

INFLUENCE OF BORDER INFRASTRUCTURE ON TRADE AND ECONOMIC GROWTH IN BORDER AREAS

Melyana R Pugu *¹

Universitas Cenderawasih
puguratana@yahoo.com

Muhammad Syafri

Universitas Negeri Makassar
muhammadsyafri@unm.ac.id

Nahot Tua Parlindungan Sihaloho

Universitas Tanjungpura Pontianak
nahotsihaloho@fisip.untan.ac.id

Mohd Syahrin

Universiti Islam Sultan Sharif Ali, Brunei Darussalam

Abstract

Border infrastructure has an impact on trade and economic growth for communities living on the border. This method of investigation uses the study of literature by searching for references that fit the context of the research. The results of the research show that the improvement of the infrastructure in the border area has a significant positive impact on the volume of trade, with reduced logistics costs and improved efficiency of the flow of goods and services. Better infrastructure is strongly correlated with higher levels of foreign investment and closer regional economic integration. Further analysis shows that increased access to education, health care, and public services, catalysed by infrastructure investment, significantly contributes to economic and social development in the border areas. The research also found that strong border infrastructure increases economic resilience to external disturbances and drives long-term growth through economic diversification and innovation.

Keywords: Infrastructure, Trade, Economic Growth, Border Areas.

Introduction

A border area is a geographical zone that lies on the edge of a country's territory, separating it from its neighbours. This area is unique because it often combines the geographical, social, and economic characteristics of two different countries. (Hutagaluh et al., 2020). The geographical conditions of the border region can vary greatly, ranging from high mountains, dense forests, to fertile lowlands. This characteristic not only affects the type of economic activity that can thrive there, but

¹ Correspondence author

also determines the difficulties and costs in building a decent infrastructure. (Itasari, E. R. 2020).

Despite the difficulties, the border area has great potential to serve as a gateway to international trade that can boost the local economy. The availability of abundant natural resources is often the main attraction (Ceccorulli, M. 2020). For example, border areas rich in forest or mining can be centers of production and export. However, without adequate infrastructure, this potential cannot be exploited optimally. Construction of roads, bridges, and other support facilities is becoming critical to ensuring that goods and services can move efficiently between the two countries. (Powell et al., 2020).

In addition, border areas often involve multicultural communities with diverse customs, languages, and customs. It adds a layer of complexity to regional development efforts, but at the same time provides a unique opportunity in creating inclusive cross-border economic activities. (Li et al., 2020). Social and economic integration between local and cross-border populations can be strengthened through infrastructure that is designed and managed with attention to local needs and wisdom. Therefore, a deep understanding of the geographical and social characteristics of the border region becomes crucial in planning and implementing development projects aimed at boosting trade and economic growth in this critical area. (Chatzitheodoridis, F., & Kontogeorgos, A. 2020).

Economic conditions in border areas are often lagging behind when compared to other regions of a country. This is mainly due to isolated geographical location, difficulty in accessibility, and lack of adequate infrastructure. (Voloshenko, K. Y., & Novikova, A. A. 2020). As a peripheral region, border areas tend to receive lower priorities in government resource allocation and investment. As a result, economic development in the region is slow, affecting lower income rates and higher poverty than the national average (Paül et al., 2022).

Traditionally, economies in border areas were dominated by agriculture, small-scale cross-border trade, and the exploitation of natural resources such as mining and forestry. These economic activities are often not well organized and limited to local or sub-national scales. (Malik, A., & Gallien, M. 2020). Although cross-border trade can provide economic opportunities, unofficial practices and lack of regulation often lead to these activities not being recorded in official economic statistics, which means they do not make the maximum contribution to the national or local economies. (Ganster, P. 2002).

