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Contents

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The Chairman speaks ...

Although the primary cause of the present trend in our economic growth can be traced back to our economic liberalization programme, the credit should also be given to the attention we had given to the development of our human resource through widespread education and skill development.

However, India's performance in human resource development still remains far behind globally. The latest human resource report of United Nations Development Programme has ranked India as 126th in its international human development index. It means that we are one among the poorest global performers in the field of human resource development, comprising of health care and education of the children.

Out of the 200 million children enrolled in our primary schools in the beginning of every academic year, only 10 million, equivalent of a mere nine per cent of youths in the eligible age group of 18 to 22 years, are able to make it into university education as against the norm of 40-50 per cent in some of the developed nations. The glaring infrastructure deficiency is one of the major reasons for our poor performance.

I believe that by adopting new technologies we can bring about a quick improvement in the situation. In this context, we present to you the paper on "The Internet Radio and its Scope in Indian Education System" as the lead article in this edition.

This edition also presents a lot of new ideas and views on a variety of topics.

I have no hesitation to recommend this edition of our Journal for its varied and useful contents to all our readers.

Dr.G.P.C.NAYAR
Chairman, SCMS Group of Educational Institutions

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Editorial

Dream-Streaming

Dreams form a powerful alternative source of consciousness. Consciousness leads us to realms of being and imagination. Unless we integrate dreams into our lives, we can never use this most potential resource for personal and collective change.

Access to dreams demands to pay no fee. Nor it requires remitting tax. It's absolutely free of cost or tax. It's true to aerobics too. But it necessitates exerting physical energy. It makes your forehead to glisten with drops of sweat. It compels your joints to bear ache for even certain yoga postures.

We needn't wear any uniform. We can just wear a casual, or even birthday suit, to practise experiencing dreams. Pay attention to the dreams that visit us, repeatedly throughout each night. Just we need to show willingness to consider the possible messages they convey. As we read this, the director, producer, casting manager, and composers are hard at work creating the late night show staged for you, exclusively tonight.

If we wake up during the night / in the morning, we won't open our eyes wide open. We will lie still. We will try gently to recall any imagery present, as we are awake. If we successfully recall any specific image, we will try to connect it with whatever activity that preceded it. And what preceded even that and what had preceded it, tracing it as back as we can. Once we have recreated them, we will rehearse them a few times, before opening our eyes. Record them in the reverse order. Describe the dream fully to yourself. When you try later, how you write initially may have more significance.

We can look for similarities, yes, between what we experienced in our dream and in our waking life. Were things in our dreams distorted? We will examine puzzling images in our dreams. Let's use the techniques of free association (Freud), amplification (Jung), or dialoguing (Gestalt) to explain our writing.

We know managers shall be good dreamers. They shall make use of all our untapped resources of brain and mind to manage men, machines and money. Dreams change man and manager. Once we make up our mind, we will start our preparation today. We get a suitable notebook/diary. We place it under pillow lest we should forget. We will record the dreams, tomorrow early in the dawn. As soon as we get into the bed, we will review the experiences of the day. Let us pay particular attention to any unresolved emotion that stirred us up. We will have to relax as fully as possible. We need to petition our inner source of dream enlightenment to provide us with dreams tonight.

Dr.D.Radhakrishnan Nair

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Internet Radio Technology

Scope in Indian Education System

Vinith Kumar Nair and Krishnan M.

Internet radio is one of the latest web based applications, which is gaining popularity along with the AM/FM kind of radios in India. A lot of audio material is available these days on the net ranging from music to education. Its use in distance education is also worth a mention. While an old-fashioned radio has its own limitations in terms of access to the number of radio stations, for an internet radio a sound card and an internet connection can give access to an unbelievable variety of programmes, anywhere in the world. In this concept paper an effort has been made to project the possibility of using Internet Radio as one of the mediums of imparting value based education by Educational Institutions in India.

Internet radio is a web based technology in which broadcasting of audio content is done via the Internet. Tuning in to an internet radio broadcast is different from tuning in to a broadcast of a traditional radio. Different broadcasts have to be searched with a search-engine or a website that collects on-line radio broadcasts when compared to the traditional radio. The first Internet "radio station," Internet Talk Radio, was developed by Carl Malamud in 1993. In February 1995, the first full-time, Internet-only radio station, Radio HK, began broadcasting the music of independent bands.

There are different ways for distributing Internet Radio. One of the most common ways to distribute is via streaming technology using an audio codec. The other technology that is also used to distribute the same is Podcasting. It is the method of distributing multimedia files, such as audio programs or music videos, over the Internet using either the RSS or Atom Syndication formats for playback on mobile devices and personal computers.

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Use of Internet and Internet Radio in Academics around the world

Internet is revolutionizing the way education is being delivered across the globe. It is being used extensively as a platform to assimilate and disseminate knowledge content. A sort of metamorphosis has occurred in the way distance education is being imparted around the world, and technology has

changed the way that is being done. Rapid changes in technology continue to challenge the traditional ways in which distance education is defined (Hanson et al. 1997)—resulting in the present situation where the term "distance education" is applied to a great variety of programs, providers, audiences, and media (Sherry 1996). Many see the rise in the availability of technology-supported distance education—that is, the delivery of instruction over a distance to individuals located in one or more venues—not only as a revolutionary opportunity to increase access to postsecondary education, but also as an opportunity to hasten the overall pace of reform in higher education (Ehrmann n.d.). Convergence of communication and computing technologies is necessitated because of the changing demographics of students pursuing postsecondary education, and the need to reduce the cost of education (Sherron and Boettcher 1997). The development of technologies employed to provide distance education has resulted from a "push-pull" relationship between providers and the public: technological advances have created awareness and demand among users, while usage has pushed providers to further develop technologies (Gladieux and Swail 1999).

It is not only the internet which is revolutionizing the way education is being delivered; internet radio is also playing a very important role in providing education based content to the needy students. According to Peter Fader, Professor of marketing at The Wharton School at the University of Pennsylvania in Philadelphia "From an educational perspective, Pod casting represents distance education taken to the next step. Not only do we 'place shift' the learning process to make it more convenient for the student, but we allow the ultimate degree of 'time shifting' as well". Students are so devoted to the iPod, Fader adds, that, in the future, business schools may be pushed toward Pod casting because of student demand. (BizEd, Pg. 46, January/February 2006).

Certain academic institutions which have already taken the lead in using internet radio as part of academics are:

Case-1

Edutopia Radio Show

Edutopia is a live weekly Internet-radio talk show from The George Lucas Educational Foundation, that broadcasts every Thursday at 3 p.m. Pacific Time (3 p.m. Eastern Time) on www.WorldTalkRadio.com. The one-hour talk show features key educators and students, as well as business, government, and community leaders, discussing educational innovation.

Case- 2

The Naked Scientists Online

The Naked Scientists Online Internet Science Radio show utilizes streaming technology broadcasts science, medicine and technology news, discoveries and breakthroughs being discussed by scientists and researchers, and includes interviews with famous scientists of world-class reputation.

Case-3

Subcity Radio

Subcity Radio is a student internet radio station based at the University of Glasgow. It broadcasts online during term time and for 28 days a year on a temporary FM Restricted Service Licence.

Case-4

Duke University

Duke University distributed iPods to its freshmen class in the year 2005 and encouraged its professors to create content for the devices.

Case-5

Butte College

Butte College, a community college in Oroville, California, recently launched the "Butte College Chronicles," a weekly pod cast. The school uses the pod cast to circulate information about new courses, faculty and administrators, career services, and other student programs.

It can be observed from the above mentioned case studies that the educational institutions in U.S and European Countries have started using this latest technology i.e. internet radio to transfer education content or education related information to the students.

Scope of Internet Radio in Academics- the Indian Scenario

In India there are 50,600,000 (*Source: Internet World Stats, December 2005)* internet users and 86,571 (*Source: CIA World Fact Book, 2004)* Internet Service Providers (ISPs) & Hosts. The number of students enrolled in the educational institutions has increased from 33,07,649 in 1983-84 to 92,27,833 in 2002-03 (Source: www.ugc.ac.in). The number of Universities and Colleges in India is as follows:

Table-1

Type of Universities in India

Type of University	Number
Central University	19
Deemed University	93
State Universities	201
Institute of National Importance	13
Young Universitites	18
"Universitites with Potential for Excellence"	5
Universities identified for establishing "Centre of Excellence"	12

Source: www.ugc.ac.in

Table-2

Type-wise Number of Colleges in the Country: 2001-02 (As on 1.1.2002)

Type	No. of colleges
Arts, Science, Commerce & Learning College	11128
Teachers Training	784
Engineering/Technology/Architecture	1077
Medical	1253
Veterinary Science/Animal Science	50
Law	368
Others*	671
Total	15437

Source: www.ugc.ac.in

* Includes Colleges exclusively for Library Science, Physical Education, Social Work, Yoga, Music/Fine Arts, Journalism etc.

It can be observed from the above-mentioned data that there is a huge potential for Universities and Colleges to go for internet radio application as part of the curriculum as the number of enrolment of students is increasing every year. With the increasing number of wi-fi campuses in India, students are encouraged to go for desktops/ laptops for learning beyond classrooms. The number of Universities and Colleges in the year 2006 has exceeded the number mentioned in the data and the number of internet service providers who give broadband connections at low cost also showed an upward trend resulting in more users.

The internet radio content can be streamed or podcasted by the educational institutions based on the nature of subject i.e arts, science, commerce etc. and it can be best used as a tool for imparting education as part of distance education.

Setting an Internet Radio Station for Academics

The educational institutions according to their requirements and target audience can decide on the type of Internet Radio station i.e. minimum or sophisticated.

Minimum Internet Radio Station
For setting up a small internet radio station, the following things are required: -

- CD Player
- CD Ripper Software
- Audio Editing Software

If the programs are compiled from existing digital audio files, then some audio software and a hosting account are the only requirements.

