Dharma Lesmono

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Universitas Katolik Parahyangan (UNPAR)
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Qualifications

- PhD (2006), The University of Queensland, Australia.
- MSc (1999), The University of Twente, The Netherlands.
- Master (Industrial Engineering) (1997), Institut Teknologi Bandung, Indonesia.
- BSc (Accounting) (1995), UNPAR, Bandung, Indonesia.
- BSc (Mathematics) (1993), Institut Teknologi Bandung, Indonesia.

PhD thesis : Stochastic Models of Election Timing

Professional Memberships

1. Society for Industrial and Applied Mathematics (SIAM)
2. American Mathematical Society (AMS)
3. Australian Mathematical Society (AustMS)
4. Australia and New Zealand Industrial and Applied Mathematics (ANZIAM)
5. Indonesian Mathematical Society (IndoMS)

Research Interests

Operational Research, Stochastic Differential Equations and its applications, Financial Mathematics, Game Theory, Inventory models.

Current Positions

- Head, Department of Mathematics, UNPAR (September 2015 – August 2018).
- Lektor Kepala, Department of Mathematics, UNPAR (1993 -now).

Previous Positions

- Vice Rector for Resources, UNPAR (December 2011 – June 2015)
- Dean, Faculty of Information Technology and Sciences, UNPAR (November 2009 – December 2011)
- Head, Department of Mathematics, UNPAR (May 2006 – November 2009).
- Vice Dean for Financial and Administrative Affairs, Faculty of Mathematics and Natural Sciences, UNPAR (August 1999 - August 2001).
- Deputy Head, Department of Mathematics, UNPAR (November 1996 - June 1997).

Research Grants

1. **Lesmono, D.** and Limansyah (2017). "Pengembangan Model Persediaan *Perishable Products* dengan Diskon Penjualan dan Retur". Hibah Penelitian LPPM Unpar.
2. Permana, F.J., **Lesmono, D.**, and Chendra, E (2014-2016). "Penentuan Harga Opsi Eksotik dan Value-at-Risk untuk Dinamika Harga Aset yang mengikuti Proses Varians Gamma: Studi Kasus di Indonesia." Hibah Bersaing DIKTI.
3. **Lesmono, D.** and Limansyah (2016). "Model Persediaan Probabilistik Multi Item dengan Faktor Diskon dan Kadaluarsa". Hibah Penelitian LPPM Unpar.
4. Permana, F.J., **Lesmono, D.,** and Chendra, E (2013). "Valuasi Opsi Plain Vanilla Jenis Amerika dengan Dinamika Harga Aset Mengikuti Proses Varians Gamma." Hibah Penelitian LPPM Unpar.
5. **Lesmono, D.** and Limansyah (2012). "Model Persediaan Probabilistik Satu Jenis Barang Dengan Melibatkan Faktor *All Unit Discount*". Hibah Penelitian LPPM Unpar.
6. Permana, F.J., **Lesmono, D.,** and Chendra, E (2011-2012). "Model Matematika Untuk Indeks Harga Saham di Indonesia dan Aplikasinya Dalam Penentuan Harga Opsi." Hibah Fundamental DIKTI.
7. Permana, F.J., **Lesmono, D.,** and Chendra, E (2009). "Pemodelan Harga Komoditi di Pasar Komiditi Indonesia: Kasus Olein (Minyak Sawit dan Emas (Gulir Emas)." Hibah Fundamental DIKTI.
8. **Lesmono, D** and Permana, F.J. (2009). "Pemodelan Matematika untuk Indeks Harga Saham LQ45". Hibah Penelitian LPPM Unpar.

List of Publication

Books

Lesmono, D. *Election Timing: Concepts, Mathematical Models and Applications*, LAP Lambert Academic Publishing, Germany, 2010. ISBN: 978-3-8383-3021-1

Book Chapters

Lesmono, Dharma., A Term Structured Volatility Model of Poll Data and its Application to Election Timing, In *Aspects of Mathematical Modelling* (eds. Hosking, R.J. and Venturino, E), Birkhauser Verlag, Basel, 283-291, 2008.

