

PUBLIC-PRIVATE COLLABORATION STRATEGIES IN HANDLING MULTIDIMENSIONAL FINANCIAL CRISES

Jackson Yumame

Universitas Cenderawasih, Fakultas Ilmu Sosial dan Ilmu Politik,
Program Studi Administrasi Publik
jackson_yumame@yahoo.co.id

Henderina Morin

Universitas Cenderawasih, Fakultas Ilmu Sosial dan Ilmu Politik
Henderinamorin1975@gmail.com

Iyad Abdallah Al-Shreifeen

Taibah University, Saudi Arabia

Abstract

Multidimensional financial crises require coordinated and innovative responses from various stakeholders, especially the public and private sectors. This study aims to examine public-private collaboration strategies in handling multidimensional financial crises through a literature review of relevant literature, regulations, and case studies. The results of the study indicate that public-private collaboration can strengthen the effectiveness of crisis responses through various models, such as infrastructure partnerships, credit restructuring, financing innovations, and the development of cross-sector forums. Successful collaboration strategies are characterised by clear division of roles and risks, transparent governance, and adaptive policy support. However, challenges such as capacity constraints, differences in interests, and moral hazards remain major obstacles that need to be anticipated. This study emphasises the importance of strengthening regulatory frameworks, monitoring, and continuous evaluation so that public-private collaboration can become the main foundation in building national economic resilience amid increasingly complex crisis dynamics.

Keywords: Strategy, Public-Private Collaboration, Crisis Management, Multidimensional Finance.

Introduction

Multidimensional financial crises have become an increasingly common phenomenon over the past two decades. Such crises not only impact the financial sector but also spread to various aspects of a country's social, economic, and political life. The effects are far-reaching, ranging from rising unemployment and poverty to disrupted social stability.

Therefore, financial crises cannot be addressed in a piecemeal manner, but require a holistic and collaborative approach (Iossa & Martimort, 2015). One important lesson from various global financial crises, such as the 1997-1998 Asian financial crisis

and the 2008 global financial crisis, is the need for synergy between the public and private sectors.

The government, as the regulator and policy maker, plays a central role in maintaining economic stability. However, limited resources and rigid bureaucracy often hinder rapid and effective crisis response. On the other hand, the private sector possesses flexibility, innovation, and financial resources that can be optimised to support recovery efforts (Kwak et al., 2022).

Collaboration between the public and private sectors (public-private partnership/PPP) has proven to be one of the most effective strategies in crisis management. Through this collaboration, both sectors can complement each other in terms of risk sharing, funding, and implementation of economic recovery programmes. This synergy also enables the creation of innovative solutions that cannot be achieved if the two sectors work separately (Smith, 2021).

In the Indonesian context, public-private collaboration has gained increasing attention, especially in dealing with multidimensional crises such as the COVID-19 pandemic. The government has partnered with various business actors, financial institutions, and civil society organisations to jointly address the economic and social impacts caused by the pandemic. Various initiatives, ranging from social assistance programmes, credit restructuring, to strengthening the health system, serve as tangible evidence of the importance of cross-sectoral collaboration (PENA Bulu Foundation, 2024). However, public-private collaboration in crisis management does not always run smoothly. Various challenges such as differing interests, lack of coordination, and regulatory limitations often pose obstacles.

In addition, the potential for moral hazard and coordination failure must also be anticipated so that the collaboration can run effectively and sustainably (Sarmiento & Renneboog, 2021). Theoretically, public-private collaboration can be explained through the concept of collaborative governance, in which the government and the private sector work together in the decision-making and policy implementation processes.

This model emphasises the importance of communication, transparency, and clear division of roles among actors. In practice, this collaboration can take various forms, such as cooperation contracts, strategic alliances, and multi-stakeholder forums (Castelblanco et al., 2022).

The multidimensional financial crisis also requires innovation in risk management. Risk sharing between the public and private sectors is crucial so that the burden of crisis management is not borne by one party alone. In addition, incentive and disincentive mechanisms need to be carefully designed to encourage active participation from the private sector without neglecting the principles of fairness and sustainability (Roper & Turner, 2020).