Sophisticated Internet Radio Station

For a live broadcast as well as a choice of pre-recorded streams several servers with the streaming server software maintained by an ISP (a dedicated server or co-location agreement) is needed and the studio should be equipped with a high-bandwidth connection. Some of the hardware and software requirements are:

Hardware:

- Assorted Microphones
- Assorted CD and Tape Players
- Audio Mixer
- Outboard Audio Gear (EQ, Compressor/Ducker, etc.)
- Multi-Channel DA/AD Converter
- Digital Audio Card
- Dedicated Computer with Encoder Software

Software:

- Streaming Media Server/Encoder Package
- Assorted Audio Recording/Editing Software

Conclusion

Use of Internet Radio in academics is one of the most recent developments that is revolutionizing the way education is imparted around the world. The Indian educational institutions with the improving internet infrastructure and more tech savvy people can look forward for the utilization of the same for imparting value based education. Internet based education is also one of the cost effective means of delivering education and is best suited for the students who are looking for a cheaper means of instruction Internet Radio with its low investment involved can be used as a cost effective medium for education and it can act as a major or a supportive tool apart from class room education so as to make the delivery of education more effective.

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On the Future of Location-Based Advertising

Shin Wee Chuang and Tanasak Krabuanrat

In the movie "Minority Report," as Tom Cruise's character crisscrossed through a multitude of shopping complexes, biometric sensors that identified him sent a barrage of personalized visual advertising. Now, following the recent citywide deployment of wireless broadband by Google in its Mountain View hometown in August, privacy issues regarding location-based advertising once again come to the forefront. Privacy advocates including EPIC, EFF and ACLU argued that what the Google offering was privacy invasive since user location information would be collected, analyzed and commercialized for customized advertising, before beaming back to the user's mobile devices. Many argue that while it is not only annoying to receive unsolicited advertisements in the form of SMS, emails or pop-up banners, it is also worrisome that Google has not clarified how it would response to requests for user information by law enforcement agencies. Given all these legalities and privacy concerns, is the much-touted location-based advertising headed for oblivion?

According to Rashid O. (2005), location-based advertising is "the placement of advertisements near an actionable location. In other words, location based advertising deals with the strategically placing messaging near where buyer behaviour can be most immediately influenced, and converted into a sale. This most often applies in retail settings, such as shopping malls[1]." This definition qualifies recent innovation such as digital signage and electronic billboards, although more often than not, location-based advertising is used to refer to the delivery of digitized messages to mobile devices in the forms of text messages, picture messages, emails, pop-up banners and even direct phone calls. An example of location-based advertising is akin to the Tom Cruise's character being sent a barrage of personalized visual advertising in the movie "Minority Report." Another example from every-day life is that of a promotional coupon being delivered to your cell phone in the form of a SMS from a fast-food restaurant that you walk past seconds ago on a Sunday afternoon. As illustrated, such forms of wireless location-based advertising, if not handled properly, could translate into anything from annoying user experience to privacy violation of individuals. So how would service providers know what to send, when to send and for whom to send these advertisements to? Would any recent innovation in technology helps address some of

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these privacy concerns? What kind of role the governments play in shaping the adoption of location-based technologies for advertising? Above all, would consumers want it?

A Timeline of Technology Evolution in Location-Based Advertising

Traditionally, location-based advertising is offered by cellular network providers to broadcast promotional announcements to their own subscribers. The network providers usually get the location information from the GPS chip installed in the handsets of the subscribers. For subscribers without GPS-enabled phones, the network operators typically use a technique known as triangulation, based on the signal-strength of nearby base stations, to calculate the location of the subscribers. Some of the key differences of these two pioneering location-based technologies are summarized in the table below:

Table 1: Differences between GPS and Triangulation Technologies

	GPS	Triangulation
Advantages	• accurate • free	• no handset upgrade requirement • works anywhere (indoor, outdoor & all weathers)
Disadvantages	• requires GPS chips • does not work indoor • works less well during cloudy weathers	• less accurate • expensive when used for tracking

The non-prevalent use of GPS-enabled handsets limited the appeal of the GPS technologies as the medium of location-based advertising in the early days, while the accuracy (or lack of) of triangulation-based technologies prevented advertisers from going after location-based advertising en mass. These limitations, coupled with the relatively high costs of sending text messages in certain parts of the world, meant location-based advertising was not perceived as a desirable or an effective advertising channel. This partly explained why the concern over privacy violation never triggered any alarm in the early part of this decade when location-based technologies first emerged.

Following the E-911[2] mandate issued by the Federal Communications Commission of the United States, however, the landscape of location-based technologies has changed substantially. Last year, Boston-based Skyhook launched a software-only positioning system (known as WiFi Positioning System, or WPS) that referenced the locations of 1.5 million WiFi hotspots in the US to calculate the position of any WiFienabled mobile device[3]. Recently, Google took a step further to incorporate WPS into its citywide wireless broadband project in Mountain View, where it is offering free wireless internet access in exchange for sending advertisement to the users[4]. At the same time, Galileo, a $3billion European civilian satellite project that offered both in-door and out-door tracking capabilities was launched[5]. In between, many countries, especially Asian countries, have already begun experimenting with location-based services, from permission-based "Friend Finder"-type applications to "Restaurant Locator"-type pull based services. Figure 1 below shows the relevance of these underlying location-based technologies for advertising:

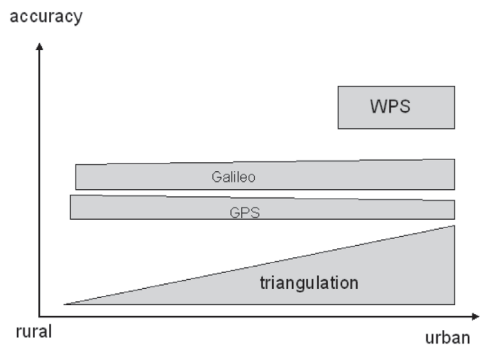

Figure 1: A Constellation of Location-Based Technologies

As can be seen from Figure 1, the accuracy of all technologies is the greatest in urban areas (with the exception of GPS system). This is because in an urban setting:

1. There are many more tall buildings than in rural areas that would compromise satellite-based tracking GPS tracking.
2. Galileo has both satellite and terrestrial tracking capabilities and hence works well in both rural and urban settings.
3. WiFi hotspots are very densely populated in urban areas and hence its accuracy is the greatest in those areas.
4. The accuracy of triangulation rises in proportion to the number of base stations and since there are more base stations in urban areas than in rural areas, accuracy is greatest.

Given the relative accuracy of location-based technologies and the concentration of retailers (the main advertisers) in urban areas, would not we expect the main bulk of location-based advertising to be directed at urban dwellers? The current trends seem to support this proposition.

The Role of Mobile Devices in Location-Based Advertising

While the network-centric location technologies are instrumental in the implementation of location-based advertising, the role of the mobile devices cannot be discounted as well. This is because the types of mobile devices that the consumers carry will have a direct impact on how advertisers want their advertisements to be carried, i.e. whether it is plain-text SMS, multimedia MMS, emails, pop-up banners, voice message or direct phone calls. A consumer might want to receive an advertisement in a different format when she is surfing internet on her laptop at Starbucks compared to when she is carrying a cell phone in her pursue while she is shopping along Fifth Avenue in New York City. Even the types of cell phones present different delivery options. For example, a pocket-PC user might elect to receive location-based advertisement in the form of email; a smart-phone user in MMS; and a conventional phone user in SMS.

The capabilities of each mobile device also present different opportunities for users to "customize" the ways in which they could choose to receive these advertisements. For instance, a user of WiFi-enabled PDA phone might want to configure his phone to receive advertisement in MMS formats only, whereas a laptop user could easily use his email application to direct all location-based advertisement to a special folder. Of course, users of less features-intensive mobile devices such as a simple 2G phone have fewer options, and hence are more likely to rely on any sort of "Opt-in," "Opt-out" or other legal mechanisms to prevent themselves from being swamped with location-based advertisements.

So why is the delivery format of location-based advertisement important? The answer lies in the power of consumers' abilities to choose, using the technologies in their hands. As digital convergence continues to evolve and cell phones become smarter and more like PC, the ability of all mobile device users to control the kind of location-based advertisement they want to receive grows. As such, the spam issues could be mitigated as users gain more and more control over their abilities to receive only the information that they want.

The Privacy Issues

Despite all the technological advances over the past few years, location-based advertising has not taken off in most parts of the world, including the United States. Given the nature of this form of advertising, perhaps it is no surprise that concerns over privacy issues are the major stumbling block that are preventing location-based advertising from rolling out, whether in the United States or abroad. These privacy issues could primarily be segmented into two categories: tracking and spam.

Tracking

For location-based advertising to work effectively, service providers often need to collect and process huge amount of information such as the users' travel patterns, movements and other habits, in order for advertisers to deliver targeted, personalized and location-specific information to these users. Naturally, it upsets a lot of people who are outraged that their lifestyle patterns could potentially be monitored and scrutinized by complete strangers in such great details. This issue emerges into the limelight once again recently when Google completed its citywide muni-WiFi project in Mountain View, California. Many people fear that whether it is through the traditional base station triangulation method or the new WPS technology, users' movement data are always stored and processed by the service provider. In light of the recent

prosecution of a Chinese journalist in China (when authority tracked down his identity and location after Yahoo! handed in sensitive user data to the local law enforcement officers[6]), many people now have reservation about letting service providers such as Google and Yahoo! (or Verizon and AT&T, for that matter) capture too much of their own personal information.

Spam

Spam in location-based advertising usually refers to the sending of unsolicited text messages to the users' cell phones. As the cost of sending SMS comes down, advertisers are now turning increasingly to SMS as another medium to send promotional coupons or update product information. This has created another social nuisance in many parts of the world where people are receiving an ever increasingly number of unsolicited SMS-advertisements, many of them irrelevant to the receivers. As a result, privacy advocate groups have called for stricter control over the use of text messages as advertisement, culminating in the introduction of "Wireless Telephone Spam Protection Act[7]" in the United States and "Personal Information Protection and Electronic Document Act[8]" in Canada.