Lack of infrastructure, such as inadequate highways, inefficient customs facilities, and backward communications technologies, often hamper trade and investment in border areas. This not only affects the region's ability to attract foreign investment but also reduces the efficiency of the flow of goods and services. (Basboga, K. 2020). For example, without good roads, transportation costs become high, reducing

the competitiveness of local products and causing price inflation in the region. Moreover, underdeveloped education and health services have a direct impact on the quality of human resources, which are vital assets for economic development. (Amtiran et al., 2022).

However, there is significant potential for developing border areas if managed with the right strategy. Closeness to neighbouring countries can be used to strengthen economic and political ties that can open up new markets and create economic opportunities for local residents. (LIN et al., 2023). Infrastructure development initiatives such as roads, ports, and trade transit facilities, supported by policies that strengthen cross-border cooperation, can stimulate economic activity and have a positive impact on regional growth. The key to all of this lies in an inclusive and integrated approach involving governments, the private sector, and local communities in planning and implementing development projects in border areas. (Kim et al., 2022).

Border infrastructure plays a vital role in supporting international trade activities. Good and efficient infrastructure not only facilitates the effective movement of goods from one place to another but also plays a role in reducing logistics costs that are often a major obstacle in international trade. (Silva-Sobrinho et al., 2021). It covers everything from highways, bridges, ports, to customs facilities and information technology that enables faster inspection and documentation. Infrastructure like this can reduce waiting times at the border and speed up the distribution process, which ultimately increases the competitiveness of products in global markets. (Chalfin, B. 2001).

In addition to improving trade efficiency, border infrastructure also plays an important role in creating an investment-friendly climate. Investors from home and abroad are often looking for certainty in terms of speed and security of delivery of goods as critical factors before investing their capital (Krainara, C., & Routray, J. K. 2015). With adequate infrastructure, the border area can become a strategic point for industrial development and logistics services, which can not only drive local economic growth but also attract foreign investment. This, in turn, could create new jobs and raise the standard of living of the local population. (Niebuhr, A., & Stiller, S. 2002).

Moreover, the development of effective border infrastructure also has a positive impact on regional economic integration, which is crucial in the era of globalization. By facilitating access to new markets, countries can expand trade networks and optimize cross-border economic cooperation. It's not just about facilitating trade in goods, but also services, capital, and labour. (Anderson, J., & Wever, E. 2003). In the long run, enhanced inter-national economic cooperation can strengthen regional political and economic stability, which is an important foundation for common growth and prosperity. Therefore, investment in border infrastructure should be seen as a strategic investment that can bring a wide range of economic benefits (Brühlhart et al., 2019).

Border infrastructure plays a critical role in facilitating trade and driving economic growth in border areas. The background of the influence of border

infrastructure on trade and economic growth in the border region can be understood through several dimensions (Barajas et al., 2014). First, each country has a border territory that has been formed since the birth of the nation, which serves not only as a geopolitical boundary but also as a potential area for economic growth, especially through trade. Border areas often have unique characteristics that, if well managed, can make a significant contribution to national economic growth (Kovács, A. 2013).

One factor that can boost the economic potential of the border area is the development of infrastructure such as roads, bridges, ports, and other facilities that enable the movement of goods and services to be more efficient. This infrastructure plays an important role in boosting economic growth and improving the quality of life of people in the region. (Song et al., 2017). Infrastructure development could facilitate market access, reduce transportation costs, and ultimately increase the competitiveness of local products in global markets. This is becoming critical given that border areas are often the entrances and exits of international trade. (Voloshenko, K. Y., & Novikova, A. A. 2020).

The economic development of border areas not only has an impact on increased trade and economic growth but also on regional and national economic integration. (Malik, A., & Gallien, M. 2020). Through adequate infrastructure development, border areas can be better integrated with the central economy of the country as well as with neighbouring countries. This could further contribute to increased stability and security in the border area.

Thus, this study aims to look further at the impact of border infrastructure on trade in border areas and the impact on border Infrastructure on economic growth in the region.

