

DAFTAR PUSTAKA

- Aghion, P., Bacchetta, P., Rancière, R., & Rogoff, K. (2009). Exchange rate volatility and productivity growth: The role of financial development. *Journal of Monetary Economics*, 56(4), 494–513. <https://doi.org/10.1016/j.jmoneco.2009.03.015>
- Alfaro, L., Cuñat, A., Fadinger, H., & Liu, Y. (2018). The Real Exchange Rate, Innovation and Productivity: Heterogeneity, Asymmetries and Hysteresis. *NBER Working Paper No.* 24633. <https://doi.org/https://doi.org/10.3386/w24633>
- Alnafrah, I. (2021). Efficiency evaluation of BRICS's national innovation systems based on bias-corrected network data envelopment analysis. *Journal of Innovation and Entrepreneurship*, 10(1), 26. <https://doi.org/10.1186/s13731-021-00159-3>
- Balassa, B. (1964). The purchasing-power parity doctrine: a reappraisal. *Journal of Political Economy*, 72(6), 584–596. <https://doi.org/10.1086/258965>
- Baldwin, R., & Krugman, P. (1989). Persistent Trade Effects of Large Exchange Rate Shocks. *The Quarterly Journal of Economics*, 104(4), 635–654. <https://doi.org/10.2307/2937860>
- Baltagi, B. H. (2008). *Econometric Analysis of Panel Data (4th ed.)*. John Wiley & Sons.
- Bank for International Settlements. (2023). *Effective exchange rate indices: Methodology and updates*. <https://www.bis.org/statistics/eer.htm>
- Bank for International Settlements. (2026). *Real Effective Exchange Rate Index: BIS 2020=100 (Broad)*. <https://data.bis.org/topics/EER/data>
- Bate, A. F., Wachira, E. W., & Danka, S. (2023). The determinants of innovation performance: an income-based cross-country comparative analysis using the Global Innovation Index (GII). *Journal of Innovation and Entrepreneurship*, 12, 20. <https://doi.org/10.1186/s13731-023-00283-2>
- Bhat, M. A., Jamal, A., & Wani, F. (2024). The nexus between economic growth and conditional exchange rate volatility: evidence from emerging economies. *Journal of Economic and Administrative Sciences*, 42(2), 519–539. <https://doi.org/10.1108/JEAS-07-2023-0199>
- Cassel, G. (1918). Abnormal Deviations in International Exchanges. *The Economic Journal*, 28(112), 413–415. <https://doi.org/10.2307/2223329>
- Cornell University, INSEAD, & WIPO. (2020). *GLOBAL INNOVATION INDEX 2020* (& S. W.-V. S. Dutta, B. Lanvin & Eds. (eds.)). World Intellectual Property Organization. https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2020.pdf
- Cornell University, INSEAD, & World Intellectual Property Organization. (2020). *Global Innovation Index 2020: Who will finance innovation?* <https://doi.org/10.34667/TIND.42315>
- Costa Cavalcante, P. L. (2023). Innovation performance and its determinants: what does it take to succeed? *Innovation & Management Review*, 21(1), 60–76. <https://doi.org/10.1108/INMR-11-2021-0206>
- Dadgar, Y., Nazari, R., & Fahimifar, F. (2018). The impact of Global

- Competitiveness Index (GCI) on Economic Growth in Iran and some selected countries. *Journal of Sustainable Development*, 11.