Some argue, however, that the privacy issues related to wireless spam could easily be resolved if consumers are able to grant "meaningful consent" to advertisers. However, like email-spam, it is difficult to define what constitute "meaningful consent[9]" – which remains a fussy legal term in the wireless domain. Like email-spam, it is not practical for any consumer to keep track of the number of "Opt-in," "Opt-out" or other related Programs she has signed up for in the lifetime of her cell phone number, unless she is extremely prudent about it. The issue of spam is even more acute in the wireless domain than in cyberspace, as it is often easier to change email addresses than cell phone numbers, so that a user can start afresh again.

In the next section, we will look at the current practices that are in place to combat the twin issues of tracking and spam for wireless location-based advertising. The relative advantages and disadvantages of each of the approaches would be discussed. We would also examine potential challenges and opportunities presented by the ever-improving mobile technologies.

Opt-in/Opt-out: The Antidote for Spam?

In many ways, the issues of tracking and spam are intertwined with disclosure and consent – consumers should have the rights to know when, where and how they are tracked or targeted for micro-marketing through location-based advertisement, while at the same time having the ability to either consent or reject. As such, many marketers, advertisers and even policy makers have centered their new wireless location-based strategies on these two issues. Currently, the most common approach for soliciting users' consents is through an "Opt-in" or an "Opt-out" program that users have to sign up beforehand (an "Opt-in" program requires users to specify whether she wants to receive future update/information from a particular source, whereas an "Opt-out" program needs users to explicitly states that she does not want to receive future update/information). On the other hand, disclosure is often used as an embedded clause in those "Opt-in/Opt-out" programs, usually accompanied by a disclaimer to alter terms and conditions without prior notice. At any rate, most of the consent and disclosure takes place prior to a user receiving the advertisement or subject herself to tracking. Real-time interactivity related to consent and disclosure has so far been limited.

For countries that have no formal regulations in place to govern the use of wireless messages as advertisement (such as the Wireless Telephone Spam Protection Act in the United States), Gratton (2002), suggested one of the ways to mitigate spam is for users to give consent prior to receiving any "push" messages, implying users probably would receive some sort of notification each time a "push" or a series of "push" advertisements were about to deliver. While this method would probably help cut down the frequency of unwanted advertisement, it is not clear how receptive users are to receiving these kinds of notifications or requests for consents, which might potentially be perceived as spam themselves. As a result, we are seeing most markets still rely on the traditional "Opt-in/Opt-out" approach to regulate wireless advertisements, including location-based advertisements. While this approach alleviates the advertisers from the burden of dealing with any potential privacy dispute, it also represents a significant loss in revenue opportunities as this means many advertisements would not be able to "broadcast" to a ready audience –the main attraction of location-based advertising. As Baker M (2004) pointed out: "as marketers, we want to reach a broad audience[10]." Therefore, this Opt-in/Opt-out approach, which requires users to gain familiarity with the advertisers beforehand, is likely to be the model of choice for location-based advertising in the long run.

Push vs. Pull

Pull-based advertising has long been considered the most suitable model for location-based advertising. Apart from the issue of disclosing one's location when a user is "pulling" for information/

advertisement, pull advertising completely eliminates the issue of spam (as it is the users who are requesting for information/ advertisement this time round). Unlike the Opt-in/Opt-out approach, pull advertising (when used as a standalone method) does not require consumers to pre-identify themselves or to have any interaction with the advertisers, or more specifically, the retailers. That means: it is entirely possible for a retailer to acquire a completely new customer using location-based advertising, so long as a consumer is within its vicinity and is pulling information/advertisement over the air.

Push advertising, on the other hand, is regarded as intrusive but reaches a wide audience, often indiscriminately. Most wireless privacy regulations relate to limiting the reach of push advertising, which is widely considered as the new wireless spam for most consumers. However, push advertising is also the most preferred solution for the advertisers because of its wide reach and simplicity. Many times, purchase decisions are made on impulse, and location-based push advertising is particularly suited for this purpose. In fact, implemented properly, push advertising could potentially be very beneficial for both retailers and consumers, i.e. imagine receiving a 50 per cent discount coupon on all Banana-Republic products while you are shopping at GAP along Fifth Avenue – probably not such a nuisance after all. In other words, advertisements need to be sufficiently attractive and relevant.

The table below provides a summary of the characteristics of Push vs. Pull (independent of the Opt-in/Opt-out program):

Table 2: Push vs. Pull

	Pull	Push
Advantages	• Less invasive • More targeted marketing • Lower costs for advertisers • Ability to recognize customers' profiles	• wider audience reach
Disadvantages	• lesser audience reach	• spam issues • higher costs
Success factors	• ability to gain insight through customers' profiling	• advertisements attractive enough to not turn-off consumers

Smart Pull: A mini-case in Japan

According to the New York Times, Japan recently rolled out a new satellite-based phone that links the cyberspace to the physical world[11]. With an electronic compass installed in a GPS-enabled cell phone, now anyone in Tokyo can point her cell phone in any direction, request for a list of say, Japanese restaurants, and a list comes out, specifying the distance of each restaurant from the user's current position. After selecting the desired restaurant, a digital map pops up on the cell phone screen, giving map and direction for the user to reach that restaurant, continuously, just like the in-car GPS navigation system. Initial response from the Japanese users seem overwhelming, and retailers are able to attract more foot traffic using this new technology, by getting themselves listed on the database for users to search.

So would the arrival of e-compass in GPS-enabled smart-phones finally herald the arrival of location-based advertising? As a pull-based system, this technology eliminates any spam concern. If users are being tracked anonymously when they pull for the information and if proper disclosure and consents are given, the tracking concern might disappear as well. Although it sounds very similar to the traditional pull method, what this new technology brings is a wider audience reach. Already, Japanese users love this

new technology and are using them more often (increased frequency). As more and more users become aware of this new technology/service, the number of users will also increase. This will eventually lead to a bigger pie as more users are added and using the service more frequently. If reach can be defined as: reach = number of users x usage frequency, then this smart pull service could potentially attain the same level of audience reach as the traditional push method.

Nevertheless, the issue of inducing consumers through impulse purchase by using push technology still remains unresolved. A user looking for a Japanese restaurant could potentially be tempted to eat at an ice-cream parlour or be interested in shopping for a deeply discounted Prada handbag after that. To capture this group of impulse buyers, push advertising remains the most effective solution.

Conclusion

Even though location-based technologies have been around for a number of years, the Achilles' heels that prevents location-based advertising from catching on the bandwagon seems to center around the twin privacy concerns of tracking and spam. Tracking, in particular, remains a political backwater, what with the recent surge in surveillance on private citizens as a result of increased emphasis on national security throughout the world. On the other hand, governments and privacy advocate groups have been more organized and aggressive in pushing for the regulation of spam to protect consumers' interests. The introduction of several anti-spam bills in North America and Europe signals desires to prevent wireless spam from spiraling out of control and become another nuisance equivalent to email spam. But is regulation the only way to combat all these privacy concerns? As we have seen from the case in Japan, handset technologies offer a ray of hope in combating and in fact, reshaping the future of location-based advertising.

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Portfolio Size and Diversification

Lokanandha Reddy Irala and Prakash Patil

The basic notion of stock diversification involves spreading out the investment over more than one stock to avoid excessive exposure to a single source of risk. While all portfolio principles are directed towards achieving diversification to minimize risk, diversification is not a free lunch. Adding each single stock -into a portfolio will definitely reduce the risk but increases the cost (of research: time, money & effort). So there is a trade-off between reduced risks due to better diversification versus the increased costs (decreased return) from adding additional securities to the portfolio. So what is the optimal portfolio size? The results from the study suggest that a very high degree of diversification is possible in India. A portfolio size of 10-15 stocks is found to be appropriate as the reduction in risk is only marginal there after.

The basic notion of stock diversification involves spreading out the investment over more than one stock to avoid excessive exposure to a single source of risk. In simple English this means, *don't put all your eggs into one basket.* It is therefore important to diversify. In fact, all portfolio principles are directed towards achieving diversification to minimize risk. However diversification is not a free lunch. Adding each single stock-into a portfolio will definitely reduce the risk but increases the cost (of research: time, money & effort). So there is a trade-off between reduced risks due to better diversification versus the increased costs (decreased return) from adding additional securities to the portfolio. So what is the optimal portfolio size?

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Several researchers in the developed markets have tried to answer the question "How many stocks make a diversified portfolio?" In one of the most celebrated studies of all times, Evans and Archer (1968) concluded that 10 to 12 stocks make a diversified portfolio. They added that the economic benefits of diversification are virtually exhausted when a portfolio contains ten or so stocks. In a stark contrast Meir Statman (1987) observed that a minimum of 30 stocks are needed to have a well-diversified portfolio. G. Sanyal & S. Sen (1998) have found that in Indian context, where the market is not as efficient as western markets, 75 stocks make a better portfolio.

Theoretical Underpinnings

The Portfolio Risk

As suggested by William Sharpe (1963), the total risk of any portfolio P (σ_P^2) consists of two parts:

1. Market (or systematic) risk; and
2. Unique (or unsystematic) risk

$$\sigma_P^2 = \beta_P^2 \sigma_m^2 + \sigma_{\varepsilon P}^2$$

Where

σ_m^2 the variance of returns on the market index

$$\beta_P^2 = \left(\sum_{i=1}^{N} W_i \beta_i \right)^2 \quad \text{Where } w_i \text{ is the weight of security i}$$

$$\sigma^2_{\varepsilon P} = \sum_{i=1}^{N} W_i^2 \sigma^2_{\varepsilon i}$$

So

$$\sigma_P^2 = W_i^2 \beta_i^2 \sigma_m^2 + W_i^2 \sigma_{\varepsilon i}^2$$

How Diversification Works

Consider a portfolio of size N.

