

## ANALYSIS OF THE FINANCIAL STABILITY OF THE INSURANCE INDUSTRY THROUGH THE LENS OF INNOVATIVE PROCESSES

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**Purpose of the article:** *The article aims to analyze the impact of innovation processes on the financial stability of the insurance market in the Republic of Moldova during 2010–2024, using specific performance and sustainability indicators. It examines how technological and structural transformations influence the efficiency and resilience of insurance companies within the national financial system.*

**Methodology:** *The research applies statistical and correlation analysis to assess the relationship between the degree of innovation and the level of financial stability in the insurance sector. The study relies on sectoral data, performance indicators, and analytical interpretation of the trends observed during the analyzed period.*

**Results:** *The findings show that innovation functions as a stabilizing mechanism in the financial sector, positively influencing performance, solvency, and sustainability indicators of insurance companies. The development of innovative products and digital transformation contributes to strengthening the overall resilience of the Moldovan insurance market.*

**Conclusions:** *The study concludes that promoting innovation is a strategic direction for consolidating the financial stability of the insurance industry and modernizing the national financial system.*

**Originality:** *The originality of the article lies in its integrated approach that links innovation dynamics with financial stability indicators in the Moldovan insurance market, offering a new analytical perspective on the role of innovation as a driver of resilience.*

**Keywords:** *Financial stability, Innovation, Loss ratio, Financial performance, Insurance market, Republic of Moldova.*

**JEL Classifications:** G22, G32, O31

### INTRODUCTION

Financial stability is the foundation on which any modernization process in the insurance sector can be built. In the absence of a solid financial base, neither digitalization, nor automation, nor organizational transformations can be implemented effectively. For a small market, such as the Republic of Moldova, the ability of companies to sustain technological and structural changes directly depends on the robustness of their financial position and the balance between premium income, payment obligations and available resources.

In this context, the article aims to systematically examine the current level of financial stability of the insurance industry and to determine to what extent it can create favorable conditions for the introduction of innovations. The analysis tracks the evolution of a set of indicators relevant to the health of the sector – total assets, solvency, liquidity, profitability, loss ratio and claims structure – in order to highlight both points of resilience and vulnerable areas. The aim is not to demonstrate the existence of implemented innovations, but to assess whether the market has the financial resources, operational stability and technical capacity necessary to support such transformations.

The approach starts from the observation that the theoretical advantages of innovation are known, but their practical applicability depends on the financial maturity of the companies. For this reason, the focus is primarily on the performance of the sector and on how the evolution of indicators reflects the potential for absorbing changes. By analyzing the market dynamics, the article aims to clarify whether the current financial structure allows investments in modernization, whether it can support additional costs, whether it offers sufficient stability for the adoption of new processes or, on the contrary, whether the existing limits risk slowing down or blocking further developments.

Therefore, the main purpose of the article is to assess the financial stability of the insurance industry in the Republic of Moldova and to determine whether it constitutes a real basis for the introduction of innovations in the sector. The analysis aims to provide a coherent perspective on the market's capacity to modernize, starting from its financial performance and the evolution of internal mechanisms that support or hinder development. The text aims to contribute to a clear understanding of the premises necessary for the transformation of the industry and for consolidating its role in the national financial system.

### RESEARCH METHODOLOGY

The methodology applied in this research aims to provide a rigorous framework for assessing the financial stability of the insurance industry in the Republic of Moldova and for analyzing the extent to which this stability can constitute a real premise for the further development of innovative processes. The study starts from the idea that the modernization of the sector cannot take place in the absence of a solid financial base, and the ability of companies to invest in technology, new processes or restructuring depends directly on their technical and economic-financial performance. Therefore, the methodology is built around a set of indicators that capture the essential developments of the market and allow assessing the degree of its financial maturity.

The analysis uses official data provided by the National Bank of Moldova and the National Bureau of The indicators used in the research cover all relevant dimensions of the stability of the sector. The following are examined:

- *gross written premiums* by insurance classes - constitute the monetary expression of the assumption of risks by insurers and represent the main source of income in the business model specific to the insurance industry. They form the basis of the technical-financial balance of each insurance contract and are essential in the calculation of reserves, loss ratios and solvency.

- *claims paid* by insurance classes - directly reflect the practical functionality of the insurance system, highlighting the capacity of companies to honor contractual obligations and to respond efficiently to the risks covered.

- *loss ratio* by insurance classes - is used as a basic technical indicator in assessing the performance of the sector, being calculated as the ratio between claims paid and gross premiums written, both at an aggregate level and by insurance classes. The analysis of its evolution allows the assessment of the technical-financial balance of portfolios and the identification of trends that influence market stability.

- *total assets* by insurance companies - This reflects the set of economic resources controlled by insurers and constitutes the material basis that supports the entire operational activity, the capacity to pay claims, the formation of technical reserves and the implementation of strategic investments.

- *solvency ratio* for insurance companies - expresses their ability to cover their obligations to policyholders through their own funds. A value above 100% indicates a solid financial position, capable of absorbing shocks and maintaining continuity of activity even in unfavorable conditions.

- *liquidity ratio* for insurance companies - measures the ability of insurance companies to cover current obligations, especially the rapid payment of claims. A level above 1.0 indicates a healthy financial position in the short term and ensures operational stability, especially in crisis situations.

- *return on assets* for insurance companies - expresses the ability of a company to generate profit from its total assets and is calculated as the ratio between profit before tax and the volume of total assets.

