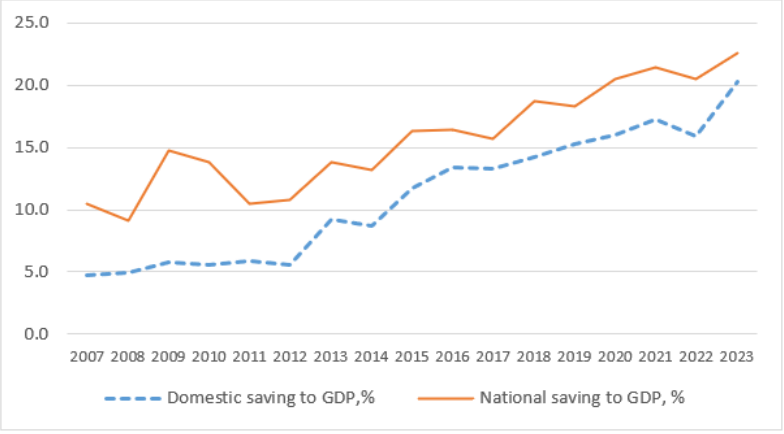
Source: World Bank Database

Insurance represents a form of long-term savings, and as such, the propensity of citizens to engage in insurance is closely linked to their inclination toward saving. Empirical research has shown that by the end of the 20th century, long-term savings became the main driver of insurance development in developed countries[193]. Domestic savings encompass household, corporate, and government savings within a country's territory, and in Serbia, this has historically been at a low level. However, over the past two decades, domestic savings have

[193] Kohl & Römer (2024), op. cit.

increased several times over, currently standing at around 20% of GDP (Figure 4). This growth can be attributed to the rise in real income and the strengthening of macroeconomic stability, particularly the stabilisation of inflation at low levels and the stability of the dinar exchange rate. The significant increase in domestic savings has been driven by the growth in government savings, as the difference between public investments and the fiscal deficit has been positive for the past decade.

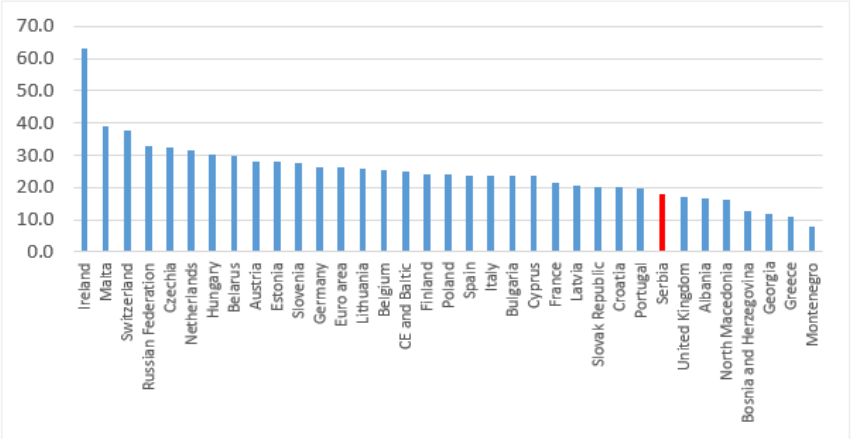
Figure 4. Domestic and national saving as a percentage of GDP in Serbia (2012–2020)



Source: World Bank Database

Although domestic savings in Serbia have increased significantly over the past two decades, Serbia is still in the group of European countries with low savings, which is inadequate for a country that aims to catch up with Central and Western European countries in terms of development. Given that outflows of income from capital to abroad (interest, dividends) are approximately equal to the inflows of income from abroad (remittances, pensions, etc.), and that lower foreign direct investment is expected due to rising business costs in Serbia, financing investments in Serbia will increasingly depend on domestic savings. Therefore, the growth of domestic savings is a condition for maintaining high levels of investment, which is a necessary condition for catching up with Central and Western Europe in terms of development. Based on historical data, domestic savings in Serbia were at a low level throughout most of the 20th century, except in the early decades of socialism when high domestic savings were achieved through compulsory measures.

Figure 5. Domestic savings as a percentage of GDP (2021–2023)



Source: Eurostat

Household savings in all countries represent an important component of total domestic savings. The population, as a sector, is generally a net saver, meaning that its savings are used to finance the economy and the government. In economic theory, there are several theories[194] that explain how decisions about consumption and savings are made at the household level, among which the most influential are: the Life-Cycle Hypothesis[195], the Permanent Income Hypothesis[196], Keynesian Theory[197], Precautionary Saving[198], Ricardian Equivalence[199], and others. These theories differ in their assumptions about how people make decisions regarding savings and consumption, whether they are impulsive or think long-term, whether they can accurately predict future circumstances, how much they consider the well-being of future generations, and so on.

[194] Browning, M., & Annamaria, L. (1996). Household Saving: Micro Theories and Micro Facts. *Journal of Economic Literature, 34*(4), pp. 1797-1855.

[195] Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In: *Post Keynesian economics*, Kurihara, K. K. (ed.), New Brunswick, NJ: Rutgers University Press.

[196] Friedman, M. (1957). *A Theory of the Consumption Function*. Princeton: Princeton University Press.

[197] Keynes, J. M. (1936). *The general theory of employment, interest, and money*. London, UK: Macmillan

[198] Alba, L., Bande, R., & Riveiro, D. (2017). Precautionary Saving: a review of the theory and the evidence. *MPRA Paper*, No. 77511, University Library of Munich

[199] Barro, R. J. (1974). Are Government Bonds Net Wealth? *Journal of Political Economy, 81*, pp. 1095-1117.