Research Method

Research methods conducted by researchers are literary studies. Literary research methods are systematic approaches to studying and analyzing existing information related to a selected research topic or problem. (Campbell, 2014; Boddy, 2016). The process involves searching for reliable sources, which include books, academic journals, articles, and other documents relevant to the subject of research. One important step in this method is a keyword search to find material that is relevant to the research topic. (Christensen et al., 2011; Lancaster, 2007).

The methodology of literature studies includes data collection, the elaboration of theoretical frameworks, and data analysis. Research begins with determining research questions or hypotheses, then continues with identifying and collecting relevant literary sources. Further information is compiled and analyzed to draw conclusions or recommend direction for further research. (Gliner et al., 2011; Bahn & Weatherill, 2013; Mayer, 2015).

Result and Discussion

The Influence of Border Infrastructure on Economic Growth

Border infrastructure refers to a variety of basic facilities and services built around the border area. These include, but are not limited to, highways, bridges, ports, terminals, checkpoints and other facilities that facilitate the movement of persons and goods across borders. (Hutagaluh et al., 2020). The primary purpose of this infrastructure is to support economic activities, such as international trade, and to strengthen security and border arrangements. The construction and maintenance of efficient border infrastructure can substantially affect intergovernmental relations by facilitating better communication and trade. (Aslan, 2019).

Trade, in the economic context, refers to the exchange of goods and services between individuals,, or states. Trade enables specialization and division of labour, which significantly increases the efficiency of production and consumption. (Itasari, E. R. 2020). At the international level, trade plays an important role in connecting global markets, enabling countries to import the goods and services they lack and export the excess. (Ceccorulli, M. 2020). Thus, trade becomes a catalyst for economic growth and development, creates jobs, boosts innovation, and promotes healthy competition among nations.

Economic growth is an increase in the capacity of an economy to produce goods and services compared to the previous period. (Powell et al. 2020). It is usually measured by the percentage change in gross domestic product (GDP) over time. Sustainable economic growth indicates improved public well-being, as it provides more resources for public investment, improved daily lives, and poverty reduction. It is often regarded as the primary objective of a country's economic policy, reflecting healthy macroeconomic performance. (Li et al., 2020).

Border infrastructure plays an important role in facilitating international trade, which is itself a major driver of economic growth. (Chatzitheodoridis, F., & Kontogeorgos, A. 2020). By providing efficient means of transport and logistics, border infrastructure reduces trade costs and travel time, facilitates the movement of goods and improves the competitiveness of local products in the global market. Moreover, good infrastructure is capable of attracting foreign direct investment (FDI) that supports the development of local industry and creates jobs. (Voloshenko, K. Y., & Novikova, A. A. 2020).

Therefore, the development and maintenance of border infrastructure is a key component of a country's economic strategy. Investments in these infrastructures not only support trade and economic growth, but also contribute to regional economic integration, enhance inter-country ties, and strengthen stability and security in the border region. It demonstrates the dual role of border infrastructure as a catalyst for economic growth as well as as a link between the country and its people.

However, border infrastructure development is not without challenges. This often requires close cooperation and coordination between neighbouring countries, settlement of regulatory and standard differences, as well as significant financial investments (Paül et al., 2022). To address these challenges, we need inclusive policies, innovative financing, and effective diplomacy. The positive impact of border infrastructure on trade and economic growth makes it a valuable long-term investment for overall economic and social development. (Malik, A., & Gallien, M. 2020).

Infrastructure plays an important role as a backbone in supporting trade activities and facilitating the economic growth of a country. Adequate infrastructure, such as highways, ports, and bridges, allows for more efficient movement of goods and services and lower logistics costs. (Ganster, P. 2002). It is essential in international trade, as it can increase the competitiveness of a country's products in the global market by lowering production and shipping costs. Investment in high-quality infrastructure also strengthens domestic inter-regional connections, opens up access to new markets and expands opportunities for entrepreneurs and companies to thrive (Basboga, K. 2020).