To these are added indicators that reflect the degree of economic integration of insurance, such as:

- *penetration rate* of insurance classes in GDP - a synthetic indicator that measures the share of gross written premiums in total gross domestic product. In essence, a high rate suggests a mature system, well integrated into the financial protection mechanisms of society, while a low level betrays a limited use of insurance instruments and an increased exposure to uncovered risks.

- *the share of claims paid in relation to the total insured risks*, by insurance class - this reflects the degree to which the contractual promises of insurers materialize in actual payments to policyholders.

Each of these indicators contributes to shaping a complete picture of the financial condition of the sector, highlighting both areas of stability and sources of vulnerability.

The methodology includes descriptive statistical analysis, which allows observing the levels and trends of indicators during the analyzed period, as well as comparisons between different market segments. To assess the coherence and quality of developments, additional indicators are used, such as:

- *average growth rates* - which measure the general dynamics of an indicator over time and are calculated as the geometric mean of annual rates of evolution.

- *coefficients of variation* – are used to assess stability or volatility and are determined as the ratio between the standard deviation and the average of the indicator.

- *gross growth indices* – allow the comparison of levels at the beginning and end of the analyzed period and are calculated as the ratio between the final value and the initial value.

- *weights* – represents the relative distribution of a component in total and is calculated as a percentage ratio between the value of the component and the total value of the sector.

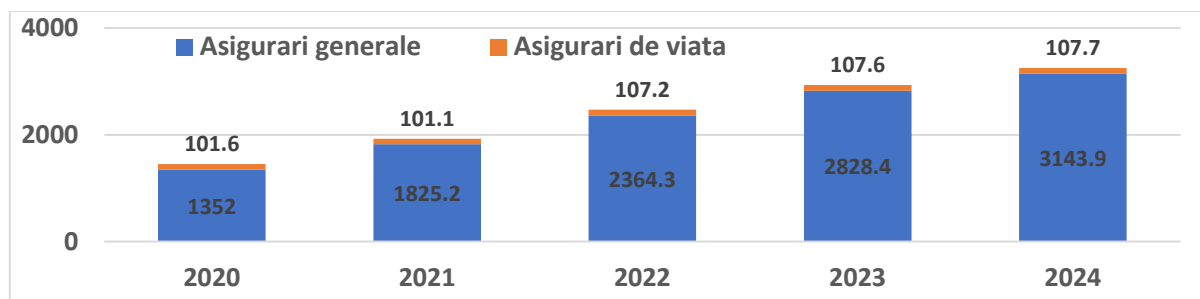
- *linear growth trends* – are obtained by regression adjustment and indicate the predominant direction of the evolution of an indicator in the medium term, allowing the assessment of the consistency of the sector's development.

The interpretation of the data is carried out in relation to the central objective of the study, namely the assessment of the sector's capacity to support innovative processes. The analysis does not aim to identify existing innovations, but to determine the financial premises necessary for their adoption. In this sense, technical and financial stability is treated as a precondition for modernization, and the examined indicators are used to assess whether the market has the resources and resilience necessary for structural transformations.

By combining quantitative analysis with qualitative interpretation of developments, the methodology provides a coherent tool for assessing the potential of the insurance market in the Republic of Moldova to advance towards innovative processes.

## RESULTS

The analysis of gross written premiums shows that the general insurance market recorded substantial growth during the period 2020–2024, with an advance from 1352.0 million lei to 3143.9 million lei, which represents an absolute increase of about 1791.9 million lei and a relative one of over 132%. The annual growth rates confirm this upward trend: +35% in 2021, +29.5% in 2022, +19.6% in 2023 and +11.2% in 2024, which suggests a continued consolidation, albeit at a moderate pace in recent years.

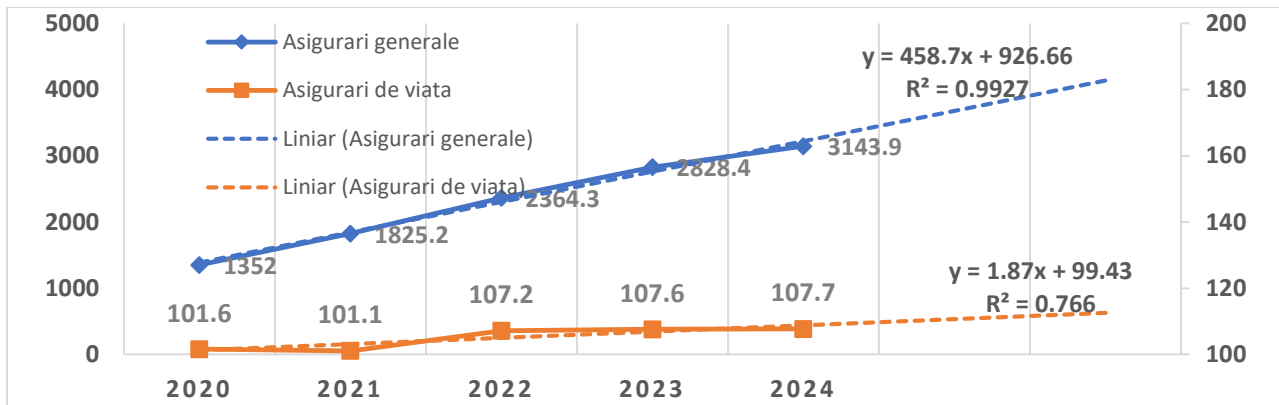


**Fig. 1 Gross written premiums by insurance classes, million lei.**

*Source: prepared by the author based on data from the National Bureau of Statistics.*

The share of non-life insurance in total underwritings remained constant at over 93%, reaching 96.7% in 2024, indicating the highly concentrated structure of the market and the dominant relevance of this segment for the financial stability of the sector. In contrast, life insurance recorded modest developments, confirming its low contribution to the formation of the financial base of the industry.