Journal Articles (2003-2017)

1. Wong, H., Lesmono, D., Chhajed, D, and Kim, K. On the evaluation of commonality strategy in product line design: The effect of valuation change and distribution channel structure (submitted).
2. Wong, H. and Lesmono, D. Conflicting quality attributes, distribution channel structure, and product line length in quality-based segmentation. Accepted for publication in IMA Journal of Mangement Mathematics.
3. Ricardo, C., Lesmono, D. dan Limansyah, T. Pengembangan Model Persediaan *Continuous Review* dengan *All-unit Discount* dan Faktor Kadaluwarsa. *Jurnal Teknik Industri*, **19** (1), 29-38, Juni 2017.
4. Permana, P.J., Lesmono, D., and Chendra, E. Valuation of Asian American Options using a Modified Path Simulation Method, *World Journal of Engineering and Technology*, **3**, 296-301, 2015, http://dx.doi.org/10.4236/wjet.2015.33C044.
5. Permana, P.J., Lesmono, D., and Chendra, E. Valuation of European and American Options under Variance Gamma Process, *Journal of Applied Mathematics and Physics*, **2**, 1000-1008,2014, http://dx.doi.org/10.4236/jamp.2014.211114.
6. Wong, H. and Lesmono, D. Product line design in a manufacturer-retailer distribution channel with a horizontally and vertically differentiated market. *The 18th Working Seminar in Production Economics*, Innsbruck, 2014.

7. Tonkes, E. and Lesmono, D. Fair Valuation of Predication Market Contracts on the US Senate, *Current Politics and Economics of the United States, Canada and Mexico*, **15**(4), 2013.
8. Wong, H. and Lesmono, D. On the evaluation of product customization strategies in a vertically differentiated market, *International Journal of Production Economics*, **144**(1), 105-117, 2013.
9. Tonkes, E. and Lesmono, D. A Longstaff and Schwartz Approach to the Early Election Problem, *Advances in Decision Sciences* Vol 2012, Article ID 287579, 18 pages, doi: 10.1155/2012/287579.
10. Yong, B., Chin, L. dan Lesmono, D. Kajian Matematis dan Simulasi Skenario Banyaknya Kemenangan yang Dibutuhkan suatu Tim untuk Mencapai Peringkat Tertentu dalam Suatu Turnamen, *Jurnal MatStat*, **12**(1), 46-54, 2012.
11. Limansyah, T. dan Lesmono, D. Model Persediaan Multi Item dengan Mempertimbangkan Faktor Kedaluwarsa dan Faktor *All Unit Discount, Jurnal Teknik Industri, **13**(2), 87-94, 2011*.
12. Tonkes, E. and Lesmono, D. Consistency in the US Congressional Popular Opinion Polls and Prediction Markets, *Journal of Prediction Markets*, **4**(2), 45-64, 2010.
13. Lesmono, Dharma., Tonkes, Elliot and Burrage, Kevin., Opportunistic timing and manipulation in Australian Federal Elections, *European Journal of Operational Research*, **192**, 677-691, 2009.
14. Lesmono, D., Pollett, P.K., Tonkes, E.J. and K. Burrage A note on the existence and uniqueness of a bounded mean-reverting process. *Journal of the Indonesian Mathematical Society*, **14***(2), 83-93, 2008.*
15. Lesmono, Dharma., Stochastic Models of Election Timing (PhD Abstract), *Bull. Aust. Math. Soc.*, **75**(1), 157-157, 2007.
16. Lesmono, Dharma and Tonkes, Elliot. Stochastic dynamic programming for election timing: a game theory approach. *Asia-Pacific Journal of Operational Research*, **23**(3), 287-309, 2006.
17. Lesmono, Dharma. A mathematical model for election timing, *Quantitative Methods*, **2**(1), 38-49, 2006.
18. Lesmono, D., Tonkes, E.J., Burrage, K. A continuous time model for election timing, *Australian Mathematical Society Gazette*, **32**(5), 329-338, 2005.
19. Lesmono, Dharma and Tonkes, Elliot. Optimal strategies in political elections, *ANZIAM Journal*, **46C**, C764-C785, 2005.
20. Lesmono, D., Tonkes, E.J. and Burrage, K. An early political election problem. *ANZIAM Journal*, **45C**, C16-C33, 2003.

Conference Proceedings (2009-2017)

1. Lesmono, D and Limansyah, T. A multi item probabilistic inventory model. Journal of Physics, Conf. Ser 893 012024, 2017.
2. Rosalia, F., Lesmono, D. Analisis Sensitivitas Model Persediaan dengan adanya Barang Cacat terhadap Kualitas, Harga dan Waktu Produksi *Prosiding Seminar Nasional Matematika Unpar 12*, MS39-45, September 2017.
3. Hardiwinata, R, Lesmono, D. Penentuan jarak minimum dalam suatu jaringan dengan Algoritma Prim dan pemrograman bilangan biner. *Prosiding Seminar Nasional Matematika Unpar 11*, MS107-113, September 2016.
4. Koswara, H., Lesmono, D. Model persediaan P(R,T) multi item dengan distribusi permintaan umum. *Prosiding Seminar Nasional Matematika Unpar 11*, MS93-99, September 2016.
5. Kusumah, R., Lesmono, D. Penerapan algoritma bee colony untuk menyelesaikan traveling salesman problem. *Prosiding Seminar Nasional Matematika Unpar 11*, MS33-40, September 2016.
6. Koswara, H., Lesmono, D. Analisis Sensitivitas Kenaikan Harga Model P(R,T) Multi Item. *Prosiding Seminar Nasional Pemodelan dan Perancangan Sistem Magister Teknik Industri UNPAR*, 8 Desember 2015.

