ABSTRACT

Economic resilience is the financial ability of a nation that relies on the utilization of existing resources in dealing with various problems whose sources are internal or external to create community welfare. Economic resilience is currently experiencing a severe test for all countries due to covid-19 pandemic, which has an impact on the economic crisis. A qualitative approach is applied by actualizing bibliometric analysis of the concept of economic resilience, which is the main focus. The research data is sourced from scientific journals on the concept of economic resilience, which was explored during the time span of the pandemic. The results of the study state that several theories found have a novel value that is rarely published and can help accelerate economic resilience, including disaster risk reduction, independent village, global value chain, ecology resilience, global recession, banking crisis, regional resilience, and village government. The main clusters derived from economic resilience include economic recovery, economic crisis, adaptation strategy, community empowerment, economic vulnerability, financial inclusion, circular economy, and good governance. Knowledge development needs to be carried out to disseminate current theories and issues so that researchers or academics can study and explore more so that the derived knowledge can help provide solutions and improve economic conditions.

Keywords: Economic Resilience, Covid-19 Pandemic, Bibliometric Analysis, Economic Recovery, Knowledge Development

JEL : B55, F60, O10

Introduction

During the covid-19 pandemic, research aimed at developing economic resilience worldwide has become a concern for experts. It has an urgent interest, especially in development in the economic field on a national and global scale. Research on the concept of economic resilience has been published previously, as researched by Wang et al. (2021), which
states that the ability to withstand various pressures and risks to economic resilience can strengthen the ability of the economy to resist all external disturbances and restore its development. In addition, exploration of various factors that have an impact in responding to the initial crisis needs to be applied to regional economic resilience, especially in big cities that are more vulnerable and exposed to pandemics (Hu et al., 2021), dynamic economic resilience has a focus on the recovery process and continuous improvement of economic output to improve post-disaster economic recovery more effectively (Zhang et al., 2021), geographical economic resilience has an unstable general condition so that it has a dependence on local attributes including economic structure, human actions, and institutional arrangements (Mai et al., 2021).

Although research on economic resilience has been widely researched in various fields of study and relevant aspects, the issue of economic resilience during the covid-19 pandemic is still a significant concern for all people worldwide. Some of the problems that arise include the low level of regional resilience making fiscal and employment conditions more vulnerable to various shocks and disturbances due to recent external influences in order to measure economic resilience (Silva et al., 2021), the need to control various aspects of resilience such as industrial diversity and human resources in order to generate complex interactions between economic resilience and transportation infrastructure through policy development to strengthen regional capacity to be more resilient to economic shocks (Chacon-Hurtado, Kumar, et al., 2020), need for creativity of business actors in dealing with the pandemic phenomenon in order to market their products that can take advantage of various online media or strengthening and collaboration between communities of business actors who have various limitations experienced (Munir, 2021), tourism has implications for economic resilience for all stakeholders involved which have the impact of various necessary factors that lead to the need to approach the development of tourism destinations, tourism management and monitoring of tourism activities (Utami & Kafabih, 2020).

Several solutions are needed to get a solution to the problems encountered during the pandemic, especially in creating effective economic resilience that has been carried out by experts, including among others according to Dormady et al. (2021), who stated that economic resilience is needed in the face of catastrophic events to reduce losses arising from business disruptions by increasing stability and continuity of operations. Other experts have also provided solutions that are expected to provide a solution in creating economic resilience, including the existence of a community bank has a significant impact on regional economic resilience during a recession that causes macroeconomic shocks that affect development outcomes in the region that occur (Petach et al., 2021), it takes an economic stochastic scheduling that integrates an economic perspective that is carried out together with a resilience function by utilizing a multi-objective mixed-integer linear programming method (Younesi et al., 2021), social-environmental system resilience through complex adaptive systems as part of regional economic capacity is helpful in responding to crises and resetting to determine changes that promote future development options (Egidi & Salvati, 2020), financial inclusion is used to obtain financing and business investment is able to reduce the level of vulnerability of different people’s background conditions and lead to efforts to increase economic resilience (Pomeroy et al., 2020). In addition, the digital economy has business resilience. It contributes positively to economic growth, which requires the availability of a completely digital economy database to play a role in economic resilience (Nizar & Sholeh, 2021).

