

## AN ECONOMIC INQUIRY INTO INVESTMENT RISKS IN KENYAN STOCK MARKET

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### ABSTRACT

Over the past four decades the economical growth of Africa countries has been poor compared to that of other developing countries in other continents. Investment in stocks is a high-risk, information-sensitive professional task that has a considerable impact on investors' lifestyle. Lack of a favorable investment climate has contributed to the low investment opportunity trend observed in development. The general objective of this study was to establish an economic inquiry into investment risks. In order to achieve the general objective, the study was guided by the following specific objectives, that is, to identify effect of stock liquidity on stock market investment, to establish the effect of brokerage service on stock market investment and to establish the effect of stock volatility on stock market investment. The target populations of the study were Finance Managers and operation managers of the brokerage firms. The study relied mostly on primary data sources, where secondary will be slightly relied on. A descriptive research design was used to carry out a census survey in brokerage firm mainly with the major offices located within Nairobi to establish economic inquiry into investment risks. The data was collected using questionnaires. Both qualitative and quantitative analysis will be carried out.

**Key Words:** *Stock, Market, Volatility and Liquidity*

### Introduction

Stock market plays an important role as indicators, reflecting the performance of the status of the country's economic. Stock market is a place where securities are bought and sold. It is exposed to a high degree of volatility; prices fluctuate within minutes and are determined by the demand and supply of stocks at a given time. Stockbroker buys and sells securities on behalf of individuals and institutions for some commission. States have different authorized body, which regulates the

operations of stock exchanges, banks and other financial institutions. The majority of capital flows in the world market are invested in the bond market. The bond mutual funds market offers the opportunity to small and medium size investment portfolios as well as large portfolios to have equal opportunities in high quality professional investment services.

Kenya's government sets out to achieve the (seemingly) impossible. It hopes to implement a new round of privatizations, create a new regulatory framework for the private sector, reduce bureaucracy, improve governance (by reducing corruption), reform the constitution, enhance social development and improve the infrastructure. All this aims at recovering from a recession and in light of political struggles. To top this ambitious reform agenda, the government hopes to increase the competitiveness of its export sector and thereby establish a year on year growth rate of 10%, as explained in a plan dubbed Vision 2030. Unsurprisingly, the lack of realism and failure to prioritize are subject to much criticism. Critics wonder whether the government is not stretching itself too thin.

### **Statement of the Problem**

In modern economy the role of stock exchange is very important. It is helpful to diversify the domestic funds and channels into productive investment. However, to perform this important task it is very necessary that stock market have significant relationship with the macroeconomics variables as many people are still confused about the pricing of stocks and the movements of prices (Huberman and Halka, 2001).

Many factors hamper or influence investors to invest in the available investment opportunity in the stock market of which it consists of the primary and the secondary markets. Many factors affect the development of both the primary and the secondary markets (Subrah, 2000).

Many factors have contributed to the increase in stock prices like, excess liquidity in the local markets, high oil prices, huge increase in national revenue, government spending on major projects, expansion in the private sector, encouraging and supportive remarks from government officials, and good business results of some companies, privatization, and oversubscribed initial public offerings among others. Most of the above factors are instrumental in building a positive investors' sentiment. The effect of having around half of the nations' population buying new IPO, or when an IPO price increases by 10 folds in its first day of trading are solid proof of the impact on investor's sentiment.

Despite the tremendous benefits and development that accrues from the stock market there is essence unexploited investment opportunity that are vital to the economical growth of the state, however Kenyans have not yet embraced the whole concept of stock market as only 19 per cent of Kenyan invests in shares (R Ngugi,2005).. Therefore, there is need to establish an economical inquiry into investment opportunity and risks in stock market.

## Overall Objective

The general objective of the study was to establish an economic inquiry into investment risks in Kenyan stock market.

