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## HISTORICAL SIMULATION OF VALUE-AT-RISK MODEL: RESULTS & ASSESSMENT

### ІСТОРИЧНА СИМУЛЯЦІЯ МОДЕЛІ VALUE-AT-RISK: РЕЗУЛЬТАТИ ТА ОЦІНКА

In this paper two variables are be tested for the importance in the Historical Simulation Value-at-Risk (VaR) estimation model. These variables are the Price-to-Earnings (P/E) ratio and the leverage ratio. These are some of the main indicators for any equity with respect to earnings and the probability of bankruptcy (probably, one of the most directly related to the risk measurement).

**Keywords:** systematically important financial institution (SIFI), Price-to-Earnings (P/E), Debt/Equity, Value-at-Risk (VaR), ranking procedure, financial risk management.

У цій статті дві змінні будуть протестовані на предмет їх значущості в історичній симуляції моделі оцінки ризиків Value-at-Risk (VaR). Цими змінними визначені відношення ціни акції компанії до її чистого прибутку (P/E) та частка позичкових коштів по відношенню до акціонерного капіталу. Таким чином будуть протестовані деякі з основних показників для будь-якої компанії пов'язані з прибутковістю і ймовірністю банкрутства (напевно, одні з найбільш безпосередньо пов'язаних з вимірюванням фінансового ризику).

**Ключові слова:** системно-важливий фінансовий інститут (СВФІ), Price-to-Earnings (P/E), Debt/Equity, Value-at Risk (VaR), процедура ранжування, фінансовий ризик-менеджмент.

В этой статье две переменные будут протестированы на предмет их значимости в исторической симуляции модели оценки рисков Value-at Risk (VaR). Этими переменными обозначены отношение цены акции компании к ее чистой прибыли (P/E) и доля заемных средств по отношению к размеру акционерного капитала. Таким образом, будут протестированы некоторые из основных показателей для любой компании связанные с прибыльностью и вероятностью банкротства (наверное, одни из наиболее непосредственно связанных с измерением финансового риска).

**Ключевые слова:** системно-важный финансовый институт (СВФИ), Price-to-Earnings (P/E), Debt/Equity, Value-at Risk (VaR), процедура ранжирования, финансовый риск-менеджмент.

**Introduction.** Value-at Risk (VaR) is a tool that is employed primarily in financial risk management as it can be classified as a risk measure of the risk of a loss occurring in a given timeframe on a specific portfolio of financial assets. All of the systematically important financial institution (SIFI) including globally operating banks, insurance

companies and any other financial institution that enjoys the global interconnectivity to the extent that its failure could trigger a financial crises are indeed employing VaR as a risk measurement tool in order to quantify the risk exposure to the market. This fact illustrates the extraordinary significance of the VaR model. Yet, despite the sig-

nificance of the VaR tool and popularity amongst financial practitioner the level of sophistication to construct the VaR is far from high.

In fact, the most employed method to determine the VaR is through historic simulation and RiskMetrics which gives raise to limitations of the real world applicability of the tool. It is hence the attempt of many academics to estimate the VaR with a continuously increasing level of sophistication, where most of the risk is explained in an autoregressive manner such as the GARCH model. However, recently the stream of research is devoted to a more structural approach in which market and firm specific factors are incorporated into the VaR model and this paper will be tied to this stream by attempting to expose the functionality of fundamental values such as P/E ratio and Debt/Equity Leverage ratio in the VaR model.

**Aim.** The aim is to determine if there is a measurable relation between the two aforementioned fundamentals and equity risk measured by Historical Simulation VaR model.

**Literature review.** Research conducted by Banz [1], Stattman [5], Rosengerg et al. [4] and Fama and French [3] has yielded that firm specific and market related variables can help explain the expected stock returns. The expected returns and the quantiles are characteristics of the actual return distribution and hence it is worth investigating if there is any relation to VaR which is why I concentrate my research on P/E ratios that indicates the over (under) pricing of equities and the Debt/Equity Leverage ratio that indicates the likelihood of default, ergo of substantial negative returns.

The 100 $\alpha$ % VaR provides a value such that the probability of observing a loss greater than VaR is smaller the confidence level 1- $\alpha$  for a given timeframe, where the time frame can vary from very frequent such of one day for example and up to 10 days in other cases for market risk and up to one year for credit risk or operational risk. In essence the VaR gives an indication of the tails of the profit/loss distribution bell-shaped curve. In probabilistic terms this may seem quite trivial as it is merely the negative of the 1- $\alpha$  probability quantile of the returns distribution, however in practice because of this definition the actual estimation of VaR becomes quite sophisticated.