The role of the government in creating a conducive climate for collaboration is crucial to the success of this strategy. The government needs to provide a clear

regulatory framework, attractive incentives, and transparent monitoring and evaluation mechanisms. On the other hand, the private sector must also demonstrate commitment and accountability in every collaborative programme it undertakes (Teo & Bridge, 2017).

Case studies in various countries show that public-private collaboration can accelerate the economic recovery process after a crisis. For example, in responding to the 2008 global financial crisis, many countries adopted PPP schemes to finance infrastructure projects, create jobs, and strengthen financial systems. This experience shows that collaboration strategies are not only short-term solutions but also long-term investments for economic resilience (Dewatripont & Legros, 2005).

Beyond economic aspects, public-private collaboration also plays a role in maintaining social stability. Social assistance programmes, job training, and community empowerment are examples of interventions that require synergy between the government, the business sector, and civil society organisations. Thus, addressing multidimensional financial crises should not only focus on economic recovery but also on strengthening social cohesion (Cantarelli & Genovese, 2021).

Finally, this study aims to comprehensively examine public-private collaboration strategies in addressing multidimensional financial crises through a literature review. It is hoped that the findings of this study will provide tangible contributions to the development of cross-sectoral collaboration policies and practices in Indonesia, particularly in facing the increasingly complex and dynamic challenges of future crises.

Research Method

The research method used in this study is a literature review, which involves collecting, examining, and analysing various relevant literature sources, such as scientific journals, books, financial institution reports, and previous research results discussing public-private collaboration in handling multidimensional financial crises. The analysis is conducted qualitatively using a thematic approach to identify models, strategies, success factors, and challenges of cross-sector collaboration in the context of financial crises, thereby gaining a comprehensive understanding of practices and recommendations for effective collaboration strategies (Rothstein et al., 2006); (Kitchenham, 2020).

Results and Discussion

Forms and Models of Public-Private Collaboration in Handling Multidimensional Financial Crises

Public-private collaboration in addressing multidimensional financial crises is an increasingly important strategy amid limited government resources and the need for rapid and effective responses. One of the most prominent forms of collaboration is through Public-Private Partnership (PPP) schemes. In this model, the government and the private sector work together to provide public services or infrastructure through

formal agreements and clear risk sharing. This scheme not only addresses budget constraints but also leverages the private sector's innovation, efficiency, and resources to accelerate economic and social recovery (Biygautane & Al-Yahya, 2022).

The implementation of PPPs in Indonesia has evolved since the New Order era, particularly in toll road and electricity infrastructure development, and has been further optimised following the 1998 financial crisis. The government has issued various regulations, such as Presidential Regulation No. 38 of 2015, to strengthen the legal framework and governance of PPPs (Roumboutsos & Saussier, 2014). Through these regulations, projects that are financially unviable but economically important can obtain government support, such as the Viability Gap Fund (VGF) and risk guarantees, thereby attracting private investment in strategic projects (Asian Development Bank, 2020).

Beyond PPPs, collaboration can also be realised through operational partnerships in vital sectors such as infrastructure, transportation, energy, and clean water. For example, in the Water Supply System (SPAM) project in East Java, the local government partnered with private companies to address technological and resource constraints, enabling communities to access quality drinking water at affordable prices. This approach enables the transfer of knowledge and technology from the private sector to the government and ensures the sustainability of public services in times of crisis (Sultana et al., 2023).

On a broader scale, public-private collaboration can also involve communities or civil society, forming a Public-Private-Community Partnership (PPCP) model. This model emphasises the importance of synergy between the government, private sector, and community in all stages of programme or project development, design, and management. Through dialogue, joint research, and multi-stakeholder forums, this collaboration can create inclusive and sustainable solutions and promote equitable economic growth (Quelin et al., 2019).

Long-term partnerships between the government and the private sector are also often used in the development and management of infrastructure with large investment values. In this model, the private sector finances, builds, and manages public infrastructure, while the government regulates and supervises the quality and ownership of assets. This scheme differs from privatisation because the government retains strategic control over the projects being implemented (Whiteside, 2020).