The linear growth trends support the descriptive observations: for non-life insurance, the estimated annual growth is approximately 458.7 million lei, while the very high value of the coefficient of determination ( $R^2 = 0.9927$ ) indicates a strong predictability of the evolution of this segment. By comparison, life insurance presents an insignificant annual growth ( $\approx 1.87$  million lei) and a lower coefficient of determination ( $R^2 = 0.766$ ), signaling an unstable evolution and a reduced capacity to contribute to the overall stability of the market.

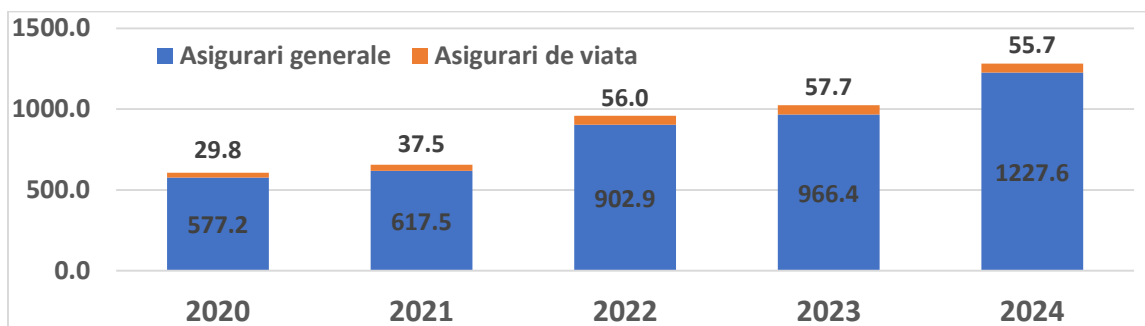


**Fig. 2. Linear growth trends of gross written premiums by insurance classes, million lei.**

*Source: developed by the author based on data from the National Bureau of Statistics.*

Overall, the results show a growing but structurally unbalanced sector. The strong and steady growth in non-life insurance strengthens the financial base of the industry and contributes decisively to its stability, while the stagnation of the life segment limits diversification and reduces the risk-absorbing capacity of the entire market.

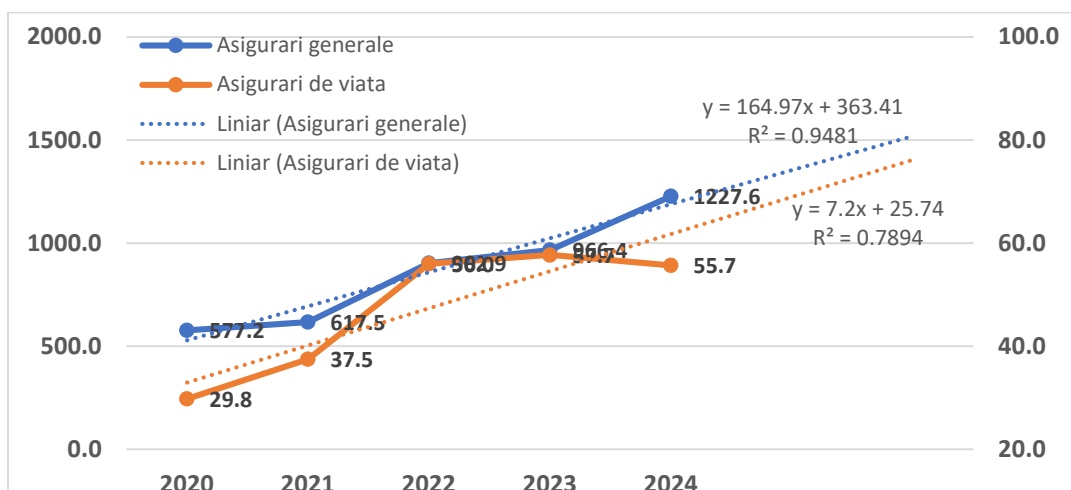
The analysis of claims paid in the period 2020–2024 shows a significant increase in the payment obligations assumed by insurance companies. In the non-life insurance segment, the volume of claims increased from 577.2 million lei in 2020 to 1227.6 million lei in 2024, which represents an absolute increase of 650.4 million lei and a relative increase of approximately 113%. The most pronounced advance was recorded in 2022, when compensation increased by over 46% compared to the previous year, reaching 902.9 million lei, after which the upward trend was maintained in all subsequent years.



**Fig. 3 Compensation paid by insurance classes, million lei.**

*Source: prepared by the author based on data from the National Bureau of Statistics.*

The linear trend confirms the stable nature of this evolution: the slope of 164.97 and the coefficient of determination  $R^2 = 0.9481$  indicate a predictable and consistent increase in claims in general insurance. This suggests the existence of a mature portfolio, exposed to a higher volume of risks, but also a consolidated capacity of companies to honor contractual obligations.