Trade, as the engine of economic growth, benefits directly from the development of efficient infrastructure. By facilitating access to international and domestic markets, trade has become more fluid and transaction costs are reduced. It not only stimulates exports, but also enables imports of raw materials and technologies that are essential to the production process. (Amtiran et al., 2022). Moreover, through trade, countries can exchange expertise and innovation, which in turn stimulates productivity and economic growth. When goods and services can easily cross borders, it creates an ecosystem that is conducive to business and investment, attracting foreign direct investment that is vital to the economies of developing countries. (LIN et al., 2023).

Ultimately, economic growth triggered by the synergistic interaction between infrastructure and trade leads to increased social well-being. As jobs grow and productivity increases, per capita income rises, which means improved purchasing power and living standards. (Kim et al., 2022). Continuous investment in infrastructure not only supports trade expansion but also ensures that economic growth is inclusive and sustainable. Thus, governments and stakeholders must make infrastructure development a top priority in their economic agendas to boost trade, stimulate economic growth, and strengthen the foundation for long-term prosperity. (Silva-Sobrinho et al., 2021).

The Influence of Border Infrastructure on Trade

The existing border infrastructure in various parts of the world covers a range of facilities from simple to complex designed to regulate and facilitate the flow of people and goods. These facilities include immigration checkpoints, security posts, quarantine stations, as well as trade and logistics terminals. In some countries with high volumes

of trade, the border infrastructure is already highly sophisticated and automated, equipped with state-of-the-art scanning and surveillance technology. (Zaninovic et al., 2024). However, in less developed areas, this infrastructure is often inadequate, with outdated facilities or conditions requiring significant renovation, resulting in congestion and delays in border processes. (Derbala, S. M. H. 2024).

The condition of the border infrastructure depends on the economic, political, and geographical factors of a country. Countries with a thriving economy and extensive trade generally have a better boundary infrastructure with the ability to handle large volumes of traffic efficiently (Gülzau, F., & Mau, S. 2024). For example, EU countries have invested in adequate border infrastructure that incorporates state-of-the-art technology in their Schengen border management, enabling fast and secure cross-border movement. On the other hand, developing countries may encounter obstacles in financing such infrastructure, resulting in limited capacity, inefficient border management, and procedures that can restrain trade growth and its impact on local economies. (Dorhetso, S. 2024).

The development and maintenance of border infrastructure requires commitment and coordination between governments and the private sector to ensure that border facilities support security and efficiency in international trade. (Kawachi, K., & Shibasaki, R. 2024). Challenges such as political conflict, lack of funds, and environmental issues can hinder development efforts in this area. The vulnerability to illegal activities such as smuggling and undocumented immigration also increases the need for improved security infrastructure. However, with globalization trends and regional trade initiatives, there is a strong impetus for the modernization of border infrastructure to meet global standards and enhance connectivity. (Kosuge et al., 2024).

Thus, although there are significant variations in the conditions of border infrastructure around the world, its quality and efficiency are key factors in determining the smoothness of international trade and securing borders. (Elyta et al., 2024). Countries with good border infrastructure tend to enjoy more efficient cross-border trade, which contributes to strong economic growth and enhanced national security. A sustained improvement in border infrastructure is needed to tackle various challenges and to maximize the potential trade will advance not only the local economy but also its contribution to the global economy. (Xiao et al., 2024).

Border infrastructure plays a fundamental role in streamlining international trade. Well-developed border facilities, such as highways, bridges, freight terminals, and data processing technologies can speed up delivery times and reduce logistics costs. (Shurong et al., 2024). It's important because it allows goods to move efficiently from one country to another, reduces long tracks at border posts, and minimizes waste of time. The simplicity and speed of the processes at the border attracts exporters and importers and increases the volume of trade. On the other hand, inadequate border infrastructure with outdated administrative systems can lead to delays, harm goods

requiring rapid deliveries, and ultimately, increase trade costs and reduce the competitiveness of products in international markets. (Yang et al., 2024).