7. Ricardo, C., Limansyah, T., Lesmono, D. Model Persediaan Deterministik dengan Mempertimbangkan Masa Kadaluarsa dan Penurunan Harga Jual. *Prosiding Seminar Nasional Sains dan Teknologi Fakultas Teknik Universitas Muhammadiyah Jakarta*, 17 November 2015.
8. Koswara, H. and Lesmono, D. Analisis Senstivitas Model P(R,T) *Multi Item* dengan Adanya Kenaikan Harga. *Prosiding Seminar Nasional Sains dan Teknologi Fakultas Teknik Universitas Muhammadiyah Jakarta*, 17 November 2015.
9. Wijaya, A.I., Limansyah, T dan Lesmono, D. Penyelesaian Linear Fractional Programming dengan Menggunakan Metode Criss Cross, *Prosiding Seminar Nasional Matematika Unpar 10*, MS87-93, September 2015.
10. Lesmono, D., Limansyah, T. Pengembangan Model Persediaan Probabilistik dengan Faktor Kadaluarsa dan Incremental Discount. *Prosiding Seminar Nasional Matematika dan Terapan* (SiManTap) 3, 209-217, November 2012.
11. Debora, M., Limansyah, T dan Lesmono, D., Model Persediaan Deterministik dengan Mempertimbangkan Waktu Kadaluarsa dan Faktor *Incremental Discount*, *Prosiding Seminar Nasional Matematika Unpar* **7**, MS70-77, Oktober 2012.
12. Wijaya, Michael L. dan Lesmono, D., Prediksi Pergerakan Nilai Tukar Euro Terhadap US Dollar Menggunakan Metode Moving Average, *Prosiding Seminar Nasional Matematika Unpar* **7**, MS138-144, Oktober 2012.
13. Permana, F.J., Lesmono, D., and Chendra, E., Modelling Indonesian Stock Indices using Variance Gamma., In *Proceedings of The World Congress on Engineering and Technology*, Shanghai, 28 October - 2 November 2011.
14. Astridnindya, I.P. dan Lesmono, D., Penentuan Nilai Opsi Lookback dengan Menggunakan Metode Trinomial, *Prosiding Seminar Nasional Matematika Unpar* **6**, 456-462, Oktober 2011.
15. Mayangsari, A dan Lesmono, D.,Modifikasi Model Stackelberg dan Aplikasinya dalam Ekonomi, *Prosiding Seminar Nasional Matematika Unpar* **6**, 463-469, Oktober 2011.
16. Wong, H and Lesmono, D., The value of enhancing customisation in the existence of consumer preferences heterogeneity. In *Proceedings of the 21st International Conference on Production Research*, Stuttgart, 31 July - 4 August 2011.
17. Elisa, Y dan Lesmono, D., Perbandingan Biaya Persediaan dari Model EOQ Komposit, *Prosiding Seminar Nasional Matematika Unpar* **5**, MS141 - 149, Oktober 2010.
18. Wahyuni, D dan Lesmono, D., Model EOQ Komposit dengan Diskon, *Prosiding Seminar Nasional Matematika Unpar* **5**, MS202 - 213, Oktober 2010.
19. Lesmono, D. dan Permana, F.J., Persamaan Diferensial Stokastik untuk Dinamika Indeks LQ45, *Prosiding Konferensi Nasional Matematika XV*, Manado, 30 Juni - 3 Juli 2010.
20. Permana, F.J., Lesmono, D. and Chendra, E., Commodity Price and Volatility Models of Indonesia Market, *Proceeding of the 4th International Conference on Research and Education in Mathematics* (ICREM4), Kuala Lumpur 21-23 October 2009, pp. 281-288.
21. Permana, F.J., Lesmono, D. and Chendra, E., Stochastic Price Process Models of Rolling Gold Traded in Indonesia Market, *Proceeding of the 4th International Conference on Research and Education in Mathematics* (ICREM4), Kuala Lumpur 21-23 October 2009, pp. 607-612.
22. Agustine, D dan Lesmono, D., Model Persediaan untuk Kebijakan Pemesanan yang Optimal dengan Skema Penundaan Pembayaran, Prosiding Seminar Nasional Matematika Unpar **4**, MS119 - 126, September 2009.
23. Ferry J. Permana, J. Dharma Lesmono and Erwinna Chendra, Palm Oil Price Model of Indonesia Market, *Proceedings of the 5th Asian Mathematical Conference*, Kuala Lumpur 22-26 June 2009, Vol. III, pp. 325-332.
24. Elliot Tonkes and Dharma Lesmono, A Stochastic Dynamic Programming Problem in Electricity Market, *Proceedings of the 5th Asian Mathematical Conference*, Kuala Lumpur 22-26 June 2009, Vol. III, pp. 494 - 501.

