

BPJS KESEHATAN AND SME RESILIENCE: EXAMINING ITS IMPACT ON LABOR BURDEN AND PRODUCTIVITY IN EMERGING ECONOMIES

Novita Setianti^{1*}, Dewi Susilowati², Yudha Aryo Sudibyo³

¹Mahasiswa S3 Akuntansi, Universitas Jenderal Soedirman, Indonesia

²³Dosen S3 Akuntansi, Universitas Jenderal Soedirman, Indonesia

*Email corresponding author: novita.setianti@mhs.unsoed.ac.id

Abstract

Background and Objective: Small and Medium Enterprises (SMEs) are central to economic development in emerging economies, yet they face persistent vulnerabilities related to labor costs and workforce instability. The implementation of BPJS Kesehatan, Indonesia's national health insurance program, offers an opportunity to address these challenges. However, its firm-level implications particularly regarding labor cost burden, employee well-being, and SME productivity—remain insufficiently understood.

Methods: Using a quantitative cross-sectional design, data were collected from 182 SMEs in West Java, Indonesia. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test direct and mediation effects. Constructs were measured using validated five-point Likert-scale instruments adapted from prior literature.

Results: BPJS Kesehatan participation significantly reduces labor cost burden ($\beta = -0.46$, $p < 0.001$) and positively influences employee well-being ($\beta = 0.53$, $p < 0.001$). Labor cost burden negatively affects SME productivity ($\beta = -0.38$, $p < 0.001$), while employee well-being exerts a strong positive effect ($\beta = 0.49$, $p < 0.001$). Employee well-being is confirmed as a partial mediator in the BPJS– productivity relationship (VAF = 42.3%). **Conclusions:** BPJS Kesehatan functions as both a cost-efficiency instrument and a human capital investment mechanism. By reducing financial uncertainty and enhancing worker well-being, public health insurance significantly improves SME resilience and productivity. These findings carry important implications for health policy, labor economics, and SME management in emerging economies.

Keywords: BPJS Kesehatan, SME productivity, labor cost burden, employee well-being, PLS-SEM, emerging economies, Indonesia

INTRODUCTION

Small and Medium Enterprises (SMEs) constitute the backbone of economic systems in emerging economies, accounting for over 90% of total business entities and absorbing a substantial share of the labor force (World Bank, 2022). In Indonesia, SMEs contribute approximately 61% of the national gross domestic product and employ nearly 97% of the workforce (Ministry of Cooperatives and SMEs, 2023). Despite their strategic significance, SMEs remain structurally vulnerable to fluctuations in labor costs, limited access to social protection, and persistently low productivity levels relative to large enterprises.

Healthcare-related expenditures represent a particularly acute challenge for SMEs. Operating under thin profit margins, small firms are highly sensitive to unexpected medical costs, which can disrupt cash flow, reduce workforce stability, and impair operational efficiency. The seminal work of Arrow (1963) on the economics of medical care underscores the inherent market failures in healthcare, affirming the necessity of risk-pooling mechanisms. In this context, the Indonesian government introduced BPJS Kesehatan in 2014 as the centerpiece of its universal

health coverage (UHC) reform, consolidating multiple fragmented insurance schemes into a single national program.

As of 2024, BPJS Kesehatan has enrolled more than 260 million participants, representing approximately 95% of the population—one of the most rapid UHC expansions globally (Ministry of Health of Indonesia, 2024). However, enrollment among informal and semi-formal SME workers remains uneven, and the firm-level economic implications of BPJS participation are not yet fully understood. Prior research has predominantly examined BPJS from the perspectives of healthcare access and financial protection (Agustina et al., 2019; Erlangga et al., 2019; Wagstaff, 2009), leaving a substantial gap regarding its consequences for firm performance, particularly in terms of labor cost management and workforce productivity.

