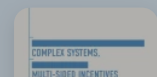


Home > [Complex Systems, Multi-Sided Incentives and Risk Perception in Companies](#) > Chapter

Complexity and Some Numerical Algorithmic Turning-Point Problems Inherent in Excessive Outstanding Shares

| Chapter | First Online: 07 September 2019

| pp 783–816 | [Cite this chapter](#)



[Complex Systems, Multi-Sided](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

- > **Store and/or access information on a device**
- > **Personalised advertising and content, advertising and content measurement, audience research and services development**

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)



This is a preview of subscription content, [log in via an institution](#)  to check access.

Access this chapter

Log in via an institution →

Subscribe and save

✓ Springer+ Basic

€32.70 /Month

- Get 10 units per month
- Download Article/Chapter or eBook
- 1 Unit = 1 Article or 1 Chapter
- Cancel anytime

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **[privacy policy](#)** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

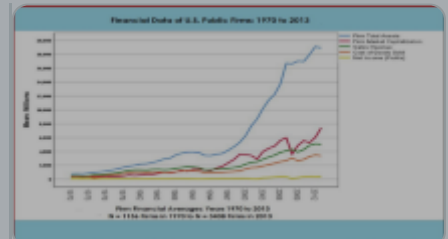
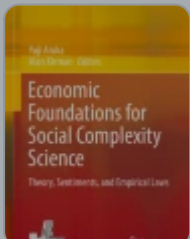
Manage preferences

Tax calculation will be finalised at checkout

Purchases are for personal use only

[Institutional subscriptions](#) →

Similar content being viewed by others



Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Abdullah, S., Yusof, N., & Nor, M. (2010). Financial Restatements and Corporate Governance Among Malaysian Listed Companies. *Managerial Auditing Journal*, 25(6), 526-552.

[Article](#) [Google Scholar](#)

Ahmed, M., Chai, W., Ding, X., et al. (2009). *Statistical Arbitrage in High Frequency Trading Based on Limit Order Book Dynamics*. Working Paper. <http://web.stanford.edu/class/msande444/2009/2009Projects/2009-2/MSE444.pdf>.

Albrecher, H., & Kainhofer, R. (2002). Risk Theory with a Nonlinear Dividend Barrier. *Computing*, 68(4), 289-311.

[Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Azcue, P., & Muler, N. (2015). Optimal Dividend Payment and Regime Switching in a Compound Poisson Risk Model. *SIAM Journal on Control & Optimization*, 53(5), 3270–3298.

[Article](#) [Google Scholar](#)

Baber, W., Fairfield, P., & Haggard, J. (1991). The Effect of Concern About Reported Income on Discretionary Spending Decisions: The Case of Research and Development. *Accounting Review*, 66(4), 818–829.

[Google Scholar](#)

Bai, L., & Paulsen, J. (2010). Optimal Dividend Policies with Transaction Costs for a Class of Diffusion Processes. *SIAM Journal on Control & Optimization* 48(8)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Earnings Management on Stock Market Liquidity in a Highly Concentrated Ownership Capital Market. *Journal of Accounting, Auditing and Finance*, 28, 292–316.

[Google Scholar](#)

Battiston, S., & Glattfelder, J. B. (2009). Backbone of Complex Networks of Corporations: The Flow of Control. *Physics Review-E*, 80, 036104.

[Article](#) [Google Scholar](#)

Beatty, A., & Weber, J. (2006). Accounting Discretion in Fair Value Estimates: An Examination of SFAS 142 Goodwill Impairments. *Journal of Accounting Research*, 44, 257–288.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Brink, A., & Rankin, F. (2014). The Effects of Risk Preference and Loss Aversion on Individual Behavior Under Bonus, Penalty, and Combined Contract Frames. *Behavioral Research in Accounting*, 25(2), 145–170.

[Article](#) [Google Scholar](#)

Brockman, P., Chung, D., & Perignon, C. (2009). Commonality in Liquidity: A Global Perspective. *Journal of Financial and Quantitative Analysis*, 44, 851–882.