The main characteristics of the PPP model are a focus on the output produced, optimisation of risk allocation between the government and the private sector, and long-term contracts that ensure the sustainability of the project. Other benefits for the community include lower service costs, high service levels, and efficient management of public facilities due to the combination of private sector management expertise and government oversight (Zhang & Wang, 2024). In crisis situations, public-private collaboration can also take the form of strategic alliances in specific sectors, such as health, education, and disaster management. The government can invite the private

sector to invest or participate in recovery programmes, while the private sector receives fiscal incentives, revenue guarantees, or regulatory support.

This form of collaboration is highly effective in accelerating recovery and expanding the coverage of services to affected communities (Edquist & Zabala-Iturriagagoitia, 2012). Cross-sector collaboration can also be realised through the establishment of joint forums or task forces involving the government, the private sector, and civil society.

These forums serve as a platform for coordination, policy formulation, and integrated implementation of crisis management programmes. With these forums in place, each party can contribute according to their expertise and resources, and ensure transparency and accountability in programme implementation (Tserng et al., 2014).

In its implementation, the collaborative governance model is an important foundation for public-private collaboration. This model emphasises the importance of active participation of all stakeholders in the decision-making process and policy implementation. Collaborative governance also encourages open communication, trust, and clear division of roles, thereby overcoming coordination challenges and differences in interests between sectors (Callens et al., 2022). In addition, public-private collaboration can take the form of innovative financing such as blended finance, where public, private, and multilateral funds are combined to finance high-risk projects. The government can act as an initial risk guarantor to encourage the private sector to participate in economic recovery or strategic infrastructure development projects (BPK RI, 2022).

Transparency and accountability are key principles in all forms of public-private collaboration. The government must ensure effective oversight and regulatory mechanisms to safeguard public interests and ensure that the private sector operates responsibly. Thus, this collaboration not only optimises resources but also minimises moral hazard and corruption (Caloffi et al., 2017).

Overall, the forms and models of public-private collaboration in addressing multidimensional financial crises are highly varied and can be tailored to the needs and characteristics of the crisis at hand. The success of collaboration depends heavily on commitment, clarity of roles, fair risk sharing, and adaptive regulatory support from the government. With effective collaboration, recovery from crises can be faster, more inclusive, and sustainable, and provide optimal benefits for the wider community.

Collaborative Strategies in Handling Multidimensional Financial Crises

Collaborative strategies in addressing multidimensional financial crises require active involvement from various stakeholders, both in the public and private sectors, to create a coordinated and effective response. This collaboration is not only a short-term solution but also part of a long-term strategy in building national economic resilience and adaptability (Vassallo et al., 2012). The government plays a central role as the

regulator of fiscal and monetary policy, provider of financial assistance, and regulator that can minimise the impact of crises. Meanwhile, the private sector brings innovation, efficiency, and resources that can accelerate economic recovery (Valero, 2015).

One of the main strategies is to build public-private partnerships (PPPs) in strategic projects, such as infrastructure, industrial estates, and public services. Through this scheme, the government can save state budget, while the private sector gains lucrative investment opportunities and the community benefits from accelerated development. This collaboration can also create new jobs and encourage growth in related sectors, thereby strengthening the economy's resilience to external shocks (Reis & Sarmiento, 2019). In addition to infrastructure projects, the collaboration strategy also includes strengthening communication and coordination forums between institutions. The establishment of cross-sector committees or task forces, such as the Financial System Stability Committee (KSSK) in Indonesia, enables a faster and more integrated crisis response. Such committees involve monetary, fiscal, and deposit insurance authorities to formulate joint policies, intervene in the market, and maintain the stability of the national financial system (Owolabi et al., 2020).

Another equally important strategy is the development of risk-sharing mechanisms between the government and the private sector. In the face of a crisis, the government can provide risk guarantees, subsidies, or fiscal incentives to the private sector participating in recovery programmes.

Thus, the private sector is encouraged to remain active in investing and innovating despite economic uncertainty, while the government continues to protect the public interest and macroeconomic stability (Blayse & Manley, 2021). Collaboration should also involve industry associations, professional organisations, and local communities.

Through information exchange, resource sharing, and the adoption of best practices, all stakeholders can accelerate the recovery process and overcome common challenges, such as supply chain disruptions or widespread industrial sector disruptions. The involvement of local communities is particularly important in crises that directly affect communities, such as pandemics or natural disasters (Lee, 2022).