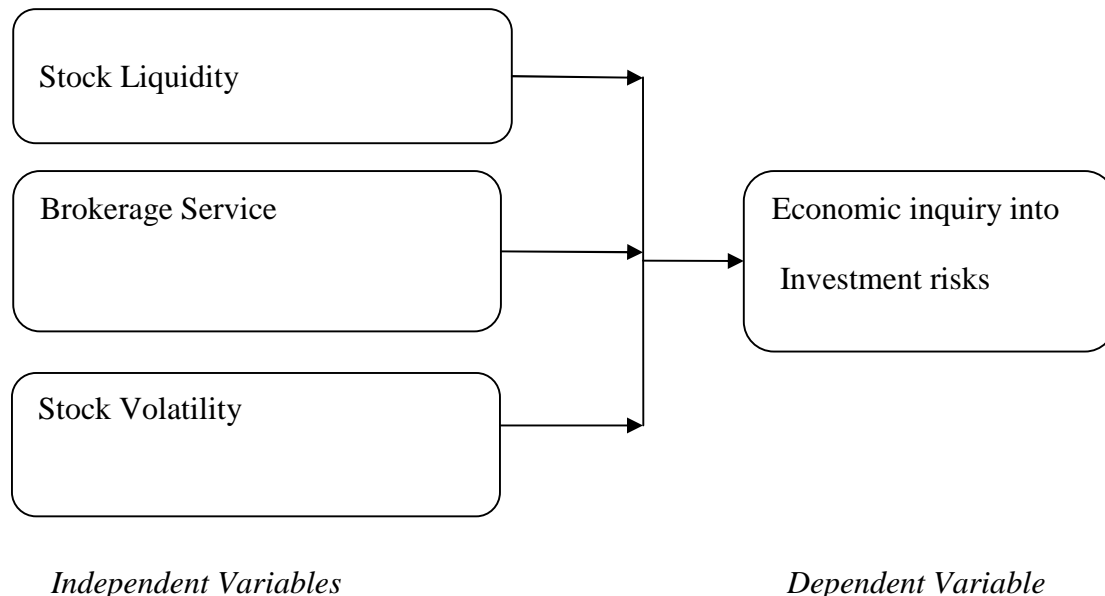
## Specific Objectives

1. To establish how stock liquidity influence investors in the economic inquiry into investment risks.
2. To establish the how brokerage affect investors in the economic inquiry into investment risks.
3. To establish the effect of stock volatility on investors in the economic inquire into investment risks.

## Literature Review

### Conceptual framework

Conceptual framework is a diagrammatical presentation of the independent and dependent variables and the relationship among themselves. This enables the reader to not only have a snapshot but clear understanding of what the study seeks to establish. In this study, the independent variables are Stock Liquidity, Brokerage Service and Stock Volatility while the dependent variable is Economic inquiry into Investment risks.



## **Research Methodology**

### **Research design**

A descriptive type of design was used to carry out the research, according to Mugenda and Mugenda(1999). Descriptive research refers to a method of collecting information by interviewing or administering questionnaires to a sample of individuals, (Orodha, 2003). Orodha and Kombo, (2002) argue that it can be used when collecting information about peoples attitudes, opinions, habits or any of the variety of education or social issues. This type of design is the most ideal in that the intention of the research was to describe phenomena of stock market investment. As a qualitative study, the research sought to establish effectiveness of economical inquiry into investment risks in Kenya and what can be done to reduce the effect of these factors.

### **Target population**

The target population of the study was 35 Nairobi stock brokerage firms. According to Kombo and Tromp (2006), population is the larger group from which a sample is taken and it should capture variability to allow more reliability to the study. Research population is also the aggregate of the unit of study and is the population affected by the problem under investigation and therefore in a position to give information regarding the said problem.

### **Sample Size and Sampling Technique**

The study identified individuals from research population who were willing to give credible information such as Finance Managers and operation managers of the brokerage firms. Stratified random sampling is unbiased sampling method of grouping heterogeneous population into homogenous subsets then making a selection within the individual subset to ensure representativeness. The goal of stratified random sampling is to achieve the desired representation from various sub-groups in the population. In stratified random sampling subjects are selected in such a way that the existing sub-groups in the population are more or less represented in the sample, Mugenda and Mugenda (2003).

### **Data Collection Procedure and Instruments**

Data collection involved the collection of raw data from the target population or the study units. In order to come up with effective data, certain procedures were followed to ensure that all the relevant data is received. Both primary and secondary data were collected. Questionnaires and interviews were used to collect primary data, while secondary data was collected from document or records review (Franker, 2006).