The Unique risk of the portfolio is given by

$$\sigma_{\varepsilon P}^2 = \sum_{i=1}^{N} W_i^2 \sigma_{\varepsilon i}^2$$

Further let this portfolio is formed by investing equal amount in each of the stocks constituting this portfolio.

$$W_i = \frac{1}{N} \qquad \text{for all i}$$

$$\sigma_{\varepsilon P}^2 = \sum_{i=1}^{N} \left(\frac{1}{N} \right)^2 \sigma_{\varepsilon i}^2$$

$$\sigma_{\varepsilon P}^2 = \frac{1}{N} \left(\sum_{i=1}^{N} \frac{1}{N} \sigma_{\varepsilon i}^2 \right)$$

As we increase the size of the portfolio (N), the size of the portfolio unique risk $\sigma_{\varepsilon P}^2$ decreases causing reduction in the total risk of the portfolio. However it should be distinctly noted that the increasing the portfolio size would not have any impact on the amount of the portfolio market risk. This should not be surprising given portfolio beta is the average of the betas of securities constituting the portfolio[1].

Methodology

Sample

Out of 4587 companies listed on BSE, 995 companies in respect of which full data (monthly prices) was available during the study period (January 1999 to January 2005) in CMIE database were selected.

Stock return & risk

Step I

For each stock i (i=1, 2, ……995), the closing price at the end of each month (t =1, 2, …..73), P_{it} has been recorded.

Step II

The return on stock i for period t has been calculated as

$$R_{it} = \frac{P_{it+1} - P_{it}}{P_{it}} \quad \text{i} = 1, 2, 3....995 \text{ and t} = 1, 2, 3...72.$$

Step III

The return on the Market (Sensex) R_{mt} has been computed for each period t (t=1, 2, ….72)

Step IV

The Average return on the stock i (i = 1, 2, …….995) $\overline{R}_i$ is computed as

$$\overline{R}_i = \sum_{t=1}^{72} R_{it}$$

Step V

The Average return on the market $\overline{R}_m$ is computed as

$$\overline{R}_m = \sum_{t=1}^{72} R_{mt}$$

Step VI

The returns on each stock is then regressed with the returns on the market to obtain

$$\overline{R}_i = \alpha_i + \beta_i \overline{R}_m$$

$\overline{R}_i$ is the average return on stock i

α_i is the component of security i's return that is independent of the market's performance-a random variable.

$\overline{R_m}$ is the average rate of return on the market index—a random variable.

β_i is a constant that measures the expected change in R_i given a change in R_m

Step VII

The return in each period as estimated by the model, $\hat{R}_{it}$ is computed

$$\hat{R}_{it} = \alpha_i + \beta_i R_{mt}$$

Step VIII

The residual return in each period ε_{it} is computed as the difference between actual return and estimated return

$$\varepsilon_{it} = R_{it} - \hat{R}_{it}$$

Step IX

The variance of the residual returns for each stock i, $\sigma_{\varepsilon i}^2$ is computed

Selecting Portfolios

To start with a one stock portfolio is formed by randomly selecting a single stock from the list of 995 stocks.

The return on the portfolio = The return on the stock = $\overline{R}_i$

The risk on the portfolio = The risk of the stock = σ_i^2

Next a 2 stock portfolio is made by randomly picking 2 stocks from the 995 stocks.

The return on the portfolio = $\sum_{i=1}^{2} W_i.\overline{R}_i$.

However at this point it is assumed that the 2 stock portfolios is formed by investing the equal proportions in each of the stocks.

So the return on the portfolio equals $\frac{1}{2}\sum_{i=1}^{2}.\overline{R}_i$

According to Sharpe's (1963) popular Single Index Model, the risk of the portfolio is given by (given the assumption: portfolio is made with equal investment in both the stocks).

$$\sigma_P^2 = \left(\frac{1}{2}\right)^2 (\sum \beta_i)^2 \sigma_m^2 + \left(\frac{1}{2}\right)^2 (\sum \sigma_{\varepsilon i}^2)$$

Like wise a 3 stock, a 4 stock, a 5 stock. ……unto a 50 stock portfolio is formed and the return and risk for each of the portfolio(the assumption - each portfolio is made with equal investment in the stocks constituting the portfolio-continued) is recorded.

The Results

Portfolio size and variance

For a single stock portfolio, the portfolio risk was observed to be 0.29 (See Table 1) and for a two stock-portfolio, the variance is observed to be 0.24. As gradually more and more stocks were added to the portfolio, portfolio variance reduced drastically and it reached 0.02 for a 10 stock portfolio. After that the portfolio risk reduced, but the reduction was very marginal.

Table 1 Portfolio Size and Variance

Portfolio Size	Portfolio Variance
1	29.60%
2	24.75%
3	14.72%
4	11.56%
5	7.96%
10	1.91%
15	1.19%
25	1.14%
35	0.99%
50	0.92%

Figure 1: Captures the how the Portfolio Variance reduced with increase in Portfolio size

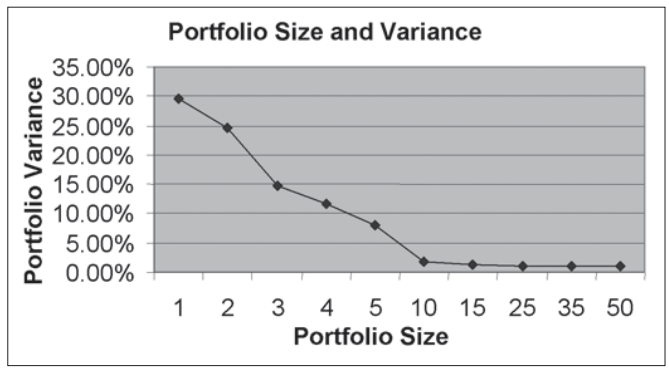


Figure 1 Portfolio Size and Variance

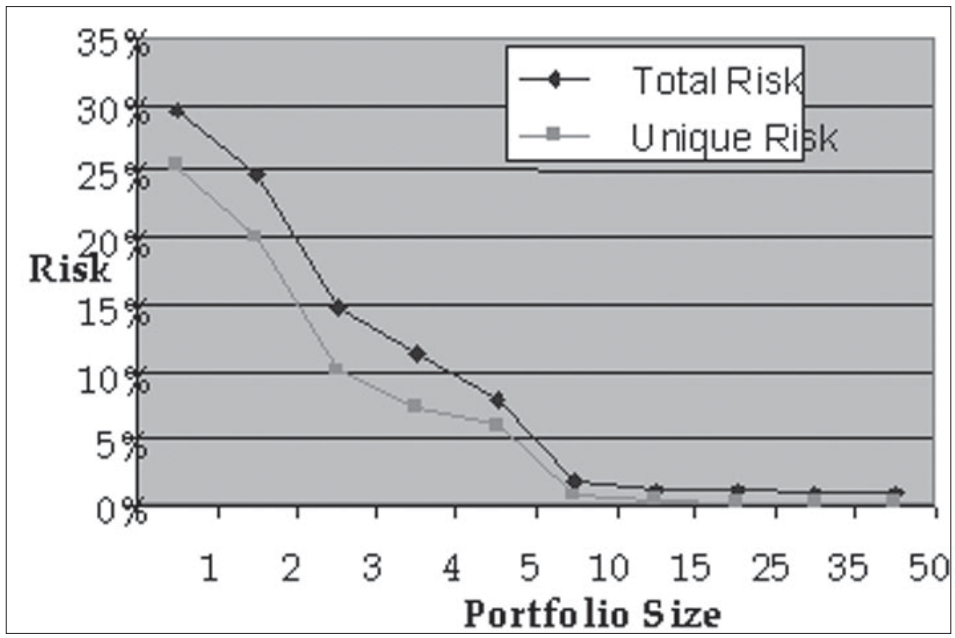
Portfolio Size and Total & Unique Risks

While it is interesting to note that the total variance of the portfolio decreases with the increasing size of the portfolio (Table 1 & Figure 1), it is important to note that the proportion of unique (diversifiable) risk in the total risk reduces with the same speed making the fruits of diversification less attractive beyond a point. While Table 2 details the decreasing proportion of unique risk in the total risk, Figure 2 presents how the diversifiable with compares with total risks the portfolio size increases.

Table 2 Portfolio Size and Total & Unique Risks

Portfolio Size	Total Risk	Unique Risk	Proportion of unique risk in total risk
1	29.60%	25.51%	86.18%
2	24.75%	19.96%	80.66%
3	14.72%	10.13%	68.84%
4	11.56%	7.35%	63.60%
5	7.96%	5.93%	74.54%
10	1.91%	0.76%	39.97%
15	1.19%	0.40%	33.52%
25	1.14%	0.27%	23.29%
35	0.99%	0.21%	21.18%
50	0.92%	0.12%	12.93%

Figure 2: Portfolio Size and Total & Unique Risks



Conclusion

The results from the study suggest that a very high degree of diversification is possible in India. A portfolio size of 10-15 stocks is found to be appropriate as the reduction in risk is only marginal there after. The results are in consonance with that of Evans and Archer (1968) but in contrast to that of G. Sanyal & S. Sen (1998). One of the reasons for the contrast could be that of different time periods of study. It might also be a signal that the Indian markets are becoming more efficient and converging with the global markets.

Note

1. The portfolio beta might be affected by the portfolio size if there is a deliberate attempt of including either relatively low or high beta securities in the portfolio.

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Method of Research in Management

Mostafa Moballeghi and Shivaraj B.

Case study research, with its applicability across many disciplines, is an appropriate methodology to use in Management studies. A case study approach demands a variety of data gathering approaches, both quantitative and qualitative, in order to build up a rich picture of the case under study. The present paper focuses on the case study methodology and describes data collection methods and analysis techniques. Issues related to case study research have been identified as the degree of involvement of the researcher with the situation under study, confidentiality of the data, the possible political use of the data, issues of anonymity on publication and the need to clarify what data is and what the researcher's interpretation of the data is.

Case studies typically examine the interplay of all variables in order to provide as complete an understanding of an event or situation as possible. This type of comprehensive understanding is arrived at through a process known as thick description, which involves an in-depth description of the entity being evaluated, the circumstances under which it is used, the characteristics of the people involved in it, and the nature of the community in which it is located. Thick description also involves interpreting the meaning of demographic and descriptive data such as cultural norms and modes, community values, ingrained attitudes, and motives.