**Fig.4. Linear growth trends of compensation paid by insurance classes, million lei.**

*Source: prepared by the author based on data from the National Bureau of Statistics.*

As for life insurance, the volume of claims remains modest, oscillating between 29.8 million lei in 2020 and 55–57 million lei in the period 2022–2024. The slope of the trend line ( $\approx 7.2$ ) and a significantly lower coefficient of determination ( $R^2 = 0.7894$ ) indicate a more variable and less predictable evolution, reflecting the small size and low maturity of this segment.

Overall, the results show that claims paid grow at a stable and sustained pace in non-life insurance, strengthening their role in the stability of the sector. The divergence from the life insurance segment confirms the unbalanced structure of the market and the dependence of financial stability on the performance of non-life insurance. Thus, the high and increasing level of claims demonstrates both the functionality of financial protection mechanisms and the constant pressure on companies' resources, a crucial element in assessing the sector's capacity to sustain future transformations.

The evolution of the loss ratio during the period 2020–2024 highlights a relatively stable level of the indicator across the entire market, with values ranging between 0.34 and 0.42 in the early years and a return to 0.39 in 2024.

**Table 1. Evolution of the claim rate in the Republic of Moldova, 2020–2024**

	2020	2021	2022	2023	2024	Rmed*	CV**
Total	0,42	0,34	0,39	0,35	0,39	-0,014	0,086
General Insurance	0,43	0,34	0,38	0,34	0,39	-0,022	0,098
Life insurance	0,29	0,37	0,52	0,54	0,52	0,152	0,244

Note. \* Average growth rate; \*\* coefficient of variation.

*Source: author's calculations based on data from the National Bureau of Statistics.*

The average growth rate ( $Rmed = -0.014$ ) shows a very slight decreasing trend, and the coefficient of variation ( $CV = 0.086$ ) confirms a low volatility, characteristic of a mature and well-balanced portfolio.

In general insurance, where most of the risks are concentrated, the loss ratio remains in a stable range, between 0.34 and 0.43, with low variability ( $CV = 0.098$ ). This evolution indicates a constant ratio between premiums and claims, which suggests a robust technical-financial structure of the portfolios and an adequate capacity to manage the obligations assumed.

In contrast, life insurance shows a different dynamic, with variations in the loss ratio between 0.29 and 0.54 and a much higher coefficient of variation ( $CV = 0.244$ ). This reflects a less stable segment and more exposed to annual fluctuations, consistent with its small size and the specific characteristics of life products. The positive average growth rate ( $Rmed = 0.152$ ) suggests a trend of

increasing payments over premiums, which limits the contribution of this segment to the overall market stability.

Overall, the results indicate that the stability of the claims ratio in non-life insurance is a key element in consolidating the sector's performance, while the high variability in the life segment confirms its structural vulnerabilities. Thus, the analysis of the claims ratio completes the financial picture outlined above, emphasizing that the stability of the industry depends largely on the predictable performance of non-life insurance.

The analysis of the evolution of total assets shows a significant increase in the financial base of the sector, with the aggregate volume of assets increasing from 3,173.9 million lei in 2020 to 4,352.4 million lei in 2024 (see table 2). The absolute growth of over 1178 million lei and the gross growth index of 1.37 confirm the expansion of the industry's financial capacity during the analyzed period. The average growth rate at market level (0.082) indicates a moderate but constant advance, and the low coefficient of variation (CV = 0.170) suggests a stable and predictable evolution of the sector's financial resources.

**Table 2. Evolution of total assets volume by insurance companies (million lei) and indicators of rhythm, volatility and structure 2020-2024**

	2020	2021	2022	2023	2024	Rmed	CV –	P(%) *	ICB**
ACORD GRUP SA	181,37	206,11	306,10	331,30	321,39	0,154	0,26021	7,38	1,77
ASTERRA GRUP SA	317,82	407,44	481,66	625,46	758,87	0,243	0,33861	17,44	2,39
DONARIS VIENNA INS. GROUP SA	336,20	381,24	480,11	684,30	662,48	0,185	0,31274	15,22	1,97
GENERAL ASIGURARI SA	251,34	317,31	402,80	483,77	538,61	0,210	0,29450	12,38	2,14
GRAWE CARAT ASIGURARI SA	1152,50	1256,6	1394,5	1555,4	1685,9	0,100	0,15358	38,74	1,46
INTACT ASIGURARI GENERALE SA	81,93	165,29	290,92	363,96	402,31	0,489	0,51673	9,24	4,91
MOLDASIG SA	476,28	512,87	545,11	572,59	637,43	0,076	0,11151	14,65	1,34
MOLDCARGO SA	144,95	169,99	149,49	191,06	312,00	0,211	0,35519	7,17	2,15
TRANSELIT SA	108,11	138,96	164,48	171,17	190,37	0,152	0,20600	4,37	1,76
TOTAL	3173,92	3628,9	4240,7	4979,0	4352,4	0,082	0,17057	100,00	1,37

Note. \* Share in 2024 (%); \*\* gross growth index.

Source: author's calculations based on data from the National Bank of Moldova.