Investment in border infrastructure also implies efforts to strengthen security and effective controls, reducing the risk of illegal activities such as smuggling and trafficking in counterfeit goods. Enhanced security without compromising the efficiency of trade can increase the confidence of market participants, thereby creating an enabling environment for fair and legitimate trade. (Yudha, E. P., & Dina, R. A. 2020). It also affects foreign direct investment decisions, where countries with well-managed and guarded border infrastructure are often seen as safer and more stable trading partners. (Patiung, M., & Taus, W. 2022). Therefore, the development of comprehensive and responsive border infrastructure not only increases cross-border trade capacity but is also directly correlated with improved security and law and improved economic image of a country internationally.

Impact of Border Infrastructure on Economic Growth

Border trade is an essential element of the regional economy and a key element in the process of inter-national economic integration. Border areas are often a meeting point for traders from different countries, facilitating cross-border trade in goods and services. (Kurniadi, D. 2009). In many cases, these areas are vital for the survival of local communities that rely on cross-border trade for their livelihoods. Border trade enables the distribution of consumer goods, raw materials, and agricultural products between countries, supporting local economies and promoting economic growth. (Diwyanto, K., & Priyanto, D. 2014). For some border communities, this type of trade plays a role more than just an economic activity; it serves as a cultural bridge and a social bond that strengthens intercommunal ties on both sides of the border. (Hendrayady, A. 2018).

However, trade in border areas often faces challenges such as strict border policies, inadequate infrastructure, and security issues. Restrictive trade and border policies can hinder the flow of goods and people, while a lack of adequate infrastructure can increase logistics costs and reduce trade efficiency. (Nuradhawati, R., & Kristian, I. 2022). Security challenges, including cross-border crime and smuggling, can also affect trade stability in the region. To address these challenges and maximize the potential of trade in the border area, international cooperation and investment in infrastructure development and the implementation of policies that support free and secure trade are needed. (Hadi, S. 2008). In this way, trade in the border region can not only flourish, but also contribute to inclusive and sustainable economic development in the region.

The development of border infrastructure plays a significant role in boosting economic growth, through the facilitation of international trade. (Hutagaluh et al., 2020). Investments in infrastructure such as roads, bridges, ports, and efficient information systems create more smooth trade routes, allowing goods and services to flow faster and more efficiently. It not only reduces waiting times and logistical costs

for exporters and importers but also makes products more competitive in the global market. (Itasari, E. R. 2020). By reducing physical and bureaucratic barriers at borders, states can attract greater foreign direct investment, boost local industrial growth, and create jobs. (Ceccorulli, M. 2020).

In addition, adequate border infrastructure plays a vital role in integrating regional economies and fostering cross-border economic cooperation. By strengthening inter-country connectivity, opportunities are created for a wider market for products and services, which in turn can increase economic diversification and stability. (Powell et al., 2020). Efficient border infrastructure also facilitates cultural and technological exchanges, which are essential for long-term innovation and growth. Furthermore, increased trade and investment often accompanied social development, through improved access to education, health, and public services, contributed to improved quality of life for people in border areas. (Li et al., 2020).

Furthermore, the development of sustainable border infrastructure has an impact on economic resilience. In times of crisis or trade disruption, countries with solid infrastructure are more capable of fine-tuning the flow of goods, minimizing economic disruptions. (Chatzitheodoridis, F., & Kontogeorgos, A. 2020). The multiplier effects of infrastructure investments include the development of supporting industries and the improvement of logistics systems, which further propel economic growth on a broad scale. Therefore, investment in this area not only boosts trade and economic growth but also inserts resilience to the economic system. (Voloshenko, K. Y., & Novikova, A. A. 2020).

Thus, border infrastructure plays a crucial role in strengthening inter-country trade, promoting regional economic integration, and facilitating inclusive and sustainable economic growth. By increasing efficiency, attracting investment, and supporting economic diversification, boundary infrastructure is the backbone of global economic progress.