Unlike quantitative methods of research, like the survey, which focus on the questions of who, what, where, how much, and how many, and archival analysis, which often situates the participant in some form of historical context, case studies are the preferred strategies when how or why questions are asked. Likewise, they are the preferred methods when the researcher has little control over the events, and when there is a contemporary focus within a real life context. In addition, unlike more specifically directed experiments, case studies require a problem that seeks a holistic understanding of the event or situation in question using inductive logic—reasoning from specific to more general terms.

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Case studies are often referred to interchangeably with ethnography, field study, and participant observation. The underlying philosophical assumptions in the case are similar to these types of

qualitative research because each takes place in a natural setting (such as a classroom, neighborhood, or private home), and strives for a more holistic interpretation of the event or situation under study.

Case study research has many faces. The purpose of the study, the size of the unit under study, the range of data gathering approaches used and the overarching methodological paradigm for the study all contribute differences.

Why Carry out Case Study Research?

Burns (1990) lists six reasons for carrying out case studies. Firstly, he claims that they are valuable as preliminaries to major investigations as they generate rich data that may suggest themes for more intensive investigation. Secondly, he claims that since case studies have the aim of probing deeply and analysing intensively many phenomena that make up the activities of the unit under study then generalisations to the wider population may be possible. Thirdly, he indicates that case studies may generate anecdotal evidence that can illustrate general findings. Fourthly, case studies may serve to refute generalisations. Fifthly, a case study approach is preferred when pertinent behaviours cannot be manipulated. Finally, a case study may be the best possible description of a unique historical event.

Requirements for Case Studies

There is one fundamental requirement placed on a researcher when reporting case studies; that is, the onus on the researcher is to conduct the case study in such a way that the result can be communicated to the reader. There are several implications that follow from this assertion. First, the reader must be able to determine from the evidence presented the nature of the argument, and why and how conclusions were drawn. Second, the reader must be able to determine, without doubt, the evidential nature of the case as published. Stated differently, the reader should be able to determine, without the benefit of the writers' "head-notes" how the case was developed. Therefore, to reiterate, the evidence must follow convincingly and - when the purpose of the presented case is to move beyond description to explanation- should allow the reader to determine the basis upon which any generalization(s) are being advanced. In the paragraphs that follow some reader-based case interpretation guidelines are suggested, which in large part have been drawn from existing literature, with minor additions or shifts in emphasis. These guidelines are intended to assist the reader as he/she examines case studies to provide a framework to help him/her decide if the presented evidence is convincing and if the necessary material has been provided to allow the reader to extend, connect or otherwise apply the case report to his/her own circumstances.

Issues Associated with Case Study Research

Walker (1974) identified some of the main problems of case study research as the degree of involvement of the researcher with the situations under study, confidentiality of the data, the possible political use of the data, issues of anonymity on publication and the need to clarify what data is and what the researcher's interpretation of data is. Once key variables have been identified, they can be analyzed. Reliability becomes a key concern at this stage, and many case study researchers go to great lengths to ensure that their interpretations of the data will be both reliable and valid. Because issues of validity and reliability are an important part of any study, it is important to identify some ways of dealing with results. Multi-modal case study researchers often balance the results of their coding with data from interviews or writer's reflections upon their own work. Consequently, the researchers' conclusions become highly contextualized.

Case Study Methodology

Hamel (Hamel et al., 1993) was careful to reject the criticisms of case study as poorly founded, made in the midst of methodological conflict. He asserted that the drawbacks of case study were not being attacked, rather the immaturity of sociology as a discipline was being displayed. As the use of quantitative methods advanced, the decline of the case study hastened. However, in the 1960s, researchers were becoming concerned about the limitations of quantitative methods. Hence there was a renewed interest in case study. Strauss and Glaser (1967) developed the concept of "grounded theory." This along with some well-regarded studies accelerated the renewed use of the methodology.

A frequent criticism of case study methodology is that its dependence on a single case renders it incapable of providing a generalizing conclusion. Hamel (Hamel et al., 1993) and Yin (1993, 1994) forcefully argued that the relative size of the sample whether 2, 10, or 100 cases are used, does not transform a multiple case into a macroscopic study. The goal of the study should establish the parameters, and then should be applied to all research. In this way, even a single case could be considered acceptable, provided it met the established objective.

The body of literature in case study research is "primitive and limited" (Yin, 1994), in comparison to that of experimental or quasi-experimental research. The requirements and inflexibility of the latter forms of research make case studies the only viable alternative in some instances. It is a fact that case studies do not need to have a minimum number of cases, or to randomly "select" cases. The researcher is called upon to work with the situation that presents itself in each case.

Case studies can be single or multiple-case designs, where a multiple design must follow a replication rather than sampling logic. When no other cases are available for replication, the researcher is limited to single-case designs. Yin (1994) pointed out that generalization of results, from either single or multiple designs, is made to theory and not to populations. Multiple cases strengthen the results by replicating the pattern matching, thus increasing confidence in the robustness of the theory.

There are several examples of the use of case methodology in the literature. Yin (1993) listed several examples along with the appropriate research design in each case. There were suggestions for a general approach to designing case studies, and also recommendations for *exploratory, explanatory,* and *descriptive* case studies. Each of those three approaches can be either single or multiple-case studies, where multiple-case studies are replicatory and not sampled cases. There were also specific examples in education, and management information systems. Education has embraced the case method for instructional use.

In *exploratory* case studies, fieldwork, and data collection may be undertaken prior to definition of the research questions and hypotheses. This type of study has been considered as a prelude to some social research. However, the framework of the study must be created ahead of time. Pilot projects are very useful in determining the final protocols that will be used. Survey questions may be dropped or added based on the outcome of the pilot study. Selecting cases is a difficult process, but the literature provides guidance in this area (Yin, 1994). Stake (1995) recommended that the selection offer the opportunity to maximize what can be learned knowing that time is limited. Hence, the cases that are selected should be easy and willing subjects. A good instrumental case does not have to defend its typicality.

Explanatory cases are suitable for doing causal studies. In very complex and multivariate cases, the analysis can make use of pattern-matching techniques. Yin and Moore (1988) conducted a study to examine the reason why some research findings get into practical use. They used a funded research project as the unit of analysis, where the topic was constant but the project varied. The utilization outcomes were explained by three rival theories: a knowledge-driven theory, a problem-solving theory, and a social-interaction theory.

Knowledge-driven theory means that ideas and discoveries from basic research eventually become commercial products. Problem-solving theory follows the same path, but originates not with a researcher, but with an external source identifying a problem. The social-interaction theory claims that researchers and users belong to overlapping professional networks and are in frequent communication.

Descriptive cases require that the investigator begins with a descriptive theory, or faces the possibility that problems will occur during the project. Pyecha (1988) used this methodology to study special education and using a pattern-matching procedure. Several states were studied and the data about each state's activities were compared to another, with idealized theoretic patterns. Thus what is implied in this type of study is the formation of hypotheses of cause-effect relationships. Hence the descriptive theory must cover the depth and scope of the case under study. The selection of cases and the unit of analysis are developed in the same manner as the other types of case studies.

Designing Case Studies

Much of the case study's design is inherently determined for researchers, depending on the field from which they are working. In management studies, researchers are typically working from a qualitative, descriptive standpoint. In contrast, physicists will approach their research from a more quantitative perspective. Still, in designing the study, researchers need to make explicit the questions to be explored and the theoretical perspective from which they will approach the case.

Research design is the string of logic that ultimately links the data to be collected and the conclusions to be drawn to the initial questions of the study. Typically, research designs deal with at least four problems:

- What questions to study
- What data are relevant
- What data to collect
- How to analyze that data

In other words, a research design is basically a blueprint for getting from the beginning to the end of a study. The beginning is an initial set of questions to be answered, and the end is some set of conclusions about those questions. It is virtually impossible to outline any strict or universal method or design for conducting the case study. However, Robert K. Yin (1993) does offer five basic components of a research design:

1. A study's questions.
2. A study's propositions (if any).
3. A study's units of analysis.
4. The logic linking of the data to the propositions.
5. The criteria for interpreting the findings.

In addition to these five basic components, Yin also stresses the importance of clearly articulating one's theoretical perspective, determining the goals of the study, selecting one's subject(s), selecting the appropriate method(s) of collecting data, and providing some considerations to the composition of the final report.

Data Collection Techniques

Yin (1994) identified six primary sources of evidence for case study research. The use of each of these might require different skills from the researcher. Not all sources are essential in every case study, but the importance of multiple sources of data to the reliability of the study is well established (Stake, 1995; Yin, 1994). The six sources identified by Yin (1994) are:

- documentation,
- archival records,
- interviews,
- direct observation,
- participant observation, and
- physical artifacts.

No single source has a complete advantage over the others; rather, they might be complementary and could be used in tandem. Thus a case study should use as many sources as are relevant to the study. Table 1 indicates the strengths and weaknesses of each type.

Documents could be letters, memoranda, agendas, study reports, or any items that could be added to the database. The validity of the documents should be carefully reviewed so as to avoid incorrect data being included in the database. One of the most important uses of documents is to corroborate evidence gathered from other sources. The potential for over-reliance on document as evidence in case studies has been criticized. There could be a danger of this occurrence if the investigator is inexperienced and mistakes some types of documents for unmitigated truth (Yin, 1994).

Archival records could be useful in some studies since they include service records, maps, charts, lists of names, survey data, and even personal records such as diaries. The investigator must be meticulous in determining the origin of the records and their accuracy.

Interviews are one of the most important sources of case study information. The interview could take one of the several forms: open-ended, focused, or structured. In an open-ended interview, the researcher could ask for the informant's opinion on events or facts. This could serve to corroborate previously gathered data. In a focused interview, the respondent is interviewed for only a short time, and the questions asked could have come from the case study protocol. The structured interview is particularly useful in studies of neighbourhoods where a formal survey is required. The use of tape recorders during the interviews is left to the discretion of the parties involved.

