

ABSTRACTS OF ARTICLES IN OTHER SOUTH AFRICAN JOURNALS

INVESTMENT ANALYSTS JOURNAL

Charteris, A (2013). The price efficiency of South African exchange traded funds. *IAJ* **78**, 1–11

Exchange-traded funds (ETFs) trade at a market-determined price which may differ from their Net Asset Value (NAV). This study examines the price deviations of four domestic and three foreign South African-listed ETFs. Five of these funds were found to trade at a premium to their NAV on average and two at a discount. These differences however do not persist for more than two trading days and thus the opportunity for arbitrage opportunities for investors is limited. However, the deviations do contain important information about the following day's returns on ETFs, in contravention of weak-form market efficiency. A trading strategy is developed in order to profit from this information and this is found to be successful for three of the funds after accounting for transaction costs.

Mashele, HP, Terblanche, SE & Venter, JH (2013). Pairs trading on the Johannesburg Stock Exchange. *IAJ* **78**, 13–26

Pairs trading strategies aim to profit from temporary deviations in some underlying relationship between the prices of two stocks. The trader takes appropriate long and short positions in the two stocks and waits for their prices to revert back to the underlying relationship or even to deviate in the opposite direction from the current deviation, at which time the trader may exit at a profit. We formulate formal trading rules that implement pairs trading strategies and discuss their profitability and risk by means of back-testing on stocks listed on the Johannesburg Stock Exchange.

Lemma, TT & Negash, M (2013). The adjustment speed of debt maturity structures: Evidence from African countries. *IAJ* 78, 27–44

This paper aims to examine the adjustment speed of debt maturity structures within the context of African countries. Dynamic adjustment models using system Generalised Method of Moment proposed by Blundell and Bond (1998) were employed to analyse data pertaining to 986 non-financial firms drawn from nine African countries. We find evidence that firms in Africa adjust their debt maturity structures to a target. Our results also indicate that the legal protection afforded to investors and the efficiency of the legal system enhance the pace at which firms in Africa rebalance their debt maturity structures. The evidence shows that firms in richer and fast growing economies experience comparatively rapid adjustments to their debt maturity structures than is the case in poorer and slow-growth economies. In addition, the size and growth prospects of firms positively enhance adjustment speed while the distance from optimal maturity structures deters the rebalancing pace. These findings signify the role that agency, bankruptcy and transaction costs, liquidity pressure and financial flexibility play in the maturity structures decision of firms in Africa.

Taylor, DR (2013). Modelling South African single-stock futures option volatility smiles. *IAJ* 79, 57–66

The process of producing an implied volatility surface in the absence of reliable and frequent trade data is difficult. Bakshi, Kapadia and Madan (2003) detail a methodology for relating an index option smile structure with that of one of its constituents. Here we exploit this work to derive the single-stock option smile as a function of the index smile and a regressed relationship between the two underlying assets. Our non-parametric approach allows the market to estimate where implied volatilities should trade for illiquid derivative contracts away from at-the-money. The derived smile does not admit spread arbitrage.

MANAGEMENT DYNAMICS

Van Greunen, C, Viviers, S & Venter, E (2013). The likelihood of unethical behaviour in the life insurance sector in South Africa: an empirical investigation. *Management Dynamics* 22(3), 13–28

Viviers, van Greunen and Venter (2012) developed a theoretical framework of selected variables influencing the likelihood of unethical behaviour in the life insurance sector in South Africa. They empirically identified five variables of significance, namely Consequences of actions, Significant others, Moral development, Values/beliefs and Individual traits. This follow-up study reports on the empirical relationships among these variables. A series of exploratory factor analyses revealed that the originally proposed dependent variable. The likelihood of unethical behaviour split into two dependent variables, namely Misrepresenting information and Theft. The results indicate that punishment is a deterrent to misrepresenting corporate information and stealing assets.

In addition, the results reveal that employees might imitate the behaviour of authority figures even if the latter behaved unethically. It was also found that employees who hold negative perceptions about life in general and hold a negative view of their ability to cope in the workplace, are more likely to engage in unethical behaviour such as misrepresenting information and stealing. These findings contribute to a better understanding of the likelihood of unethical behaviour in the life insurance sector in South Africa. The results offer guidelines to managers on implementing more appropriate strategies to address the likelihood of unethical behaviour and assist life insurance organisations to protect their reputation and competitive advantage.

Viviers, S, Firer, C & Muller, C (2013). A review of the dividend payments of South African listed companies during the period 1977–2011. *Management Dynamics* **22**(4), 13–28

Very little research has been done into the propensity of South African companies to pay dividends. This study attempts to address this limitation. In line with the findings of international research, the number of South African companies paying dividends decreased substantially over the research period (1977–2011). Companies that have never paid dividends were shown to be young and small companies and tended to be clustered in the resources, financial and cyclical services sectors. The median and mean dividend pay-out ratios of the entire sample decreased over time. The strongest negative trends were observed in the basic industries and resources sectors of the Johannesburg Securities Exchange (JSE). Earnings and dividends proved to be highly concentrated among the largest listed companies, and significant differences were observed between sectors. The findings are meaningful for investors (clientele) who are seeking dividends.

Clark, A & Durbach, I (2013). Using Bayesian change-point models to assess changes in customer loyalty over time. *Management Dynamics* **23**(2), 14–25

A sequence of purchases (customer loyalty) may undergo sudden changes at unknown times. In this study we assess the extent of such change by developing a multiple change-point model that assumes that there is an underlying sequence of choice probabilities that govern the observed sequence of purchases, and that this sequence of probabilities can be partitioned into contiguous blocks such that the choice probabilities are equal within blocks but different between them. This model is fitted to panel data collected over a two-year period in seven consumer goods categories. Consistent with previous research on other types of changes in purchase behaviour, we find that the majority of consumers in our panel show little change in purchase probabilities over the medium-term, but that substantive and persistent changes are indicated for a significant minority of consumers.