[Article](#) [Google Scholar](#)

Bushman, R., & Piotroski, J. (2005). Financial Reporting Incentives for Conservative Accounting: The Influence of Legal and Political Institutions. *Journal of Accounting & Economics*, 42, 107–142.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Chen, Z., Wu, P., & Li, B. (2013). A Strong Law of Large Numbers for Non-additive Probabilities. *International Journal of Approximate Reasoning*, 54(3), 365–377.

[Article](#) [Google Scholar](#)

Cornett, M., McNutt, J., & Tehranian, H. (2009). Corporate Governance and Earnings Management at Large U.S. Bank Holding Companies. *Journal of Corporate Finance*, 15, 412–430.

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Domshlak, C., Hullermeier, E., Kaci, S., & Prade, H. (2011). Preferences in AI: An Overview. *Artificial Intelligence*, 17(7-8), 1037-1052.

[Article](#) [Google Scholar](#)

Dreschler, I. (2013). Uncertainty, Time-Varying Fear, and Asset Prices. *Journal of Finance*, 68(5), 1843-1889.

[Article](#) [Google Scholar](#)

Du, K. (2016, August). *Investor Expectations, Earnings Management, and Asset Prices*. Working Paper. Pennsylvania State University, USA. Available at SSRN <https://ssrn.com/abstract=2852552>

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Feduzi, A., & Runde, J. (2014). Uncovering Unknown Unknowns: Towards a Baconian Approach to Management Decision-Making. *Organizational Behavior and Human Decision Processes*, 124(2), 268–283.

Filipe, J., & Fred, A. (Eds.). (2011). *Agents and Artificial Intelligence: Third International Conference, ICAART 2011, Rome, Italy*. Berlin: Springer.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Fudenberg, D., & Tirole, J. (1995). A Theory of Income and Dividend Smoothing Based on Incumbency Rents. *Journal of Political Economics*, 103, 75–93.

[Article](#) [Google Scholar](#)

Gao, L., & Kling, G. (2012). The Impact of Corporate Governance and External Audit on Compliance to Mandatory Disclosure Requirements in China. *Journal of International Accounting, Auditing and Taxation*, 21(1), 17–31.

[Article](#) [Google Scholar](#)

Gao, H., & Yin, C. (2008). The Perturbed Sparre Andersen Model with a Threshold Dividend Strategy. *Journal of Computational and Applied Mathematics*, 220(1-2), 394–408.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Gul, F., & Leung, S. (2004). Board Leadership, Outside Directors' Expertise and Voluntary Corporate Disclosures. *Journal of Accounting and Public Policy*, 23(5), 351–379.

[Google Scholar](#)

Gülpınar, N., & Çanakoğlu, E. (2017). Robust Portfolio Selection Problem Under Temperature Uncertainty. *European Journal of Operational Research*, 256(2), 500–523.

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Hermalin, B., & Weisbach, M. (2003). Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *FRBNY Economic Policy Review*, 4, 7-26.

[Google Scholar](#)

Hermalin, B., & Weisbach, M. (2012). Information Disclosure and Corporate Governance. *Journal of Finance*, 67(1), 195-234.

[Article](#) [Google Scholar](#)

Hou, D., & Xu, Z. (2016). A Robust Markowitz Mean-Variance Portfolio Selection Model with an Intractable Claim. *SIAM Journal on Financial Mathematics*, 7(1), 124-151.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Jana, P., Roy, T., & Mazumder, S. (2009). Multi-objective Possibilistic Model for Portfolio Selection with Transaction Cost. *Journal of Computational and Applied Mathematics*, 228(1), 188–196.

Jeanblanc-Picqué, M., & Shiryaev, A. (1995). Optimization of the Flow of Dividends. *Russian Mathematical Surveys*, 20, 257–277.

Johnson, S., Boone, P., Breach, A., & Friedman, E. (2000). Corporate Governance

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Crash Risk: Firm-Level Analysis. *Journal of Financial Economics*, 100, 639–662.