Direct observation in a case study occurs when the investigator makes a site visit to gather data. The observations could be formal or casual activities, but the reliability of the observation is the main concern. Using multiple observers is one way to guard against this problem.

Participant observation is a unique mode of observation in which the researcher may actually participate in the events being studied. This technique could be used in studies of neighborhoods or organizations, and frequently in anthropological studies. The main concern is the potential bias of the researcher as an active participant. While the information may not be available in any other way, the drawbacks should be carefully considered by the researcher.

Physical artifacts could be any physical evidence that might be gathered during a site visit. That might include tools, art works, notebooks, computer output, and other such physical evidence.

Yin (1994) suggested three principles of data collection for case studies:

- Use multiple sources of data
- Create a case study database
- Maintain a chain of evidence

The rationale for using multiple sources of data is the triangulation of evidence. Triangulation increases the reliability of the data and the process of gathering it. In the context of data collection,

Table 1
Types of Evidence

Source of Evidence	Strengths	Weaknesses
Documentation	• stable - repeated review • unobtrusive - exist prior to case study • exact - names etc. • broad coverage - extended time span	• retrievability - difficult • biased selectivity • reporting bias - reflects author bias • access - may be blocked
Archival Records	• Same as above • precise and quantitative	• Same as above • privacy might inhibit access
Interviews	• target - focuses on case study topics • insightful - provides perceived casual inferences	• bias due to poor questions • response bias • incomplete recollection • reflexivity - interviewee expresses what interviewer wants to hear
Direct Observation	• reality - covers events in real time • contextual - covers event context	• time-consuming • selectivity - might miss facts • reflexivity - observer's presence might cause change • cost - observers need time
Participant Observation	• Same as above • insightful into interpersonal behaviour	• Same as above • bias due to investigator's actions
Physical Artifacts	• insightful into cultural features • insightful into technical operations	• Selectivity • availability

Source: (Yin, 1994, p. 80)

triangulation serves to corroborate the data gathered from other sources. The cost of using multiple sources and the investigator's ability to carry out the task should be taken into account prior to deciding on the use of this technique.

The data that are collected during this phase need to be organized and documented just as it is in experimental studies. The two types of databases that might be required are the data and the report of the investigator. The design of the databases should be such that other researchers would be able to use the material based on the descriptions contained in the documentation. All types of relevant documents should be added to the database, as well as tabular materials, narratives, and other notes.

In recommending that a chain of evidence be maintained, Yin (1994) was providing an avenue for the researcher to increase the reliability of the study. The procedure is to have an external observer follow the derivation of evidence from initial research questions to ultimate case study conclusions. The case study report would have citations to the case study database where the actual evidence is to be found.

Analyzing Case Study Evidence

Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin, 1994). The analysis of case study is one of the least developed aspects of the case study methodology. The researcher needs to rely on experience and the literature to present the evidence in various ways, using various interpretations. This becomes necessary because statistical analysis is not necessarily used in all case studies. This case study employs a series of statistical

tests to help in the presentation of the data to the reader. However, not all case studies lend themselves to statistical analysis, and in fact the attempt to make the study conducive to such analysis could inhibit the development of other aspects of the study. Miles and Huberman (1984) have suggested alternative analytic techniques of analysis in such situations, such as using arrays to display the data, creating displays, tabulating the frequency of events, ordering the information, and other methods. This must be done in a way that will not bias the results.

Yin (1994) suggested that every investigation should have a general analytic strategy, so as to guide the decision regarding what will be analyzed and for what reason. He presented some possible analytic techniques: *pattern-matching*, *explanation-building*, and *time-series analysis*. In general, the analysis will rely on the theoretical propositions that led to the case study. If theoretical propositions are not present, then the researcher could consider developing a descriptive framework around which the case study is organized.

Trochim (1989) considered pattern matching as one of the most desirable strategies for analysis. This technique compares an empirically based pattern with a predicted one. If the patterns match, the internal reliability of the study is enhanced. The actual comparison between the predicted and actual pattern might not have any quantitative criteria. The discretion of the researcher is, therefore, required for interpretations.

Explanation building is considered a form of pattern matching, in which the analysis of the case study is carried out by building an explanation of the case. This implies that it is most useful in explanatory case studies, but it is possible to use it for exploratory cases as well as part of a hypothesis-generating process. Explanation building is an iterative process that begins with a theoretical statement, refines it, revises the proposition, and repeating this process from the beginning. This is known to be a technique that is fraught with problems for the investigator. One of those problems is a loss of focus, although keeping this in mind protects the investigator from those problems.

Time-series analysis is a well-known technique in experimental and quasi-experimental analysis. It is possible that a single dependent or independent variable could make this simpler than pattern-matching, but sometimes there are multiple changes in a variable, making starting and ending points unclear.

There are some things that the researcher must be careful to review to ensure that the analysis will be of high quality, including: showing that all relevant evidence was used, that all rival explanations were used, that the analysis addressed the most significant aspect of the case study, and that the researchers knowledge and experience are used to maximum advantage in the study.

Case Study Reports

In the many forms it can take, a case study is generically a story; it presents the concrete narrative detail of actual, or at least realistic events, it has a plot, exposition, characters, and sometimes-even dialogue. Generally, case study reports are extensively descriptive, with the most problematic issue often referred to as being the determination of the right combination of description and analysis. Typically, authors address each step of the research process, and attempt to give the reader as much context as possible for the decisions made in the research design and for the conclusions drawn. This contextualization usually includes a detailed explanation of the researchers' theoretical positions, of how those theories drove the inquiry or led to the guiding research questions, of the participants' backgrounds, of the processes of data collection, of the training and limitations of the coders, along with a strong attempt to make connections between the data and the conclusions evident.

Case Study's Applicability to Management Studies

Case study research, with its applicability across many disciplines, is an appropriate methodology to use in Management studies. In the field of management, such as organizational behaviour and business strategy, theory building has been running at breakneck pace to catch up with constantly evolving management practices for five decades. Management theory is highly pluralistic and much of the published literature in the field is dedicated to developing behavioural constructs and codifying them into theories of management behaviour. Because many of these constructs and theories relate to firm-level and intra-firm behaviour, case studies have been used widely in theory development as they permit investigation of individuals and work groups (e.g. top management teams) responses to decision stimuli. As mentioned earlier, case study is widely used in management fields and the following is an example.

Ladawan K. and James. D.T. Tannock (1999) carried out an empirical research using a case study-based approach, aimed at three carefully selected companies operating in Thailand, which had been

implementing Total Quality Management (TQM) for a period of time. The companies were selected as representative types based on preliminary visits by the authors. After contacting the selected companies and obtaining formal permission, in-depth structured interviews of selected staff in different positions were used as a data collection method in order to understand the perspective of a variety of people in the organisations. It was considered by the authors that this method of analysis could be extended to staff at all levels to provide in-depth understanding of TQM implementation, and might also help identify differences in attitudes and assumptions between staff in different departments and at different levels.

Conclusion

Case study is a valuable method of research, with distinctive characteristics that make it ideal for many types of investigations. It can also be used in combination with other methods. Case studies are complex because they generally involve multiple sources of data, may include multiple cases within a study, and produce large amounts of data for analysis. Researchers from many disciplines use the case study method to build upon theory, to produce new theory, to dispute or challenge theory, to explain a situation, to provide a basis to apply solutions to situations, to explore, or to describe an object or phenomenon. The advantages of the case study method are its applicability to real-life, contemporary, human situations and its public accessibility through written reports. Its use and reliability should make it a more widely used methodology, once its features are better understood by potential researchers.

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Capital Adequacy:
Regulation and Bank Evidences

Sudhindra Bhat

Capital adequacy stipulations at the global level have become more demanding, following the Basel Committee's initiative to introduce internal model based capital charge. The present paper considers the three alternative paradigms - Value at Risk (VaR), Expected Shortfall (ES), and Expected Excess Loss (EEL) that may be used to determine the regulatory capital, as also the methodology for dealing with the granularity problem. Further, the paper outlines the Indian banking sector scenario in respect of capital adequacy for the period 1996-97 to 2000-01. Results of panel regression show that Tier I CRAR of Indian commercial banks is positively related to operating efficiency, has a negative relationship with NPA ratio. But no definite relationship between CRAR and bank size could be found out from the analysis. The 1988 Accord did not cover market risk. In the nineties, the BCBS proposed an amendment to the original Accord to provide capital cushion for market risk inherent in the trading, investment and various off balance sheet activities of commercial banks. The 1995 Amendment set forth two approaches for calculating the capital charge to cover market risks.

Commercial banks as financial intermediaries play an important role in channelising financial resources from the savings community to the investing community. In so doing, they act as depositories/trusts, which are ultimately responsible for the safety of the investments. This is because the deposit contracts entered into by the commercial banks do not have a pass through structure. Protection of investments from credit and market risks is an issue of fundamental importance not only for the banks but also for the market regulators. Since commercial banks deal with public money, large losses arising out of lending/investment activities of commercial banks lead to confidence crisis inthe economy especially with respect to the financial intermediaries. The slowdown in resource mobilisation in its turn causes deceleration in investment and growth. Financial market regulators therefore make use of capital coverage regulations as one of the safeguards against possible large losses arising in the financial system. Capital adequacy requirements impose at least a minimum capital participation by bank owners, usually expressed as a fraction of certain assets of the bank.

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Organisation of the Present Paper

The present paper takes a look at the

capital adequacy scenario of Indian commercial banks in the context of evolving capital adequacy regulations. The paper is divided into three sections. Section1 is concerned with the BIS capital adequacy regulations. Section 2 gives a profile of Indian commercial bank capital adequacy for the period 1996-97 to 2000-01. Section 3 finally makes the concluding observations.