Consequently, there is a need for further research of the fundamental and market variables power with respect to better VaR estimations. To the best of our knowledge the fundamental and market variables were not assessed with respect to the VaR models performance. Thus, there is a substantial field for further research in this area.

**Material and methods.** The empirical study executed in this dissertation is based upon a data set downloaded from DataStream I/B/E/S database. The obtained information includes the prices, P/E ratios and leverage ratios of the individual stocks contained in FTSE 100 stocks index for the period from 01/01/1990 until 01/01/2013.

The total number of stocks employed for the purpose of the study is 101, each producing 6001 observation. These equities were included in the FTSE 100 index either all the time or, at least, at some point during the above mentioned period. The FTSE 100 is one of the major European equity indexes and the main index of the London Stock Exchange (LSE). The portfolio examined in this paper is representative for the UK market because the securities selection is limited to UK equities only. Additionally parameters such as liquidity, free-float and market capitalization are

included in the index. One might argue that FTSE 100 is not representative of the entire market as it only includes the top market capitalized companies, which account for 81% of the whole LSE. However, there is a substantial argument in support of its use as the constituents are frequently traded and, therefore, this kind of portfolio nearly eliminates the data shortage issue. Moreover, it may be stated that the usage of the stocks included in the FTSE 100 index is focusing the research on the UK market, what narrows down the research.

The timeframe for the empirical study was chosen to be from 01/01/1990 until 01/01/2013. The decision about the upper bound dwells upon two main arguments. On the one hand, there is an aim to use the most recent data to make the results as applicable as possible, but, on the other hand there is a data availability issue that limits the end date of the period to 01/01/2013. The issue is, in essence, the reporting standards of the companies: some of the included stocks do not have the leverage ratio in the DataStream I/B/E/S database or any other database. The lower bound of the estimation period has less robust justifications. However, it is still appropriate to consider the dataset length limitation because of two reasons: firstly the FTSE 100 index was established only in 1984 and secondly, following the volatility clustering. The volatility clustering is proven to be caused by the information publication time patterns and by the behaviour of market participants. Both of these patterns were continuously changing within the timeframe. Patterns forced by different regulation requirements, different attitude of the market participants and level of technological service more than two decades ago, have changed and will, therefore, not fully represent the contemporary way the financial markets work. That is why it seems reasonable not to go beyond the 1990's and thereby lowering the discrepancy of the patterns that continuously changes.

Furthermore, there is a need to describe the obtained data specifics. Firstly, it has to be mentioned that all the 3 variables downloaded from the DataStream I/B/E/S database are identically calculated and restricted in the same way for all 101 companies to maintain the consistency of the research results. Secondly, those specifics have to be described for the research purposes.

The price (P) of equity is considered to be the official closing price of the day: the mid between the closing ask and bid prices obtained from the exchange's automatic quotation system. The data availability for P is rising steadily throughout the period from 60 companies on the 01/01/1990 to 101 on the 18/05/2011 and maintains the full availability till the end of the period.

The Price-to-Earnings (P/E) ratio is the price divided by the earnings rate per share (EPS) at the required date: taking the price as described above and the EPS is the latest annualized rate that may reflect the last financial year or be derived from an aggregation of interim period earnings provided by the local sources. The observation's count rises steadily from 59 on the 01/01/1990 to 97 on the 09/04/2008 and pivots around the 97 level towards the end of the timeframe.

The Leverage (Lev) ratio is the percentage of total debt of the company to the common equity: calculated as the sum of the Long Term Debt and the Short Term Debt divided by the Common Equity and multiplied by a hundred to get percentages, however there may be adjustment in the formula according to the industry standards (DataStream).

The count for the number of observations is rising steadily from 66 on the 01/01/1990 to 101 on the 01/01/2009 and is starting to drop on the 02/07/2012 towards the level of 88 on the 31/12/2012.