The market structure reveals a strong concentration: GRAWE Carat Asigurări holds the largest share of assets in 2024 (38.74%) and records a low level of volatility (CV = 0.153), which confirms the dominant and stable role of this company in the sector. Other large companies, such as Asterra Grup SA (17.44%) and Donaris Vienna Insurance Group SA (15.22%), recorded high average growth rates (0.243 and 0.185), significantly contributing to the expansion of the sector and increasing financial resilience. Small and medium-sized companies show more variable developments. Some, such as Intact Asigurări Generale SA, recorded a high average growth rate (0.489) and a gross growth index of 4.91, which indicates a rapid expansion, but accompanied by a high level of volatility (CV = 0.516). Other companies, such as Moldasig SA and Moldcargo SA, had moderate growth, with low variations, which suggests a more stable but slower development model.

Overall, the data confirm the progressive consolidation of the financial base of the insurance industry, but also the existence of significant differences between companies in terms of the pace of development and stability of assets. The sector is dominated by a few large companies, whose stable evolution contributes to maintaining the resilience of the system, while the sharp dynamics of some small companies indicate processes of repositioning and adaptation to market conditions.

The analysis of the solvency ratio for the period 2020–2024 shows that most insurance companies maintained comfortable levels of this indicator, above the minimum regulated threshold, which reflects an adequate capacity to cover the obligations assumed and a relatively robust financial structure. The aggregate values confirm the general stability of the sector, even if some companies recorded significant fluctuations.

**Table 3. Evolution of the solvency ratio by insurance companies, 2020-2024.**

	2020	2021	2022	2023	2024	Rmed	CV
ACORD GRUP SA	2,26	1,46	1,70	1,74	1,94	-0,038	0,166
ASTERRA GRUP SA	1,08	1,27	1,20	1,27	1,44	0,073	0,103
DONARIS VIENNA INS. GROUP SA	2,44	1,65	1,23	1,40	1,50	-0,116	0,287
GENERAL ASIGURARI SA	1,31	1,25	1,39	1,33	1,39	0,015	0,046
GRAWE CARAT ASIGURARI SA	2,21	1,81	1,62	1,40	2,34	0,015	0,209
INTACT ASIGURARI GENERALE SA	2,09	1,26	1,15	1,56	1,75	-0,044	0,244
MOLDASIG SA	4,49	3,41	1,90	1,84	2,15	-0,169	0,422
MOLDCARGO SA	1,45	0,62	1,79	1,31	1,71	0,041	0,337
TRANSELIT SA	1,05	1,00	1,07	1,37	1,90	0,161	0,295

*Source:* author's calculations based on data from the National Bank of Moldova.

The companies with the highest solvency levels over the entire period are Moldasig SA, which starts at 4.49 in 2020 and stabilizes at 2.15 in 2024, and Donaris Vienna Insurance Group SA, with values ranging from 2.44 to 1.50. Although these levels decrease compared to 2020, they remain well above the minimum limit, with negative average adjustment rates (Rmed = -0.169 for Moldasig SA and -0.116 for Donaris), indicating a natural correction against the background of the increase in obligations and exposures assumed. The higher coefficients of variation (CV = 0.422 and 0.287) however show significant volatility.

In the stable companies segment, General Asigurări SA (1.31–1.39), Grawe Carat Asigurări SA (2.21–2.34) and Asterra Grup SA (1.08–1.44) stand out. These companies show slightly positive average growth rates (Rmed between 0.015 and 0.073) and low coefficients of variation (CV between 0.046 and 0.209), which indicates a coherent and predictable evolution of their solvency position. Companies with high volatility, such as Intact Asigurări Generale SA (CV = 0.244) and Moldcargo SA (CV = 0.337), show wide variations in solvency, with positive but oscillating average growth rates. Transelit SA records a clear upward trend, from 1.05 in 2020 to 1.90 in 2024, with the highest average positive rate among all companies (Rmed = 0.161), which reflects the significant consolidation of financial capacity during the analyzed period.

Overall, the results confirm that the industry maintains an adequate solvency position, based on a sufficiently solid financial structure, but marked by considerable differences between companies. This structural heterogeneity represents an important element in assessing the stability of the sector, suggesting that the performance of large companies contributes decisively to the overall resilience, while the variations of small companies can introduce local fragilities into the market. The analysis of the liquidity ratio for the period 2020–2024 highlights significant differences between insurance companies, both in the level and stability of the indicator. At the sectoral level, the average liquidity remains above the minimum threshold considered adequate for operational functioning, but the variability between companies is high, which suggests the existence of distinct financial management models.

**Table 4. Evolution of the liquidity ratio by insurance companies, 2020-2024.**

	2020	2021	2022	2023	2024	Rmed	CV
ACORD GRUP SA	2,55	14,00	5,02	4,31	3,46	0,080	0,790
ASTERRA GRUP SA	6,79	5,11	3,55	3,70	3,80	-0,135	0,301
DONARIS VIENNA INS. GROUP SA	6,94	6,23	2,51	2,37	2,47	-0,227	0,555
GENERAL ASIGURARI SA	4,91	4,65	3,57	4,91	3,75	-0,065	0,149
GRAWE CARAT ASIGURARI SA	4,52	5,16	6,10	4,97	4,34	-0,010	0,138
INTACT ASIGURARI GENERALE SA	3,91	4,01	3,49	6,55	5,35	0,081	0,271
MOLDASIG SA	2,39	2,61	2,32	3,16	3,27	0,082	0,161
MOLDCARGO SA	6,13	2,27	1,93	2,72	1,96	-0,248	0,591
TRANSELIT SA	4,63	19,34	3,90	4,25	2,50	-0,143	1,010

*Source: author's calculations based on data from the National Bank of Moldova.*

The highest initial liquidity levels are observed at Donaris Vienna Insurance Group SA (6.94 in 2020), Asterra Grup SA (6.79) and Moldcarg SA (6.13). However, all these companies are recording downward trends in the indicator, confirmed by negative average growth rates (Rmed between  $-0.135$  and  $-0.248$ ) and high coefficients of variation, especially in the case of Donaris (CV = 0.555) and Moldcarg (CV = 0.591). This indicates a continuous adjustment of liquidity, possibly against the background of increasing payment requirements or a more active structure of obligations.