[Article](#) [Google Scholar](#)

Kim, J., Li, Y., & Zhang, L. (2011b). CFOs Versus CEOs: Equity Incentives and Crashes. *Journal of Financial Economics*, 101, 713–730.

[Article](#) [Google Scholar](#)

Kim, J., & Zhang, L. (2013). Accounting Conservatism and Stock Price Crash Risk: Firm-Level Evidence. *Contemporary Accounting Research*, 33, 412–441.

[Google Scholar](#)

Kim, L. & Zhang, L. (2014). Financial Reporting Opacity and Expected Crash

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Kwon, Y. (2005). Accounting Conservatism and Managerial Incentives. *Management Science*, 51, 1626–1632.

[Article](#) [Google Scholar](#)

Lan, Y., & Zhang, N. (2017). *Strong Limit Theorems for Weighted Sums of Negatively Associated Random Variables in Nonlinear Probability*.
<https://arxiv.org/pdf/1706.05788.pdf>.

Lei, Q., Lin, B., & Wei, M. (2013). Types of Agency Cost, Corporate Governance and Liquidity. *Journal of Accounting and Public Policy*, 32, 147–172.

[Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Liu, X., & Tse, C. (2012). Dynamics of Network of Global Stock Market. *Accounting & Finance Research*, 1, 1-12.

[Article](#) [Google Scholar](#)

Liu, J., Wang, W., et al. (2010). A novel Fuzzy Framework for Nonlinear System Control. *Fuzzy Sets and Systems*, 161(21), 2746-2759.

[Article](#) [Google Scholar](#)

Ma, Y., Zhuang, X. T., & Li, L. (2011). Research on the Relationships of the Domestic Mutual Investment of China Based on the Cross-Shareholding Networks of the Listed Companies. *Physica-A*, 390, 749-759.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Melnik, S., Ward, J., Gleeson, J., & Porter, M. (2013). Multi-stage Complex Contagions. *Chaos*, 23, 013124. <http://dx.doi.org/10.1063/1.4790836>.

Miklashevich, I. (2003). Mathematical Representation of Social Systems: Uncertainty and Optimization of Social System Evolution. *Non Linear Phenomena in Complex Systems*, 6(2), 678–686.

[Google Scholar](#)

Milch, K., Weber, E., Appelt, K., et al. (2012). From Individual Preference

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Nalpas, N., Simar, L., & Vanhems, A. (2017). Portfolio Selection in a Multi-moment Setting: A Simple Monte-Carlo-FDH Algorithm. *European Journal of Operational Research*, 263(1), 308–320.

[Article](#) [Google Scholar](#)

Nguyen, T., Sutton, N., & Pham, D. (2015). The Post-repurchase Announcement Drift: An Anomaly in Disguise? *Managerial Finance*, 41(2), 205–224.

[Google Scholar](#)

Nwogugu, M. (2006). Regret Minimization, Willingness-To-Accept-Losses and Framing. *Applied Mathematics and Computation*, 179(2), 440–450.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Nwogugu, M. (2017a). The Historical and Current Concepts of “Plain” Interest Rates, Forward Rates and Discount Rates Are or Can Be Misleading. In *Anomalies in Net Present Value, Returns and Polynomials; And Regret Theory in Decision-Making*. Basingstoke: Palgrave Macmillan.

[Google Scholar](#)

Nwogugu, M. (2017b). Some Biases and Evolutionary Homomorphisms Implicit in the Calculation of Returns. In *Anomalies in Net Present Value, Returns and Polynomials; And Regret Theory in Decision-Making*. Basingstoke: Palgrave Macmillan.

[Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

School of Computer Science, Computer Science Department, Carnegie Mellon University, USA. <https://www.cs.cmu.edu/~aothman/abethesis.pdf>.

Paese, P., Bieser, M., & Tubbs, M. (1993). Framing Effects and Choice Shifts in Group Decision Making. *Organizational Behavior and Human Decision Processes*, 56(1), 149-165.