The Life-Cycle Hypothesis is the dominant and theoretically best-developed theory of household savings, according to which savings in period t depend on income in period t, the assets the household possesses in period t (the sum of saved income from the past), and expected future income. According to this theory, people are capable of accurately predicting future income, and they perform long-term optimisation of consumption and savings, aiming to maximise consumption over their lifetime while minimising large variations in consumption over time.

Although the Life-Cycle Hypothesis has solid empirical support, there are deviations in people's behaviour from its theoretical predictions. Poor households, whose income is at the level of the subsistence minimum (liquidity-constrained households), are unable to perform dynamic optimization of consumption and savings, even if they wish to. Such households account for 20-40% of the population in developed countries, while their percentage is higher in less developed countries[200]. Additionally, according to the Life-Cycle Hypothesis, households make decisions with the goal of maximizing consumption throughout their lifetime, without considering how much wealth they will leave as an inheritance or how their descendants will live. However, there are arguments that some households are equally concerned about the well-being of their heirs as they are about their own well-being, which leads them to want to leave as much wealth as possible as an inheritance[201]. The existence of liquidity-constrained households negatively affects savings, while the intention of households to leave as much wealth as possible to their heirs increases savings.

The Life-Cycle Hypothesis has relevant predictions regarding household behaviour in decision-making about savings and consumption in terms of life and private pension insurance. According to this theory, individuals are motivated to engage in life insurance programs to protect their families from poverty in the event of premature death, but also to save for old age or major investments, such as purchasing a home or financing children's education. According to this theory, individuals are also motivated to contribute to private pension insurance to prevent a significant decline in living standards when they retire. This motivation is particularly relevant given that the average pension in countries applying the Bismarck model of public pension insurance in Continental Europe typically amounts to 40-50% of average wages in those countries, while in countries that apply the Beveridge system of public pension insurance, average pensions are

[200] Diogo, S. (2022). Liquidity constraints and fiscal multipliers. *MPRA Paper*, No. 112132, University Library of Munich

[201] Bernheim, B. D., Shleifer, A., & Summers, L. H. (1985). The Strategic Bequest Motive. *Journal of Political Economy, 93*(6), pp. 1045-76.

around 25-30% of average wages. Demographic changes, such as the increased number of years people spend as retirees, and the decreasing ability of elderly people to rely on the support of their descendants, further strengthen the need for savings for old age. Although there is evidence that people's needs decrease with age, it is still quite certain that most people whose public pension is their only source of income in old age will face a significant decline in their standard of living. In such circumstances, investing in various forms of long-term savings (life and pension insurance, investments in real estate and securities, bank savings, etc.) represents a way for individuals and households to prevent a significant decline in their standard of living after retirement.

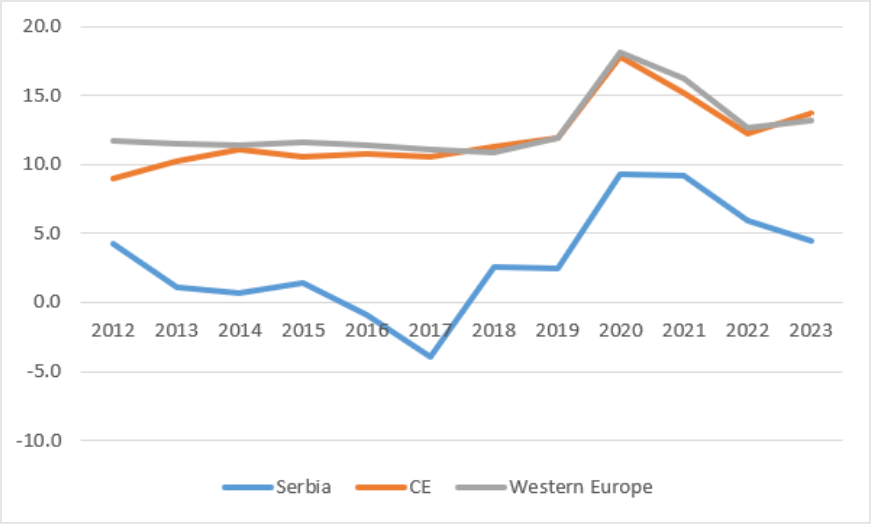
Gross household savings in Serbia, which include insurance premium payments, have been at a low level over the long term, significantly lower than in countries in Western, Central, and Eastern Europe (see Figure 6). Moreover, household savings over the previous 12 years have varied significantly. The savings rate[202] at the beginning of the observed period was about 5%, but in the following five years, it decreased, becoming negative in 2017, which can be explained by the stagnation of real wages and the decline in the real value of pensions during this period. After 2017, household savings experienced significant growth, with the savings rate reaching nearly 10% in 2020 and 2021. The spike in the savings rate during the COVID-19 pandemic was temporary and directly caused by the inability to spend due to epidemiological restrictions. After the end of the COVID-19 pandemic, the savings rate in Serbia dropped, currently standing at around 5%. The household savings rate in Serbia is significantly lower than in the old EU member states, where the rate averaged 13.6% in 2023, and also lower than in Central European countries, where the rate averaged 12.5%.

Thus, the relevant question is: What are the reasons for the low savings rate of households in Serbia compared to other European countries? The first reason is that real incomes in Serbia are still lower than in EU countries, including the least developed ones like Bulgaria and Romania. Low real incomes in Serbia imply that the percentage of liquidity-constrained households, whose incomes are at or just above the subsistence minimum, is higher than in other European countries[203].

[202] The savings rate is defined as the ratio of gross savings to disposable income, multiplied by 100.

[203] The savings rate in other Western Balkan countries is likely similar to or slightly lower than in Serbia, but there are no internationally comparable data for them.