**Empirical results.**

**1. Portfolio formation.**

This empirical study is based upon the back testing procedure of VaR models that are estimated on a number of portfolios. The overall portfolio contains the returns of the FTSE 100 constituents during the period starting on the 01/01/1990 and ending on the 01/01/2013. Moreover, this portfolio is split into 4 parts according to the level of the firm specific variables, i.e. P/E ratio and Leverage ratio. Additionally, two types of ranking procedures are applied, as described in the methodology chapter: simple ranking and percentile ranking. Firstly, the study analyses 1 overall portfolio and 4 portfolios for each type of the ranking for both P/E and Leverage ratio. The summary statistics of the returns of all the 17 portfolios can be found in Table 1.

A couple of interesting observations can be made from this data. Firstly, the trends in the expected returns are described. When the percentile ranking is used, one may be able to see that higher expected returns are more likely to appear in the middle P/E and leverage ratio portfolios. This might be the case, because of the methodology of the percentile ranking procedure, which is the base for percentile portfolio formation in this study. This result shows that the percentile ranking itself represents better the middle part of the P/E or leverage ratio distribution among the FTSE 100 firms and puts less stocks into the extreme percentiles thus minimizing the case of outliers. Moreover, it may be concluded that in our sample of companies at each point in time there are stocks with a lot higher or lower P/E and/or leverage ratio than the average value, which supports the hypothesis of how dispersed the P/E and leverage values are within the sample. However, when the simple ranking is used, a clear trend is observed, where

high P/E firms have lower expected return than low P/E ones. That outcome is supported by the theoretical understanding. In addition the equities with a P/E value close to the average exhibit a reverse pattern. The ones with a P/E slightly higher than the mean value have lower returns than the ones that are slightly lower than the average P/E. This trend may be supported by the behavioral argument of the market participants that hesitate to pull the price further away from the average.

However, the explanation still needs to be evaluated consistently to give the clear evidence of such an argument. On the other hand, the percentile ranking expected returns in the leverage sorted portfolios show the higher expected returns towards the average levels of leverage with higher ones for a little below average levels of leverage and vice versa. Surely the extreme values of P/E are not appreciated by the market participants, what is reflected in their lower expected returns. The simply ranked leverage portfolios follow the exact same pattern and, therefore, lead to identical conclusions.

Secondly, the standard deviation has to be reconsidered. As the features of the concentration of equities in the middle of the P/E or leverage distribution by the percentile ranking was already mentioned, it supports its usage for evaluation of P/E and leverage values around the average. The actual values are high proving the higher level of uncertainty when the figure is closer to the average for both fundamental variables implemented. The higher level of standard deviation for low P/E as well as for low leverage values than for their high counterparts is explained by the bigger trading spreads, caused by higher interest in the stocks from market participants, and the increased risk of bankruptcy respectively.

Thirdly, the results for skewness and kurtosis are presented. The sample used has a close to zero, but positive, skewness across all of the portfolios, which does not go in line with the academic literature forecasts. This can

Table 1

**Portfolios' summary statistics**

	mean	std.	skewness	kurtosis	min	max
<b>Overall</b>	600.86	269.06	0.35	-0.90	181.45	1,181.47
<b>%P/E top 25</b>	387.80	356.85	1.99	3.95	13.02	1,950.00
<b>%P/E midtop 25</b>	644.21	747.04	2.70	8.84	18.66	6,410.00
<b>%P/E midbot 25</b>	603.84	695.79	4.68	30.72	19.65	6,655.00
<b>%P/E bot 25</b>	610.55	267.66	0.18	-0.86	156.59	1,270.78
<b>P/E top 25</b>	650.99	390.10	0.98	0.47	154.53	1,874.37
<b>P/E midtop 25</b>	615.84	248.17	0.21	-0.59	146.42	1,417.05
<b>P/E midbot 25</b>	634.50	307.51	0.77	-0.25	161.46	1,518.83
<b>P/E bot 25</b>	518.48	254.34	0.76	0.04	123.72	1,352.63
<b>%Lev top 25</b>	458.50	222.43	1.69	2.98	160.38	1,402.64
<b>%Lev midtop 25</b>	623.12	658.86	3.01	10.08	13.50	3,808.84
<b>%Lev midbot 25</b>	672.56	459.33	1.07	0.82	149.38	2,640.63
<b>%Lev bot 25</b>	503.51	323.97	0.57	-0.50	22.32	1,444.75
<b>Lev top 25</b>	597.53	330.52	0.66	-0.57	159.29	1,426.11
<b>Lev midtop 25</b>	575.63	289.08	0.66	-0.49	175.11	1,363.32
<b>Lev midbot 25</b>	577.26	213.82	0.61	0.23	185.42	1,226.56
<b>Lev bot 25</b>	651.77	289.61	0.01	-1.08	181.25	1,259.96