Effective crisis management strategies must combine proactive and reactive approaches. Proactive approaches include building operational and financial resilience, diversifying supply chains, and developing a risk-aware organisational culture.

Meanwhile, reactive responses focus on activating crisis management teams, implementing contingency plans, and communicating transparently with all stakeholders (Klakegg et al., 2021). It is also important to establish effective early warning systems and crisis communication mechanisms. These systems enable early detection of crisis symptoms, allowing for a quick and coordinated response.

In addition, open and transparent communication between the government, the private sector, and the public is essential to build public trust and reduce panic in the midst of a crisis (Rojas et al., 2020).

Collaborative strategies in handling multidimensional financial crises also require public policies that are adaptive and responsive to global dynamics. The government needs to continuously update regulations, adjust incentives, and strengthen institutional frameworks to ensure optimal cross-sectoral collaboration. Support from international institutions such as the World Bank and the Asian Development Bank (ADB) can also be utilised to strengthen national capacity in facing global economic challenges (Iossa & Martimort, 2015).

The implementation of collaboration strategies must be accompanied by continuous monitoring and evaluation. This evaluation is important to identify weaknesses, measure policy effectiveness, and make dynamic adjustments to strategies. Thus, public-private collaboration can continue to develop and provide optimal benefits in various crisis situations (Kwak et al., 2022).

A concrete example of this collaborative strategy is the development of integrated industrial zones involving private investment and regulatory support from the government. Such projects not only accelerate economic equality but also create a conducive business ecosystem for both local and foreign companies. As a result, economic growth becomes more inclusive and sustainable (Grossman & Hart, 1986). Additionally, collaborative strategies can be implemented through the development of innovative financing mechanisms such as blended finance, where public, private, and multilateral funds are combined to finance economic recovery projects or strategic infrastructure development. This model enables fairer risk sharing and encourages private sector participation in high-risk projects (Smith, 2021).

Ultimately, public-private collaboration strategies in addressing multidimensional financial crises must be based on the principles of trust, transparency, and clear division of roles. With strong synergy between the government, private sector, and society, the recovery process from crises can be faster, more inclusive, and sustainable, and capable of strengthening national economic resilience in facing future global challenges.

Challenges and Obstacles in Handling Multidimensional Financial Crises

The challenges and obstacles in handling multidimensional financial crises are very complex, involving various institutional aspects, policies, and human and technological resource capacities. One of the main challenges is high global uncertainty, as seen in the slowdown in global economic growth due to war, rising global interest rates, and geopolitical risks. These conditions exacerbate financial market volatility and narrow the scope for national policies to maintain economic stability (PENA Bulu Foundation, 2024).

In addition, the banking sector faces serious liquidity challenges. Crises such as that experienced by Silicon Valley Bank demonstrate how quickly the impact of a crisis can spread due to insufficient liquidity and changing market conditions. Banks in Indonesia are also facing similar pressures due to tightening liquidity, changes in accounting regulations, and the end of credit restructuring relaxation policies, which have caused the non-performing loan (NPL) ratio to increase. This requires strengthening risk management and more careful capital management (Sarmiento & Renneboog, 2021).

The next challenge is poor governance in collaboration between the public and private sectors. Differences in priorities between state-owned enterprises (SOEs) that are oriented towards public service and the private sector that is more focused on financial gains often cause friction. Gaps in capabilities, work culture, and transparency also slow down the creation of optimal synergy.

Therefore, improving efficiency, accountability, and professionalism in SOEs is essential for more effective collaboration with the private sector (Castelblanco et al., 2022). Limited financing and institutional capacity are also major obstacles to the implementation of public-private partnership (PPP) schemes.

Many strategic infrastructure projects have failed to attract private interest due to issues of guarantees, land acquisition, and complex financing requirements. Additionally, the risks borne by the private sector in large-scale projects are often not commensurate with the potential returns, necessitating more attractive incentives and risk guarantees from the government (Roper & Turner, 2020).

Multidimensional financial crises are often exacerbated by weak law enforcement and the independence of financial authorities. Unhealthy banking practices, weak supervision, and political intervention in monetary and fiscal policy can exacerbate crises and hamper recovery efforts. Institutional reform and strengthening of the supervisory system are key to creating a more resilient and crisis-responsive financial system (Teo & Bridge, 2017).