MEDITARI ACCOUNTANCY RESEARCH

Chipeta, C, Wolmarans, HP, Vermaak, FNS & Proudfoot, S (2013). Structural breaks in the parameter estimates of the determinants of capital structure: some evidence from the JSE. *MEDAR* 21(1), 68–84

This paper aims to test the effects of financial reforms on the structural stability of the parameter estimates in the determinants of capital structure.

A panel of 100 non-financial companies listed on the Johannesburg Stock Exchange is constructed, and a panel least squares estimation technique is used to test for lagged, current and leading structural breaks in the firm specific determinants of leverage.

The results show that structural reforms have a significant role in influencing the empirical relationship between leverage and its determinants. Specifically, the lifting of international sanctions and stock market liberalisation have a significant impact on the stability of the profitability, growth and tax rate variables for the book and market values of the debt to equity ratio. Furthermore, when the total and short term debt ratios are considered, only stock market liberalisation appears to have a significant influence on the stability of the profitability parameter.

This paper adds to the existing body of literature on capital structure by documenting the extent of structural breaks in the parameter estimates of the relationship between leverage and firm specific determinants of capital structure for listed non-financial firms in South Africa.

SOUTH AFRICAN JOURNAL OF ACCOUNTING RESEARCH

Winfield, J & Luyt, J (2013). An evaluation of an exploratory intervention to improve progression in a first-year accounting course. *SAJAR* 27(1), 1–36

South African universities face pressure to increase the throughput of accounting students, with a special emphasis on expanding the number of female and black graduates. To improve the progression of at-risk first-year second-semester accounting students, an intervention known as JumpStart was implemented at the Faculty of Commerce at the University of Cape Town in 2010. JumpStart involved the allocation of skilled instructors, additional workshops, student mentors and a study skills course, thus employing a wide range of factors known to influence student success: academic, psychological and social. The intervention was evaluated using analyses of student academic performance and responses to a programme evaluation. In 2008 and 2009, only 23% and 29% of at-risk students performed well enough to progress to second-year accounting. By contrast, in 2010, 71% of JumpStart students were eligible to progress. For each gender and ethnic category, progression rates for JumpStart students were superior to those for non-JumpStart students, with the most significant improvements being made by female students and white students. An unexpected finding was a significant improvement in the progression rates of non-JumpStart at-risk students when compared with previous years, which may be at least partially explained by the weakest at-risk students choosing to join

JumpStart. The responses to the programme evaluation indicated that students valued the allocation of skilled instructors and the provision of additional workshops above the other components of the intervention. A considerable difference existed between the way in which black and white students valued the study skills course and the mentor groups, with black students valuing these components of the intervention much more.

Muller, H & Du Plessis, A (2013). The impact of a quality, technology-enhanced teaching support medium on student success in a first-year financial accounting module at an open distance learning institute. *SAJAR* 27(1), 37–57

In South Africa, the Department of Higher Education and Training has expressed grave concerns about the poor pass rate of first-year accounting students. In an attempt to improve performance, the University of South Africa (Unisa), an open distance learning (ODL) institution, has developed a DVD for the first-year semester module, FAC1502, in financial accounting. This module forms the cornerstone of financial accounting at Unisa and is a prerequisite for all bachelor degrees in commerce and many related courses. FAC1502 has a total annual average registration of 13 000 students. The DVD, a multimedia, technology-enhanced learning support tool, complements flexible teaching and learning and presents a practical workshop for students to study at their own pace and equip them with the necessary basic theory, practical applications and financial accounting skills which underlie further course work.

This article reports on the impact of student utilisation of the DVD as a probable effective multimedia intervention towards an improved student pass rate in the FAC1502 semester module. The assessment of the DVD effectiveness takes the quality of the DVD into consideration, as measured against quality standards of regulating bodies such as the College of Economics and Management Sciences of Unisa, SAQA standards and outcomes based guidelines of Unisa and the Department of Higher Education and Training. The fact that, barring DVD utilisation, other factors – such as a success/ at-risk student profile – might affect student performance and confound the effect of DVD utilisation on performance, was catered for in the sampling technique applied in the study.

In an ODL environment, a teaching and learning support tool which promotes practical accounting knowledge in a real-life context ensures an innovative way of teaching and supporting students.

Marx, B & Van der Watt, A (2013). Sustainability in accounting education: an analysis of the teaching thereof at accredited South African universities. *SAJAR* 27(1), 59–86

Accountants and auditors are key role players in the financial world and society at large and as such can play a vital role in fostering awareness of sustainability and creating sustainable business practices. The issue of sustainability in accounting education is a rather new theme, and academics are still exploring how to incorporate the concept into their curricula and finding the best ways to teach it. The objective of the paper is twofold: it aims, firstly, to provide a brief overview of the development of corporate governance, sustainability and corporate citizenship, and the higher education developments

surrounding this, and secondly to provide evidence regarding the teaching of these aspects. This was done through a literature review and supported by empirical evidence obtained from questionnaires sent to the accountancy departments of the universities accredited by the South African Institute of Chartered Accountants. The study found that although the concept of sustainability is generally well established and researched, limited research has been done to date on how it is covered in accounting education, and the empirical findings further indicate that room for improvement exists on how accounting departments incorporate this into their curricula, teaching and assessments.

Badenhorst, WM (2013). The relationship between conservatism in financial reporting and subsequent equity returns. *SAJAR* 27(1), 125–42

This study investigates whether or not long-term discretionary accounting conservatism has benefits for equity investors, as measured by long-term subsequent equity returns. Based on the long-term relationship between cash flows and earnings documented by Dechow (1994), this paper develops a new proxy for discretionary accounting conservatism. This proxy utilises earnings before interest and tax and cash flow generated by operations, highlighting conservative discretion within earnings. Importantly, and in contrast to prior research, this study controls for market assessments of the growth prospects of sample firms and finds that discretionary accounting conservatism is insignificantly related to subsequent equity returns, once market assessments of growth prospects have been controlled for. Compensating for cross-sectional differences, based on the relative gearing of firms, reveals that the relationship between subsequent equity returns and discretionary accounting conservatism remains insignificant, regardless of the level of gearing of the sample firm.