In contrast, companies such as Moldasig SA (2.39 in 2020  $\rightarrow$  3.27 in 2024), Intact Asigurări Generale SA (3.91  $\rightarrow$  5.35) and Acord Grup SA (2.55  $\rightarrow$  3.46) record positive average liquidity rates (Rmed between 0.080 and 0.082). These developments suggest a gradual consolidation of immediate payment capacity, reflecting a more prudent management of current assets in relation to short-term obligations. At the same time, the coefficients of variation associated with these companies are significantly lower than in cases of increased volatility, which indicates a more stable liquidity profile.

Grawe Carat Asigurări SA and General Asigurări SA present balanced values of the indicator, with moderate fluctuations (CV = 0.138 and 0.149) and liquidity levels consistently above the minimum threshold, which confirms their short-term financial stability.

Overall, the results show a market with adequate liquidity, but characterized by polarization: a few companies maintain stable and positive indicators, while others show high volatility and downward trends. This dispersion in the evolution of liquidity is an important aspect for assessing the stability of the sector and its resilience to immediate obligations.

The analysis of the return on assets for the period 2020–2024 shows a considerable improvement in the economic performance of the sector, with total ROA increasing from 3.26% in 2020 to 6.07% in 2024. This evolution confirms the increase in efficiency in the use of assets and the strengthening of the capacity of companies to generate profit from available resources. The gross growth index (ICB = 1.863) highlights almost a doubling of profitability at the market level, while the coefficient of variation (CV = 0.346) shows moderate volatility.

**Table 5. Evolution of return on assets by insurance companies, 2020-2024, %.**

	2020	2021	2022	2023	2024	CV	ICB
ACORD GRUP SA	6,23	0,26	8,65	11,88	3,48	0,737	0,558
ASTERRA GRUP SA	10,08	0,81	3,70	10,59	5,94	0,670	0,589
DONARIS VIENNA INS. GROUP SA	3,01	2,72	3,35	4,93	4,00	0,245	1,331
GENERAL ASIGURARI SA	4,05	8,91	12,63	7,83	7,05	0,385	1,740
GRAWE CARAT ASIGURARI SA	2,21	2,85	3,60	3,33	1,91	0,258	0,867
INTACT ASIGURARI GENERALE SA	-1,04	8,93	14,85	18,57	0,46	1,032	x
MOLDASIG SA	2,95	0,38	-1,84	4,66	5,34	1,305	1,808
MOLDCARGO SA	1,03	-5,64	-0,28	-10,37	18,72	15,952	18,180
TRANSELIT SA	-0,27	10,12	8,00	6,07	8,95	0,624	x
TOTAL	3,26	2,74	4,89	6,30	6,07	0,346	1,863

*Source: author's calculations based on data from the National Bank of Moldova.*

The companies with the best average results in the analyzed period are General Asigurări SA, with values reaching 12.63% in 2022 and 7.05% in 2024, and Moldasig SA, which shows a significant increase in 2024 (5.34%), after fluctuating levels in previous years. These developments are reflected in high gross growth indices (1.740 for General Asigurări and 1.808 for Moldasig), which demonstrates a clearly favorable trend in profitability.

Transelit SA also records a remarkable expansion in profitability, increasing from -0.27% in 2020 to 6.24% in 2024, with a very high growth index (ICB = 22.00 compared to 2023), which indicates a deep correction and rapid streamlining of the activity. However, the negative values in 2020–2022 show that this upward trend is recent and still insufficiently stabilized.

Companies such as Donaris Vienna Insurance Group SA and Grawe Carat Asigurări SA show moderate levels of ROA (between 1.91% and 4.93%), with low variations over time (CV between 0.245 and 0.258), which suggests a stable and prudent performance model. In contrast, Asterra Grup SA and Acord Grup SA record significant fluctuations (CV = 0.670 and 0.737), reflecting a higher level of volatility in generating profitability.

The most pronounced instability is observed at Moldcargo SA, which shows negative ROA values in all years, with extreme oscillations between -5.64% and +18.72% and a very high coefficient of variation (CV = 15.952). The spectacular gross growth index (18.180) reflects a sharp recovery rather than a sustainable consolidation.

Overall, the return on assets indicates a sector in the process of financial consolidation, but characterized by considerable differences between companies. The high and relatively stable performance of some large operators contributes decisively to the aggregate result, while the volatility of certain companies maintains a degree of structural risk that must be taken into account in assessing the stability of the sector.

The insurance penetration rate in GDP recorded a constant increase in the period 2020–2024, evolving from 0.73% in 2020 to 1.00% in 2024. This increase reflects a gradual integration of insurance services into the national economy and an increase in the level of financial exposure taken on by the insurance sector. Annual values indicate a continuous advance: 0.73% (2020), 0.80% (2021), 0.90% (2022), 0.97% (2023) and 1.00% (2024), which confirms the trend of approaching the symbolic threshold of 1% of GDP.