Section I

Evolution of Capital Adequacy Standard

Historically, bank regulators have considered the maintenance of adequate capital by banks as one of the key methods of preservations of bank safety and soundness. Such safety considerations led to the imposition of unlimited liability on bank owners in Scotland, which continued up to 1862 (when the banks were allowed to adopt a limited liability designation). In the United States, a double liability system was adopted for national banks when the National Banking Act of 1863 created a national banking system. Under double liability system, bank shareholders could lose twice on their bank investment. First, contributed capital was lost if the bank failed. Second, after bank failure, shareholders could be assessed up to the par value of their shares to satisfy creditor claims. In the twentieth century extended/ unlimited liability systems came to be replaced by minimum capital requirements and capital to liability/asset standards.

The pre-BIS capital adequacy standards had two distinctive features:

(i) For computation of capital adequacy ratios, all balance sheet assets were given equal weighting regardless of their underlying risk.

(ii) Off balance sheet items ever not considered for capital purposes.

The Basel (1988) Accord

The eighties witnessed a marked shift in the adoption of capital adequacy standards by bank regulators. The BASEL Committee on banking supervision (BCBS) comprising of representatives and supervisory authorities of the central banks of 12 major nations developed a set of international capital adequacy guidelines for commercial banks. The objectives for developing the guidelines were three fold:

(i)To promote stability to the global banking system (ii) to create a level playing field by removing existing competitive in equalities in the firm of differing national capital adequacy standards and (iii) to serve as a reference for the implementation of the proposal in the participating countries by the respective regulatory agencies.

The 1988 BASEL Accord proposed that capital adequacy of banks is to be measured in respect of their risk weighted asset exposures. In this context, two points need elaboration: (i) the constituents of capital (ii) the risk weights corresponding to various asset categories.

The BASEL Committee concluded that bank capital for regulatory/ supervisory purposes is to include two tiers. The tier I capital comprise of equity capital and published reserves from post tax retained earnings. The tier II capital includes undisclosed reserves revaluation reserves, general provisions/general loan loss reserves, hybrid debt capital instruments and subordinated term debt for computation of capital good will and investments in subsidiaries (engages in banking and financial activities which are not consolidated national systems) are to be deducted. The BASEL Accord concluded that the various balance sheet and off balance sheet exposures of commercial banks are to be multiplied by risk weights proposed by BCBS. The Committee used only five risk weights 0 per cent, 10 per cent, 20 per cent, 50 per cent and 100 per cent. The 1988 Accord concentrated only on credit risk and country transfer risk. In respect of off balance sheet items, the exposures are to be multiplied by specified credit conversion factors so that they can be converted into their credit equivalents and then appropriate risk weights are to be applied. The Accord stipulated that banks would be required to maintain a minimum of eight per cent capital in relation to their risk-weighted assets (RWA). Tier I capital should be at least four per cent of RWA.

Market Risk Amendment 1998

The 1988 Accord did not cover market risk. In the nineties, the BCBS proposed an amendment to the original Accord to provide capital cushion for market risk inherent in the trading, investment and various off balance sheet activities of commercial banks. The 1995 amendment set forth two approaches for calculating the capital charge to cover market risks:

(A) A standardized measurement framework development the BCBS itself for calculating market risk for interest rates, equities and currencies

(B) Internally developed models based measurement of market risk. In this case the capital charge will be the higher of:

i) The previous days value at risk

ii) Three times of the average of the daily value at risk proceeding of 60 business days.

As per the Market Risk Amendment (1998), eligible capital under both the internal models approach and the standardized approach consists of shareholders equity and retained earnings (Tier I capital) supplementary capital (Tier II Capital) and a new short-term capital (Tier III Capital). Further the following conditions were also imposed:

i) A minimum of 28.5 per cent of market risk should be covered by Tier I Capital

ii) The Tier III Capital is only eligible to cover market risk including foreign exchange and commodities risk. It must have an original maturity of at least two years and will be limited to 250 per cent of the bank's Tier I capital that is allocated to support market risk.

iii) The total of Tier II and Tier III capital should not exceed 50 per cent of the banks total capital.

iv) In so far as the overall limits in the 1996 Amendment are not breached Tier II elements may be substituted for Tier III up to the same limit of 250 per cent.

Measurement of Market Risk Capital - BIS Standards

Computation of VaR for determining market risk related capital cushions require adoption of standardised methodology so as to enable meaningful inter-bank comparisons. The Basel Committee therefore set forth Standards relating to parametric specification and model evaluation.

(i) Parametric Specification

Parametric specification includes, inter alia, specification of holding and observation period and fixation of aggregation principles.

(a) Specification of the Holding Period

The VaR estimate is dependent on the holding period over which the change is being considered while most of the transnational financial institutions consider a one day holding period for the computation of VaR, the Bank for International Settlements feels that a longer holding period is necessary for the computation of market Rick capital on the both of the VaR framework. The 1998 Basel Accord Specified a holding period of two weeks (ten working days) for the computation of use for capital adequacy purposes. Except for their positions regarding option banks are allowed to take a shorter holding period provided the resultant figures are scatted up to a ten business day holding period.

(b) Specification of the Observation Period

Computation of VaR needs historical volatility estimates Specification of the time horizon for obtaining such estimates, however, varies across the banks depending on the strategy adopted by it leading to comparability problems. This has, in particular, been supported by the teaching exercise conducted in 1994 by the BIS. The BCBS Feels that a lower bound should be set on a bank's choice of time horizon. Moreover, it felt that suitable VaR measure is to be evolved whereby observations relating to the distant post should be given lesser weights.

(c) Specification of the Confidence Level

The confidence intervals used by the financial institutions range from 90 per cent to 99 per cent. The Basel Accord 1998 has chosen the 99x level of confidence level (one tailed) as the uniform stand and far the computation of VaR.

(d) Aggregation of Market Risk Components

There are two principal sources of variability in the value of a portfolio held by financial institutions

(i) **Fluctuations in Secondary Market Prices of Securities:** This is the outcome of the speculation, interest rate changes and a host of other factors including changes in the macroeconomic environment.

(ii) **Fluctuations in the Exchange Rate:** Exchange rate changes have a direct bearing on foreign currency assets but can have indirect influences on other asset also.

Model Evaluation

Model is to be evaluated by back testing i.e. comparison of historical observations with the model generated results. Such exercise is done in respect of previous 250 days. An exception is said to occur whom the estimated loss is lower than the observed loss Decisions about model accuracy are taken on the basis of the number of exceptions observed. The model is considered to be in the

green zone (fairly accurate) if the number of exception does not exceed four. It is considered to be in the yellow zone if the number of exceptions remains between five and nine. With 10000 or more exceptions, the model enters red zone and is deemed inaccurate.

Several studies have found the BIS model evaluation procedure to be ad hoc and suffer from several weaknesses. The major problems with respect to market risk management are the following two:

(a) the frequency of violation, & (b) the size of violation.

It is therefore essential to devise an evaluation procedure, which focus on both of them.

Kupiec (1995) suggested a binomial method of testing in which the exceptions are modelled as independent drawings from a binomial probability density function with a probability of 0.01. The probability of observation of exceptions in a sample of 250 is then

$$P(x) = 250\ C\ x\ (0.01)^{x}(0.99)^{250-x}$$

The probability obtained from the model is now compared with the actual results by using the test statistic.

$$2L_{n}[\{\ln e^{x}(1-e)^{250-x}\} - \{\ln 0.01)^{x}(0.99)^{250-x}\}]$$

which follows a x^{2} distribution with one degree of freedom.

Recent developments in the formulation of tests regarding model accuracy have involved the use of regulatory loss functions in which the regulatory concerns are translated into a loss function of the type.

$$Lt + 1 = F(O_{t} + {}_{1}\ VaR_{o})$$

Where $O_{t} + {}_{1}$ is the observed loss in period t + 1 and VaR_{t} is the estimate made about the loss in period t

Christoffersen suggested a simple loss function of the type:

$L_{t+1} = 1$ if $Ot+1 < VaRt$

0 if $Ot+1 \geq VaRt$

To take into account the magnitude of violations, Lopez (1998) suggested a quadratic loss function, which takes into consideration the magnitude of violations.

$L_{t+1} = 1+(Ot+1 - VaRt)^{2}$ if $Ot+1 < VaRt$

0 if $Ot+1 \geq VaRt$

Another variant of the loss function would be to consider relative deviation from the estimate. The relative loss function will be

$L_{t+1} = 1+(Ot+1 - VaRt)/VaRt$ if $Ot+1 < VaRt$

0 if $Ot+1 \geq VaRt$

Finally, one can construct a loss function by taking a weighted average of the size of the exceptions and the frequency of those exceptions. The weights would be set depending on the relative importance of each type of volatility frequency

$$L_{t+1} = x\ L_{o+1}^{\ Size} + (1-x)\ L_{t+1}^{\ Frequency},\ 0<x<1$$

(D) BASEL II

The New Capital Adequacy Framework

The BASEL I system came to be criticized by concerned parties on three major grounds:

i) It gave an equal risk weighting to all corporate credits irrespective of the differences in their underlying credit risks.

ii) It failed to recognize that by undertaking credit portfolio diversification banks could have potential capital savings.

(iii) It led to extensive regulatory capital arbitrage, which adds to the risk ness of bank asset portfolios.

Given the experience with BASEL (1988), the BIS proposed a new capital adequacy framework (1999) also known as BASEL II. The characteristic feature of BASEL II is that it uses a three-pillar approach consisting of:

a) a minimum capital requirement pillar

b) a supervisory review pillar to ensure that the bank's capital is aligned to its actual risk profile and

c) a market discipline pillar to enhance the role of other market participants in ensuring that appropriate capital is held by prescribing greater disclosure.

(A) Minimum Capital Requirement:

In the proposals for Pillar I the committee intends to replace the one

size fits-all framework set out in the 1988 Accord with a variety of options. As per the New Accord banks, with authorization of their supervisor, can choose form among the options depending on the complexity of their risk management. Thus for credit risk, a standardized approach building upon the 1988 Accord and introducing the use of external credit assessments will be available for less complex banks. Banks with more advanced risk management capabilities which can meet vigorous supervisory standards, can make use of an internal ratings based approach under this approach, some of the key elements of credit risk, such as the probability of default of the borrower, will be estimated internally by a bank.