The questionnaires consisted of both structured, closed ended questions and unstructured open-ended questions. This enabled the study to collect both quantitative and qualitative data respectively. Questionnaires formed a major part of data collection, since they are cheap and easier to administer. Face to face verbal interviews were carried out and interview guides

consisting of leading contents/questions employed. This enabled the researcher to gather all data required for research.

### Data Analysis and Presentation

This study generated both qualitative and quantitative data. Quantitative data was analyzed using the Statistical Packages for Social Scientists (SPSS). Qualitative data was analyzed based on the content matter of the responses as responses with common themes or patterns were grouped together into coherent categories. The study also used Likert scale. Likert scale enables easier analysis as it removes doubt on the type of response given, Likert (1998) Quantitative data will be presented in tables and graphs (pie charts and bar graphs) while the explanation to the same and qualitative data will be presented in prose.

### Results

#### Stock Liquidity and Investment

The respondents were asked to indicate the length of time it takes shares/stocks to be transferred from one CDS account to the next (t-cycles). 87.1% of the respondents stated that it does take 3 days, 9.7% stated that the t-cycle takes 4 days while 3.2% stated that it takes more than 4 days. This illustrates that the settlement period in Kenya stock market does take around 3 days. A shorter settlement cycle mitigates liquidity risk (risk stemming from the inability of an investor to buy or sell an investment quickly enough to prevent or minimize a loss) in the trading process (Muchene, 2011). According to Njoroge (2011), Equities Settlement cycle was enhanced from T+4 to T+3 in July 2011.

From the findings, 68% stated that conversion of stock to cash is done very easily, 32% stated that the same is done easily. This depicts that the stock market in Kenya is highly liquid as stock are easily convertible into cash and cash into stocks. According to Muchene (2011), market cycle after trades at NSE takes a day (T+1), meaning that a buyer of a security can trade it the following day and a seller can utilize the proceeds for purchase of a security the following day. Automated trading cycles aimed at enhancing efficiency in the price discovery process and improving market liquidity

The respondents were asked to indicate to what extent stock liquidity influence investment in the stock market. 61% stated the stock liquidity does influence investment in stock market to a very great extent, 32% indicated that it does influence it to great extent while 7% indicated that the influence is moderate. This depict that stock liquidity is a major determinant for decision to invest in stock market in Kenya. This is inline with Ngugi's (2002) finding that facilitating gains in liquidity enhances investors' confidence and reduced information asymmetry thus, promote uptake of stock investments.

The study sought to determine the respondents' level of agreement with statements relating to the effect of liquidity on the investment risk in the stock market. A 5-point Likert scale was used

whereby 1 signified strongly disagree, 2-disagree, 3- neutral, 4- agree and 5 - strongly agree. Liquidity in Kenyan stock market being enhanced by improving the market infrastructure through introduction and upgrade of CDS had a mean of 4.68; Liquidity of stock market enhancing mobilization of savings and investment growth by making investment less risky and more profitable had a mean of 4.32; Investors being able to alter their portfolios from non-performing stocks to performing stocks easily had a mean of 4.19 while E-commerce using media such as e-mail and SMSs logging of sales/buy requests to enhance liquidity had a mean of 4.0. These findings depict that CDS has enhanced liquidity in Kenyan stock market as it enhances the settlement system at NSE. Ngugi states that CDS system initially settled transactions in five days which improved in a period of one year to an overall market settlement performance of 4.42 days. This later improved to three days in 2011 (Ngugi, 2003).

### Brokerage Service and Stock Market Investment

The respondents were asked to rate the services of the investment bank they worked for. From the findings, 48.4% of the respondents rated the quality as good; 29.0% rated the quality as very good while 16.1% and 6.5% rated the quality as fair and poor respectively. This depicts that service quality of investment banks in Kenya are generally good. Warren (2006) states that investors' satisfaction with the investment banks services is key in enhancing their confidence in the stock market.

The study sought to establish the investors' rating of services of stock brokers compared with others in East Africa. From the results, 90% rated their brokerage services as better and 7% were indifferent between the service quality and those of competitors. Baker and Wurgler, (2009) states that investors seek accurate information from the brokers in would enable them to make valid decisions. However, Baker and Wurgler states that stock brokers at times have no time to properly research their stock picks, or lack the expertise required to successfully trade in investment opportunity in the market and fails to provide the full information that the investor require and if provided the information is bias. This thus affect their quality; which vary across the sector.