Figure 6. Gross household saving rate, in %



Note: The gross saving rate of households is defined as gross saving divided by gross disposable income, with the latter being adjusted for the change in pension entitlements.

Source: Eurostat Database

The second reason for the lower household savings rate is that households in Serbia engage in long-term optimization of consumption to a lesser extent compared to households in other countries, including those at a similar level of development. The reasons for this could be the long periods of macroeconomic and political instability that Serbia has gone through, as well as weak institutions that generate non-commercial risks affecting savings (see the chapter on institutions and culture). Serbia has gone through periods of high inflation, large devaluations of the dinar, which have largely or even completely devalued savings. Additionally, wars and internal political crises discourage people from thinking long-term, and thus from saving. Finally, weak institutions create distrust among citizens towards the state, which also discourages savings.

From the above, it follows that further growth of real incomes and a decrease in the percentage of liquidity-constrained households are key conditions for the growth of the household savings rate, and thus for the growth of insurance investments. In addition to this, it is necessary to successfully maintain macroeconomic stability over a long period, improve political relations between the countries of the region, stabilize the political situation in the country, and increase the competence and efficiency of institutions.

2. INCREASE IN RETURNS ON INSURANCE PREMIUMS

Demand for insurance services, in addition to real income, also depends on the returns achieved by insurance companies through investments of the premiums paid by policyholders. Insurance companies, as conservative investors, prioritise security over returns, and thus allocate a larger portion of their funds to government securities. However, in developed countries, a significant portion of insurance companies' funds is invested in prime corporate securities (bonds and stocks) to increase the average rate of return. Investing part of the funds in corporate securities requires high analytical capacities within insurance companies to ensure that the growth in expected returns does not lead to a significant increase in risk.

In developed countries, insurance companies invest a relatively large percentage of their funds in corporate bonds and stocks, while a small portion is invested in real estate, cash, and deposits. In contrast, insurance companies in Serbia do not invest in corporate bonds, as they do not exist, and investments in stocks are minimal due to sporadic stock trading on the Belgrade Stock Exchange and questionable stock quality. More than half of the funds of insurance companies in Serbia are invested in government securities, and a significant portion of assets are invested in non-earning (cash) or low-return assets (deposits, real estate).

The capital market in Serbia is largely underdeveloped, which affects investment opportunities, especially for specialized investors like insurance companies. These companies, which would typically be interested in stable, long-term investments in stocks and bonds, have limited options due to the underdevelopment of the capital market. The capital market in Serbia has gone through periodic fluctuations. After initial stagnation in the 1990s, the market experienced expansion in the early 2000s, with the privatisation of companies playing a key role. However, this expansion was not stable, and the capital market lost value after 2007, when it reached a peak of 65.9% of GDP[204]. In 2022, Serbia's market capitalisation was only 4.8% of GDP, which is a very low level[205]. This is significantly lower compared to more developed markets, suggesting that investment opportunities, such as investments in stocks, are limited. Insurance companies, which invest large amounts of capital, face a shortage of choices and opportunities to diversify their investments in the domestic market.

[204] Worldbank Database

[205] TheGlobalEconomy.com and the Belgrade Stock Exchange

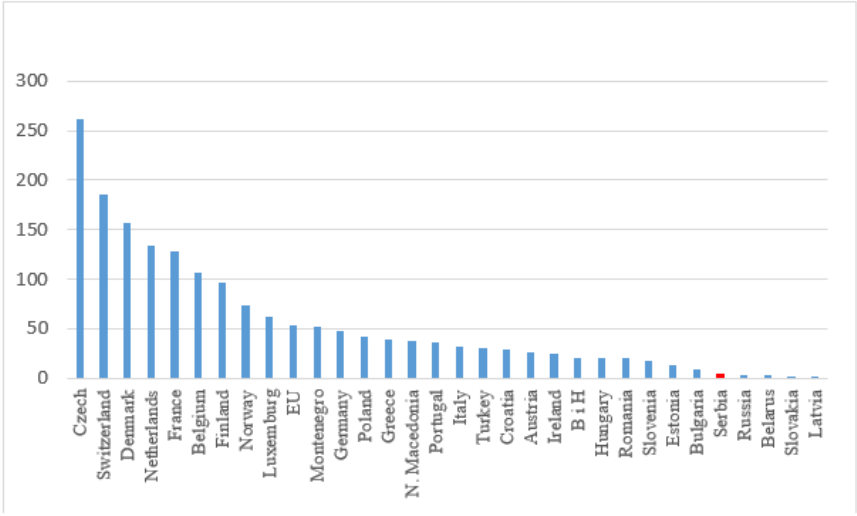
*Table 1. Investment portfolio of the insurance companies in 2018, in %**

	Eurozone	United States	Spain	Serbia
Corporate fixed income	31.4	51.5	21.8	-
Sovereign fixed income	34.5	13.6	56.9	53.0
Equity	13.9	13.1	6.0	0.2
Loans	5.2	10.6	1.0	10.2
Cash and deposits	4.6	3.9	7.8	10.3
Real estate	2.3	0.6	2.5	7.7
Other investments	8.2	6.7	4.0	18.6

* Serbian data from 2023.

Source: MAPFRE Economic Research (2020), for Eurozone, US and Spain and NBS for Serbia.