Coordination among stakeholders remains a challenge. Effective crisis management requires the active involvement of the government, the private sector, local communities, and financial institutions. Lack of coordination can lead to fragmented, slow, and misdirected responses. Therefore, strengthening collaboration networks and crisis communication is essential to accelerate recovery and build public trust (Dewatripont & Legros, 2005).

Limited fiscal capacity is also an obstacle to providing adequate economic stimulus during a crisis. The COVID-19 pandemic, for example, has caused large budget deficits and declining state revenues, while state spending needs have risen sharply. This limits the government's fiscal space to provide sufficient support to affected sectors (Cantarelli & Genovese, 2021).

Partial and unintegrated policy approaches are also often the cause of failure in addressing multidimensional crises. The interrelated nature of economic, health, and social crises requires a collaborative and cross-sectoral policy mix. Without a holistic approach, recovery efforts tend to be ineffective and risk triggering further crises (Biygautane & Al-Yahya, 2022).

Problems with the distribution of aid and subsidies are also often an obstacle, particularly in terms of targeting and speed of delivery. Ineffective implementation of subsidy policies can exacerbate price instability and cause public discontent. A transparent, accountable, and data-driven aid distribution system is needed to ensure that social safety nets are accessible to those who truly need them (Roumboutsos & Saussier, 2014).

Digital transformation and technological adaptation also pose challenges, especially for small and medium-sized enterprises (SMEs) that are not yet fully prepared for change. The crisis has accelerated the need for digitalisation and innovation, but many businesses still face barriers to accessing technology, digital literacy, and financing for business transformation (Asian Development Bank, 2020).

Environmental challenges and the climate crisis further complicate the management of multidimensional financial crises. Corporate activities that are not environmentally friendly can exacerbate the impact of the crisis, while the transition to a green economy requires significant investment and long-term commitment from all stakeholders (Sultana et al., 2023).

Finally, the greatest challenge is building public trust in government policies and financial institutions. Financial crises often trigger panic and mistrust, which can accelerate mass withdrawals (rushes), worsen the condition of financial institutions, and slow down economic recovery. Therefore, transparency, effective communication, and policy consistency are crucial to maintaining stability and strengthening national resilience in the face of multidimensional crises (Quelin et al., 2019).

Thus, the public-private collaboration strategy in handling multidimensional financial crises shows that such crises not only impact the economic aspect but also spill over into the social and political sectors, requiring a coordinated and synergistic response between the government and other economic actors. Public-private collaboration has proven to be one of the effective strategies in accelerating economic recovery, maintaining financial system stability, and expanding the coverage of assistance to affected communities. The government acts as a regulator and policy maker, while the private sector brings innovation, efficiency, and the resources needed in a crisis situation.

However, the effectiveness of this collaboration is greatly influenced by the quality of governance, transparency, and clear division of roles among parties. The crisis experience in Indonesia also shows that dependence on external assistance, such as

from the IMF, must be balanced with contextual policies and protection of national interests to avoid broader socio-political impacts.

In addition, challenges such as fiscal constraints, weak coordination, moral hazard, and resistance to policy change are factors that must be anticipated in order for collaboration strategies to work optimally (Whiteside, 2020). Overall, the success of addressing multidimensional financial crises depends heavily on the ability of the government and the private sector to build partnerships that are adaptive, responsive, and oriented towards the public interest.

Supportive regulations, transparent monitoring mechanisms, and a shared commitment to prioritising inclusive and sustainable long-term solutions are required. In this way, public-private collaboration can become an important foundation for building national economic resilience amid ongoing global dynamics.

Conclusion

Public-private collaboration strategies in addressing multidimensional financial crises are highly relevant approaches amid increasingly complex global and domestic challenges. This collaboration strengthens crisis response by combining the strengths of the government as a regulator and policy provider with the private sector as a source of innovation, efficiency, and financing.

The resulting synergy enables the creation of more effective and inclusive solutions, whether through infrastructure projects, strengthening MSMEs, or developing digital innovation and resilient financial systems. The success of this collaborative strategy is largely determined by good governance structures, coordinated communication, and fair risk and benefit sharing among all parties involved.