De Graaf, A & Pienaar, AJ (2013). Synergies in mergers and acquisitions: a critical review and synthesis of the leading valuation practices. *SAJAR* 27(1), 143–80

Research demonstrates that mergers and acquisitions (M&As) of business entities may create synergies – Igor Ansoff’s “ $2 + 2 = 5$ effect” – but, crucially, that this is by no means guaranteed. Studies further show that in successful cases, synergies frequently accrue to the target company’s shareholders only, principally as a result of the payment of outsized M&A premiums by the acquirer. Remarkably, payment of these premiums is often justified by a mere notion of synergy. These factors, together with a void in the literature, and the significant amounts invested in M&As, create a critical need for a comprehensive description of superior ways of valuing M&A synergies before committing to a transaction. This study aims to make a contribution in this regard by classifying certain practices as leading valuation practices by means of a critical literature review, and by synthesising these into the following logical groupings: (1) practices part of the overall M&A process, affecting synergy valuation; (2) practices with a universal application in valuing M&A synergy; and (3) valuation practices linked to specific origins of synergy. The origins of synergy explored in this study include: scale economies; economies of scope; managerial efficiencies; economies of the capital market; economies in innovative activity; and other more contentious origins, including

tax savings, and market power. Certain valuation practices are also recommended, where appropriate. Research in this area is relevant because any enhancement in the accuracy of M&A synergy valuation ex ante should improve the selection of worthwhile M&A targets. Better choices in this area may then represent a positive step towards sustainable business practice.

SOUTH AFRICAN JOURNAL OF BUSINESS MANAGEMENT

Jones, M & Mlambo, C (2013). Early-stage venture capital in South Africa: Challenges and prospects. *SAJBM* 44(4), 1–12

The aim of this paper is to assess which factors impact the development of early-stage venture capital in South Africa. Factors identified for other markets and countries are explored and their relative importance in South Africa determined from the perspective of market participants. These include venture capital and private equity fund managers, government institutions, intermediaries and university research coordinators. The study used both an online survey, to capture a broad representation of opinion, and interviews, for in-depth responses. There was broad consensus among respondents with regard to the key factors requiring attention, which include the lack of funds targeted at early-stage investments, the lack of specialised fund managers, and the low entrepreneurial skillsets in the country. Through a detailed analysis of the responses, certain measures are proposed that can enhance the development of early-stage venture capital in South Africa such as engaging more with angel investors and improving the cooperation between the different market players in the sector.

Demetriades, K & Auret, CJ (2014). Corporate social responsibility and firm performance in South Africa. *SAJBM* 45(1), 1–12

Corporate Social Responsibility (CSR) can be viewed from two different perspectives: that of the business; and that of the individual investor (Socially Responsible Investing, SRI). In this study regression analysis as well as an event study was used to examine the link between CSR and firm performance. The results suggested that in the short-term there were no significant price effects on the SRI shares. In contrast, the returns of SRI portfolios over the sample period seemed to be superior to those of conventional firms. The regression analysis found that generally the SRI coefficients were insignificant; however using one of the models during the fifteen year sample period, SRI constituents attained a ROE that was 11.18% higher (as well as a ROA that was 1.824% lower) than conventional firms. When the period was restricted to 2004–2009 it was found that social performance was positively – and sometimes significantly – correlated with ROE.

SOUTH AFRICAN JOURNAL OF DEMOGRAPHY

Muhwava, W, Herbst, K & Newell, M (2013). The impact of HIV-related mortality on life expectancy: evidence from the Africa Centre demographic surveillance area. *SAJD* 14(1), 5–28

AIDS-related mortality has contributed significant to the changing demographic patterns and trends in South Africa. Until the introduction of ART nationwide, life expectancy had declined to below 50 years for both sexes. Reversal of this trend became noticeable in 2004 when the effect of the national roll-out of the ART program was making an impact.

The objective of this study was to measure the impact of AIDS-related mortality on life expectancy using multiple-decrement life tables during the pre-ART and ART periods using empirical surveillance data.

Data on cause of death are obtained using Verbal Autopsy Module used the African Centre to establish the cause of death. The module aims to establish retrospectively the cause of death of all of the deceased persons in the surveillance area. The denominators are obtained by calculating person-years of exposure, which is the length of time of residency of a group of people who have been observed for varying periods of time. It is the sum total of the length of time each person has been observed from the time they enter the surveillance population through birth or in-migration or leave the population through death or out-migration.

Using longitudinal demographic surveillance data from the Africa Centre Demographic Surveillance System in northern KwaZulu-Natal and applying multiple decrement and associated single-decrement life-table methods, the total number of person-years lost or alternatively would have been saved had HIV/AIDS been eliminated from the population at specific time points are calculated, given the age- and cause-specific mortality conditions of the period and gains in life expectancy that are implied at those time points. Causes of death data which are essentially needed for these methods are collected through the verbal autopsy and person-years of exposure are accurately recorded through tracking of vital events.

In conclusion, the life expectancy, which is an important indicator for MDGs, has shown great improvement even in rural populations in South Africa since the introduction of ART in 2004.

Amoateng, AY & Kalule-Sabiti, I (2013). Exploring factors related to infant and child mortality in Ghana using the 2003 Demographic and Health Survey Data. *SAJD* 14(1), 58–81

Logical reasoning, guided by existing literature, is used, as opposed to a purely mathematical procedure, to explore factors related to infant and child mortality in Ghana. The decision to use this approach arises from the limitations of such conventional approaches as stepwise regression models. We found no relationship between infant and child mortality and partner's occupation, maternal age at first birth and birth order. However, respondent's education, residence, childhood place of residence, ethnicity,

religion and birth order all showed considerable relationship with infant and child mortality when considered individually, although the significance of the latter set of variables was reduced considerably once the effect of region was considered.