Findings indicated that 38.7% stated that brokerage services does influence investment moderately; 32.3% state that brokerage service influence investment to a great extent while 16.1% and 12.9% stated that the same do influence investment to a very great extent and very little extent respectively. Baker and Wurgler (2009) justifies this finding by stating that investment firms besides acting as agents between investors and stock market, they also provide information whose accuracy determine investors' stock portfolio performance.

The respondents were asked to indicate whether the stock market brokerage fee was standardized across all player in Kenyan stock market. To this question, 81% replied affirmatively while 19% were of contrary opinion. This depicts that brokerage fee in Kenya is standadized and as such does not vary widely from one stock broker to the next. Makau, J. (2010) states that stockbrokers

in Kenya earn a maximum brokerage commission of 2.1 per cent of the value of shares traded. This has implications on stock investments as investors need to sell a stock that appreciates by 4.2 per cent to break even.

The respondents were asked to compare the rates charged by other stock markets in East Africa and those charged in Kenya. According to 68% of the respondents, brokerage fees charged in Kenya are lower than those charged in other East African countries while 29% compared the two as same.

The study used a 5-point likert scale with 1 representing strongly disagree, 2-disagree, 3-neutral, 4- agree and 5 - strongly agree. From the findings, investors being strongly influenced by the advice provided and actions taken by stock brokers had a mean of 4.13; investors' satisfaction with the stock market being dependent on the broker transparency had a mean of 4.10; illiquidation and collapse of stock brokers reducing investors' faith in the Kenyan stock market had a mean of 3.90. This depicts that investment decisions in stock market in Kenya is influenced by brokerage services as its what influences the soundness of investors' investment decision. Further, as agents, stockbrokers' transparency and liquidity also has implications on investors' wealth.

### **Stock Volatility on Stock Market Investment**

The study sought to obtain the respondents comments on the volatility of the Kenyan stock market compared to other stock markets in East Africa. The findings show that 68% of the respondents felt that Kenyan stock market is highly volatile; 29% thought that it's moderately volatile; and, 3% stated that it's less volatile. This depict that the Kenyan stock market is volatile compared to other stock markets in the region. Volatility is an important factor in the comparison of risk and reward between stocks and other asset classes (Davis and Kutan, 2003). Guo (2003) shows that stock market volatility is positively and significantly related to future stock returns in the consumption-wealth ratio in the forecasting investment opportunity and risks.

The respondents were asked to rate the extent to which Kenyan stock market volatility influences investment. 68% of the respondents stated that stock volatility does influence stock market investment to a very great extent while 32% stated that it does influence the same to a great extent. This shows that stock volatility does influence stock market investment. Kim and Singal (2000) state that investors' participation concentrate on volatility and predictability of stock returns with little attention given to liquidity. Chordia and Subrahmanyam (2001) observe that volatility influences liquidity and trading activity through its effect on inventory risk as well as the risk of engaging in short-term speculative activity.

Findings indicated that stock volatility leads to loss/appreciation of stock/share value (93.5%); stock volatility leads to strain in the financial market (61.3%); stock volatility reduce market participation (61.3%); and, stock volatility leads to loss of investor confidence (54.8%). This

depicts that while volatility has positive impacts such as appreciation of stock prices, increased participation of risk-taking investors, it also has negative implications such as reduced participation of risk-averse investors and depreciation in stock prices during bearish periods (Chordia and Subrahmanyam, 2001).

The study used a 5-point likert scale with 1 representing strongly disagree, 2-disagree, 3-neutral, 4- agree and 5 - strongly agree. From the findings, stock prices showing large fluctuations as compared with volatility in other stock markets had 4.52; volatility being an important factor in the comparison of risk and reward between stocks and other asset classes had a mean of 4.42; stock market instruments such as 'fuse breakers' being not well implemented in Kenya had a mean of 4.23; investors using volatility clustering to determine the amount of risk they face had a mean of 4.00. These findings depict that volatility is an important aspect of stock market investments. Davis and Kutan (2003) established that volatility is an important factor in the comparison of risk and reward between stocks and other asset classes. Davis and Kutan also found out that volatility clustering is one of the most important phenomena that determine the amount of risk faced by investors in high inflation countries. Circuit (fuse) breakers are important controls against wanton stock volatility as it imposes price limits for particular stocks or stops trading altogether and often triggered by specified price movements. Circuit breakers curb the effects of overreaction in markets and restore financial confidence by providing market participants with a cooling off period especially against volatility brought about by adverse information (Lucy, 2011).