**Table 6. Evolution of the penetration rate of insurance classes in GDP, 2020-2024**

	2020	2021	2022	2023	2024
Gross domestic product, mln.lei	199733,7	242078,6	274488,1	303554,0	323817,0
General Insurance	0,68	0,75	0,86	0,93	0,97
Life insurance	0,05	0,04	0,04	0,04	0,03
Total	0,73	0,80	0,90	0,97	1,00

*Source: author's calculations based on data from the National Bank of Moldova.*

The main contributor to this growth is the non-life insurance segment, which has evolved from 0.68% in 2020 to 0.97% in 2024, maintaining a constant and coherent pace of consolidation. In contrast, life insurance remains at a low level, with minor variations between 0.03% and 0.05%, which confirms the modest contribution of this segment to the aggregate financial stability of the sector.

The gradual increase in the penetration rate indicates that the insurance industry is gradually becoming a more important mechanism of financial protection in the economy. However, the overall level of 1% remains relatively low compared to the standards of mature markets, suggesting that the potential of the sector is still insufficiently exploited, and financial stability depends mainly on the dynamics of non-life insurance.

The share of claims paid in the total insured amount shows an oscillating evolution in the period 2020–2024, varying between 0.05 and 0.13 at the level of the entire market. This moderate amplitude suggests that companies' payment obligations have grown at a faster pace than the total insured amount,

a phenomenon associated with the expansion of exposures and the intensification of risk materialization. The maximum value of the indicator is recorded in 2024 (0.13), which reflects a higher level of pressure on compensation funds and an intensification of companies' financial burdens.

**Table 7. Evolution of the share of claims paid, 2020-2024.**

	2020	2021	2022	2023	2024
Total sum insured	1 066 477	1 298 791	801 173	1 134 122	983 427
General Insurance	1 066 212	1 298 586	800 910	1 133 902	983 191
Life insurance	265	205	263	220	236
Total claims paid	607,0	655,0	958,8	1024,2	1283,3
General Insurance	577,2	617,5	902,9	966,4	1227,6
Life insurance	29,8	37,5	56,0	57,7	55,7
Total Share of claims paid	0,06	0,05	0,12	0,09	0,13
General Insurance	0,05	0,05	0,11	0,09	0,12
Life insurance	11,23	18,32	21,29	26,24	23,61

*Source: author's calculations based on data from the National Bureau of Statistics and the National Bank of Moldova.*

In general insurance, the share of claims paid evolves from 0.05 in 2020 to 0.12 in 2024, with a peak of 0.11 in 2022 and 0.12 in 2024. This gradual increase reflects both the expansion of the volume of risks assumed and an increased degree of use of the financial protection mechanism. The indicator remains within limits considered normal for a market in the process of maturation, where the dynamics of claims naturally follow the growth of underwritings and exposures. The life insurance segment presents significantly higher values, with shares ranging between 11.23% and 26.24%, highlighting the specific nature of life products and the different ratio between insured amounts and paid claims. Although these values are much higher than those in general insurance, they must be interpreted in the context of the extremely low volume of the insured amount and the structure of the products, which generate a relatively high rate of payments related to exposure.

Overall, the evolution of the share of claims paid indicates a gradual intensification of the financial obligations of insurance companies, especially in 2022 and 2024, periods in which the level of payments increased significantly. Although the aggregate values remain at moderate levels, the constant increase in the indicator signals an increasingly pronounced pressure on the financial resources of the industry, an essential aspect in assessing the stability of the sector and its capacity to support future transformations.

## CONCLUSION

The analysis of the financial developments of the insurance industry in the period 2020–2024 highlights a sector that is gradually consolidating its position, but whose stability is unevenly distributed between segments and between companies. The constant growth of gross written premiums and the expansion of assets confirm the accumulation of a more solid financial base, capable of supporting operational functioning and absorbing moderate variations in risks. Statistical indicators – positive average growth rates, gross growth rates above unity and relatively low coefficients of variation in some areas – suggest a predictable evolution and a gradual maturation of the market. However, this favorable dynamic is almost entirely determined by the non-life insurance segment, while life insurance remains an unstable segment, small in size and with a minimal contribution to overall stability.

The capacity of companies to pay claims has increased visibly, which indicates the functionality of financial protection mechanisms and confidence in the system. However, the faster growth of claims compared to exposures generates pressure on reserves and liquidity, especially in years when there are sudden jumps in the volume of claims. At a technical level, the loss ratio in non-life

insurance remains stable, which reinforces the image of a balanced portfolio, but the high loss volatility in life insurance indicates a vulnerable area, difficult to manage in the long term.

Solvency and liquidity indicators show that the industry, as a whole, maintains its capacity to cover contractual obligations and manage immediate payments. However, large differences between companies, negative solvency rates in some firms and high liquidity volatility in some cases highlight a fragmented stability, in which a few large companies actually support the robustness of the entire system. From a profitability perspective, the increase in return on assets at market level indicates an efficient use of resources, but extreme variations in ROA in some companies reflect significant operational risks.

At the macroeconomic level, the increase in the penetration rate in GDP suggests a more visible integration of insurance services into the economy, but the overall level remains modest, which shows that the industry continues to operate below its real potential. The increase in the share of claims paid in the total insured amount confirms the activation of the protection mechanism, but also the intensification of pressure on the financial capacity of companies.