SOUTH AFRICAN JOURNAL OF ECONOMIC AND MANAGEMENT SCIENCES

Alagidede, P (2013). Month of the year and pre-holiday effects in African stock markets. *SAJEMS* 16(1), 64–74

This paper investigates the existence of two anomalies in African stock returns: the month of the year and the pre-holiday effects, and their implications for stock market efficiency. We extend the traditional approach to modelling anomalies and examine the mean and variance of returns. We document high and significant returns in days preceding a holiday in South Africa. Our results indicate that the month of the year effect is prevalent in African stock returns. However, we argue that, owing to illiquidity and round trip transactions costs, the anomalies uncovered do not necessarily violate the no-arbitrage condition.

Rossouw, J, Joubert, F & Padayachee, V (2013). An international comparison of inflation credibility surveys. *SAJEMS* 16(2), 142–53

This paper analyses the methodology used in assessing inflation credibility (i.e. perceptions of the accuracy of historical inflation rates) in countries targeting inflation, and compares the approaches used in New Zealand, South Africa and Sweden. The results indicate an implied inverse (or negative) relationship in all but one instance, between the direction of actual inflation and the perception of inflation among the respondents. The analysis also shows a lack of knowledge about inflation and price increases among South African respondents, which is absent from similar surveys in New Zealand and Sweden. Important research questions identified include possible links between inflation credibility and the adoption date of inflation targeting, as well as the type and range of targets used.

Mbonigaba, J (2013). The cost-effectiveness of intervening in low and high HIV prevalence areas in South Africa. *SAJEMS* 16(2), 183–98

This research compared the cost-effectiveness of a set of HIV/AIDS interventions in a low HIV prevalence area (LPA) and in a high HIV prevalence area (HPA) in South Africa. The rationale for this analysis was to assess the interaction dynamics between a specific HIV/AIDS intervention and an area of implementation and the effects of these dynamics on the cost-effectiveness of such an HIV/AIDS intervention. A pair of Markov models was evaluated for each intervention; one model for a HPA and another for an LPA and the cost-effectiveness of that intervention was compared across an LPA and a HPA. The baseline costs and health outcomes in each area were collected from the literature. To depict interaction dynamics between an HIV/AIDS intervention and an area of implementation, baseline health outcomes collected in each area, were adjusted

over time based on the patterns of the projections observed in the AIDS model of the Actuarial Society of South Africa (ASSA2008). The study found that the VCT and treatment of STDs were equally cost-effective in an LPA and in a HPA while PMTCT and HAART were more cost-effective in an LPA than in a HPA. As a policy proposal, resources earmarked to non-ARV based interventions (VCT and treatment of STDs) should be equally shared across an LPA and a HPA while more of the resources reserved for ARV-based interventions (PMTCT and HAART) should go in an LPA in order to increase efficiency.

Portmann, D & Mlambo, C (2013). Private equity and venture capital in South Africa: a comparison of project financing decisions. *SAJEMS* 16(3), 258–78

This paper investigates the manner in which private equity and venture capital firms in South Africa assess investment opportunities. The analysis was facilitated using a survey containing both Likert-scale and open-ended questions. The key findings show that both private equity and venture capital firms rate the entrepreneur or management team higher than any other criterion or consideration. Private equity firms, however, emphasise financial criteria more than venture capitalists do. There is also an observable shift in the investment activities away from start-up funding, towards later-stage deals. Risk appetite has also declined post the financial crisis.

Urban, B & Streak, M (2013). Product innovation of private health insurers in South Africa and the impact of entrepreneurial orientation. *SAJEMS* 16(3), 298–315

Recognising that health insurer product innovation plays a critical role in aligning incentives among all stakeholders in the healthcare value chain, this study investigates the relationship between the level of health insurer product innovation and entrepreneurial orientation (EO). Taking cognisance of the importance of external collaboration between health insurers and healthcare service providers, the study is able to diagnose perceptions of strategic regulatory factors and their impact on levels of EO. The focus of the study is on the demand (financing) and supply (healthcare delivery) structures of the healthcare value chain, incorporating health insurers, health insurer administrators and healthcare service providers. A conceptual model is formulated on the basis of literature and tested using confirmatory factor analysis. The results indicate that EO at organisational level is a strong predictor of health insurer product innovation and that external collaboration between health insurers and healthcare service providers is a weak predictor of health insurer product innovation. Practical implications are that both the supply and demand side structures indicate that the restructuring of relationships between health insurers and healthcare service providers is a necessary driver for collaboration in terms of health insurer product innovation progress and success. Healthcare executives need to work with, and actively lobby regulators to ignite both demand and supply side innovation activities in the healthcare value chain of the private healthcare industry of South Africa.

De Jongh, E, De Jongh, D, De Jongh, R & Van Buuren, G (2013). A review of operational risk in banks and its role in the financial crisis. *SAJEMS* 16(4), 364–82

The role of operational risk in the 2007/2008 financial crisis is explored. The factors that gave rise to the crisis are examined and it is found that although the event is largely regarded as a credit crisis, operational risk factors played a significant role in fuelling its duration and severity. It is concluded that, from an operational risk perspective, 2008 was the worst on record. Considering the extensive role of operational risk in global financial calamities, suggestions are made to improve the management of this risk type.

Boshoff, DBG (2013). Empirical analysis of space and capital markets in South Africa: a review of the REEFM- and FDW models. *SAJEMS* 16(4), 383–94

This paper assesses the different models, in conjunction with the different theories surrounding the distinction and interdependencies between space- and capital markets. First, the theory of space- and capital markets is discussed with reference to two models, the FDW and the REEFM models. The FDW model provides a diagrammatic explanation of the behaviour of the property market, while the REEFM is an econometric model based on statistical principles that are able to forecast property-market behaviour by interpreting specific given variables. The REEFM model as the perceived more sophisticated model, untested in South Africa, was then analysed to test its applicability in the South African context. The findings confirmed the applicability of the model, although one part is not confirmed and is suggested for further research.