### Findings and Discussions

From the results presented in the previous chapter, it was established that liquidity in the Kenyan stock market has been enhanced by improving the market infrastructure through introduction and upgrade of CDS - an automated trading system (ATS) (Mean of 4.68). The findings also shows that the trade settlement period (t-cycle) at NSE was three days (t+3) from the initial four day which has enhanced the stock liquidity at NSE; this has also enhanced the market cycle easing the conversion of stocks to money (68%). That this has enhanced mobilization of savings and investment growth by making investment less risky and more profitable (Mean of 4.32); investors are able to alter their portfolios from non-performing stocks to performing stocks easily (4.19). Thus, stock liquidity was shown to influence invest to a great extent (83%).

On stockbrokerage services, it was established that Kenyan market has quality stockbrokerage services (77.4%) which is unrivalled in the East Africa region in quality (90%) and cost (68%). The transaction costs (brokerage fee) accruing to stock brokers was standardized/regulated in the Kenyan stock market at 2.1% of the trade value (81%). The stock brokerage services influences stock market investment to great extent (48.4%). The reason for this is that investors are strongly influenced by the professional advice provided by stockbrokers (Mean of 4.13) and transparency



(4.10). Furthermore, illiquidation and collapse of stock brokers reduces investors' faith in stock market (3.9).

On stock volatility, the study established that Kenyan stock market is highly volatile (68%) and this influences stock investment to a great extent (97%). The findings also shows that stock prices exhibit large fluctuations as compared with volatility in other stock markets (mean of 4.52); volatility helps in the comparison of risk and reward between stocks and other asset classes (4.42); investors use volatility clustering to determine the amount of risk they face (4.00); high volatility affects firm value leading to investment opportunities through stock splits and reversal splits (4.13). The study also shows that although volatility leads to panic buying or sales leading to further volatility (3.9), in Kenya, stock market regulatory instruments such as 'fuse breakers' are not well implemented (4.23).

### Conclusions and Recommendations

The study makes a number of conclusions from the findings presented above. On stock liquidity in the Kenyan stock market has been enhanced by improved infrastructure from manual process of data capture to Automated Trading System (ATS) with the introduction of CDS system in 2004. This among other things has enhanced liquidity by making a real-time update of security accounts (pending buy, pending sale on trade-for-trade processing) a reality. That is, transaction reports and settlement obligations are generated by CDSC and made available to Central Depository Agents (CDAs) on trade date (T+0) (Muchene, 2011). Funds are settled on a net basis through the settlement bank. Seller's Securities Account are debited and the buyer's Securities Account is credited in the CDS simultaneously, strictly through delivery versus payment. This has enhanced liquidity through by reducing settlement period. A shorter settlement cycle mitigates liquidity risk in the trading process. That is, reduces the risk stemming from the inability of an investor to buy or sell an investment quickly enough to prevent or minimize a loss. Owing to reduced settlement period, investors are also able to easily alter their portfolios from non-performing stocks to performing stocks.

The study concludes that Kenya has quality stockbrokerage services which are unrivalled in the East African region. This they provide by acting as investors' agents during stock purchase or sales at NSE at 2.1% of transaction cost, provision accurate information of when and which stocks to buy or sell; how balance their stock portfolio et cetera. However, stockbrokerage fees discourage investors as investors need to sell a stock that appreciates by 4.2 per cent to break even (Makau, 2010). Apart from brokerage services, CDS system by synchronizing delivery versus payment (exchange of cash and securities), guarantees irrevocability of settlement and offers the high level of customer protection. Internet service and e-commerce has enhanced brokerage services as investors can register for a transaction at the convenience of their homes.