Figure 7. Stock market capitalisation in 2022, % of GDP



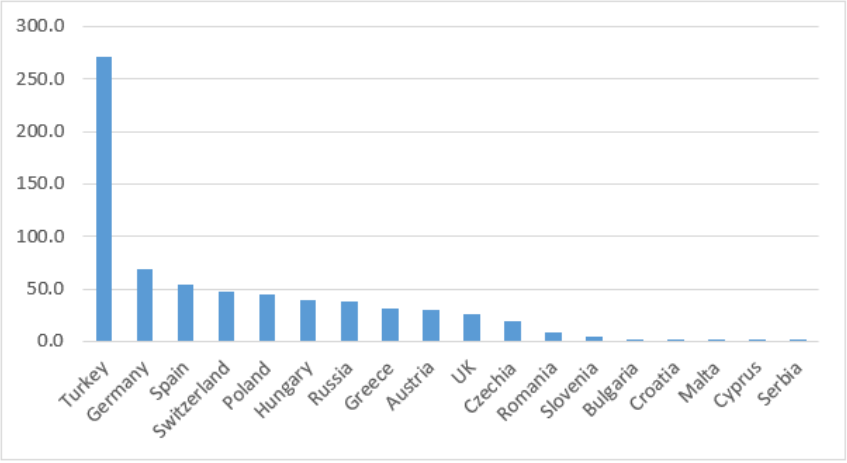
Source: TheGlobalEconomy.com and the Belgrade Stock Exchange

In addition to the low value of equity securities on the Belgrade Stock Exchange, another significant problem is that most shares are not actively traded. In 2022, the stock market turnover ratio, which represents the ratio of share trading volume to market capitalisation, amounted to just 0.1% in Serbia, placing the country at the bottom among European countries for which data is available (Figure 8). The near-total absence of share trading is due to the fact that shares were issued on the stock exchange as a result of legal provisions regulating privatization, rather

than for the purpose of raising additional capital for companies. As a result, in most cases, trading in securities ceased once ownership became concentrated[206].

The underdevelopment of the financial market is a limiting factor for the modernization and development of insurance companies in Serbia. Table 1 shows that insurance companies in Serbia invest almost their entire portfolio in low-yield assets, such as government securities, real estate, deposits, etc. Insurance companies in countries with developed financial markets balance between safe investments (government bonds, real estate, deposits) and riskier ones (equities, corporate bonds) in order to achieve higher returns, while this kind of portfolio optimization is not available to insurance companies in Serbia. The development of the financial market is one of the key conditions for increasing returns on the assets of insurance companies.

Figure 8. Stock market turnover ratio, 2022



3. MACROECONOMIC STABILITY

Although the interest rate on savings does have an impact on the level of savings, empirical research suggests that this influence is small, and in some studies, it is found to be statistically insignificant[207]. The explanation for these results is that

[206] The reasons for the low market capitalisation and low trading volume on the Belgrade Stock Exchange, as well as potential measures for revitalising the capital market, are thoroughly analysed in: Šoškić, D. (2025). Tržište kapitala kao faktor rasta investicija i privrednog razvoja u Srbiji. *SANU Proceedings*, forthcoming

[207] Bernheim, B. D. (2002). Taxation and Saving. In: *Handbook of Public Economics*, Vol. 3, Auerbach, A. J., & Feldstein, M. (eds.), Elsevier, pp. 1173-1249.

most households save primarily to transfer current income into the future with the goal of smoothing consumption over their lifetime, while the return on savings is a secondary consideration. Of course, investors—whose primary concern is the rate of return—are an exception, but they make up a small portion of the overall population.

Given that, for most households, the key motivation for saving is to transfer income from the present to the future, it is crucial for them that the real value of their savings is not eroded by high inflation or depreciation of the national currency. From this, it can be concluded that, in order to increase savings, it is important to maintain long-term macroeconomic stability in the country and for citizens to have confidence that such stability will persist in the future. Since citizens make saving decisions based on long-term macroeconomic stability, this analysis will examine inflation trends and exchange rate stability in Serbia over the past several decades.

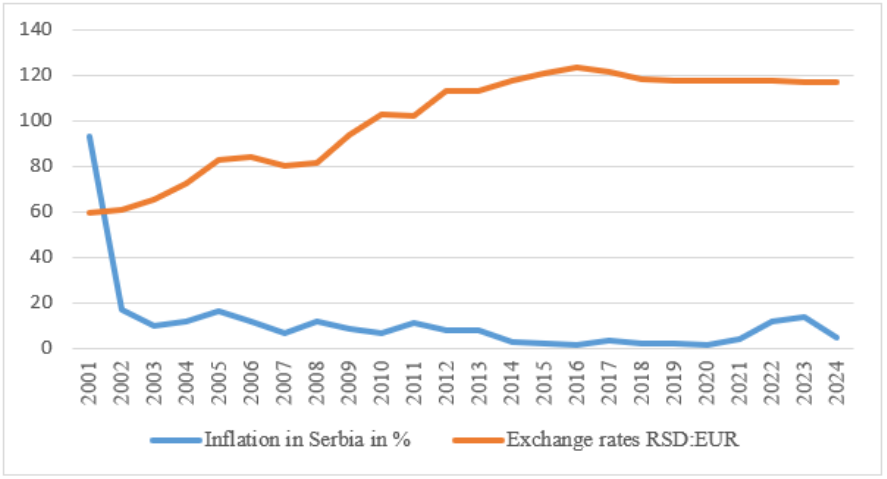
Serbia, as part of Yugoslavia, went through a period of high inflation and two episodes of hyperinflation during the 1980s and 1990s. As a result, dinar-denominated savings in banks and government securities (such as the "Loan for the Reconstruction of Serbia") lost value, while foreign currency savings held by citizens in banks were frozen from the early 1990s until 2002. These significant losses undermined the basic function of saving—transferring real income value from the present to the future—and increased public scepticism about the benefits of saving. The restoration of trust in savings began after 2000, as macroeconomic stability gradually improved and a solid banking system was established.