- David, D., Shadreck, M., Stephen, M., & Nirmala, D. (2023). INTRA-TRADE FLOWS AND EXCHANGE RATE VOLATILITY AMONG BRICS MEMBER COUNTRIES: A GRAVITY MODEL APPROACH. *Russian Journal of Agricultural and Socio-Economic Sciences*, 1184(10), 3–12. <https://doi.org/10.18551/rjoas.2023-10.01>
- Dekkiche, D., & Leila, O. B. (2023). *Effect of trade openness on economic growth within BRICS countries : an ARDL panel approach Умуцај отворености трговине на економски раст унутар*. 60(51), 105–121. <https://doi.org/10.5937/AnEkSub2300028D>
- Dhanasekar, E., & Abinav. (2025). *FACTORS INFLUENCING CURRENCY RATES IN BRICS COUNTRIES*. 15(04), 34–35. <https://doi.org/10.36106/ijar>
- Diniz-Maganini, N., Rasheed, A. M. A., & Sheng, H. H. (2023). Price efficiency of the foreign exchange rates of BRICS countries : A comparative analysis. *Latin American Journal of Central Banking (LAJCB)*, 4(1), 0–10. <https://doi.org/https://doi.org/10.1016/j.latcb.2022.100081>
- Dornbusch, R. (1976). Expectations and Exchange Rate Dynamics. *Journal of Political Economy*, 84(6), 1161–1176. <https://doi.org/10.1086/260506>
- Dumitrescu, E.-I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic Modelling*, 29(4), 1450–1460. <https://doi.org/10.1016/j.econmod.2012.02.014>
- Eita, J. H., Khumalo, Z. Z., & Choga, I. (2021). Productivity and Real Exchange Rate: Investigating the Balassa-Samuelson Effect and misalignment in Five African Countries. *Scientific Annals of Economics and Business*, 68(2), 177–194. <https://doi.org/10.47743/saeb-2021-0011>
- Elia, M. I., Bani-mustafa, A., Sawalha, N., Alsaber, A. R., & Pan, J. (2025). Impact of Economic Growth and Exchange Rate Volatility on FDI Inflows: Cointegration and Causality Tests for the BRICS Countries. *International Journal of Economics and Financial Issues*, 15(1), 42–54. <https://doi.org/10.32479/ijefi.17311>
- Engle, R. F. ., & Granger, C. . W. . J. . (1987). Co-Integration and Error Correction : Representation , Estimation , and Testing. *Econometrica*, 55(2), 251–276. <https://doi.org/https://doi.org/10.2307/1913236>
- Fan, J., & Liao, Y. (2015). Power Enhancement in High-Dimensional Cross-Sectional Tests. *Econometrica*, 83(4), 1497–1541. <https://doi.org/10.3982/ECTA12749>
- Federal Reserve Bank of St. Louis. (2026). *Real Broad U.S. Dollar Index (RBUSBIS)*. <https://fred.stlouisfed.org/series/RBUSBIS>
- Firmansyah, A. M., Afif, M. F., Heryadi, D., & Sari, D. S. (2024). *BRICS : Tantangan dan Peluang Dalam Tata Kelola Global*. 8(1), 36–44.
- Frenkel, J. A. (1976). A Monetary Approach to the Exchange Rate: Doctrinal Aspects and Empirical Evidence. *The Scandinavian Journal of Economics*, 78(2), 200–224. <https://doi.org/10.2307/3439924>
- Ginevičius, R., Žemaitis, E., Šuhajda, K., & Schieg, M. (2023). Assessing the global competitiveness of European countries. *Journal of Competitiveness*,

- 15(4), 36–52. <https://doi.org/10.7441/joc.2023.04.03>
- Gong, Z., Wang, Y., & Li, M. (2024). Determining the drivers of global innovation under COVID-19: An FSQCA approach. *PloS ONE*, 19(2), e0295403. <https://doi.org/10.1371/journal.pone.0295403>
- Granger, C. W. J. (1988). Some recent development in a concept of causality. *Journal of Econometrics*, 39(1), 199–211. [https://doi.org/https://doi.org/10.1016/0304-4076\(88\)90045-0](https://doi.org/https://doi.org/10.1016/0304-4076(88)90045-0)
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics (5th ed.)*. New York: McGraw-Hill/Irwin.
- Gyedu, S., Heng, T., Ntarmah, A. H., He, Y., & Frimppong, E. (2021). The impact of innovation on economic growth among G7 and BRICS countries: A GMM style panel vector autoregressive approach. *Technological Forecasting and Social Change*, 173, 121169. <https://doi.org/https://doi.org/10.1016/j.techfore.2021.121169>
- Im, K., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), 53–74. [https://doi.org/10.1016/S0304-4076\(03\)00092-7](https://doi.org/10.1016/S0304-4076(03)00092-7)
- IMD. (2024). *IMD World Competitiveness Booklet*.
- IMD World Competitiveness Center. (2025). *IMD World Competitiveness Booklet*.