The study concludes that stock volatility has a positive as well as negative influence on stock investments in Kenya. Volatility has positive impacts such as appreciation of stock prices,

increased participation of risk-taking investors; it also has negative implications such as reduced participation of risk-averse investors and depreciation in stock prices during bearish periods. Volatility also influences liquidity and trading activity through its effect on inventory risk as well as the risk of engaging in short-term speculative activity. The Kenyan stock market is the most volatile of those in East Africa as it reacts fast to information.

## References

- Aaron, C. (1999). The contribution of FDI to poverty alleviation. Washington, DC: Foreign Investment Advisory Service. (Nairobi)
- Makau, J. (2010). Bear Market Erodes Stockbrokers' Profits. *Business Daily*, March 26, 2010
- Njoroge, E. (2011). Speech By Nairobi Stock Exchange (NSE) Chairman Mr. Eddy Njoroge During The Bell Ringing Sponsored by Uchumi Supermarkets at NSE Trading Floor, May 31<sup>st</sup> 2011.
- Ngugi, R.W. (2002). Four essays on corporate financial issues in emerging stock markets. *Unpublished PhD thesis*, University of Birmingham.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)*. Boston: Allyn & Bacon.
- Abraham, T. (2005). Reviving an old dream of Afro-Asian cooperation. YaleGlobal, 24 May.
- Acharya, Viral V., and Lasse Heje Pedersen, 2005, Asset pricing with liquidity risk, *Journal of*
- Agarwal, Prasun, 2010, Institutional ownership and stock liquidity, Working paper, Cornell University.
- Akinlo, A. E. (2003). direct investment and economic growth in Sub-Saharan Africa. *International Review of Economics and Business* 50, 569-80.
- Amihud, Yakov, 2002, Illiquidity and stock returns: Cross-section and time-series effects, *Journal of Financial Markets* 5, 31-56.
- Amihud, Yakov, and Haim Mendelson, 1986, Asset pricing and bid-ask spread, *Journal of Financial Economics*, 223-249.
- Anderson, K., Dimaranan, B., Francois, J., Hertel, T., Hoekman, B., & Martin, W. (2001). The cost of rich (and poor) country protection to developing countries. *Journal of African Economies* 10, 227-257.
- Aryeetey, E. & Udry, C. (2000). Saving in Sub-Saharan Africa. Harvard Center for International

- Asiedu, E. (2002a). On the determinants of direct investment to developing countries: is Africa different? *World Development* 30, 107-19.
- Asiedu, E. (2002b). Aggressive trade reform and infrastructure development: a solution to Africa's direct investment woes. Mimeo, Department of Economics, University of Kansas.
- Bae, Kee-Hong, and Vidhan K. Goyal, 2010, Equity market liberalization and corporate governance, Working paper, York University and HKUST.
- Bae, Kee-Hong, Warren Bailey, and Connie X. Mao, 2006, Stock market liberalization and the information environment, *Journal of International Money and Finance* 25, 404-428.
- Baik, Bok, Jun-Koo Kang, and Jin-Mo Kim, 2010, Local institutional investors, information asymmetries, and equity returns, *Journal of Financial Economics* 97, 81-106.
- Bailey, Warren, Y. Peter Chung, and Jun-Koo Kang, 1999, Foreign ownership restrictions and equity price premiums: What drives the demand for cross-border investments? *Journal of Financial and Quantitative Analysis* 34, 489-511.
- Baker, Malcolm, C. Fritz Foley, and Jeffrey Wurgler, 2009, Multinationals as Arbitrageurs: The effect of stock market valuations on foreign direct investment, *Review of Financial Studies* 22, 338-369.
- Lucy F. A. (2011). The effect of circuit breakers on expected volatility: tests using implied volatilities. *Atlantic Economic Journal, International Atlantic Economic Society, vol. 25(2)*
- Basu, A. & Srinivasan, K. (2002). "direct investment in Africa: some case studies" International Monetary Fund Working Paper, WP/02/61, March.
- Bekaert, Geert, and Campbell R. Harvey, 2000, Foreign speculators and emerging equity markets, *Journal of Finance* 55, 565-613.
- Bende-Nabenfe, A. (2002). Foreign direct investment determinants in Sub-Saharan Africa: a cointegration analysis. *Economics Bulletin* 6, 1-19.
- Beneish, Messod, and Whaley, Robert, 1996, An anatomy of the "S&P Game": The effects of changing the rules, *Journal of Finance* 51, 1909-1930.
- Berthelemy and Söderling (2001), Hoeffler (2002), Fosu (2002), Tahari et al. (2004)
- Bhattacharya, A., Montiel, P., & Sharma, S. (1997). How can Sub-Saharan Africa attract more private capital inflows? *Finance & Development*, June.