The establishment of macroeconomic stability in Serbia is illustrated by the decline in inflation—from about 50% annually in the late 1990s to around 10% annually between 2002 and 2013, and further down to an average of about 2% annually from 2014 to 2020, which is in line with the long-term average of developed countries. As a result of global market disruptions and expansive domestic fiscal and monetary policies during the COVID-19 pandemic, inflation reached double-digit levels in 2022 and 2023, but fell to 4.3% in 2024. Based on the above, it can be concluded that Serbia has made significant progress in reducing and stabilizing inflation since 2000. Maintaining low and stable inflation in the coming years is a necessary condition for Serbia's economic progress, including an increased willingness of households to save. From a savings perspective, keeping inflation low and stable is important in all countries, and especially in Serbia, which has had a long history of high inflation.

Given that a dual-currency system has existed in Serbia for decades, the stability of the dinar exchange rate is an important indicator of overall macroeconomic

stability. Since 2000, the stability of the dinar exchange rate has improved significantly compared to previous decades, which were marked by the existence of official and black market exchange rates and periodic major devaluations of the official dinar rate. Between 2001 and 2016, the dinar steadily depreciated, but at a relatively low rate—on average, it lost 4.6% of its value against the euro annually over 16 years. After 2016, Serbia adopted a de facto fixed exchange rate policy for the dinar, which is favourable for macroeconomic stability and savings. However, such a policy can have negative effects on foreign trade, potentially accelerating price convergence with European levels and adversely impacting economic growth.

Figure 9. Inflation and exchange rates in Serbia

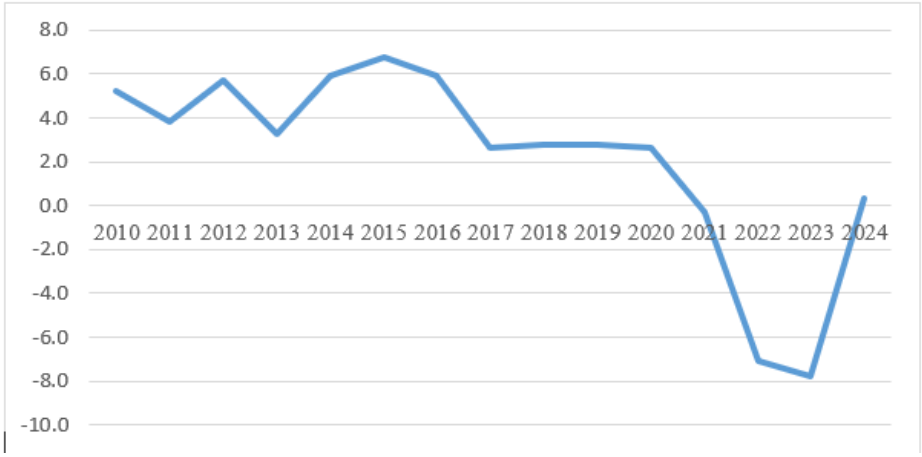


Source: Ministry of Finance of Serbia

In general, a fixed exchange rate policy yields positive long-term results if it is aligned with other policies, especially income and fiscal policies. However, in several years, this alignment did not occur in Serbia, as the fixed exchange rate policy was accompanied by faster growth in real wages than in labour productivity, while fiscal policy remained expansionary. Due to a large inflow of foreign direct investment, this policy has not caused major macroeconomic issues so far, but it could do so in the future. For the quasi-fixed exchange rate policy to have positive macroeconomic effects, it is necessary to maintain a relatively low fiscal deficit in the coming years and ensure that real wages grow in line with productivity. Additionally, changes in the structure of the economy are required, by increasing the share of high-productivity jobs, to eliminate the gap between real wages and productivity.

One of the fundamental conditions for saving to be economically rational is that real interest rates must not be negative, as only in that case can the real value of income be preserved over time through saving. Unlike the decades-long practice in socialist Yugoslavia, interest rates on dinar savings in Serbia have been mostly positive in real terms since the mid-1990s. The only exception was the post-COVID inflation period, during which, similarly to Europe, real interest rates in Serbia were negative. A policy of maintaining positive real interest rates on savings is one of the key conditions for increasing the household saving rate to levels seen in developed countries.

Figure 10. Annual real interest rates on term dinar deposits of households, in %



Source: National Bank of Serbia

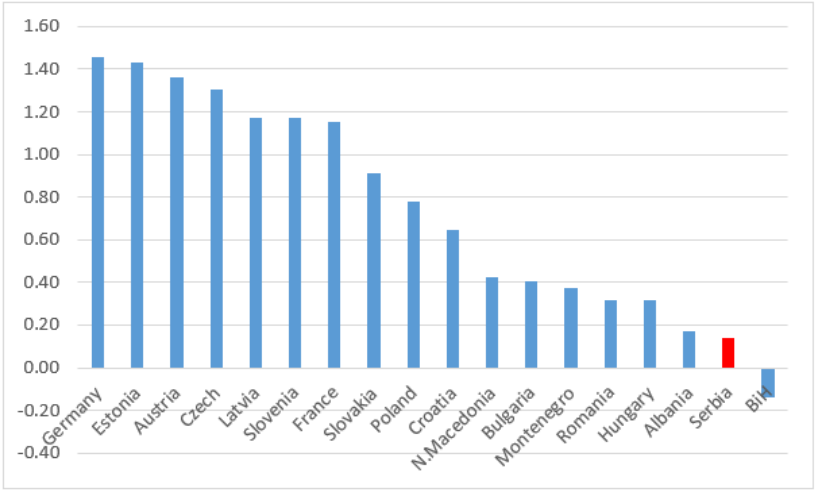
4. FORMAL INSTITUTIONS AND CULTURE

Insurance as a form of long-term saving is based on trust between policyholders and insurance companies. This trust is grounded in an appropriate institutional framework that defines the conditions under which insurance companies operate and includes oversight by state regulatory bodies, ensuring their long-term solvency. In Serbia, the regulation and supervision of insurance companies are largely aligned with international standards, which suggests that the legal framework directly governing insurance is not currently a barrier to its development and modernisation. However, rapid changes in technology, demographic characteristics, and the environment are transforming the context in which insurance companies operate, necessitating an adaptation of regulations to these evolving conditions.