This study addresses this gap by developing and empirically testing an integrated theoretical framework that links BPJS Kesehatan participation to SME productivity through two distinct pathways: (1) a cost-efficiency pathway, whereby health insurance reduces unpredictable labor-related expenses, and (2) a human capital pathway, whereby improved employee well-being enhances work performance. By doing so, this research bridges the literatures on health economics, labor economics, and SME management, offering insights that are both theoretically original and practically relevant.

Research objectives and questions:

1. RQ1: Does BPJS Kesehatan participation reduce labor cost burden in SMEs?
2. RQ2: Does BPJS Kesehatan participation improve employee well-being?
3. RQ3: Do labor cost burden and employee well-being mediate the relationship between BPJS participation and SME productivity?

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

2.1 Health Insurance and Firm-Level Economic Performance

Health insurance operates as a risk-pooling mechanism that reduces financial uncertainty associated with medical expenditures (Arrow, 1963; Cutler & Zeckhauser, 2000). At the macroeconomic level, empirical evidence consistently demonstrates positive associations between health coverage and economic performance. Bloom and Canning (2008) estimate that a one-year improvement in life expectancy translates into approximately a 4% increase in output per capita, underscoring the productivity dividends of population health.

Quality of Work Life (QWL) theory focuses on enhancing the employee experience by balancing work-life needs, improving working conditions, and increasing organizational effectiveness. It treats employees as valuable assets, emphasizing trust, care, respect, and growth opportunities to foster higher motivation, job satisfaction, and productivity.

Sirgy et al. (2001) Model: Focuses on the satisfaction of key needs (health, economic, social, esteem, actualization, knowledge, and aesthetics) through workplace resources and activities. Psychological Model: Focuses on the five basic constructs: Trust, Care, Respect, Learn, and Contribute. WL is considered a crucial strategy for achieving a "win-win" situation, where both employee well-being and organizational efficiency are improved.

At the firm level, insured workers exhibit significantly lower absenteeism and greater labor supply stability than uninsured counterparts (Pinheiro et al., 2016; Sommers et al., 2017). Access to preventive care reduces the incidence and duration of illness-related work absences, thereby enhancing operational continuity. Furthermore, health insurance functions as a component of the efficiency wage, signaling employer commitment to worker welfare and generating reciprocal effort (Akerlof & Yellen, 1990; Shapiro & Stiglitz, 1984). Despite this growing evidence base, the vast majority of existing studies are conducted at the macroeconomic or individual level. Firm-level analyses—especially in the SME context of emerging economies—remain scarce

2.2 BPJS Kesehatan: The Indonesian National Health Insurance Context

The implementation of BPJS Kesehatan under Law No. 24/2011 and Law No. 40/2004 on the National Social Security System represents a transformative reform in Indonesian healthcare governance. The program operates on a defined-contribution basis, with employers in the formal sector required to contribute 4% and employees to contribute 1% of their monthly wages (Ministry of Health of Indonesia, 2024).

Prior studies confirm that BPJS Kesehatan has significantly increased healthcare utilization and reduced out-of-pocket expenditures (Erlangga et al., 2019). Agustina et al. (2019) document substantial improvements in health system access, equity, and financial protection across income quintiles. However, SME participation remains heterogeneous: while many formal SMEs comply with contribution requirements, a considerable proportion of semi-formal and informal firms have yet to fully integrate their workforces into the program. This uneven adoption creates variation in firm-level outcomes, which this study exploits analytically.

2.3 Labor Cost Burden and SME Sustainability

Labor cost burden refers to the aggregate financial impact of employment-related expenditures on a firm's cost structure, including direct wage costs, healthcare expenses, absenteeism-induced output losses, and employee turnover costs (Currie & Madrian, 1999). For SMEs, these costs are disproportionately burdensome due to limited economies of scale and constrained financial reserves.