be explained by either a good overall performance of the FTSE 100 index equities during the sample period, what is actually historic reality or by the index picking the stocks that only perform good, what may be the case, but does not explain the fact that only 1 stock leaves the index during the whole sample period. The kurtosis estimates might also be affected by the same argument; however, the portfolios which contain more stocks have a significantly lower kurtosis than the portfolios with fewer stocks. Therefore, it may be concluded that the number of stocks in the portfolio pushes the distribution towards normality, which is exactly in line with the theoretical expectation. Conclusively, the general trend in slightly negative kurtosis and slightly positive skewness can be derived from the results, which overall supports the normality argument.

Table 2

**Portfolios' number of observations**

	Min	Max	Average
<b>Overall</b>	101	101	101
<b>%P/E top 25</b>	1	19	4.69
<b>%P/E midtop 25</b>	0	29	2.51
<b>%P/E midbot 25</b>	0	65	12.36
<b>%P/E bot 25</b>	6	96	62.3
<b>P/E top 25</b>	14	28	19.47
<b>P/E midtop 25</b>	10	27	19.56
<b>P/E midbot 25</b>	13	28	19.95
<b>P/E bot 25</b>	14	30	22.87
<b>%Lev top 25</b>	3	100	14.22
<b>%Lev midtop 25</b>	0	91	12.61
<b>%Lev midbot 25</b>	0	92	20.38
<b>%Lev bot 25</b>	0	91	34.64
<b>Lev top 25</b>	12	25	19.44
<b>Lev midtop 25</b>	14	25	20.17
<b>Lev midbot 25</b>	13	25	20.19
<b>Lev bot 25</b>	16	35	22.04

In addition, it is important to understand what the value of the rolling window size is. In this paper the rolling window size  $\omega$  is set to equal 1000, however other window sizes, such as 500 and 250 may also be tested in the further research. In this chapter the results are based on the  $\omega=1000$ , as the conclusions are consistent for all window sizes. For all the portfolios the one-day-ahead out-of-sample estimates of VaR are calculated, which can be then back tested against the corresponding actual realizations.

As it was mentioned earlier, the probability  $\alpha$  value in  $100\alpha\%$  VaR usually varies from 95% to 99%. Furthermore, the Basel Committee on Banking Supervision (1996) directives set the required regulatory capital to be directly dependent on the 99% VaR internal models. Therefore, in this dissertation all the VaR models incorporate the probability level of 99% as well.

Lastly, before transitioning to the VaR models results, there is another important aspect to mention: the ranking results (Table 2). These are extremely helpful for the above analysis.

**2. Historical Simulation VaR model: results and assessment.**

The overall results for the simplest VaR estimation method (Historical Simulation) given the portfolios tested are summarized in Table 3. All the portfolios are used to estimate a 99% VaR with the rolling window of  $\omega=1000$  observations. In addition the mean VaR for the portfolio is denoted by  $\bar{VaR}$ . Furthermore, the backtesting results are also given. The LRUC figures represent the p-values calculated in the unconditional coverage test,  $LR_{ind}$  and  $LR_{cc}$  are also the p-values of the test for independence of violations and for conditional coverage test, respectively. Additionally, there is a need to mention that the  $LR_{cc}$  values are calculated according to the methodology used by Christoffersen [2]. On top of that, the Basel II “three color scheme” is applied to all the results from here onwards showing the red, yellow and green models with bold, italic and normal font respectively.

Table 3 shows that the total percentage of violations for the overall portfolio is equal to approximately 0.99%, which is really close to the VaR estimation confidence level of 1%, which was used. This conclusion is backed up by the value of unconditional coverage test, which shows that