[Article](#) [Google Scholar](#)

Pascoa, M. (1993). Approximate Equilibrium in Pure Strategies for Nonatomic Games. *Journal of Mathematical Economics*, 22, 223-241.

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Quigley, T., & Hambrick, D. (2012). When the Former CEO Stays on as Board Chair: Effects on Successor Discretion, Strategic Change, and Performance. *Strategic Management Journal*, 33, 834–859.

[Article](#) [Google Scholar](#)

Rashid, A., De-Zoysa, A., Lodh, S., & Rudkin, K. (2010). Board Composition and Firm Performance: Evidence From Bangladesh. *Australasian Accounting Business and Finance Journal*, 4(1), 76–95. http://ro.uow.edu.au/aabfj/vol4/iss1/5/?utm_source=ro.uow.edu.au%2Faabfj%2Fvol4%2Fiss1%2F5&utm_medium=PDF&utm_campaign=PDFCoverPages.

Roehner, B. (2005). Stock Markets Are Not What We Think They Are: The Key Roles of Cross-Ownership and Corporate Treasury Stock. *Physica A: Statistical*

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Shanteau, J., & Troutman, C. (1992). A Psychophysical Evaluation of Diminishing Returns in Riskless Decision Making. *Organizational Behavior and Human Decision Processes*, 52(3), 569–579.

[Article](#) [Google Scholar](#)

Siegel, J. (2005). Can Foreign Firms Bond Themselves Effectively by Submitting to U.S. Law? *Journal of Financial Economics*, 75, 319–359.

[Article](#) [Google Scholar](#)

Song, F. (2009). Intergroup Trust and Reciprocity in Strategic Interactions: Effects of Group Decision-Making Mechanisms. *Organizational Behavior and Human Decision Processes*, 108(1), 164–173.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Tang, Y., Wu, J., & Zhang, L. (2014). Do Anomalies Exist Ex Ante? *Review of Finance*, 18(3), 843–875.

[Google Scholar](#)

Thanassoulis, J. (2013). Industry Structure, Executive Pay, and Short-Termism. *Management Science*, 59, 402–419.

[Article](#) [Google Scholar](#)

Tille, C., & Van Wincoop, E. (2008). *International Capital Flows Under Dispersed Information: Theory and Evidence*. Working Paper.

http://people.virginia.edu/~ev4n/papers/Information_sep_26.pdf.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Weron, R. (2001). Levy-Stable Distributions Revisited: Tail Index > 2 Does Not Exclude the Levy-Stable Regime. *International Journal of Modern Physics-C*, 12(2), 209–223.

[Article](#) [Google Scholar](#)

Wong, K., Yam, S., & Zheng, H. (2017). Utility-Deviation-Risk Portfolio Selection. *SIAM Journal on Control & Optimization*, 55(3), 1819–1861.

[Article](#) [Google Scholar](#)

Wu, C., & Lerner, P. (2009). Price Volatility in the Context of Market Microstructure. In G. Gregoriou (Ed.), *Stock Market Volatility* (pp. 51–69). Boca

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Yin, G., Jin, H., & Jin, Z. (2009). Numerical Methods for Portfolio Selection with Bounded Constraints. *Journal of Computational and Applied Mathematics*, 233(2), 564–581.

[Article](#) [Google Scholar](#)

Yue, W., & Wang, Y. (2017). A New Fuzzy Multi-Objective Higher Order Moment Portfolio Selection Model for Diversified Portfolios. *Physica A: Statistical Mechanics and Its Applications*, 465, 124–140.

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Authors and Affiliations

Enugu, Nigeria

Michael I. C. Nwogugu

Copyright information

© 2019 The Author(s)

About this chapter

Cite this chapter

Nwogugu, M.I.C. (2019). Complexity and Some Numerical *Algorithmic Turning-Point* Problems Inherent in Excessive Outstanding Shares. In: Complex Systems, Multi-Sided Incentives and Risk Perception in

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

Manage preferences



Navigation

Find a journal

Publish with us

Track your research

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 94 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to [springer.com](#) and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

Manage preferences