The broader institutional framework affecting the functioning of the insurance market includes the rules for investing collected insurance premiums, the existence of incentives for insurance, and the efficiency of contract enforcement. The institutional framework regulating Serbia's capital market is inadequate, resulting in an underdeveloped market for both equity and debt securities[208]. This limits investment opportunities for insurance companies and ultimately reduces the return on insurance premiums. The development of the insurance market, particularly in countries without a strong tradition in this field, can be encouraged by introducing tax and other incentives. In Serbia, tax incentives exist for private pension insurance but not for private life and health insurance. From the perspective of efficiency and equity, there is justification for extending tax incentives to life and health insurance, while limiting the total amount of insurance premiums exempt from personal income tax.

The long-standing stagnation of the private pension insurance market, despite existing tax incentives, indicates that such incentives alone are not sufficient. Therefore, it is reasonable to consider introducing non-tax incentives, such as automatic enrollment of employees into a private pension insurance plan, with the right to opt out.

Figure 11. Regulatory quality by country in 2023



Source: World Bank – Worldwide Governance Indicators (WGI)

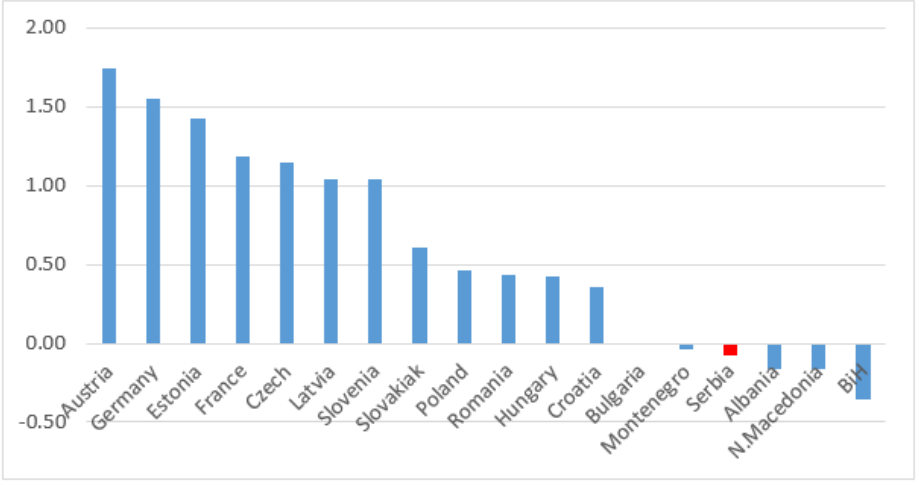
For all economic sectors—especially those that rely on long-term contracts and trust—it is essential to have a high-quality regulatory framework that is

[208] Šoškić (2025), op. cit.

consistently enforced. Although Serbia has made progress in regulatory quality since 2000, it still ranks among the weakest in Europe in this regard (see Figure 11). This is partly due to delays in establishing a market economy and corresponding legislation during the 1990s, compared to other former socialist countries. Another reason is that since 2010, Serbia has significantly slowed the improvement of its regulatory quality, and since 2014, the quality has fluctuated from year to year without a clear upward trend. As a result, in 2023, Serbia ranked second-to-last among European countries in terms of regulatory quality.

In addition to the generally low quality of regulation, another issue is the inconsistent application of laws over a long period in Serbia. As a result, the country, along with other Western Balkan nations, ranks among the lowest in Europe in terms of the rule of law (see Figure 12). Since 2015, the state of the rule of law in Serbia, as well as its relative position compared to other countries, has worsened. The development of insurance in Serbia would benefit from improvements in regulatory quality, strengthening the rule of law, and enhancing the competence of public administration. However, it appears that there is currently no political will in Serbia to systematically work on improving the quality of regulations and their consistent application. Since laws are adopted through political processes and these processes affect their enforcement, without a shift in political attitudes towards the importance of legal quality and consistent application, no improvement in this area can be expected.

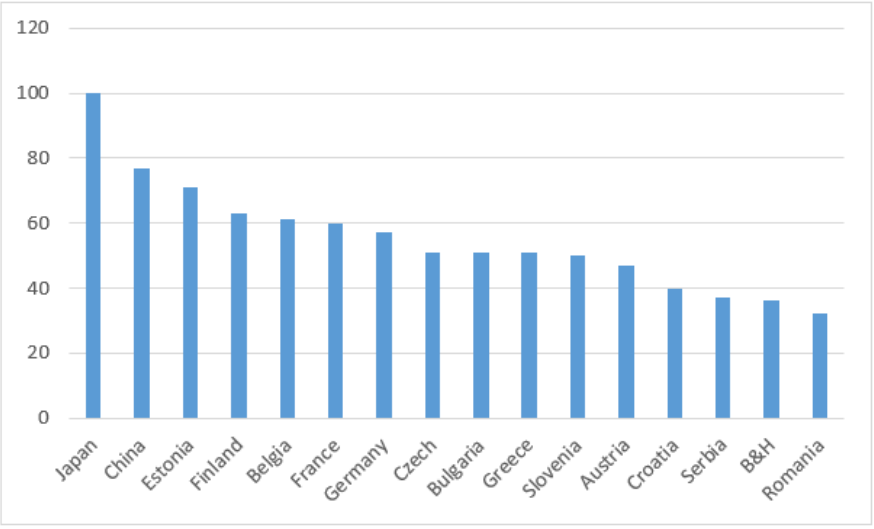
Figure 12. Rule of law by country in 2023