Book Reviews

- Proportional Representation Apportionment Methods and Their Applications, Friedrich Pukelsheim, Springer, 2014. ISBN: 978-3-319-03855-1. (*Mathematical Reviews*).
- Linear Algebra: Theory and Applications, Ward Cheney and David Kincaid, Jones and Bartlett, 2009, ISBN 978-0-7637-5020-6, *Australian Mathematical Society Gazette*, **37**(2), 110-111, May 2010.
- Mathematicians of the World, Unite! The International Congress of Mathematicians - A Human Endeavor, Guilermo P. Curbera, A.K. Peters Ltd, 2009, ISBN 978-1-56881-330-1, *Australian Mathematical Society Gazette*, **37**(1), 34-35, March 2010.

Articles in Newspaper

1. Perhelatan Matematikawan Sedunia, Kolom Opini, Harian Umum Kompas, 4 September 2010.
2. Preferential Voting dalam Pilpres, Kolom Opini, Harian Umum Pikiran Rakyat, 17 Juli 2009.
3. Articles in *Lies & Statistics* Column *The Weekend Australian Financial Review* 2-3 October 2004 (with Elliot Tonkes).
4. Article in *Lies & Statistics* Column *The Weekend Australian Financial Review* 11-12 October 2003 (with Elliot Tonkes).

Presentations (2002-2017)

1. A Perishable Inventory Model with Return, The 2nd International Conference on Mathematics, Science, Education and Technology (ICOMSET), Padang, 5-6 Oktober 2017.
2. Kebijakan Joint Replenishment pada Model Persediaan Probabilistik, Seminar Nasional dan Rapat Tahunan MIPANet 2017, Universitas Sam Ratulangi Manado, 24-26 Agustus 2017.
3. Pengembangan Model Persediaan *Continuous Review* dengan *All-unit Discount* dan Faktor Kadaluwarsa, Konferensi Nasional Matematika XVIII, Pekanbaru, Riau, 2-5 November 2016.
4. A Multi Item Probabilistic Inventory Model, Asian Mathematical Conference (AMC) 2016, Bali, 25-29 July 2016.
5. Optimal Ordering Policy for a Multi Item Probabilistic Inventory Model with All-units Discount. East Asia Section of Society of Industrial and Applied Mathematics (EASIAM) Conference, Macau, 20-22 June 2016.
6. Valuation of Asian American Option Using A Modified Path Simulation Method. The 5th World Congress on Engineering and Technology (CET 2015), Suzhou, China, 23-25 October 2015.
7. Modified Path Simulation Method for Valuation of Asian American Options, 8th International Congress on Industrial and Applied Mathematics (ICIAM2015), Beijing, 10-14 August 2015.
8. Mathematical Modelling of the Commonality in Product Line Design in a manufacturer-retailer distribution channel, International Congress of Mathematicians (ICM) 2014, Seoul, South Korea, 13-21 August 2014.
9. Model Persediaan Probabilistik dengan Faktor Kadaluarsa dan Fungsi Diskon Kontinu, Konferensi Nasional Matematika XVII, Institut Teknologi Sepuluh November Surabaya, 11-14 Juni 2014.
10. Does the VG Process better than Normal Distribution in Modelling the Dynamics of Log Return Asset Prices in Indonesia Market?, Asian Mathematical Conference (AMC) 2013, Busan, South Korea, 30 June – 4 July 2013.
11. Modelling Option on Indonesian Stock Indices using Variance Gamma, 8th Conference East Asia Section of Society of Industrial and Applied Mathematics (EASIAM), National Taiwan University, Taipei, Taiwan, 25-27 June 2012.
12. Modelling Indonesian Stock Indices Using Variance Gamma, The World Congress on Engineering and Technology (CET2011), Shanghai, 28 October - 2 November 2011.
13. Modelling Dynamic of LQ45 Index using Potential Diffusion, 7th International Congress on Industrial and Applied Mathematics (ICIAM2011), Vancouver Convention Centre, Vancouver, British Columbia, Canada, 18-22 July 2011.