Economic resilience is marked as an indicator that the community does not sink and collapse due to the harmful effects of the current great pandemic. Therefore, it is important
to conduct a study of economic resilience to help provide the latest solutions in alleviating the burden of suffering caused by pandemics so that it can contribute to restoring the community’s economic condition, which is currently uncertain and difficult to predict. The current economic resilience needs to be further developed to support economic recovery on a national and global scale through the development of knowledge and technology. In theory or practice, studies on economic resilience have an increasing trend based on the level of urgency so that economies of scale can return to normal as soon as possible. Community participation in various business sectors plays a vital role in maintaining economic conditions; at the beginning of the pandemic, there was a negative trend that threatened the economic sector to decline, but conditions gradually improved even though the situation was not as expected.

Novelty in theory or concept in the development of economic resilience is needed to obtain new knowledge that can be carried out in scientific evolution. For this reason, the purpose of this study is to find novel concepts in economic resilience to obtain derivative theories that need to be followed up through the development of knowledge to solve post-pandemic problems in the economic sector. Scientific evolution in economic resilience is applied to produce theories and concepts that have novel value. They can be further investigated by researchers or academics and are expected to help accelerate economic improvement starting from local, national, and global levels. The results of the analysis found from the scientific evolution process can be used to find out trends in the latest theories or concepts as current and up-to-date issues to create new strategies that can trigger economic growth that can always be consistently positive. For this reason, new strategies need to be developed to encourage economic recovery during the pandemic by discovering theories and concepts that have novel value in scientific evolution to ensure that economic resilience can be maintained and stable.

**Literature Review**

Economic resilience can be defined as a region’s ability to cope, recover, and adapt to economic shocks (Chacon-Hurtado, Kumar, et al., 2020). Economic resilience is the ability of a region to successfully recover from shocks that cause it to deviate from the growth path and potentially not reach the expected growth path (Hill et al., 2008). Disclosure of economic development and recovery processes to increase disaster prevention and management capacity to formulate control policies and recovery methods for economic reconstruction based on economic resilience (Kan et al., 2020). The economic resilience measurement index is based on four areas, including financial flexibility, stability following the development path, diversification of activities, and diversification of export markets, in addition to the concept of economic resilience to overcome shocks and enable sustainable sectoral development, and provide a new perspective by building economic resilience and adaptive capacity in the system with efforts to control stable production optimally and to achieve short-term economic benefits (Quendler & Morkūnas, 2020).

Economic resilience system planning is important to consider regional characteristics, especially industrial diversity, human resources, and transportation accessibility, where the concept of economic resilience is related to long-term regional economic prosperity, the possibility of different balances, and the interaction of the built environment with local economic components such as labor, markets and industrial structures that refer to socio-ecological resilience as the most appropriate perspective, besides that regional economic resilience, usually uses economic indicators such as employment or unemployment rates, income, and expenditure (Chacon-Hurtado, Losada-Rojas, et al., 2020). The ability to withstand economic resilience risks can increase the economy’s ability against external disturbances and efforts to
recover them so that increasing economic resilience can be carried out through quality eco-
monic development (Wang et al., 2021). The growth of a region may not always be as desired
to achieve an optimal economy, so getting back on an unwanted path is not a guarantee to
get a region’s economic resilience (Ngouhouo & Nchofoung, 2022). Natural resource revenues
should be invested in other economic sectors to support long-term diversification and impact
economic resilience (Joseph, 2021).

Data and Research Methods

The concept of knowledge mapping is currently being developed on various topics
that are needed in line with the level of urgency. Knowledge mapping can obtain novelty (Sar-
jana et al., 2021). Mapping of economic resilience aims to assist stakeholders in accelerating
the recovery of economic conditions due to the pandemic through scientific evolution. The
process of scientific evolution is carried out in various published scientific publications, which
in this study use scientific journals as a source of information. The primary source of informa-
tion from scientific journals uses the concept of economic resilience as scientific literature
and becomes a study that requires scientific deepening. Scientific evolution is carried out
in the form of mapping scientific journals with a primary focus on the concept of economic
resilience. Search scientific journal data using Harnessing Publish & Perish program, which
is carried out through a search process sourced from the database on Scholar Google. The
search results managed to collect several scientific journals, which were then classified based
on the number of citations and rankings obtained. Qualitative methods are highly emphasized
in this study which is strengthened by the development of bibliometric analysis in implement-
ing scientific evolution. Bibliometric analysis used to analyze the co-occurrence of keywords
and evaluate the scientific evolution of scientific topics (Rojas-Lamorena et al., 2022) reveals
appropriate information for new research constructs (Mohadab et al., 2020).