Source: World Bank – Worldwide Governance Indicators (WGI)

People’s willingness to participate in insurance partially depends on their value system, primarily on whether they consider the long-term consequences when making decisions. The tendency to consider the long-term consequences of their decisions increases individuals' readiness for long-term saving, and thus for utilising insurance services. According to research by The Culture Factor Group, Serbia is among the countries whose citizens are relatively less oriented towards long-term decision-making, which implies that they are not particularly inclined to long-term saving (see Figure 13). This orientation in Serbia is likely a consequence of the turbulent historical circumstances since the early 20th century. Throughout the 20th century, Serbia spent nearly a third of its time involved in wars or under sanctions imposed by key economic partners. Additionally, Serbia frequently went through harsh internal political conflicts, including coups and political assassinations. In the economic realm, significant uncertainty was created by the nationalization of private property after World War II, as well as hyperinflation and the devaluation of the dinar. During periods of great uncertainty, such as wars, sanctions, internal conflicts, and hyperinflation, people tend to focus on short-term survival, while the long-term consequences of their decisions take a back seat.

Figure 13. Long-term orientation by country



Source: The Culture Factor Group

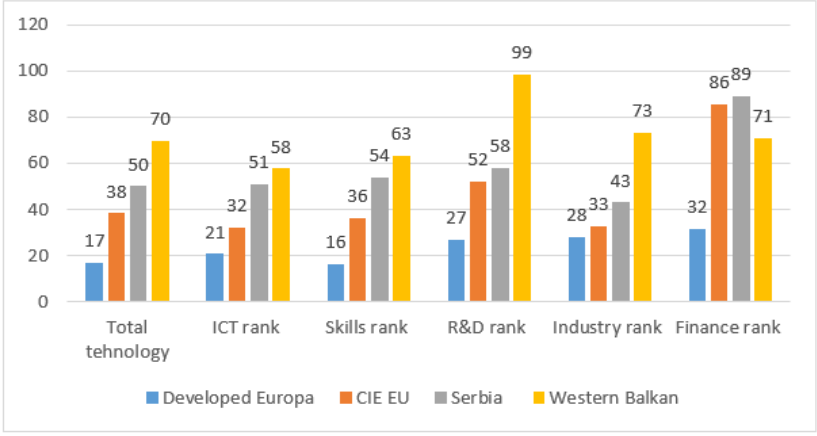
Extended periods of uncertainty have shaped value systems and behaviors adapted to such circumstances, which persist even when society is in a period of relative stability. From the perspective of insurance, this means that, in addition to previously mentioned factors (income growth, return growth, macroeconomic

stability, fiscal incentives, etc.), a long period free from wars, sanctions, and internal conflicts is necessary for its development. Mitigating the negative impact of historical legacies on the willingness to save can be achieved through systematic encouragement of saving. These incentives can be implemented through the education system, media, and public awareness campaigns. One important message that can be conveyed to people is that public pensions in the future will be relatively low, and it is necessary for individuals to save for their retirement in various ways.

5. TECHNOLOGICAL ADVANCEMENT AND INSURANCE MODERNISATION

The modernisation of insurance involves the application of modern digital technologies for data collection, processing, and prediction, such as Artificial Intelligence (AI) and Machine Learning, Big Data and Analytics, Blockchain, Data-Driven Decision-Making, etc. The application of these technologies aims to ensure better risk assessment, cost reduction, enhanced data security, more accurate premium determination, better service adaptation to consumer needs, and improved prediction of trends in the economy, society, and the natural environment.

Figure 14. Ranking countries for readiness for frontier technologies in 2022

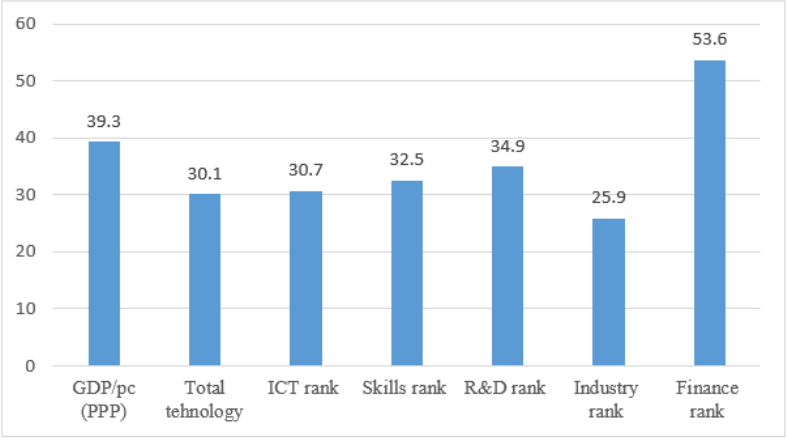


Source: UNCTAD (2023). Technology and Innovation Report 2023: Opening Green Windows – Technological Opportunities for a Low-Carbon World. Geneva: UN

Serbia's readiness for insurance modernisation, in addition to macroeconomic circumstances, depends on its willingness to adopt new technologies. According to the 2022 rankings, Serbia ranked 50th out of 166 countries in terms of readiness to adopt new technologies. It achieved the best position regarding its

ability to adopt new technologies in the industry, and the weakest in terms of adopting financial innovations. Its ability to adopt innovations in the IT sector and the skill level of workers were at the general average for the adoption of new technologies (see Figure 14). Regarding the readiness to adopt new technologies, Serbia is significantly behind developed European countries and slightly behind the EU member states of Central and Eastern Europe (CEE), while it is in a much better position compared to other Western Balkan countries. Serbia's readiness to adopt innovations in the financial sector is weaker than the Western Balkan average.