Du Preez, P & Maré, E (2013). Interpolating yield curve data in a manner that ensures positive and continuous forward curves. *SAJEMS* 16(4), 395–406

This paper presents a method for interpolating yield curve data in a manner that ensures positive and continuous forward curves. As shown by Hagan and West (2006), traditional interpolation methods suffer from problems: they posit unreasonable expectations, or are not necessarily arbitrage-free. The method presented in this paper, which we refer to as the “monotone preserving $r(t)t$ method”, stems from the work done in the field of shape preserving cubic Hermite interpolation, by authors such as Akima (1970), de Boor and Swartz (1977), and Fritsch and Carlson (1980). In particular, the monotone preserving $r(t)t$ method applies shape preserving cubic Hermite interpolation to the log capitalisation function. We present some examples of South African swap and bond curves obtained under the monotone preserving $r(t)t$ method.

Heymans, H & Da Camara, R (2013). Measuring spill-over effects of foreign markets on the JSE before, during and after international financial crises. *SAJEMS* 16(4), 418–34

There is a large body of research that proves the co-movement of international stock markets over time. This co-movement manifests through various instruments ranging from stocks and bonds, to soft commodities and can be visualised as returns and volatility spill-over effects. During the most recent financial crisis, it was once again highlighted that no market is immune to spill-over effects from other international markets. By employing an aggregate-shock model, returns and volatility spill-over effects of the Hang

Seng, London, Paris, Frankfurt and New York stock markets to the JSE are confirmed. The findings also confirm the JSE All Share Index is directly affected through contagion by the returns of the economic area where the crisis originates. However, the results further confirm that South Africa has progressed in shielding its stock market against financial crises in recent times. These findings hold important implications for stock portfolio managers in South Africa.

Turyakira, P, Venter, E & Smith, E (2014). The impact of corporate social responsibility factors on the competitiveness of small and medium-sized enterprises. *SAJEMS* 17(2), 157–72

Corporate social responsibility (CSR) has become increasingly important to the competitiveness of small and medium-sized enterprises (SMEs). A positive relationship between the CSR activities of SMEs and their enhanced competitiveness exists, at least if a long-term perspective is adopted. Despite the widespread practical and academic interest in CSR and its impact on the competitiveness of SMEs, few theoretical and empirical contributions could be found. The primary objective of this study was to identify and empirically test the CSR factors influencing the competitiveness of SMEs in Uganda. The outcomes of this study will assist SMEs to effectively and responsibly manage their activities to increase their competitiveness. A structured, self-administered questionnaire was distributed to 750 potential SME respondents. The respondents were identified by means of a purposive sampling technique, and the data were collected from 383 usable questionnaires. An exploratory factor analysis was carried out, and Cronbach's alpha coefficients calculated to determine the discriminant validity and reliability of the measuring instrument. Correlations were assessed using structural equation modelling. The empirical results of this study indicate that workforce-oriented CSR activities, society-oriented CSR activities, market-oriented CSR activities and regulated CSR activities significantly influence the competitiveness of SMEs.

Jacobs, J & Van Vuuren, G (2013). Is regulatory capital a legitimate, comparable and objective global standard? Evidence from 51 institutions across 17 countries. *SAJEMS* 17(3), 266–83

Capital as an instrument for financial regulation has come under scrutiny since the financial crisis of 2007 to 2010 highlighted some deficiencies in the ability of capital to absorb unexpected losses and the pro-cyclical nature of capital. This scrutiny arises mainly from the perspective that one of the principal objectives of capital requirements is to promote and contribute to financial stability. However, the literature on the topic is scarce almost to the point of non-existence regarding capital's validity as tool to level the playing fields between financial institutions.

The objective of this article is therefore to investigate financial regulations based on capital requirements from the perspective of its goal of providing equal competitive conditions for financial institutions, the attainment of which is based on the assumption that the cost of capital between institutions (and countries) is the same, which might not necessarily be the case. The cost of capital for 51 financial institutions across 17

countries (three institutions per country) is accordingly calculated in this article using original weighted average cost of capital and capital asset pricing models, as well as modified versions of these to include more country-specific factors.

The objective of the article is sought firstly by determining whether the cost of capital is the same among countries and secondly, based on the results, ascertaining whether financial regulations based on capital requirements can therefore realistically achieve this objective of providing equal competitive conditions for financial institutions.

SOUTH AFRICAN JOURNAL OF ECONOMICS

Branson, N & Wittenberg, M (2014). Reweighting South Africa National Household Survey data to create a consistent series over time: a cross-entropy estimation approach. *SAJE* **82**(1), 19–38

In the absence of established longitudinal panel surveys in South Africa, national cross-sectional household survey data are frequently used to analyse change. When these data are stacked side by side, however, inconsistencies both in time trends and between household- and person-level data are found. This study uses a new set of weights calibrated to the Actuarial Society of South Africa 2003 model projected totals using a cross-entropy estimation approach. These weights are favoured because they produce consistent demographic and geographic trends. The calculated weights are similar to the initial sample weights (and hence retain the survey design benefits) but match to a series of age-sex-race and province marginal totals that are consistent over time. The weights are publicly available for the 14-year period between 1994 and 2007.