The search for scientific journals is based on the keyword “economic resilience” to find
several relevant journals in November 2021. The data that has been collected is 993 scientific
journals on the concept of economic resilience. The time span for publishing scientific jour-
nals occurs during the covid-19 pandemic or when publication starts from 2020-2021. In addi-
tion to the number of published scientific journals, the total number of citations per year and
per paper and the average number of authors per paper can also be found. The analysis re-
sults are presented through network visualization and density using the VOSviewer program.
VOSviewer is presented in the form of visual mapping for publication information (Abdullah et
al., 2020), results of data analysis with elegant visualization (Sarjana et al., 2022), and visual-
ization of the resulting program is easy to understand (Najib et al., 2021), to analyze data that
can be presented in the form of interactive and attractive visualizations (Sarjana & Djajasinha,
2022). The evolution of knowledge is expected to be known visually based on data analysis in
the form of a theory or concept with novel value with many publication frequencies or a small
number of publications. The novelty value obtained in the concept of economic resilience is
expected to create up-to-date theories and issues that can be followed up scientifically by
researchers and academics to help accelerate economic recovery. The latest relevant issues
need to be monitored and evaluated to support the development of the latest knowledge and
technology (Sarjana, 2021).

Finding and Discussion

The study results describe the concept of economic resilience in an elegant, attractive,
and interactive display in the form of network visualization and density visualization. The re-
sults of inputting keywords on the concept of economic resilience ensure the acquisition of
the amount of data that has been collected from as many as 993 scientific journals. Characteristic data revealed that the time span of journal publication is from 2020-2021 or when the covid-19 pandemic occurs. The database is analyzed using VOSviewer to produce theories or current issues with novelty value so that they can be followed up for knowledge development and hope to help improve economic conditions locally, nationally, or globally.

Table 1: Database Specification Journal on Economic Resilience

<table>
<thead>
<tr>
<th>Publication year</th>
<th>2021-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers</td>
<td>993</td>
</tr>
<tr>
<td>Citations</td>
<td>3547</td>
</tr>
<tr>
<td>Cites/year</td>
<td>3547.00</td>
</tr>
<tr>
<td>Cites/paper</td>
<td>3.57</td>
</tr>
<tr>
<td>Authors/paper</td>
<td>2.66</td>
</tr>
<tr>
<td>h-index</td>
<td>23</td>
</tr>
<tr>
<td>g-index</td>
<td>41</td>
</tr>
<tr>
<td>hA-index</td>
<td>23</td>
</tr>
</tbody>
</table>

During the covid-19 pandemic, scientific journal publications for the last two years on the concept of economic resilience obtained from search results are predicted to produce new theories. The search results database obtained 993 scientific journals with a total of 3547 citations, cites per paper 3.57, and authors per paper 2.66. The number of citations can indicate that the cited journal has good quality and is reputable because other parties widely use it in developing knowledge. In addition, the index values obtained by the h-index, g-index, and hA-index are still not optimal due to the relatively short publication time and the need for further promotion so that researchers or academics better know them to increase the number of citations.

Table 2: Clustering of Theories and Issues on Economic Resilience

<table>
<thead>
<tr>
<th>Cluster</th>
<th>2020-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Economic recovery, accessibility, adaptability, complexity, disaster management, economic shock, economic dimension, urban community, village government</td>
</tr>
<tr>
<td>2</td>
<td>Economic crisis, global recession, national economic resilience, profitability, structural change, sustainable development, uncertainty</td>
</tr>
<tr>
<td>3</td>
<td>Adaptation strategy, disaster resilience, food security, hospitality industry, infrastructure resilience, natural resilience, urban resilience, smart city, tourism industry</td>
</tr>
<tr>
<td>4</td>
<td>Community empowerment, community resilience, entrepreneurial ecosystem, investigation, knowledge management, mental health, resilience assessment.</td>
</tr>
<tr>
<td>5</td>
<td>Economic vulnerability, business environment, organizational resilience, integration, possibility, independent village, social security, village community</td>
</tr>
</tbody>
</table>
Data clustering reflects developments in the concept of economic resilience published in various scientific journals and can produce theories and issues that have novelty and become indispensable for knowledge development. Eight clusters were generated during scientific evolution in revealing theories and issues, some of which became theories or issues with a high frequency of occurrence. Some of them are new theories or issues that are still rarely published, so they need to be investigated further. The eight main topics representing each cluster include economic recovery, economic crisis, adaptation strategy, community empowerment, economic vulnerability, financial inclusion, circular economy, and good governance.