- International Monetary Fund. Research Dept. (2023). *World Economic Outlook, October 2023: Navigating Global Divergences*. <https://doi.org/10.5089/9798400235801.081>
- International Monetary Fund. (2004). *Exchange Rate Volatility and Trade Flows- Some New Evidence*. <https://doi.org/10.5089/9781498330282.007>
- International Monetary Fund. (2023a). *External Sector Report 2023: External Rebalancing in Turbulent Times*. <https://www.imf.org/en/publications/esr/issues/2023/07/19/2023-external-sector-report>
- International Monetary Fund. (2023b). Indonesia: 2023 Article IV Consultation- Press Release; Staff Report; and Statement by the Executive Director for Indonesia. *IMF Staff Country Reports*, 2023(221). <https://doi.org/10.5089/9798400244988.002>
- International Monetary Fund. (2023c). *REGIONAL ECONOMIC OUTLOOK MIDDLE EAST AND CENTRAL ASIA*. <https://www.imf.org/-/media/files/publications/reo/mcd-cca/2023/april/english/text.pdf>
- International Monetary Fund. (2024). *Real exchange rates: What money can buy*. Finance & Development Magazine – Back to Basics Series. <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Real-Exchange-Rates>
- International Monetary Fund. (2026). *World Economic Outlook: Global Economy in the Shadow of War*. <https://doi.org/10.5089/9798229042758.081>
- Ito, K., & Haneda, S. (2017). Exchange Rate Uncertainty and R&D Investment: Evidence from Japanese Firms. *The Developing Economies*, 55(22). <https://doi.org/https://doi.org/10.1111/deve.12125>
- Jabi, A. (2025). Exchange Rate Dynamics and Trade Competitiveness in BRICS: A Panel Data Approach. *Colombo Economic Journal (CEJ)*, 3(2), 137–154.

- <https://arts.cmb.ac.lk/econ/colomboeconomic-journal-cej/>
- Jamel, L., Derbali, A., Lamouchi, A., & Elnagar, A. (2021). Trade Openness and Competitiveness : BRICS and Sub-Saharan Africa Countries. *International Organisations Research Journal*, 16(1), 64–84. <https://doi.org/10.17323/1996-7845-2021-01-03>
- Junior, C. N. de T. (2025). BRICS And BRICS Plus: Social, Environmental And Cultural Perspectives For Generating Mutual Value Between Nations. *RISUS - Journal on Innovation and Sustainability*, 16(2), 30–43. <https://doi.org/10.23925/2179-3565.2025v16i2p30-43>
- Juodis, A., & Reese, S. (2022). The Incidental Parameters Problem in Testing for Remaining Cross-Section Correlation. *Journal of Business & Economic Statistics*, 40(3), 1191–1203. <https://doi.org/10.1080/07350015.2021.1906687>
- Jütten, M. (2024). *Expansion of BRICS: A quest for greater global influence?* [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2024\)76_0368](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2024)76_0368)
- Kayani, U. N., Aysan, A. F., Gul, A., Haider, S. A., & Ahmad, S. (2023). Unpacking the asymmetric impact of exchange rate volatility on trade flows: A study of selected developed and developing Asian economies. *PLOS ONE*, 18(10), e0291261. <https://doi.org/10.1371/journal.pone.0291261>
- Kordalska, A., & Olczyk, M. (2016). Global competitiveness and economic growth: A one-way or two-way relationship? *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 11(1), 121–142. <https://doi.org/10.12775/EQUIL.2016.006>
- Krugman, P. (1994). Competitiveness: A Dangerous Obsession. *Foreign Affairs*. <https://www.foreignaffairs.com/articles/1994-03-01/competitiveness-dangerous-obsession>
- Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2012). *International Economics Theory and Policy (9th ed.)*. Pearson/Addison-Wesley.
- Levin, A., Lin, C., & Chu, C. J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of Econometrics*, 108, 1–24. [https://doi.org/10.1016/S0304-4076\(01\)00098-7](https://doi.org/10.1016/S0304-4076(01)00098-7)
- Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3–42. [https://doi.org/10.1016/0304-3932\(88\)90168-7](https://doi.org/10.1016/0304-3932(88)90168-7)
- Lundvall, B.-Å. (1992). *National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning*. Pinter Publishers.
- Lütkepohl, D. H. (2005). *New Introduction to Multiple Time Series Analysis*.
- Malika, T., & Faouzi, T. (2024). *Competitiveness and Its Beyond : Examining the Impact of Exports , Exchange Rates , Inflation , and Government Budget on Economic Growth in BRICS , Iran , Egypt , and Ethiopia (2011 - 2021)* ة 02(07) رصاعملا ةيد/استقلااو ةيراجتلا تا سا ردلا ةلجم. <https://orcid.org/0009-0004-1294-0021>
- Mankiw, N. G. (2018). *Principles of Economics (8th ed.)*. Cengage Learning. <https://openlibrary.telkomuniversity.ac.id/pustaka/159920/principles-of-economics-8-e>
- Mohanty, A. T. (2019). *Measuring GDP and Economic Growth : An Economic*

- Barometer. *International Journal of Tax Economics and Management Measuring*, 2(3), 42–58.