**Table 8. Evaluation of financial premises from the perspective of introducing innovations in the insurance industry in the Republic of Moldova.**

Parameter	Advantages	Disadvantages
Gross Written Premiums	<ul style="list-style-type: none"> <li>– Significant growth (ICB &gt; 1.3)</li> <li>– Constant annual growth rates</li> <li>– Strong linear trend (high R<sup>2</sup>)</li> <li>– Low CV, low volatility</li> </ul>	<ul style="list-style-type: none"> <li>– Growth concentrated in non-life insurance</li> <li>– Life segment stagnant (ICB ≈ 1, high CV)</li> <li>– Unbalanced structure, low diversification</li> </ul>
Claims Paid	<ul style="list-style-type: none"> <li>– Clear capacity to meet obligations</li> <li>– Constant growth (ICB &gt; 2)</li> <li>– Coherent upward trend</li> </ul>	<ul style="list-style-type: none"> <li>– Claims growing faster than exposures → pressure on reserves</li> <li>– Spike years → liquidity risk</li> <li>– Moderate to high CV</li> </ul>
Loss Ratio	<ul style="list-style-type: none"> <li>– Stable in non-life (CV ≈ 0.098)</li> <li>– Slightly negative R<sub>med</sub> → technical improvement</li> </ul>	<ul style="list-style-type: none"> <li>– Very high volatility in life (CV ≈ 0.244)</li> <li>– Instability limits planning</li> <li>– Large differences between segments</li> </ul>
Total Assets	<ul style="list-style-type: none"> <li>– Constant growth (ICB ≈ 1.37)</li> <li>– Positive average growth rates (R<sub>med</sub> 0.1–0.24)</li> <li>– Low CV at industry level</li> </ul>	<ul style="list-style-type: none"> <li>– Excessive concentration (&gt;70% held by 3 companies)</li> <li>– High CV for small companies</li> <li>– Uneven growth rates</li> </ul>
Solvency Ratio	<ul style="list-style-type: none"> <li>– Most companies above minimum threshold</li> <li>– Large companies show stability (low CV)</li> </ul>	<ul style="list-style-type: none"> <li>– Negative R<sub>med</sub> for many companies</li> <li>– High CV (&gt;0.3) for some firms</li> <li>– Uneven capacity for adaptation</li> </ul>
Liquidity Ratio	<ul style="list-style-type: none"> <li>– Generally adequate levels</li> <li>– Some positive R<sub>med</sub> (≈ 0.08)</li> </ul>	<ul style="list-style-type: none"> <li>– Extreme differences across companies</li> <li>– Very high CV (&gt;0.55)</li> <li>– Volatility affects planning</li> </ul>
Return on Assets (ROA)	<ul style="list-style-type: none"> <li>– Significant growth (ICB = 1.863)</li> <li>– Strong performance among large companies</li> <li>– Moderate CV at market level</li> </ul>	<ul style="list-style-type: none"> <li>– Extreme differences between companies</li> <li>– Very high CV (e.g. 15.9)</li> <li>– Profitability volatility</li> </ul>
Insurance Penetration in GDP	<ul style="list-style-type: none"> <li>– Constant growth to 1%</li> <li>– Expanded financial role</li> </ul>	<ul style="list-style-type: none"> <li>– Overall low level</li> <li>– Minimal contribution of life insurance</li> <li>– Undeveloped market</li> </ul>
Share of Claims Paid	<ul style="list-style-type: none"> <li>– Functional compensation system</li> <li>– Rising values → active sector</li> </ul>	<ul style="list-style-type: none"> <li>– Growth from 0.06 to 0.13 → rising financial pressure</li> <li>– High volatility in life segment</li> <li>– Reduced resources for innovation</li> </ul>

*Source: developed by the author.*

Therefore, the financial stability of the sector is present, but unevenly distributed: large and well-capitalized companies have the resources for modernization, while high volatility, fluctuating solvency and fragile liquidity in some companies limit the capacity for innovation at the industry

level. Detailed conclusions on the advantages and limitations of each indicator are summarized in the summary table at the end.

The originality of the study lies in the inverted approach to the relationship between financial stability and innovative processes in the insurance sector. While the specialized literature usually analyzes how innovations influence financial performance, this paper proposes a different perspective: assessing financial stability as a premise for the industry's capacity to adopt and sustain innovation. This reversal of the analytical direction provides a new conceptual framework for understanding the modernization mechanisms in small and emerging markets.

Another component of originality is the integration into a single analysis of a complex set of technical, financial and macroeconomic indicators – from gross written premiums, claims, loss ratio, total assets, solvency, liquidity and profitability, to the GDP penetration rate and the share of claims paid. Combining these indicators with statistical tools such as average growth rates, coefficients of variation, gross growth indices and linear trends allows for a multidimensional assessment of the stability of the sector, rarely encountered in applied research in the field.

The originality of the study is also reflected in the application of this framework to the insurance market of the Republic of Moldova, a context little analyzed in the international literature. The research highlights the structural peculiarities of the sector – high concentration, asymmetries between segments, volatility of some companies and low level of penetration in GDP – and correlates them with the industry's capacity to support transformations and innovative investments. Through this approach, the paper provides a comprehensive financial diagnosis and a strategic interpretation of the modernization potential, thus contributing to the development of a new analytical perspective on insurance markets in small and transition economies.

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