Baigrie, N & Eyal, K (2014). An evaluation of the determinants and implications of panel attrition in the National Income Dynamics Survey (2008–2010). *SAJE* **82**(1), 39–65

Panel surveys offer a valuable tool for researchers to explore the dynamics underlying individual and household behaviours. The Achilles heel of panel data is attrition. This paper examines the determinants and implications of attrition in the first two waves of South Africa's National Income Dynamics Survey. Multivariate tests in labour market and health specifications show that there is some moderate evidence of attrition bias in estimated coefficients based on the non-attriting sample. This bias can be seen in labour market specifications, in particular for men, and for Africans, and to a much lesser degree in health specifications, in particular for small samples of Whites. Researchers should take care when using the panel data set to generalise to the overall population.

Poon, WC & Lee, YS (2014). Inflation targeting in ASEAN-10. *SAJE* **82**(1), 141–57

The paper addresses the empirical question of whether economies that do not systematically target inflation (non-inflation targeters) experience higher exchange rate volatility as compared with inflation targeters in 10 countries of the Association of Southeast Asian Nation (ASEAN) from 1990 to 2010. The paper examines the role of real exchange rate, exchange rate volatility and the reaction functions of central banks using

dynamic panel estimation techniques. The results indicate that the output gap offers more useful information than the inflation gap in setting interest rates for inflation targeters, implying that the real term is more important than the nominal term. In turn, this suggests that an increase in interest rate can be wielded swiftly to reduce real gross domestic product and suppress inflation. The real exchange rate appears as a weaker determinant in setting interest rates for non-inflation targeters. Inflation targeters experienced lower exchange rate volatility compared with non-targeters in the ASEAN, which implies that implementation costs to their domestic economies may be marginally lower. Meanwhile, the non-targeters follow a mixed strategy as both the inflation and real exchange rate are used as instruments to set the interest rates.

Kavli, H & Kotze, K (2014). Spill-overs in exchange rates and the effects of global shocks on emerging market currencies. *SAJE* **82**(2), 209–38

This paper provides an investigation into the spill-over effects of exchange rate returns and volatility for developed and emerging market currencies, using data from 1997 to 2011. The results suggest that spill-overs in exchange rate returns have increased steadily over time, in moderate reaction to economic events. In contrast, spill-overs in total observed volatility (measured by squared returns) react more strongly to economic events, and this transmission has remained at a relatively high level since the global financial crisis. Furthermore, over the course of time, global shocks would appear to account for a larger proportion of aggregate exchange rate volatility (and the relative importance of domestic shocks has declined). The paper also considers whether the increase in volatility spill-over is due to sudden shocks, or whether it is due to changes in the stochastic trend of the underlying volatility process. The results suggest that in most cases, this increase is due to sudden shocks, however, in certain instances country-specific events may perpetuate changes to the trend of the underlying volatility spill-over.

Smith, G & Dyakova, A (2014). African stock markets: efficiency and relative predictability. *SAJE* **82**(2), 258–75

The weak form of the efficient markets hypothesis is tested for eight African stock markets using three finite-sample variance ratio tests. A rolling window captures short-horizon predictability, tracks changes in predictability and is used to rank markets by relative predictability. These stock markets experience successive periods when they are predictable and then not predictable; this is consistent with the adaptive markets hypothesis. The degree of predictability varies widely: the least predictable African stock markets are those located in Egypt, South Africa and Tunisia, while the most predictable are in Kenya, Zambia and Nigeria.

SOUTH AFRICAN LAW JOURNAL

Hutchinson, A & Stoop, H (2013). Misrepresentation in consumer insurance: the United Kingdom legislature opts for a ‘reasonable consumer’ standard. *SALJ* **130**, 705–21

The development of a parallel branch of contract law dealing specifically with consumers has achieved further impetus in the United Kingdom with the passing of the Consumer Insurance (Disclosure and Representations) Act, 2012. This important legislative development brings a change to the accepted standard of care in non-disclosure/misrepresentation cases involving insurance claims. The former standard of the ‘reasonable insurer’, used for determining the materiality of a misrepresentation, has been lowered in this context to that of a ‘reasonable consumer’. In South Africa, the law of insurance has not yet been brought into line with the Consumer Protection Act 68 of 2008. The question therefore needs to be asked whether the recent development in the UK jurisdiction is not a desirable change for our legislature to consider.

Mhango, M (2013). Constitutional challenges in the implementation of a compulsory pension fund: the case of Lesotho. *SALJ* **131**, 408–38

This article discusses pension reforms in Lesotho and the constitutional challenges faced by Lesotho in its implementation of these reforms. The article locates this discussion within the context of the pension funding policy shift in Lesotho from a defined benefit to a defined contribution fund and the legal challenge to this policy shift in *Sechele v Public Officers’ Defined Contribution Pension Fund*. The article argues that the judicial decision to uphold the government’s pension funding policy choice should be welcomed because the policy choice will benefit Lesotho. The decision in *Sechele* necessitates a discussion of the characteristics of a defined contribution fund and a defined benefit fund, and a consideration of the characteristics of a hybrid pension fund, including the implications of choosing any of these types of funds. The article examines the remedy granted by the Court of Appeal, and argues that the effect of this remedy is that Lesotho has not completely switched from a defined benefit to a defined contribution fund since the government remains under a constitutional obligation to pay promised pension benefits.

SOUTH AFRICAN MEDICAL JOURNAL

Sturm, R, An, R, Maroba, J & Patel, D (2013). The effects of obesity, smoking, and excessive alcohol intake on healthcare expenditure in a comprehensive medical scheme. *SAMJ* **103**(11), 840–44

Health risks such as tobacco use, excessive alcohol consumption and unhealthy body weight contribute to the development of chronic health problems. The objective of the study was to estimate the associations of tobacco use, excessive alcohol consumption and obesity with healthcare expenditure and chronic diseases among South Africans on a comprehensive medical scheme. We performed a cross-sectional analysis of health survey and medical claims data for 70 000 South Africans during 2010.