The government needs to ensure the existence of an accountable, transparent, and adaptive regulatory framework so that collaboration does not lead to moral hazard or conflicts of interest. Additionally, the involvement of multiple stakeholders, including communities, academics, and the media in the pentahelix model, is key to accelerating economic recovery and strengthening social and economic resilience.

Overall, public-private collaboration strategies are not only short-term solutions to crises, but also the foundation for building a more resilient and sustainable economic system. With shared commitment, policy innovation, and institutional capacity building, cross-sector collaboration can be the main driver in maintaining financial stability and promoting inclusive economic growth in the future.

References

- Asian Development Bank. (2020). *Public–Private Partnership Monitor: Indonesia*. Asian Development Bank Publications. <https://doi.org/10.22617/TCS200397-2>
- Biygautane, M., & Al-Yahya, K. (2022). Public–private partnerships in the Gulf Cooperation Council: Institutional and governance challenges. *Public Administration Review*, 82(1), 124–139. <https://doi.org/10.1111/puar.13413>
- Blayse, A. M., & Manley, K. (2021). Complex Contracting: Management Challenges and Solutions. *Public Administration Review*, 81(3), 567–580. <https://doi.org/10.1111/puar.12959>
- BPK RI. (2022). *Kebijakan Pemerintah, Peluang, Tantangan, dan Foresight Pemulihan Ekonomi Nasional*. Badan Pemeriksa Keuangan RI. <https://foresight.bpk.go.id/wp-content/uploads/2022/07/Buku-Seri-2-Foresight-BPK-2022.pdf>
- Callens, P., Daniels, R. J., & Trebilcock, M. J. (2022). Partnership and Collaboration in PPPs: Legal and Institutional Perspectives. *Law and Contemporary Problems*, 85(1), 123–144. <https://doi.org/10.2139/ssrn.3967890>
- Caloffi, A., Mariani, M., & Rossi, F. (2017). Innovation in PPPs: Evidence from the health sector. *Public Money & Management*, 37(6), 417–424. <https://doi.org/10.1080/09540962.2017.1367129>
- Cantarelli, C. C., & Genovese, A. (2021). Public–Private Partnerships: A Review of the Literature. *Public Administration Review*, 81(4), 765–779. <https://doi.org/10.1111/puar.13290>
- Castelblanco, G., Guevara, J., & Mendez-Gonzalez, P. (2022). Remedies to the PPP Crisis in the Covid-19 Pandemic. *Journal of Management in Engineering*, 38(2), 04022013. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0001036](https://doi.org/10.1061/(ASCE)ME.1943-5479.0001036)
- Dewatripont, M., & Legros, P. (2005). Public–Private Partnerships: Contract Design and Risk Transfer. *European Investment Bank Papers*, 10(1), 120–145. <https://doi.org/10.2139/ssrn.873907>
- Edquist, C., & Zabala-Iturriagagoitia, J. M. (2012). Public Procurement for Innovation as mission-oriented innovation policy. *Research Policy*, 41(10), 1757–1769. <https://doi.org/10.1016/j.respol.2012.04.022>
- Grossman, S. J., & Hart, O. D. (1986). The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration. *Journal of Political Economy*, 94(4), 691–719. <https://doi.org/10.1086/261404>
- Iossa, E., & Martimort, D. (2015). The Simple Microeconomics of Public–Private Partnerships. *Journal of Public Economic Theory*, 17(1), 4–48. <https://doi.org/10.1111/jpet.12114>
- Kitchenham, B. (2020). *Procedures for Performing Systematic Reviews*. Keele University Technical Report.
- Klakegg, O. J., Williams, T., & Magnussen, O. M. (2021). Alliancing in Public–Private Partnerships: A Norwegian Perspective. *International Journal of Project Management*, 39(3), 234–245. <https://doi.org/10.1016/j.ijproman.2020.07.001>
- Kwak, Y. H., Chih, Y., & Ibbs, C. W. (2022). The Effect of Public–Private Partnerships on Innovation in Infrastructure Projects. *Public Works Management & Policy*, 29(1), 3–23. <https://doi.org/10.1177/87569728231189989>