- Molocwa, G. A., & Choga, I. (2025). the Threshold Effect of Exchange Rate on Economic Growth in Brazil, Russia, India, China and South Africa (Brics) Countries. *ECONOMICS - Innovative and Economics Research Journal*, 13(3), 83–103. <https://doi.org/10.2478/eoik-2025-0057>
- Mussaiyib, A. M., & Pradhan, K. C. (2023). Examining the Impact of Innovations on Economic Growth in BRICS Countries. *Sage Journals*. <https://doi.org/https://doi.org/10.1177/09721509231152032>
- Nach, M., & Ncwadi, R. (2024). Evaluating BRICS as an optimum currency area : insights from SVAR modeling. *Cogent Economics & Finance*, 12(1), 2399321. <https://doi.org/10.1080/23322039.2024.2399321>
- Nasir, M. H., & Zhang, S. (2024). Evaluating innovative factors of the global innovation index : A panel data approach. *Innovation and Green Development*, 3(1), 100096. <https://doi.org/10.1016/j.igd.2023.100096>
- Nelson, R. R. (1993). *National Innovation Systems: A Comparative Analysis*. Oxford University Press. <https://books.google.co.id/books?id=C3Q8DwAAQBAJ>
- New Development Bank. (2023). *Annual Report 2023: Financing for Sustainable Development*. <https://www.ndb.int/annual-report/2023/overview/>
- O'Neill, J. (2001). *Building Better Global Economic BRICs*. <https://www.goldmansachs.com/insights/goldman-sachs-research/building-better>
- OECD. (2021). OECD Economic Surveys: Indonesia 2021. In *Bulletin of Indonesian Economic Studies* (Vol. 57, Issue 3). <https://doi.org/10.1080/00074918.2021.1992831>
- OECD. (2023). *Nominal gross domestic product (GDP)*. <https://www.oecd.org/en/data/indicators/nominal-gross-domestic-product-gdp.html>
- Our World in Data. (2025). *GDP Per Capita*.
- Pesaran, M. H. (2007). A Simple Panel Unit Root Test in The Presence of Cross-Section Dependence. *Journal of Applied Econometrics*, 22, 265–312. <https://doi.org/10.1002/jae.951>
- Pesaran, M. H. (2015). Testing Weak Cross-Sectional Dependence in Large Panels. *Econometric Reviews*, 34(6–10), 1089–1117. <https://doi.org/10.1080/07474938.2014.956623>
- Pesaran, M. H. (2021). General diagnostic tests for cross-sectional dependence in panels. *Empirical Economics*, 60(1), 13–50. <https://doi.org/10.1007/s00181-020-01875-7>
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds Testing Approaches To The Analysis. *Journal of Applied Econometrics*, 16(3), 289–326. <https://doi.org/10.1002/jae.616>
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*, 94(446), 621–634. <https://doi.org/10.1080/01621459.1999.10474156>

- Pesaran, M. H., & Smith, R. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*, 68, 79–113. [https://doi.org/https://doi.org/10.1016/0304-4076\(94\)01644-F](https://doi.org/https://doi.org/10.1016/0304-4076(94)01644-F)
- Pesaran, M. H., & Xie, Y. (2021). *A Bias-Corrected CD Test for Error Cross-Sectional Dependence in Panel Data Models with Latent Factors*. <https://doi.org/10.48550/arXiv.2109.00408>
- Porter, M. E. (1990). *The Competitive Advantage of Nations*. New York: Free Press.