Health insurance can mitigate these burdens by converting unpredictable, episodic medical expenditures into structured, predictable contributions. Wagstaff (2009) demonstrates that social health insurance significantly reduces catastrophic health spending, while Baicker et al. (2013) show that uninsured workers impose higher indirect costs on employers through productivity losses and turnover. The net effect is that well- designed health insurance schemes can reduce total labor costs at the firm level. Based on this reasoning, we propose, Employee well-being theory focuses on fostering a holistic, productive workforce by addressing mental, physical, and social health. Key frameworks include Self Determination Theory, the Job Demands Resources model, and positive emotion, engagement, relationships, meaning, accomplishment.

H1: BPJS Kesehatan participation is significantly and negatively associated with labor cost burden in SMEs

2.4 Employee Well-being as a Strategic Mediating Mechanism

Employee well-being encompasses physical health, psychological security, and overall job satisfaction (Fan et al., 2024). Drawing on Grossman's (1972) health capital model, health is treated as a form of capital stock that depreciates over time but can be augmented through healthcare investment. Health insurance, by facilitating access to medical care, directly augments this capital stock and produces downstream improvements in work capacity and cognitive functioning.

Psychologically, health insurance reduces financial anxiety associated with potential medical crises. This reduction in stress and uncertainty translates into improved organizational commitment, lower burnout rates, and stronger intrinsic motivation (Liu & Zhao, 2022). From an efficiency wage perspective, employer-facilitated health coverage fosters a reciprocity dynamic that enhances employee effort and discretionary performance (Akerlof & Yellen, 1990). We therefore propose:

H2: BPJS Kesehatan participation is significantly and positively associated with employee well-being.

H3: Labor cost burden is significantly and negatively associated with SME productivity.

H4: Employee well-being is significantly and positively associated with SME productivity.

H5: Employee well-being mediates the relationship between BPJS Kesehatan participation and SME productivity

Tabel 1. Summary of Hypotheses

H	Hypothesis Statement	Basis
H1	BPJS Kesehatan participation significantly reduces labor cost burden in SMEs.	Arrow (1963); Wagstaff (2009)
H2	BPJS Kesehatan participation positively influences employee well-being.	Grossman (1972); Fan et al. (2024)
H3	Labor cost burden negatively affect SME productivity	Bloom et al. (2015); OECD (2021)
H4	Employee well-being positively affect SME productivity	Becker (1993); Liu & Zhao (2022)
H5	Employee well-being mediates the relationship between BPJS Kesehatan and SME productivity.	Baird et al. (2018); Pinheiro et al. (2016)

RESEARCH METHODS

3.1 Research Design

This study employs a quantitative cross-sectional research design to examine direct and mediation effects among BPJS Kesehatan participation, labor cost burden, employee well-being, and SME productivity. A cross-sectional survey is appropriate given the study's focus on structural relationships at a single point in time (Hair et al., 2019). The explanatory nature of the research objectives necessitates a deductive, hypothesis-testing approach grounded in prior theoretical frameworks.

3.2 Sample and Data Collection

The target population comprises SMEs operating in West Java Province, Indonesia—the province with the highest concentration of SMEs nationally (BPS, 2023). A purposive sampling technique was applied with the following eligibility criteria: (1) a minimum of five full-time employees, (2) a minimum of two years of operations, and (3) at least partial enrollment of employees in BPJS Kesehatan. These criteria ensure that sampled firms possess sufficient experience with the insurance program to provide valid assessments.

A final sample of 182 SMEs was obtained through the distribution of a structured questionnaire via both online platforms (Google Forms) and direct field administration between January and March 2025. Respondents included SME owners, managers, or human resource personnel with direct knowledge of firm finances and employee management. A pilot test with 30 respondents preceded full data collection to assess instrument reliability and clarity.

The sample size of 182 exceeds the minimum threshold for PLS-SEM estimation under the '10 times rule' heuristic (Hair et al., 2019) and satisfies the requirements of a priori power analysis (G^*Power , $\beta = 0.80$, $\alpha = 0.05$, effect size $f^2 = 0.15$), which indicates a minimum of 104 cases.

3.3 Measurement of Variables

All constructs were measured using reflective multi-item scales anchored on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). Items were adapted from prior validated studies and refined through expert review to ensure content validity in the Indonesian SME context.