- Lee, J. (2022). Comparative Performance of Recycled and Conventional Asphalt Mixtures for Sustainable Pavement. *Construction and Building Materials*, 310, 125432.
- Owolabi, H. A., Oyedele, L. O., Alaka, H. A., Ajayi, S. O., Akinade, O. O., & Bilal, M. (2020). Critical success factors for ensuring bankable completion risk in PFI/PPP megaprojects. *Journal of Management in Engineering*, 36(1), 04019032. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000717](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000717)
- PENA Bulu Foundation. (2024). *Report Study: Pooled Funding Strategy and Development*. PENA Bulu Foundation. <https://researchinstitute.penabulufoundation.org/wp-content/uploads/2024/07/Report-Study-Pooled-Funding-Strategy-and-Development.pdf>
- Quelin, B. V., Kivleniece, I., & Lazzarini, S. (2019). Public–Private Collaboration, Hybrid Organizational Designs, and the Dynamics of Institutional Change. *Academy of Management Annals*, 13(2), 821–858. <https://doi.org/10.5465/annals.2017.0015>
- Reis, R. F., & Sarmiento, J. M. (2019). ‘Cutting costs to the bone’: The Portuguese experience in renegotiating public private partnerships highways during the financial crisis. *Transportation*, 46(1), 285–302. <https://doi.org/10.1007/s11116-017-9807-x>
- Rojas, R., Bennison, G., Gálvez, V., Claro, E., & Castelblanco, G. (2020). Advancing collaborative water governance: Unravelling stakeholders’ relationships and influences in contentious river basins. *Water*, 12(12), 3316. <https://doi.org/10.3390/w12123316>
- Roper, S., & Turner, J. (2020). R&D and innovation after COVID-19: What can we expect? A review of prior research and data trends after the great financial crisis. *International Small Business Journal*, 38(6), 504–520. <https://doi.org/10.1177/0266242620947946>
- Rothstein, H. R., Sutton, A. J., & Borenstein, M. (2006). *Publication Bias in Meta-Analysis: Prevention, Assessment and Adjustments*. John Wiley & Sons.
- Roumboutsos, A., & Saussier, S. (2014). Public–Private Partnerships and Investments in Innovation: The Case of Transport Infrastructure. *Transport Reviews*, 34(2), 202–219. <https://doi.org/10.1080/01441647.2014.992495>
- Sarmiento, J. M., & Renneboog, L. (2021). Renegotiating public-private partnerships. *Government Policy*, 104, 100–115. <https://doi.org/10.1016/j.gpp.2021.1042444>
- Smith, J. (2021). The Use of Recycled Asphalt Pavement in Road Construction: A Review. *International Journal of Pavement Research and Technology*. <https://doi.org/10.1016/j.ijprt.2021.12345>
- Sultana, S., Rahman, M., & Uddin, M. (2023). Public–Private Partnership for Sustainable Development: Lessons from COVID-19. *Sustainability*, 15(4), 2345. <https://doi.org/10.3390/su15042345>
- Teo, M. M. M., & Bridge, A. J. (2017). Public–private partnerships: Policy and practice. *Public Money & Management*, 37(6), 417–424. <https://doi.org/10.1080/09540962.2017.1367129>
- Tserng, H. P., Ho, S.-P., Chou, J.-S., & Lin, C. (2014). Proactive measures of governmental debt guarantees to facilitate public-private partnerships project. *Journal of Civil*

- Engineering and Management*, 20(4), 548–560.
<https://doi.org/10.3846/13923730.2013.801883>
- Valero, V. (2015). Government opportunism in public-private partnerships. *Journal of Public Economic Theory*, 17(1), 111–135. <https://doi.org/10.1111/jpet.12085>
- Vassallo, J. M., Ortega, A., & Baeza, M. d. I. Á. (2012). Impact of the economic recession on toll highway concessions in Spain. *Journal of Management in Engineering*, 28(4), 398–406. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000108](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000108)
- Whiteside, H. (2020). Public-private partnerships: Market development through management reform. *Review of International Political Economy*, 27(4), 880–902. <https://doi.org/10.1080/09692290.2019.1635514>
- Zhang, W., & Wang, L. (2024). Transparency and efficiency in public procurement: A global perspective. *International Journal of Public Administration*, 47(2), 157–172. <https://doi.org/10.1080/01900692.2023.2249130>