Conclusion

The impact of border infrastructure on trade and economic growth in border areas emphasizes that the development and improvement of infrastructure in the border area has a significant positive impact on the acceleration of trade and a driving force for economic growth. Adequate and efficient infrastructure in border areas removes physical and bureaucratic barriers, facilitates more smooth flow of goods and services and increases product competitiveness in global markets. It directly increases trade volumes, attracts foreign investment, and strengthens regional economic integration.

In addition, improved infrastructure in border areas supports economic diversification and social development through improved access to education, health and public services, which in turn improves the quality of life of people. Quality

infrastructure also contributes to the economic resilience of border regions, strengthening their capacity to adapt to trade disturbances and economic crises.

Thus, investment in border infrastructure is a key strategy for driving economic growth and stability in the border region. International collaboration and joint commitment to the development of sustainable and inclusive infrastructure have become essential in laying the groundwork for dynamic and sustainable economic growth in the border region.

References

- Amtiran, P. Y., Anabuni, A. U., & Neno, M. S. (2022). Cross Border Trade: Strategy and Policy (Evidence from Cross-Border Trade in the Republic of Indonesia and the Republic Democratic of Timor Leste). *Journal of Business & Economics Review (JBER)*, 7(3).
- Anderson, J., & Wever, E. (2003). Borders, border regions and economic integration: One world, ready or not. *Journal of borderlands studies*, 18(1), 27-38.
- Aslan. (2019, January 17). Pergeseran Nilai Di Masyarakat Perbatasan (Studi tentang Pendidikan dan Perubahan Sosial di Desa Temajuk Kalimantan Barat) [Disertasi dipublikasikan]. Pasca Sarjana. <https://idr.uin-antasari.ac.id/10997/>
- Bahn, S., & Weatherill, P. (2013). Qualitative social research: A risky business when it comes to collecting 'sensitive' data. *Qualitative Research*, 13(1), 19-35.
- Barajas, I. A., Sisto, N. P., Gaytán, E. A., Cantú, J. C., & López, B. H. (2014). Trade flows between the United States and Mexico: NAFTA and the border region. *Articulo-Journal of Urban Research*, (10).
- Basboga, K. (2020). The role of open borders and cross-border cooperation in regional growth across Europe. *Regional Studies, Regional Science*, 7(1), 532-549.
- Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal*.
- Brühlhart, M., Cadot, O., & Himbert, A. (2019). Let there be light: Trade and the development of border regions.
- Campbell, S. (2014). What is qualitative research? *Clinical Laboratory Science*, 27(1), 3.
- Ceccorulli, M. (2020). Back to Schengen: the collective securitisation of the EU free-border area. In *Collective Securitisation and Security Governance in the European Union* (pp. 76-96). Routledge.
- Chalfin, B. (2001). Border zone trade and the economic boundaries of the state in north-east Ghana. *Africa*, 71(2), 202-224.
- Chatzitheodoridis, F., & Kontogeorgos, A. (2020). Exploring of a small-scale tourism product under economic instability: the case of a Greek rural border area. *Economies*, 8(3), 52.
- Christensen, L. B., Johnson, B., Turner, L. A., & Christensen, L. B. (2011). Research methods, design, and analysis.
- Derbala, S. M. H. (2024). Predicting the role of connectivity in the development of border regions in Egypt. *Mansoura Engineering Journal*, 49(1), 13.