BPJS Kesehatan Participation (X) was assessed across three dimensions: employee coverage rate, contribution consistency, and perceived benefit quality. Labor Cost Burden (Z) was operationalized through indicators of healthcare expenditure as a share of operational costs, absenteeism-induced production losses, and labor-related financial disruptions. Employee Well-being (M) was captured via indicators of physical health status, psychological security regarding health risks, and job satisfaction. SME Productivity (Y) was measured through worker output efficiency, operational cost efficiency, and overall business performance ratings. Full item scales are available from the corresponding author upon request.

3.4 Analytical Strategy

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) implemented in SmartPLS 4.0. PLS-SEM was selected because: (1) the research model is complex

with multiple endogenous constructs; (2) the study aims for both explanation and prediction; and (3) PLS-SEM performs robustly with non-normal data distributions, which is typical in SME survey research (Hair et al., 2019; Ringle et al., 2015).

The analysis proceeded in two stages. First, the measurement model was assessed for internal consistency (Cronbach's $\alpha > 0.70$; composite reliability [CR] > 0.70), convergent validity (average variance extracted [AVE] > 0.50 ; indicator loadings > 0.70), and discriminant validity (Fornell-Larcker criterion and HTMT ratios < 0.85). Second, the structural model was evaluated using path coefficients (β), t-statistics generated through 5,000-resample bootstrapping, and effect sizes (f^2). Mediation was assessed using the indirect effect with bias-corrected bootstrapped confidence intervals and variance accounted for (VAF).

Common method bias was evaluated using Harman's single-factor test and the marker variable technique. Results indicated that a single factor accounted for only 31.4% of total variance, below the conservative threshold of 50%, suggesting that common method bias does not constitute a serious threat to validity.

RESULTS AND DISCUSSION

4.1 Descriptive Statistics and Sample Profile

Of the 182 SMEs surveyed, 67.6% operated in the manufacturing and food processing sectors, 18.7% in retail trade, and 13.7% in service-related industries. Firm size ranged from 5 to 87 employees ($M = 23.4$, $SD = 14.2$). BPJS enrollment rates varied: 41.2% of firms had enrolled all employees, 43.4% had enrolled a majority, and 15.4% had partial enrollment. The mean duration of BPJS compliance was 4.3 years.

4.2 Measurement Model

All indicator loadings exceeded the recommended threshold of 0.70, ranging from 0.77 to 0.86. AVE values ranged from 0.653 to 0.712, and composite reliability values ranged from 0.851 to 0.881, all surpassing the 0.70 criterion. Cronbach's alpha values ranged from 0.817 to 0.849, confirming strong internal consistency. Discriminant validity was established: all HTMT ratios were below 0.85, and each construct's square root of AVE exceeded its correlations with other constructs (Fornell-Larcker criterion). Table 2 presents the full measurement model results.

Tabel 2 Measurement Model Results

Construct	Indicators	Loadings	AVE	CR	Cronbach's α
BPJS Participation	Employee coverage rate	0.82	0.653	0.851	0.817
	Contribution consistency	0.79			
	Perceived benefit quality	0.81			
Labor Cost Burden	Healthcare expenditure share	0.85	0.661	0.855	0.828
	Absenteeism rate	0.77			
	Labor-related disruptions	0.80			
Employee Well-being	Physical health status	0.83	0.677	0.863	0.836
	Psychological security	0.80			
	Job satisfaction	0.84			
SME Productivity	Output per worker	0.86	0.712	0.881	0.849
	Operational efficiency	0.82			
	Business performance index	0.84			

Note: CR = Composite Reliability; AVE = Average Variance Extracted; all loadings > 0.70

4.3 Structural Model and Hypothesis Testing

The structural model demonstrated satisfactory explanatory power, with R^2 values of 0.412 for Labor Cost Burden, 0.487 for Employee Well-being, and 0.539 for SME Productivity. The SRMR value of 0.061 indicated acceptable model fit. Predictive relevance (Q^2) values for endogenous constructs were all positive (range: 0.284–0.391), confirming the model's predictive validity. Table 3 summarizes the structural path results.