Moderately obese individuals, with a body mass index (BMI) of 30–35 kg/m² averaged R2 300 (11%) higher annual medical expenditure in the year 2010 than never-smokers with a BMI <30 kg/m². This increase is comparable with being a current or past smoker (expenditure increase by R2 600; 13%). Severely obese individuals (BMI >35 kg/m²), however, had increased healthcare costs of R4 400 (23% increase). This exceeds the difference between a 40- and a 50-year-old (increase of R3 200). Being overweight or excessive consumption of alcohol was not significantly associated with medical expenditures. Absolute and relative excess expenditures associated with these health risks are higher among older individuals. In the 54–69-year age group, estimated additional expenses were R6 200 for smoking (20% increase over never-smokers with BMI <30 kg/m²), R6 600 for moderate obesity (21%) and R15 800 for severe obesity (51% increase). Overweight or heavy drinking was not statistically significantly associated with healthcare expenditure.

We conclude that obesity and tobacco use are associated with significantly increased healthcare expenditure. Severe obesity doubles these excess costs.

Harker Burnhams, N, Dada, S, Linda, B, Myers, B & Parry, C (2013). The extent of problematic alcohol and other drug use within selected South African workplaces. *SAMJ* **103**(11), 845–47

The use of alcohol and other drugs (AODs) in the workplace has a major impact on the health and productivity of the workforce globally. Yet information on this issue is limited in South Africa (SA). The objective of the study was to describe the nature and extent of AOD problems in selected workplace settings in SA. Secondary data analysis was conducted on a large dataset compiled by an Employee Assistance Programme (EAP) service provider in SA. As part of an EAP risk audit, assessments for AOD-related problems were completed for each employee accessing EAP services (n=10 428) between 2005 and 2011. Data on the socio-demographic profiles, AOD use and impact of AOD use on the work performance of employees were analysed.

Findings indicate that employed men are more likely to experience alcohol-related problems than women, the latter demonstrating a higher percentage of drug-related problems. The majority of referrals to the EAPs emanate from the public, industrial and financial sectors. AOD-related problems were also found to significantly impact on employee work performance.

The study begins to address the knowledge gap on the extent of AOD use in SA workplaces and points to the need for further investigations into the exact nature of AOD use. In addition, the study highlights the need for intervention programmes and policies suited to the workplace.

Brand, M, Woodiwiss, AJ, Michel, F, Booysen, HL, Majane, OHI, Maseko, MJ, Veller, MG & Norton, GR (2013). Chronic diseases are not being managed effectively in either high-risk or low-risk populations in South Africa. *SAMJ* **103**(12), 938–41

Primary healthcare is the foundation of a country's healthcare system. Without an efficient and cost-effective programme, the level of healthcare offered across all levels

of health management is adversely affected. The objective of the study was to analyse the effectiveness of the management of hypertension and diabetes mellitus (DM) among two distinct patient populations, one with significant cardiovascular risk factors and the other without. We performed a case control study of a high-risk group of patients presenting with chronic critical limb ischaemia (CLI) to the Divisions of Vascular Surgery at Charlotte Maxeke Johannesburg Academic Hospital and Chris Hani Baragwanath Academic Hospital, and a randomly selected group of 'healthy' community participants from Soweto.

We assessed 217 patients with CLI and 1 030 participants from the community. We assessed the number of patients who were not achieving their therapeutic targets, among those known to be hypertensive (CLI: 44.7%; community: 59.9%) and diabetic (CLI: 83.5%; community: 66%). Undiagnosed diabetes affected 10.8% of patients with CLI and 11% of the community sample.

Traditional vascular risk factors are managed poorly at both primary healthcare and at tertiary care levels. There is a need to identify factors that will address this issue.

Matzopoulos, RG, Truen, S, Bowman, B & Corrigan, J (2014) The cost of harmful alcohol use in South Africa. *SAMJ* **104**(2), 127–32

The economic, social and health costs associated with alcohol-related harms are important measures with which to inform alcohol management policies and laws. This analysis builds on previous cost estimates for South Africa. We reviewed existing international best-practice costing frameworks to provide the costing definitions and dimensions. We sourced data from South African costing literature or, if unavailable, estimated costs using socio-economic and health data from secondary sources. Care was taken to avoid possible causes of cost overestimation, in particular double counting and, as far as possible, second-round effects of alcohol abuse.

The combined total tangible and intangible costs of alcohol harm to the economy were estimated at 10–12% of the 2009 gross domestic product (GDP). The tangible financial cost of harmful alcohol use alone was estimated at R37.9 billion, or 1.6% of the 2009 GDP. The costs of alcohol-related harms provide a substantial counterbalance to the economic benefits highlighted by the alcohol industry to counter stricter regulation. Curtailing these costs by regulatory and policy interventions contributes directly and indirectly to social well-being and the economy.

Existing frameworks that guide the regulation and distribution of alcohol frequently focus on maximising the contribution of the alcohol sector to the economy, but should also take into account the associated economic, social and health costs. Current interventions do not systematically address the most important causes of harm from alcohol, and need to be informed by reliable evidence of the ongoing costs of alcohol-related harms.

Martin, C, Naidoo, NP, Venter, WDF, Jaffer, A & Barker, PM (2014) Setting ART initiation targets in response to changing guidelines: the importance of addressing both steady-state and backlog. *SAMJ* **104**(6), 428–30

Target setting is useful in planning, assessing and improving antiretroviral treatment (ART) programmes. In the past 4 years, the ART initiation environment has been transformed due to the change in eligibility criteria (starting ART at a CD4 count <350 cells/μl v. <200 cells/μl) and the roll-out of nurse-initiated management of ART. Our objective was to describe and illustrate the use of a target-setting model for estimating district-based targets in the era of an expanding ART programme and changing CD4 count thresholds for ART initiation. Using previously described models and data for annual new HIV infections, we estimated both steady-state need for ART initiation and backlog in a North West Province district, accounting for the shift in eligibility. Comparison of actual v. targeted ART initiations was undertaken. The change in CD4 count threshold adds a once-off group of newly eligible patients to the pool requiring ART – the backlog. The steady-state remains unchanged as it is determined by the annual rate of new HIV infections in previous years.