Table 3

**Performance of Historical Simulation VaR method (P/E portfolios)**

Decile	Overall	Percentile ranking			
		top25	midtop25	midbot25	bot25
<b>Historic</b>					
<i>mean VaR</i>	0.0264	0.2238	0.4121	0.3903	0.0563
<i>% Violations</i>	0.9998	1.0998	1.1998	0.8798	1.3997
<i>LR uc</i>	1.00	0.49	0.17	0.38	0.01
<i>LR ind</i>	0.00	0.27	0.00	0.00	0.16
<i>LR cc</i>	0.00	0.43	0.00	0.00	0.01
Decile	Overall	Simple ranking			
		top25	midtop25	midbot25	bot25
<b>Historic</b>					
<i>mean VaR</i>	0.0264	0.1439	0.2102	0.1771	0.1797
<i>% Violations</i>	0.9998	1.3197	0.9398	1.0798	0.6999
<i>LR uc</i>	1.00	0.03	0.67	0.58	0.02
<i>LR ind</i>	0.00	0.18	0.34	0.28	0.48
<i>LR cc</i>	0.00	0.04	0.58	0.47	0.06



the null hypothesis of the significant difference between the realized portion of violations and the estimate confidence level is clearly rejected. The extremely small value of the  $LR_{ind}$  for the overall portfolio, however, brings up the idea of a significant dependence between the violations, in this way, bringing the overall conditional coverage test results not in the support of the model.

Moreover, among the results for the portfolios that are completed using percentile ranking with respect to the P/E ratio, the dependence of the violations can be tracked for all of them but for the top 25<sup>th</sup> percentile firms. That brings the idea of higher P/E firms VaR estimation has more power than the lower ones. This statement is also supported by the highest p-value for the unconditional coverage test for the top 25<sup>th</sup> percentile portfolio among all P/E portfolios, which are formed using the percentile ranking. Additionally, the pattern of higher dependence between violations for the portfolios with high P/E ratios may be also seen from the highest p-value of the test for dependence of violations. As mentioned before, the percentile ranking is more appropriate to compare the top 25<sup>th</sup> and bottom 25<sup>th</sup> percentiles, because it takes into account not the 25% of top P/E firms, but the firms with actual high P/E according to the spread of P/E in the overall portfolio. Thus, for more insight into the medium P/E firms simple ranking based portfolios should be considered. The outcomes of the application of the unconditional historical simulation model on the portfolios normally ranked supports the above mentioned argument. As the simple ranking has better implications towards the middle of the P/E distribution of equities, the second (middle top) quartile has better results than the third (middle bottom) quartile with respect to both unconditional coverage test and test of independence of the violations, which consequently gives better results for conditional coverage test. However, the top P/E and bottom P/E quartile show lower dependence of violations, but they still produce more significant distortion in the estimation of violations (unconditional coverage test).

Table 4 shows the leverage ratio portfolios results. The leverage ratio sorted, using the percentile rankings, shows much better fit of the unconditional historical simulation model for the higher levels of leverage and the lower it becomes the worse results of unconditional coverage test are. However, they still experience a high level of dependence of violations, according to the p-values for the test of the independence of the violations. This can be easily explained by the data specifics: the percentage of leverage (debt to the common equity) is reported on the regularly basis and, therefore, do not change for considerably long periods of time before new reports are released.

The results of the portfolios sorted using the simple ranking, fully support the conclusion about high leverage – better fit. An interesting fact is the second (middle top) quartile result for the test of dependence of violations that argues for much lower dependence of violations in the medium high levels of leverage. This fact may be explained by the negative reaction of the market participants towards the excessive leverage ratios.

**Conclusion.** Summarizing the overall result of the empirical study undertaken it is possible to say that there is a relationship between two fundamental variables, such as P/E ratio and leverage ratio, and the estimation of VaR using the Historical Simulation VaR model.

The theoretically correct relationship between P/E and VaR estimation is supported by the empirical findings, that

Table 4

**Performance of Historical Simulation VaR method (leverage portfolios)**

Decile	Percentile ranking			
	top25	midtop25	midbot25	bot25
<b>Historic</b>				
<i>mean VaR</i>	0.0422	0.0445	0.0243	0.0531
<i>% Violations</i>	1.0198	1.2997	1.1798	1.5197
<i>LR uc</i>	0.89	0.04	0.21	0.00
<i>LR ind</i>	0.00	0.00	0.00	0.00
<i>LR cc</i>	0.01	0.00	0.00	0.00

Decile	Simple ranking			
	top25	midtop25	midbot25	bot25
<b>Historic</b>				
<i>mean VaR</i>	0.0347	0.0361	0.0398	0.0379
<i>% Violations</i>	1.1198	0.9198	1.0198	0.9398
<i>LR uc</i>	0.40	0.56	0.89	0.67
<i>LR ind</i>	0.00	0.36	0.00	0.10
<i>LR cc</i>	0.00	0.55	0.01	0.51

is the higher P/E ratio is the less predictable VaR becomes. Moreover, the relationship between leverage ratio and VaR estimation also hold true according to the empirical evidence. An important fact besides the direct positive relationship between VaR estimation and amounts of leverage taken in percentage to common equity capital is found. The fact is that the excessive amounts of leverage decrease the returns predictability what, consequently, decreases the power of VaR estimation models.