Tabel 3. Structural Path Coefficients and Hypothesis Testing Results

Hypothesis	Path	β	SE	t-stat	p-value	Decision
H1	BPJS $\rightarrow$ Labor Cost Burden	-0.46	0.052	8.85	<0.001	Supported
H2	BPJS $\rightarrow$ Employee Well-being	0.53	0.048	11.04	<0.001	Supported
H3	Labor Cost Burden $\rightarrow$ Productivity	-0.38	0.061	6.23	<0.001	Supported
H4	Employee Well-being $\rightarrow$ Productivity	0.49	0.055	8.91	<0.001	Supported
H5 (indirect)	BPJS $\rightarrow$ Well-being $\rightarrow$ Productivity	0.26	0.039	6.67	<0.001	Supported
H5 (direct)	BPJS $\rightarrow$ Productivity	0.28	0.063	4.44	<0.001	Supported

Note: SE = Standard Error; t-statistics based on 5,000-resample bootstrapping;

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.4 Mediation Analysis

The indirect effect of BPJS Kesehatan on productivity through employee well-being was statistically significant ($\beta = 0.26$, $SE = 0.039$, 95% BC-CI [0.187, 0.341], $t = 6.67$, $p < 0.001$). The direct effect of BPJS on productivity remained significant after controlling for the mediator ($\beta = 0.28$, $p < 0.01$), indicating partial mediation. The VAF value of 42.3% confirmed that employee well-being accounts for a substantial portion of the BPJS– productivity relationship, consistent with partial mediation. These results fully support H5.

DISCUSSION

5.1 Cost-Efficiency Pathway: BPJS Kesehatan and Labor Cost Burden

The significant negative effect of BPJS participation on labor cost burden (H1 supported) aligns with Arrow's (1963) theoretical prediction that risk-pooling mechanisms reduce economic uncertainty. In the SME context, where financial buffers are thin, this finding has substantial practical significance. Prior to widespread BPJS adoption, SMEs absorbed sporadic and often catastrophic medical costs on an ad hoc basis. The formalization of health risk through BPJS converts these volatile expenditures into predictable contribution structures, facilitating better financial planning and reducing the probability of liquidity crises.

This result extends the findings of Wagstaff (2009) and Baicker et al. (2013) to the firm level in an emerging economy, where institutional environments differ substantially from high-income country contexts. Importantly, the magnitude of the effect ($\beta = -0.46$) suggests that BPJS participation is among the strongest determinants of labor cost reduction in the sample, highlighting the program's economic salience beyond its social protection mandate.

5.2 Human Capital Pathway: Employee Well-being and Productivity

The positive relationship between BPJS participation and employee well-being (H2 supported; $\beta = 0.53$) is consistent with Grossman's (1972) health capital framework, which posits that access to healthcare directly augments productive capacity. Employees who are enrolled in health insurance report greater psychological security, lower financial anxiety related to medical risks, and higher job satisfaction—all of which translate into improved organizational commitment and effort.

The strong positive effect of employee well-being on SME productivity (H4; $\beta = 0.49$) corroborates human capital theory (Becker, 1993) and efficiency wage arguments (Akerlof & Yellen, 1990). Taken together, these results suggest that investments in employee health security generate measurable returns at the firm level, reinforcing the business case for SME compliance with mandatory health insurance obligations.

5.3 Integrated Framework and Theoretical Contributions

A key contribution of this study lies in its integration of cost-efficiency theory and human capital theory within a single analytical framework. Prior work has typically examined these mechanisms in isolation: health economics studies focus on expenditure reduction, while management studies emphasize human capital development. By testing both pathways simultaneously, this research demonstrates that BPJS Kesehatan operates through complementary mechanisms rather than substitutive ones. The finding of partial mediation (VAF = 42.3%) confirms that employee well-being is a significant but not exclusive conduit through which BPJS shapes productivity, implying that workforce stabilization and improvements in operational continuity also play direct roles.