- Pratiwik, E., & Prajanti, S. D. W. (2023). Rupiah exchange rate: The determinants and impact of shocks on the economy. *Jurnal Ekonomi & Studi Pembangunan*, 24(1), 100–126. <https://doi.org/10.18196/jesp.v24i1.18016>
- Qazi, A. (2024). Exploring the impact of global competitiveness pillars on sustainable development. *Environmental Impact Assessment Review*, 105. <https://doi.org/https://doi.org/10.1016/j.eiar.2023.107404>
- Ramoni-Perazzi, J., & Romero, H. (2022). Exchange rate volatility, corruption, and economic growth. *Heliyon*, 8(12). <https://doi.org/10.1016/j.heliyon.2022.e12328>
- Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, 98(5), S71–S102. <https://doi.org/10.1086/261725>
- Sahir, S. H. (2021). *Metodologi Penelitian*. KBM Indonesia. <https://repositori.uma.ac.id/handle/123456789/16455>
- Salvatore, D. (2019). *International Economics* (13th Editi). John Wiley & Sons. https://books.google.co.id/books/about/International_Economics.html?id=1ImbCgAAQBAJ
- Samuelson, P. A. (1964). Theoretical Notes on Trade Problems. *The Review of Economics and Statistics*, 46(2), 145–154. <https://doi.org/10.2307/1928178>
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics*, 70(1), 65–94. <https://doi.org/10.2307/1884513>
- Sreenu, N. (2024). Exploring unbalanced impacts of exchange rate volatility on the shadow economy: new evidence from BRICS nations. *Economic Change and Restructuring*, 57(4), 139. <https://doi.org/10.1007/s10644-024-09727-5>
- Strangio, S. (2025). *Indonesia Officially Becomes First Southeast Asian Member of BRICS*. The Diplomat. <https://thediplomat.com/2025/01/indonesia-officially-becomes-first-southeast-asian-member-of-brics/>
- Sun, A. (2024). Innovation-Driven Economic Development in Low-Income Countries: Strategies for Growth and Poverty Reduction. *Journal of Economics and Economic Education Research*, 25(5). <https://www.abacademies.org/articles/innovationdriven-economic-development-in-lowincome-countries-strategies-for-growth-and-poverty-reduction-17219.html>
- The Global Economy. (2024). *GDP per capita, PPP-Country rankings*. https://www.theglobaleconomy.com/rankings/gdp_per_capita_ppp/G7/
- The Global Economy. (2026). *Innovation index - Country rankings*. https://www.theglobaleconomy.com/rankings/gii_index/
- Vlasova, V., & Saprykina, A. (2024). Innovation-driven economic growth under global turbulence: how countries strengthen innovation systems to deal with

- threats. *Economics of Innovation and New Technology*, 33(8), 1096–1120.
<https://doi.org/10.1080/10438599.2023.2276318>
- Wen, J., & Usman, M. A. (2024). An empirical investigation of the relationship between real exchange rate and innovation: Evidence from China. *International Journal of Finance & Economics*, 29(3), 2991–3006.
<https://doi.org/10.1002/ijfe.2814>
- WIPO. (2025). *Global Innovation Index* (18th ed.). <https://www.wipo.int/web-publications/global-innovation-index-2025/assets/89507/global-innovation-index-2025-en.pdf>
- Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning. <https://faculty.cengage.com/works/9781337558860>
- World Bank. (2020). *World Development Report 2020: Trading for Development in the Age of Global Value Chains*.
<https://www.worldbank.org/en/publication/wdr2020>
- World Bank. (2022). *FINANCE EQUITABLE*.
- World Bank. (2024). *International Comparison Program (ICP): Methodology*.
<https://www.worldbank.org/en/programs/icp/methodology>
- World Bank. (2025a). *GDP per capita, PPP (constant 2021 international \$) (Indicator NY.GDP.PCAP.PP.KD)*. World Development Indicators.
<https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD>
- World Bank. (2025b). *Real effective exchange rate index (2010 = 100)*. World Development Indicators.
<https://databank.worldbank.org/metadataglossary/world-development-indicators/series/PX.REX.REER>
- World Bank Group. (2023). Indonesia Growth Seen Moderating in 2023 as Pandemic Rebound Fades. In *World Bank*.
<https://www.worldbank.org/en/news/press-release/2023/06/26/indonesia-growth-seen-moderating-in-2023-as-pandemic-rebound-fades>
- World Bank Group. (2025). *GDP per capita (current US\$)*. World Bank.
<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>
- World Economic Forum. (2019). *The Global Competitiveness Report 2019*.
<https://www.weforum.org/publications/global-competitiveness-report-2019/>
- World Intellectual Property Organization. (2023). *Global Innovation in the face of Innovation Index 2023 uncertainty*.
https://www.wipo.int/global_innovation_index/en/2023/
- World Intellectual Property Organization. (2025). *Global Innovation Index 2025: Innovation at a Crossroads*.
<https://www.wipo.int/publications/en/details.jsp?id=4807>