- Bhide, 1993, The hidden cost of stock market liquidity, *Journal of Financial Economics* 34, 31-51.
- Blomstrom, M. & Kokko, A. (1998). Multinational corporations and spillovers. *Journal of Economic Surveys* 12: 247-77.
- Bolton, Patrick, and Ernst-Ludwig von Thadden, 1998, Blocks, liquidity, and corporate control, *Journal of Finance* 53, 1-25.
- Boyer, Brian, Tomomi, Kumagai, and Kathy Yuan, 2006, How do crises spread? Evidence from accessible and inaccessible stock indices, *Journal of Finance* 61, 957-1003.
- Brockman, Paul, Dennis Y. Chung, and Xuemin Yan, 2009, Block ownership, trading activity, and market liquidity, *Journal of Financial and Quantitative Analysis* 44, 1403-1426.
- Bushman, Robert M., Joseph D. Piotroski, and Abbie J. Smith, 2004, What determines corporate transparency? *Journal of Accounting Research* 42, 207-252.
- CCFA (2003). A ten-year strategy for increasing capital flows to Africa. Report of U.S. Commission on Capital Flows to Africa, June.
- Chan, Kalok, Albert J. Menkveld, and Zhishu Yang, 2008, Information asymmetry and asset prices: Evidence from the China Foreign share discount, *Journal of Finance* 63, 159-196.
- Choe, Hyuk, Bong-Chan Kho, and Rene M. Stulz, 2005, Do domestic investors have an edge? The trading experience of foreign investors in Korea, *Review of Financial Studies* 18, 765-829.
- Chordia, Tarun, Richard Roll, and Avanidhar Subrahmanyam, 2000, Commonality in liquidity, *Journal of Financial Economics* 56, 3-28.
- Chung, Kee H., John Elder, and Jang-Chul Kim, 2010, Corporate governance and liquidity, *Journal of Financial and Quantitative Analysis*, forthcoming.
- Dahlquist, Magnus, and Goran Robertsson, 2001, Direct foreign ownership, institutional investors, and firm characteristics, *Journal of Financial Economics* 59, 413-440.
- Dahlquist, Magnus, Lee Pinkowitz, Rene M. Stulz, and Rohan Williamson, 2003, Corporate governance and the home bias, *Journal of Financial and Quantitative Analysis* 38, 87-110.

- Davis, Nicolas and Kutan, Ali, M., 2003, Inflation and output as predictors of stock returns and volatility: International evidence, *Applied Financial Economics*, Vol. 13, 693-700.
- Development Working Paper No. 38.
- Financial Economics* 77, 375-410.
- Hsu, Stephen D. H., and Brian M. Murray, 2006. On the Volatility of Volatility. Eugene, Ore.: University of Oregon Working Paper, 15 p.
- Lewellen, W., Lease, R. and Schlarbaum, G., 2007, Patterns of investment strategy and behavior among individual investors, *Journal of Business*, 50, 296-333.
- Low, Cheekiat, 2000. The Fear and Exuberance From Implied Volatility of S&P 100 Index Options. New Haven, Conn.: Yale School of Management. 29 p.
- Luo, Dengpan, 2003. Market Volatility and Mutual Fund Cash Flows. New Haven, Conn.: Yale International Center for Finance Working Paper No. 03-21. 40 p.
- Ng, L. and Wu, F., 2006, Revealed stock preferences of individual investors: Evidence from Chinese equity markets," *Pacific-Basin Journal* 2, 175-192.
- Schwert, G. William, 1997. Stock Market Volatility: Ten Years after the Crash. Rochester, N.Y.: Simon School of Business Working Paper. 22 p.
- Shu, P., Yeh, Y., Chiu, S. and Chen, H., 2005, Reluctant of individual investors to realize their losses, *Pacific-Basin Finance Journal* 13, 201-223.