These findings carry implications for the emerging literature on social protection and firm performance (Baird et al., 2018; Liu & Zhao, 2022). They suggest that public health insurance in developing economies can function not only as a redistributive welfare mechanism but also as an indirect productivity policy—a reframing that may garner broader political and business support for UHC initiatives.

5.4 Practical and Policy Implications

For policymakers, the results advocate targeted strategies to expand BPJS participation among informal and semi-formal SME workers, particularly through simplified registration, flexible contribution schedules, and penalty amnesty programs to facilitate compliant transition. Given that labor cost reduction is a primary concern for SMEs, communicating the financial benefits of BPJS participation may be more effective than appeals to social solidarity alone.

For SME practitioners, the findings suggest that health insurance investment should be reconceptualized as a strategic human resource practice rather than a compliance obligation. Firms that proactively enroll and support employees in BPJS can expect measurable returns through reduced turnover, lower absenteeism, and improved workforce productivity.

5.5 Limitations and Future Research

Several limitations should be acknowledged. First, the cross-sectional design limits causal inference; longitudinal or quasi-experimental designs exploiting the staggered rollout of BPJS would provide stronger causal identification. Second, the sample is geographically restricted to West Java, which may limit generalizability to regions with different industrial compositions and BPJS compliance cultures. Third, self-report productivity measures may be subject to social desirability bias, despite the use of common method bias controls. Future research should incorporate objective firm performance data (e.g., revenue growth, tax records) and extend the analytical framework to comparative country-level studies in Southeast Asia.

CONCLUSION

This study provides robust empirical evidence that BPJS Kesehatan participation significantly enhances SME resilience in West Java, Indonesia, through dual pathways of cost efficiency and human capital. BPJS participation reduces labor cost burden by converting unpredictable healthcare expenditures into structured contributions, while simultaneously improving employee well-being by enhancing access to healthcare and reducing financial insecurity. These improvements collectively translate into measurable gains in SME productivity.

The partial mediation of employee well-being confirms that the productivity benefits of public health insurance operate through both direct workforce stabilization mechanisms and indirect behavioral channels. By integrating cost-efficiency and human capital theoretical perspectives, this study offers a more complete and generalizable framework for understanding the firm-level effects of social protection policies.

The findings challenge the conventional framing of health insurance as purely a social protection instrument and demonstrate its potential to drive inclusive economic growth. This

reframing has important implications for policy design, SME management practice, and future research on the nexus between social policy and firm performance in emerging economies.