Table 3: The Highest Number of Citations on Economic Resilience

<table>
<thead>
<tr>
<th>TC</th>
<th>APY</th>
<th>Title</th>
<th>Source Journal</th>
<th>Publisher</th>
<th>Authors</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>324</td>
<td>324.00</td>
<td>Slum health: arresting covid-19 and improving well-being in urban informal settlements</td>
<td>Journal Urban Health</td>
<td>Springer</td>
<td>J Corburn, D Vlahov, B Mberu, L Riley, WT Caiaffa</td>
<td>2020</td>
</tr>
<tr>
<td>168</td>
<td>168.00</td>
<td>Dynamic interventions to control covid-19 pandemic: a multivariate prediction modelling study comparing 16 worldwide countries</td>
<td>European Journal of Epidemiology</td>
<td>Springer</td>
<td>R Chowdhury, K Heng, MSR Shawon, G Goh</td>
<td>2020</td>
</tr>
<tr>
<td>66</td>
<td>66.00</td>
<td>A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research</td>
<td>European Management Journal</td>
<td>Elsevier</td>
<td>E Conz, G Magnani</td>
<td>2020</td>
</tr>
<tr>
<td>60</td>
<td>60.00</td>
<td>Risks, resilience, and pathways to sustainable aviation: A covid-19 perspective</td>
<td>Journal of Air Transport Management</td>
<td>Elsevier</td>
<td>S Gössling</td>
<td>2020</td>
</tr>
<tr>
<td>44</td>
<td>44.00</td>
<td>Analysis of public perception of the Israeli government’s early emergency instructions regarding covid-19: online survey study</td>
<td>Journal of Medical Internet Research</td>
<td>jmir.org</td>
<td>A Gesser-Edelsburg, R Cohen, R Hijazi</td>
<td>2020</td>
</tr>
<tr>
<td>43</td>
<td>43.00</td>
<td>Dancing the supply chain: Toward transformative supply chain management</td>
<td>Journal of Supply Chain Management</td>
<td>Wiley Online Library</td>
<td>A Wieland</td>
<td>2021</td>
</tr>
</tbody>
</table>
The economic recovery period due to the pandemic must be carried out immediately by developing all the capabilities and knowledge possessed so that economic conditions can recover quickly and can even much better than before, including dissemination of the concept of economic resilience and its derivatives so that it can be utilized and applied as optimally as possible. The publications of scientific journals during the last two years during the pandemic have obtained an average number of citations that have not been significant, so it still takes a lot of time to be known. The highest number of citations is still only 324 and not in large numbers because the concept of economic resilience is still rarely studied and is currently becoming a trend, especially during the pandemic. For this reason, more detailed research that has an advanced level on the concept of economic resilience is urgently needed so that new knowledge generated from research can be utilized to help accelerate economic improvement.

Table 4: Ranked in the Top Ten Scientific Journals on Economic Resilience

<table>
<thead>
<tr>
<th>Rank</th>
<th>Authors</th>
<th>Title</th>
<th>Source Journal</th>
<th>Publisher</th>
<th>Year</th>
<th>TC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D Chacon-Hurtado, I Kumar, K Gkritza</td>
<td>The role of transportation accessibility in regional economic resilience</td>
<td>Journal of Transport Geography</td>
<td>Elsevier</td>
<td>2020</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>L Petach, S Weiler, T Conroy</td>
<td>It’s a wonderful loan: local financial composition, community banks, and economic resilience</td>
<td>Journal of Banking &amp; Finance</td>
<td>Elsevier</td>
<td>2021</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>E Quendler, M Morkūnas</td>
<td>The Economic Resilience of the Austrian Agriculture since the EU Accession</td>
<td>Journal of Risk and Financial Management</td>
<td>MDPI</td>
<td>2020</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>D Chacon-Hurtado, LL Losada-Rojas, D Yu</td>
<td>A proposed framework for the incorporation of economic resilience into transportation decision making</td>
<td>Journal of Management in Engineering</td>
<td>ASCE Library</td>
<td>2020</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>H Wang, Y Li, Y Liu, F Qing, Y Zhou, Y Chen</td>
<td>Study on the Influencing factors of urban economic resilience in post epidemic Era - A case study of Kunming City</td>
<td>Journal of Urban Management</td>
<td>Elsevier</td>
<td>2021</td>
<td>1</td>
</tr>
</tbody>
</table>
The top ten rankings in journal publications published during covid-19 pandemic or in the last two years published from various sources of well-known journals and publishers are only based on the concept of economic resilience. Despite obtaining a journal rating, it appears that the citations obtained are still few, this is due to the short publication time and only about two years and some of these journals are not widely known by researchers and academics so it takes more time to get the attention of stakeholders. Citation should be increased as much as possible to indicate that knowledge and technology related to topic under study can be utilized and has usefulness. In the first year of the pandemic, the concept of economic resilience has not been widely echoed, but after almost two years of the pandemic, policies related to economic recovery have become a serious concern and have become the main sector involving various elements of the community. The economic recovery policy includes efforts to deepen the exploration of the concept of economic resilience and its derivative concepts in order to gain a better understanding and knowledge so that it can be operationalized in order to be free from the economic crisis caused by the pandemic.