The steady-state need for the district was 639 initiations/month, and the backlog was ~15 388 patients. After the shift in eligibility in September 2011, the steady-state target was exceeded over several months with some backlog addressed. Of the total backlog for this district, 72% remains to be cleared.

South Africa has two pools of patients who need ART: the steady-state of HIV-infected patients entering the programme each year, determined by historical infection rates; and the backlog created by the shift in eligibility. The healthcare system needs to build long-term capacity to meet the steady-state need for ART and additional capacity to address the backlog.

Khwitshana, AK, Greeff, OBW & Hurrell, T (2014) Assessing adherence to the 2010 antiretroviral guidelines in the antiretroviral roll-out clinic at 1 Military Hospital, South Africa: a retrospective, cross-sectional study. *SAMJ* **104**(7), 495–500

HIV research is a therapeutic area for which well-defined population-specific treatment and prophylaxis guidelines exist. However, there are limited objective, evidence-based data for assessing adherence to these guidelines. The objective of the study was to conduct a retrospective, cross-sectional study of adult HIV-infected patients receiving treatment at the antiretroviral (ARV) roll-out clinic of the Infectious Diseases Clinic Pharmacy at 1 Military Hospital (1MH) over a period of 3 years to assess clinicians' adherence to the 2010 ARV guidelines. Pharmacy files from the pool of adult patients receiving treatment at the ARV roll-out clinic between 1 April 2009 and 31 March 2012 were selected. Variables used to establish adherence were assessed through evaluation of pharmacy scripts and laboratory tests.

In accordance with the ARV guidelines, we found a switch in the first-line regimen from stavudine to tenofovir during the period following implementation. There was no difference in baseline blood tests conducted, suggesting that clinicians were recommending a standardised test panel. Notably, similar blood tests were routinely done during

follow-up visits, despite no indication for doing so. While the number of blood tests was found to decrease over time, the type of blood tests requested for specific treatment regimens was not in accordance with the ARV guidelines.

We used an evidence-based approach to critically assess variations from the delineated ARV guidelines. Adherence to clinical guidelines at 1MH, while demonstrating improvement in patient outcomes, highlighted the need for increased vigilance in monitoring failure of prescribers to comply with ARV guidelines.

Haeri Mazanderani, AF, Du Plessis, NM, Thomas, WN, Venter, E & Avenant, T (2014) Loss of detectability and indeterminate results: challenges facing HIV infant diagnosis in South Africa's expanding ART programme. *SAMJ* **104**(8), 574–7

Early infant diagnosis with rapid access to treatment has been found to reduce HIV-associated infant mortality and morbidity considerably. In line with international standards, current South African guidelines advocate routine HIV-1 polymerase chain reaction (PCR) testing at 6 weeks of age for all HIV-exposed infants and 'fast-track' entry into the HIV treatment programme for those who test positive. Importantly, testing occurs within the context of increasing efforts at prevention of mother-to-child transmission (PMTCT) by means of maternal and infant antiretroviral therapy (ART). In addition, infants already initiated on combination ART (cART) may be retested with PCR assays for 'confirmatory' purposes, including assessment prior to adoption. The potential for cART to compromise the sensitivity of HIV-1 PCR assays has been described, although there are limited and conflicting data regarding the effect of PMTCT regimens on HIV-1 PCR diagnostic sensitivity. We describe a case series of three infants with different ART exposures in whom HIV diagnosis, confirmation or the result of retesting for adoption purposes were uncertain.

These cases demonstrate that ART can be associated with a loss of detectability of HIV, leading to 'false-negative' HIV-1 PCR results in infants on cART. Furthermore, current PMTCT practices may lead to repeatedly indeterminate results with a subsequent delay in initiation of cART.

The sensitivity of HIV-1 PCR assays needs to be re-evaluated within the context of different ART exposures, and diagnostic algorithms should be reviewed accordingly.

SOUTH AFRICAN REVIEW OF SOCIOLOGY

Kriel, A & Risenga, A (2014) Breaking the silence: listening to interviewers when considering sources of non-sampling errors in household survey research in South Africa *SARS* **45**(2), 117–136

Interviewers make an important contribution to the quality of data collected through interviewer-administered questionnaires. However, once this data has been collected not much attention is paid to non-sampling errors and the data is accepted at face value. Failure to adequately understand and address these issues can severely limit the usefulness of the research outcomes. The purpose of this paper is to explore ambiguous

contexts in household survey data production in South Africa, and to understand the origins of the ambiguities and how interviewer decisions could affect data collection within these contexts. For this purpose the South African Household Financial Wellness Survey conducted by the Personal Finance Research Unit at Unisa in 2011 was used as a case study.

SOUTH AFRICAN STATISTICAL JOURNAL

Ngesa, O, Achia, T & Mwambi, H (2014). A flexible random effects distribution in disease mapping models. *SASJ* **48**, 83–93

Disease mapping has seen many applications in epidemiology and public health. The basic model used in disease mapping is the Besag, York and Mollie model, which incorporates two random effects, one which is spatially structured and the other random effect which is spatially unstructured. The normality assumption on the spatially unstructured random effect is very common. In this work, we investigate a more robust spatially unstructured random effect distribution by considering the symmetric generalised Gaussian distribution in the disease mapping problem. The distribution has the normal and Laplace distributions as special cases. The inferences under this model are carried out under the Bayesian approach implemented in WinBUGS. The generalised Gaussian distribution is introduced in WinBUGS using zero tricks. The usefulness of the proposed model is investigated with a simulation study and applied in real data; mapping tuberculosis in Kenya. In this paper we showed that the generalised Gaussian distribution can produce better results when the normality assumption is violated due to high peakedness or less peakedness in the data. For the case of data in which the random effects are truly normal, the generalised Gaussian distribution adjusts to a normal distribution as dictated by the data itself.