Additionally, there were some data limitations in the empirical study that have to be mentioned. Firstly, the geographical limitation of the stock picking process narrowed down the sample to the FTSE 100 constituents, the London Stock Exchange major index. Also there is a liquidity argument that limits the opportunity of results generalization, which, essentially, is about focusing on the most liquid equities on the market and not taking into account the less liquid ones. Lastly, the data issue with the percentile ranked portfolios restricted their implication on the results.

Quite a few important conclusions come from the empirical results of this paper as well. The usage of the percentile ranking allowed to further understand the extent of the dependence between the fundamental variables and VaR estimation.

In comparison to the previous research in the area the Historical Simulation VaR model was applied towards the assessment of the importance of P/E and leverage ratio in VaR estimation. In addition, to the best of our knowledge, the percentile ranking was also introduced in achieving that goal. The Historical Simulation VaR model was tested with respect to incorporation of P/E and leverage ratio in the estimation process. The result was supporting the Historical Simulation model to be the most efficient in VaR predictions.

The areas for further research may include the testing of the different rolling windows in VaR estimation with the fundamental variables included, the testing of other VaR models for P/E and leverage ratio and other fundamental variables, the incorporation of business cycles and other exogenous economic factors into the model.

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**TOTAL COMMUNITY – МЕХАНІЗМ УПРАВЛІННЯ РОЗВИТКОМ  
СІЛЬСЬКИХ ПОСЕЛЕНЬ****TOTAL COMMUNITY – CONTROL MECHANISM THE DEVELOPMENT  
OF RURAL SETTLEMENTS**

У статті розкрито сутність та функції суспільних інституцій у формуванні засад сільського розвитку. Визначено механізми досягнення сталості та планомірного характеру розвитку сільських територій в умовах глобалізації та децентралізації владних повноважень в Україні. Окреслено особливості діяльності та напрями формування національної політики відродження села за участю громадських організацій та інструментів міжнародного регулювання суспільного розвитку.

**Ключові слова:** сталий розвиток, сільський розвиток, суспільні інституції, громадські та міжнародні організації.

В статье раскрыты сущность и функции общественных институтов в формировании основ сельского развития. Определены механизмы достижения устойчивости и планомерного характера развития сельских территорий в условиях глобализации и децентрализации властных полномочий в Украине. Обозначены особенности деятельности и направления формирования национальной политики возрождения села с участием общественных организаций и инструментов международного регулирования общественного развития.

**Ключевые слова:** устойчивое развитие, сельское развитие, общественные институты, общественные и международные организации.

The essence and functions of social institutions in forming the foundations of rural development. The mechanisms to achieve sustainability and systematic nature of development of rural territories in the conditions of globalization and decentralization of power in Ukraine. Marked features of the activities and directions of the formation of the national policy for the revival of the village with the participation of public organisations and instruments of international regulation of social development.

**Keywords:** sustainable development, rural development, public institutions, public and international organizations.

**Постановка проблеми.** Глобалізаційні процеси світової економіки передбачають розвиток відносин природи і суспільства в напрямі гармонізації та взаємодії на засадах синергії та відповідальності. Взаємозалежність суспільних інституцій із наслідками та процесами, що протікають, зумовили посилення ролі територіальних громад та відповідну децентралізацію управління як в Україні, так і на міжнародному рівні. Водночас ці процеси поєднуються із системоутворюючими підходами до формування єдиного світового простору, який забезпечує загальний розвиток за умови збереження локальної автентичності. Ці протилежні

процеси сформували базу для появи відповідних інституцій на локальному, регіональному, національному, наднаціональному та глобальному рівнях. Їх подальше вивчення, обґрунтування та стратегічні перспективи розвитку є метою даного дослідження.

**Аналіз останніх досліджень і публікацій.** Структурні, функціональні та демографічні проблеми регіонального розвитку, а також напрями їх вирішення знайшли своє відображення у чисельних працях вітчизняних та зарубіжних дослідників. Зокрема, О.В. Скидан вивчає аспекти державотворчої діяльності з позицій формування національної продовольчої політики [1].