Network visualization displays the results of data analysis from scientific journals on the concept of economic resilience. Network visualizations are presented using association strength and fractionalization methods to determine the visualization parameters so that it looks more complex, attractive, interactive and elegant. Node size means the number of research topics published in scientific journals, the more the number of published research topics, the larger the node size. In addition, the color of the node indicates the cluster group, the node with the same color means that the node is in the same cluster. The line of nodes or node links that connects separate nodes shows that the topics connected between the two nodes have relevance or similarities. In network visualization, it is known that the topics that most often appear in the concept of economic resilience are also characterized by relatively large node sizes compared to others, including person, environment, Indonesia, income, economic growth, climate change, village, organization, structure, and tourism.
Figure 1: Network Visualization on Economic Resilience

Density visualization shows the distribution of the concept of economic resilience in scientific journal publications that cover many topics obtained from the results of the analysis. Visualization density is measured based on the brightness level of the image or refers to the yellow color presented, the brighter the image or the clearer the yellow color displayed indicates the topic of the analysis results has a high frequency of publications. A topic that has a bright yellow color means that the topic has been widely published in scientific journals and there are two possibilities that can be done, namely the topic is investigated further because it is needed a lot or the topic is already saturated. What needs to be further considered is that
some topics that have low brightness in yellow and that are not widely known so that they have a great opportunity to become novelty for the development of the concept of economic resilience include disaster risk reduction, independent village, global value chain, ecological resilience, global recession, banking crisis, regional resilience, and village government.

Figure 2: Density Visualization on Economic Resilience

Network visualization and density show the relationship between authors who have published the concept of economic resilience in scientific journals. Author clustering which forms groups based on certain colors is a group of authors whose scientific journal topics have relevance and similarities. Although the size of the nodes varies in each cluster, nodes with the same color have related topics. In addition, the node with the largest size in the cluster of the same color is the author with the largest number of journal publications so that it is considered the leader of the cluster. As a cluster leader based on node dimensions, it is used as a reference for other authors in publishing on the same or relevant topics. Furthermore, it
turns out that if the clusters have relevant or similar topics, they appear to be connected by links or lines with the number of one or more in each cluster.

Figure 3: Network Visualization by Author Relationship

Conclusion

Economic recovery during the pandemic and post-pandemic is the main hope for business development to be able to survive and meet the needs of life through development of the concept of economic resilience as an effort to encourage economic improvement locally, nationally or internationally. Improvements in economic conditions are required to be fulfilled as soon as possible through knowledge development through the discovery of anchovies and concepts that are new and can be useful to help improve economic conditions that are currently slumping due to a pandemic that threatens national stability. This study succeeded
in obtaining several theories and issues that have novelty in the concept of economic resilience that can be followed up to be developed and researched to help accelerate economic recovery, including disaster risk reduction, independent village, global value chain, ecological resilience, global recession, banking crisis, regional resilience and village government. In addition, several theories and variables that have a high frequency and have a large number are published in various scientific journals during the pandemic but still need to be deepened in the discussion of the topics studied including the environment, Indonesia, income, economic growth, climate change, organization, structure, and tourism. It is hoped that several theories or variables found in this study can be utilized and followed up to be developed so that they have the potential to help reduce the risks and negative impacts of the pandemic. The hope from the novelty obtained in this study is that all stakeholders play an active role in helping economic recovery through the implementation of the novelty obtained in the form of theories or issues as part of developing knowledge so that it can help the community to be able to improve the level of welfare which leads to an increase in the national economy.

References