14. Mathematical Model for LQ45 Index, International Congress of Mathematicians (ICM2010), Hyderabad International Convention Centre (HICC), India, 19-27 August 2010.
15. Persamaan Diferensial Stokastik untuk Dinamika Indeks LQ45, Konferensi Nasional Matematika XV, Hotel Sultan Raja, Manado, 30 Juni - 3 Juli 2010.
16. Stochastic Price Process Models of Rolling Gold Traded in Indonesia Market, The 4th International Conference on Research and Education in Mathematics (ICREM4), Renaissance Hotel, Kuala Lumpur, Malaysia, 21-23 October 2009.
17. A Stochastic Dynamic Programming Problem in Electricity Markets, 5th Asian Mathematical Conference, Putra World Trade Centre, Kuala Lumpur, Malaysia, 22-26 June 2009.
18. A note on the existence and uniqueness of a bounded mean-reverting process, 7th World Congress in Probability and Statistics, NUS, Singapore, 14 - 19 July 2008.
19. A mathematical model for surfing and manipulation in politics (poster), The International Congress of Mathematicians (ICM), Madrid, 22-30 August 2006.
20. A term structured volatility model of poll data and its application to election timing, International Conference on Mathematical Modelling and Computation (MMC06), Universiti Brunei Darussalam, 5-8 June 2006.
21. Game theory in Australian Politics, QANZIAM meeting, Novotel Hotel, Brisbane, November 12, 2005.
22. A mathematical model for opportunistic timing and manipulation in Australian Federal Elections, Conference on Stochastic Modelling of Complex Systems (SMOC05) and the 4th National Symposium on Financial Mathematics (NSFM), Daydream Island Resort, Queensland, Australia, July 10-16, 2005.
23. A mean-reverting stochastic differential equation for poll data and its application in election timing, International Conference on Scientific Computing and Differential Equations (SciCADE05), Nagoya Congress Centre, Nagoya, Japan, May 23 - 27, 2005.
24. A game theory approach for political elections, 41th Annual ANZIAM Conference, War Memorial Conference Centre, Napier, New Zealand, January 30 - February 3, 2005.
25. Optimal strategies in political elections, 12th Biennial Computational Technique and Applications Conference (CTAC2004), The University of Melbourne, Australia, September 27 - October 1, 2004.
26. Behaviour of a bounded mean-reverting process and application of the optimal early exercise problem (poster), 3rd National Symposium on Financial Mathematics (NSFM), Melbourne, June 10-11, 2004.
27. Optimal Timing of Political Elections, 40th Annual ANZIAM Conference, Hotel Grand Chancellor, Hobart, Australia, February, 1 - 5, 2004.
28. An Early Political Election Problem, 11th Computational Technique and Applications Conference (CTAC2003) as an embedded meeting of International Congress of Industrial and Applied Mathematics (ICIAM2003), Sydney, Australia, July 7 -11, 2003.
29. When is the best time to call for an election?, QANZIAM meeting, Burleigh Heads, Gold Coast, Australia, August 17-18, 2002.

Professional Activities

1. Steering Committee Seminar Nasional Matematika 2005-2017, UNPAR.
2. Technical Program Committee, 2nd International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN 2010), 28-30 July 2010, Liverpool, UK.
3. Technical Program Committee, Asia Modelling Symposium 2010, 4rd Asia International Conference on Modelling and Simulation, 26-28 May 2010, Kota Kinabalu, Malaysia.
4. Technical Program Committee, CICSyN2009, 1st International Conference on Computational Intelligence, Communication Systems and Networks, Indore, India, 23-25 July 2009.
5. Technical Program Committee, Asia Modelling Symposium 2009, 3rd Asia International Conference on Modelling and Simulation, Bandung, 25-26 May 2009 and Bali 29 May 2009.

6. Treasurer (Local Committee), Asia Modelling Symposium 2009, 3rd Asia International Conference on Modelling and Simulation, Bandung, 25-26 May 2009 and Bali 29 May 2009.

Reviewers

- Mathematical Reviews
- Jurnal Rekayasa Sistem Industri.

Contributions to Society

1. Team Member, Ibu belajar Matematika, Organized by Department of Mathematics, UNPAR (2012-2017)
2. Judge, Kompetisi Matematika, Organized by Himpunan Matematika, UNPAR (2009-2017).

Courses taught

- Optimization
- Stochastic Processes
- Game Theory
- Business Statistics
- Design Experiment
- Reliability Engineering
- Optimization Methods
- Mathematics for Economics
- Multivariate Analysis