- Diwyanto, K., & Priyanto, D. (2014). Pengembangan pertanian wilayah perbatasan Nusa Tenggara Timur dan Republik Demokrasi Timor Leste. *Pengembangan Inovasi Pertanian*, 7(4), 30888.
- Dorhetso, S. (2024). A review of two decades of research on sustainable regional and trans-border infrastructure. *Journal of the Ghana Institution of Engineering (JGhIE)*, 24(1), 15-24.
- Elyta, E., Herlan, H., Rupita, R., Zawawi, A. A., & Al Qadrie, S. R. F. (2024). Analysis of International Cooperation in Exports at the Entikong Indonesia-Malaysia Border. *International Journal of Business and Quality Research*, 2(01), 62-77.
- Ganster, P. (Ed.). (2002). *The US-Mexican Border Environment: Economy and Environment for a Sustainable Border Region, Now and in 2020* (No. 3). SCERP and IRSC publications.
- Gliner, J. A., Morgan, G. A., & Leech, N. L. (2011). *Research methods in applied settings: An integrated approach to design and analysis*. Routledge.
- Gülzau, F., & Mau, S. (2024). Visas and border infrastructures: what makes them tighter or looser?. In *Handbook of Human Mobility and Migration* (pp. 203-220). Edward Elgar Publishing.
- Hadi, S. (2008). Program pembangunan kawasan perbatasan. *Kawasan khusus dan daerah tertinggal Badan Perencanaan Pembangunan Nasional*. Jakarta.
- Hendrayady, A. (2018). Strategi Pembangunan Wilayah Perbatasan Provinsi Kepulauan Riau. *Jurnal Ilmu Administrasi Negara (JUAN)*, 6(1), 1-10.
- Hutagaluh, O., Rustam, A., Sangadji, S. S., Baharuddin, I., & Kurniullah, A. Z. (2020). Responsive Leadership in Preventing Transmission of Covid-19 in the Indonesia-Malaysia Border Area.
- Itasari, E. R. (2020). Border Management Between Indonesia And Malaysia In Increasing The Economy In Both Border Areas. *Jurnal Komunikasi Hukum (JKH)*, 6(1), 219-227.
- Kawachi, K., & Shibasaki, R. (2024). How do corridor development and border facilitation policies impact future container transport in inland South Asia?—A network simulation approach. *The Asian Journal of Shipping and Logistics*.
- Kim, K., Mariano, P., & Abesamis, J. (2022). Trade impact of reducing time and costs at borders in the Central Asia regional economic cooperation region. *Emerging Markets Finance and Trade*, 58(9), 2602-2619.
- Kosuge, N., Shibasaki, R., Sanui, K., & Okubo, K. (2024). Impact of Cambodian international logistics policies on container cargo flow in a comprehensive intermodal transport network. *International Journal of Logistics Research and Applications*, 27(3), 386-410.
- Kovács, A. (2013). On borders, border regions and cross-border retail-trading. *Scientific papers of the University of Pardubice. Series D, Faculty of Economics and Administration*. 28 (3/2013).
- Krainara, C., & Routray, J. K. (2015). Cross-border trades and commerce between Thailand and neighboring countries: Policy implications for establishing special border economic zones. *Journal of Borderlands Studies*, 30(3), 345-363.
- Kurniadi, D. (2009). *Strategi Pengembangan Wilayah Perbatasan Antarnegara: Memacu Pertumbuhan Ekonomi Entikong Kabupaten Sanggau Provinsi Kalimantan Barat* (Doctoral dissertation, UNIVERSITAS DIPONEGORO).