BIBLIOGRAPHY

- Acemoglu, D. (2001). Good jobs versus bad jobs. *Journal of Labor Economics*, 19(1), 1– 21. <https://doi.org/10.1086/209979>
- Agustina, R., Dartanto, T., Sitompul, R., Susiloretni, K. A., Achadi, E. L., Taher, A., & Khusun, H. (2019). Universal health coverage in Indonesia: Concept, progress and challenges. *The Lancet*, 393(10166), 75–102. [https://doi.org/10.1016/S0140-6736\(18\)31647-7](https://doi.org/10.1016/S0140-6736(18)31647-7)
- Akerlof, G. A., & Yellen, J. L. (1990). The fair wage–effort hypothesis and unemployment. *Quarterly Journal of Economics*, 105(2), 255–283. <https://doi.org/10.2307/2937815>
- Arrow, K. J. (1963). Uncertainty and the welfare economics of medical care. *American Economic Review*, 53(5), 941–973. <https://doi.org/10.2307/1812047>
- Baicker, K., Taubman, S. L., Allen, H. L., Bernstein, M., Gruber, J. H., Newhouse, J. P., & Finkelstein, A. N. (2013). The Oregon experiment—Effects of Medicaid on clinical outcomes. *New England Journal of Medicine*, 368(18), 1713–1722. <https://doi.org/10.1056/NEJMsa1212321>
- Baird, S., Hicks, J. H., Kremer, M., & Miguel, E. (2018). The short-term impacts of health insurance: Evidence from Kenya. *American Economic Review*, 108(6), 143– 176. <https://doi.org/10.1257/aer.20131067>
- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). University of Chicago Press. <https://doi.org/10.1086/261724>
- Bloom, D. E., & Canning, D. (2008). Population health and economic growth. *World Bank Economic Review*, 22(1), 1–27. <https://doi.org/10.1093/wber/lhn007>
- Bloom, N., Sadun, R., & Van Reenen, J. (2015). Do private equity owned firms have better management practices? *Quarterly Journal of Economics*, 130(1), 1–51. <https://doi.org/10.1093/qje/qju031>
- BPS (Badan Pusat Statistik). (2023). Indonesian economic census: SME statistics 2023. Statistics Indonesia.
- Currie, J., & Madrian, B. (1999). Health, health insurance and the labor market. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics* (Vol. 3C, pp. 3309– 3416). Elsevier. [https://doi.org/10.1016/S1573-4463\(99\)30041-9](https://doi.org/10.1016/S1573-4463(99)30041-9)
- Cutler, D. M., & Zeckhauser, R. (2000). The anatomy of health insurance. In A. J. Culyer & J. P. Newhouse (Eds.), *Handbook of health economics* (Vol. 1A, pp. 563–643). Elsevier. [https://doi.org/10.1016/S1574-0064\(00\)80170-5](https://doi.org/10.1016/S1574-0064(00)80170-5)
- Erlangga, D., Ali, S., & Bloor, K. (2019). The impact of public health insurance on healthcare utilisation, financial protection and health status in Indonesia. *International Journal of Public Health*, 64(4), 603–612. <https://doi.org/10.1007/s00038-019-01215-2>

- Fan, L., Li, Y., & Song, J. (2024). Health insurance and employee well-being: Evidence from China. *Journal of Health Economics*, 92, 102918. <https://doi.org/10.1016/j.jhealeco.2024.102918>
- Grossman, M. (1972). On the concept of health capital and the demand for health. *Journal of Political Economy*, 80(2), 223–255. <https://doi.org/10.1086/259880>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Liu, H., & Zhao, Z. (2022). Health investment and firm performance: Evidence from Chinese listed companies. *Research in International Business and Finance*, 60, 101661. <https://doi.org/10.1016/j.ribaf.2022.101661>
- Ministry of Health of Indonesia. (2024). BPJS Kesehatan annual report 2023. Ministry of Health.
- OECD. (2021). OECD SME and entrepreneurship outlook 2021. OECD Publishing. <https://doi.org/10.1787/97a5bbfe-en>
- Pinheiro, R., Bergé, L., Huber, N., & Zimmermann, K. F. (2016). Health insurance, workplace injuries, and labor productivity. *Labour Economics*, 43, 1–12. <https://doi.org/10.1016/j.labeco.2016.03.002>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. SmartPLS GmbH.
- Shapiro, C., & Stiglitz, J. E. (1984). Equilibrium unemployment as a worker discipline device. *American Economic Review*, 74(3), 433–444. <https://doi.org/10.2307/1804018>
- Sommers, B. D., Gawande, A. A., & Baicker, K. (2017). Health insurance coverage and health—What the recent evidence tells us. *New England Journal of Medicine*, 377(6), 586–593. <https://doi.org/10.1056/NEJMs1706645>
- Wagstaff, A. (2009). Social health insurance vs. tax-financed health systems: Evidence from the OECD. *Journal of Health Economics*, 28(1), 103–120. <https://doi.org/10.1016/j.jhealeco.2008.10.007>
- WHO. (2020). Universal health coverage: Moving towards better health. World Health Organization. <https://doi.org/10.2471/BLT.19.245423>
- World Bank. (2022). Social protection and jobs—Annual report 2022. World Bank Group. <https://doi.org/10.1596/978-1-4648-1876-7>