Figure 15. Percentile rank of Serbia in the world in 2022 (ranges from 0, highest rank, to 100, lowest rank)



Source: UNCTAD (2023), op. cit.

Serbia's readiness to adopt new technologies is at a higher level than its development level, measured by GDP per capita in purchasing power parity dollars. The exception is the financial services sector, where Serbia is ranked lower in terms of readiness to adopt advanced technologies compared to its development level (Figure 15). According to the development level, measured by GDP per capita in purchasing power parity USD in 2022, Serbia was in the 39th percentile globally, while in terms of overall readiness to adopt technological innovations, it was in the 31st percentile. Given that Serbia's ability to adopt innovations in most areas exceeds its development level, it can be concluded that its ability to adopt new technologies is not a barrier to its economic progress, at least in the next few years. However, due to the lag in adopting new technologies compared to developed countries, and even compared to Central and Eastern European countries, achieving a high level of development requires improving the technological state in Serbia across all sectors. Serbia's greatest lag in terms of readiness to adopt innovations is in the financial sector, so it is essential to

create an adequate regulatory framework in this area to stimulate technological progress and overall development of the financial sector. The first step in this is a change in the government's stance towards the development of the financial sector, in the sense that it is important to develop all its segments, not just banks.

Given that the modernisation of insurance is technologically closely related to digitalisation, we will now analyse Serbia's position according to the global Digitalization Index constructed by Huawei. The Global Digitalization Index was created for 77 countries based on 42 indicators that cover four main areas: ubiquitous connectivity, digital foundation, green energy, and policy & ecosystem. The indicators within ubiquitous connectivity focus on telecommunications performance, such as the development of 5G and 5 G-A networks, the prevalence of fibre access, and the Internet of Things. The digital foundation includes indicators like investment in digital technologies, the capacity of data centres, future-proof computing power and storage, cloud computing, and computing networks. The green energy area includes indicators related to the share of renewable, ecologically clean energy sources in the country, which is becoming an increasingly important criterion, as new IT technologies consume large amounts of electrical energy. The policy & ecosystem indicators and areas refer to the quality of regulation, spectrum distribution policies, IT investment, conditions for the formation and development of IT startups, and more.

According to Huawei's methodology, countries are divided into three groups based on their level of digital technology development. The first group consists of 22 countries with the best digitalisation performance, which contribute significantly to the development and progress of technology in this area (front-runners). The second group includes 30 countries that predominantly adopt created techno-logies (adopters), and the third group consists of 25 countries that are in the early stages of digitalisation (starters). According to the Huawei list, Serbia is in the lower part of the adopters group, ranked 45th among all 77 countries. Although this position looks significantly worse than on the UN list, it would likely be similar if the Huawei list contained the same number of countries as the UN list.

A more detailed analysis reveals that Serbia, compared to the average of the 77 countries, lags the most in the areas of ubiquitous connectivity and digital foundation, somewhat less in the area of policy & ecosystem, and the least in the area of green energy. In the field of ubiquitous connectivity, Serbia was rated the worst regarding the spread of 5G networks, Internet Protocol Version 6 (IPv6), and the prevalence of high-speed internet with a flow rate of over 10 G. Serbia has been lagging for several years in the implementation of the 5G network, and the reasons are likely the financial unpreparedness of the state-owned

telecommunications operator to enter this area and compete with private operators. In the area of digital foundation, the weakest performance is in data creation, cloud investment, and advanced storage investment, while Serbia is highly rated in terms of e-government. In the area of green energy, Serbia received the lowest scores on most criteria (renewable electricity, investment, green travel ratio, charging convenience, renewable electricity utilization rate). However, Serbia's rank in this area is relatively good, as most other countries perform poorly in terms of green energy production. In the policy & ecosystem area, Serbia has the best absolute scores, but its rank is relatively low because the situation in other countries is rated relatively well. Looking at individual indicators in the policy & ecosystem area, Serbia performed well in several areas such as internet participation, smartphone penetration, ICT laws & regulations, and online video streaming, but performed poorly in areas like the number of startups, ICT patents, ICT investment, and e-commerce transactions. It is likely surprising that Serbia received a relatively low score for ICT investment (2 out of 10 possible points).

Table 2. Global Digitalization Index for 2024 – Comparison of Serbia with selected countries

Technology Enablers	Average	Serbia	Slovenia	Germany
Ubiquitous Connectivity	45.0	38.4	50.4	53.6
Digital Foundation	44.0	38.4	39.6	66.0
Green Energy	32.0	31.2	31.2	50.4
Policy & Ecosystem	58	53.5	60.0	74.8

Note: GDI is within the range of (0.100), where a higher index value implies better performance in the field of digital technology.

Source: Huawei (2025). Global Digitalization Index, publication and website

Serbia's position regarding the overall state of technology and its ability to adopt it is somewhat more favourable compared to its rank in terms of development level. This means that the ability to adopt advanced technologies, at least in the next few years, will not pose a barrier to economic growth or the modernisation of insurance. However, even in the field of technology, Serbia significantly lags behind Central and Eastern European countries in certain areas. Serbia is particularly poorly ranked in terms of its ability to adopt innovations in the financial sector, which is reflected in the underdevelopment of non-bank financial institutions, including life and private pension insurance. In the IT sector, the situation in Serbia is mixed – in some areas, such as e-government, Serbia is well-ranked, but it significantly lags behind in the implementation of 5G networks and high-speed internet.