- Lancaster, G. (2007). *Research methods in management*. Routledge.
- Li, T., Cao, X., Qiu, M., & Li, Y. (2020). Exploring the spatial determinants of rural poverty in the interprovincial border areas of the loess plateau in China: a village-level analysis using geographically weighted regression. *ISPRS International Journal of Geo-Information*, 9(6), 345.
- LIN, S. G., ZHU, P. X., LU, R. C., & BI, J. G. (2023). The influence of Trade-Economy-Population system on regional differences of territorial space pattern evolution in border areas: Take the China-Vietnam border zone as a case. *JOURNAL OF NATURAL RESOURCES*, 38(6), 1550-1569.
- Malik, A., & Gallien, M. (2020). Border economies of the Middle East: why do they matter for political economy?. *Review of International Political Economy*, 27(3), 732-762.
- Malik, A., & Gallien, M. (2020). Border economies of the Middle East: why do they matter for political economy?. *Review of International Political Economy*, 27(3), 732-762.
- Mayer, I. (2015). Qualitative research with a focus on qualitative data analysis. *International Journal of Sales, Retailing & Marketing*, 4(9), 53-67.
- Niebuhr, A., & Stiller, S. (2002). *Integration effects in border regions-A survey of economic theory and empirical studies*.
- Nuradhawati, R., & Kristian, I. (2022). Pelaksanaan Pembangunan Ekonomi Dalam Meningkatkan Kesejahteraan Masyarakat Di Wilayah Perbatasan Indonesia-Timor Leste: Studi Kasus Kabupaten Belu Provinsi Nusa Tenggara Timur. *Academia Praja: Jurnal Ilmu Politik, Pemerintahan, dan Administrasi Publik*, 5(1), 29-42.
- Patiung, M., & Taus, W. (2022). Dampak Perdagangan Lintas-Batas Terhadap Perekonomian Masyarakat Lokal (Penelitian Di Wilayah Perbatasan Ri-Timor Leste Districk Oecussie). *Jurnal Pendidikan dan Konseling (JPDK)*, 4(1), 94-102.
- Paül, V., Trillo-Santamaría, J. M., Martínez-Cobas, X., & Fernández-Jardón, C. (2022). The economic impact of closing the boundaries: the lower Minho Valley cross-border region in times of Covid-19. *Journal of Borderlands Studies*, 37(4), 761-779.
- Powell, L. M., Leider, J., & Léger, P. T. (2020). The impact of a sweetened beverage tax on beverage volume sold in Cook County, Illinois, and its border area. *Annals of Internal Medicine*, 172(6), 390-397.
- Shurong, Z., Dumor, K., Lartey, V. C., Mutiiria, O. M., Amouzou, E. K., & Gbongli, K. (2024). Assessing the macroeconomic effects of China-Eastern African BRI transport infrastructure on Eastern African countries. *International Journal of Finance & Economics*, 29(1), 996-1011.
- Silva-Sobrinho, R. A., Zilly, A., Silva, R. M. M. D., Arcoverde, M. A. M., Deschutter, E. J., Palha, P. F., & Bernardi, A. S. (2021). Coping with COVID-19 in an international border region: health and economy. *Revista Latino-Americana de Enfermagem*, 29, e3398.
- Song, T., Cheng, Y., Liu, W., & Liu, H. (2017). Spatial difference and mechanisms of influence of geo-economy in the border areas of China. *Journal of Geographical Sciences*, 27, 1463-1480.
- Voloshenko, K. Y., & Novikova, A. A. (2020). Economic and geographical approach to the assessment of trade flows for border region.
- Voloshenko, K. Y., & Novikova, A. A. (2020). Economic and geographical approach to the assessment of trade flows for border region.

- Xiao, C., Wang, Y., Yan, M., & Chiaka, J. C. (2024). Impact of cross-border transportation corridors on changes of land use and landscape pattern: A case study of the China-Laos railway. *Landscape and Urban Planning*, 241, 104924.
- Yang, L., Dong, J., & Yang, W. (2024). Analysis of Regional Competitiveness of China's Cross-Border E-Commerce. *Sustainability*, 16(3), 1007.
- Yudha, E. P., & Dina, R. A. (2020). Pengembangan potensi wilayah kawasan perbatasan negara Indonesia (studi kasus: Ranai-Natuna). *Tata Loka*, 22(3), 366-378.
- Zaninovic, P. A., Zajc Kejzar, K., & Pavlic Skender, H. (2024). Assessing the effects of hard and soft infrastructure on traditional vs supply-chain trade: the case of Central and Eastern EU member states (CEMS). *Applied economics*, 56(3), 249-264.