The new BIS proposal envisaged a major change in respect of risk rating of corporate loans. As per BASEL I, all corporate loans have the same risk weight of 100 per cent under the new proposal there will be three stages.

i) For corporate borrowers rated AAA to A – by authorized rating agencies (like S&P, Moody's etc) the risk weight will be 20 per cent.

ii) For the borrowers rated below B, the risk weight with increase to 150 per cent.

The committee also proposed an explicit capital charge for operational risk operational risk refers to the risk of direct / indirect loss resulting from in adequate or failed internal process, people and systems or from external events. Three alternatives were suggested for the computation of operational rise.

i) A standardized approach that relies on industry wise loss data.

ii) Internal measurement approach which uses bank's own loss data multiplied by a formula for expected loss and

iii) Loss distribution approach that allows the bank to use its own probability analysis.

(B) Supervisory Review Process

The BASEL II Accord has affirmed the importance of the supervisory review process as a critical component to the minimum capital requirements. The Accord, therefore, laid down procedures through which supervisors ensure that each banks has sound internal process in place to assess the adequacy of its capital and set targets for capital that are commensurate with the bank's specific risk profile and control environment. This internal process could then be subject to supervisory review and intervention where appropriate.

(C) Market Discipline

Finally, in the New Accord, the Committee laid down disclosure requirements and recommendations, which will allow market participants to assess critical information describing the risk profile and capital adequacy of banks. The proposals thus provide more detailed guidance on the disclosure of capital structure, risk exposures and capital adequacy.

(E) Computation of Regulatory Capital From Credit Risk Models

As it has been mentioned earlier, Credit risk models can be usefully applied for computation of regulatory capital. The BASEL Committee on Banking Supervision (1999) undertook a detailed study of how internal credit risk models can be used for setting regulatory capital. The committee acknowledged that a carefully specified credit risk model could provide a better measure of portfolio credit risk. However, the committee also identified several difficulties (problems of comparability and data limitations) regarding the application of credit risk models for the computation of regulatory capital.

Determination of Capital Charge from Credit Risk Models: The Important Issues:

Credit risk models applied for computation of regulatory capital needs to address two specific issues: -

(a) Computation of Capital Charge

One basic purpose behind credit risk models is to allocate capital according to the risk undertake. This is because capital stands as a cushion to absorb unexpected losses related to rating migration including defaults. The capital charge however, depends on the paradigm being used. One can think of three alternatives paradigms – Value at Risk, Expected Shortfall and Expected Excess Loss.

(i) VaR Based Capital Charge

In this case, the capital charge is derived as: -

Capital cushion $= EV - V(\propto)$

Where EV = expected value of the portfolio. The expected value is related to the current market-to-market value of the portfolio in the following manner.

$$EV = V_m (1+r)$$

Where V_m is the current market-to-market value of the portfolio, r = the expected return on the portfolio over the time period considered.

V (∝) = Value of the portfolio in the worst-case scenario. ∝ is the probability that V observed ≥ V (∝) i.e. the capital cushion would be sufficient to meet any shortfall. However VaR has a number of shortcomings. Firstly, VaR ignores the distribution of losses beyond the target quartile (corresponding to ∝). Secondly, a mean preserving spread of the loss distribution can decrease VaR. As such VaR is an inadequate measure in case of a long tailed loss distribution.

(ii) Expected Shortfall Based Capital Charge

Expected shortfall is the sum of expected loss in the tail and a correction term for mass at the VaR boundary.

If L_n refers to the actual proportion of loss for the entire portfolio and L_n (∝) is the loss implied by VaR then

$$ES = (1- \propto)^{2} [E \{I_n.1 (L_n \geq L_n(\propto)\}] + L_n (\propto) \{ \propto - P_r (L_n < L_n(\propto) \}$$

(iii)Expected Excess Loss Based Capital Charge

EEL is usually defined with respect to a target loss rate say L. EEL may be defined as $EEL_j(L_n) \equiv \inf \{ K, E(L_n - K)^{+} < L \}$, where L_n^{+} denote $\max(L_n\ 0)$. Under the EEL paradigm, an institution holds capital (plus reserves) in a way that the expected credit loss is less than or equal to the target loss rate.

(b) Integration of Risk Bucket Capital Rule with the Portfolio Model

The BIS Capital Accord risk bucket capital rule demands that capital assigned to an individual exposure is based only on the characteristics of the exposure and not on information around the rest of the portfolio. However, in any credit risk model, the risk contribution an individual exposure depends not only on the exposure itself but also on whether the exposure is large relative to the rest.

Gordy (2003) showed that if the following two conditions are fulfilled, then a credit risk model can produce risk contributions that behave as risk bucket capital rules:

(i) There is only one systematic risk factor that drives the performance of all obligors.

(ii) No exposure in the portfolio accounts individually for a significant share of portfolio risk.

(i) Treatment of Systematic Risk

Finger (2001) developed a model where the assets of each obligor depend on one common market index and a term, which is peculiar to individual obligors.

$$A_i = f (Z, \mu_i) \longrightarrow (1)$$

Where $A_i \longrightarrow$ Value of assets of obligor i, $Z \longrightarrow$ the common market index, $\mu\iota \longrightarrow$ idiosyncratic factor corresponding to obligor i. Z and $\mu\iota$ are independent standard normal variables. In the two state case where the obligor either default or not but do not change rating, one has, with respect to each obligor, a default threshold $\alpha\iota$ such that obligor i defaults if $A_i < \alpha\iota$. The default probability with respect to obligor i is related to the default threshold in the following manner.

$$p_i = \phi (\alpha\iota) \longrightarrow (2)$$

So that $\alpha\iota = \phi^{-1} (p_i)$

(ii) Treatment of the Granularity Problem

In reality portfolio are not fine grained. Even the largest banks and financial institutions have geographical and industrial concentrations. The present BASEL Capital Accord takes care of the problem of individual obligor concentration (the granularity problem) through the granularity add on charge. The granularity charge accounts for difference between the industry average and the particular portfolio in question the charge can be either a charge or an offset depending on whether the portfolio in question is more or less concentrated than the standard industry portfolio, which is used as the benchmark by the Basel Committee.

The computation of the granularity charge in the BASEL Accord is based on the *Herfindahl Index.*

The granularity add on charge is given by the formula:

$$G = \frac{\text{Ex. GSF}}{n^*} \quad 0.04 \text{ RWA} \longrightarrow (3)$$

Where Ex denotes the total exposure and Exi denotes the exposure to obligor i, RWA denotes the total risk weighted assets, GSF is an empirically derived scaling factor which depends on the portfolio average default probability, recovery rate and risk sensitivity. n* is the size of the idealized homogenous portfolio that represents an

equivalent risk to the actual portfolio. The parameters n* is given by the inverse of the portfolio Herfindahl Index.

$$n^* = \frac{1}{H} = \frac{(\Sigma Ex_i)^2}{\Sigma Ex_i^2} = \frac{Ex^2}{\Sigma Ex_i^2}$$

if the exposure adjusted by GSF and n* is greater than four per cent of the portfolio risk weighted assets, then the granularity charge will be positive, otherwise the charge will actually be an offset to account for the portfolio's relative diversification in size.

The introduction of granularity charges represents a major departure from the risk bucket capital approach in the sense that it is derived from the entire portfolio and not from individual positions. In the risk bucket rule, computation of capital charge for a prospective new position is relatively simple because capital is computed on a stand-alone basis. In the new system, the problem is solved by assuming that the granularity charge is a homogenous function of the position sizes. Thus one can decompose the granularity charge as a sum over all the positions:

$$G = \frac{\Sigma Ex_i \, \partial G}{\partial Ex_i} \longrightarrow \quad (4)$$

Where $\frac{\partial G}{\partial Ex_i} = GSF\left(\frac{2\,Ex_i}{Ex} - \frac{1}{n^*}\right) - 0.004RW_i$

where RWi is the risk weight for exposure i. To assess the true regulatory capital corresponding to position i, one needs to add the position's share of the granularity charge from (4) to the base capital computed by using the risk bucket rule.

SECTION 2: Capital Adequacy Regulation In India

Minimum Net Worth Requirements

In January 1993 the Reserve Bank announced guidelines for the entry of new banks. As per the guideline, the minimum stipulated capital base for the new banks became Rs.100 crores. In January 2001, the guidelines were revised and there was an upward revision in the minimum net worth requirement. Under the revised norms, the initial paid up capital for setting up a new bank was doubled to Rs.200 crores. The initial capital will have to be raised to Rs.300 crores within three years of the start of business. The norms also require that the promoter's contribution will have to be maintained at a minimum of 40 per cent of the paid up capital on continence basis and this will have a lock in period of five years from the date of licensing the bank.

In 1988, the Committee on Banking Sector Reform reviewed the capital adequacy scenario:

i) The Committee recommended that by end March 2000, the CRAR requirement be raised from eight per cent to nine per cent and by end March 2002, the requirement be further raised to 10 per cent.

ii) The Committee felt that the RBI should also have the authority to raise this further in respect of individual banks if in its judgment the situation with respect to their risk profile warrants such an increase.

iii) The Committee felt that while government securities do not carry any Credit Risk they are subject to market risk in view of this, the committee recommended that a five per cent risk weight be attached to government and approved securities with respect of the recommendations of the committee on Banking sector Reform the actions taken by the RBI so far as follows:

a) In tune with the recommendation of the Committee on Banking Sector Reform, the RBI revised the CRAR norm from eight per cent to nine per cent with effect from 31.3.2000.

b) The RBI announced in October 1998 that government and other approved securities would have to be provided for a risk weight of 2.5 per cent towards market risk by March 31, 2000. This was extended to non-SLR securities with effect from March 31, 2001 as an interim arrangement.

c) Commercial banks have been advised to study the Basel Framework on capital for market risks published in January 1996 by BCBS and prepare themselves to follow the international practices in this regard at a suitable date to be announced by the RBI.

The RBI is taking the necessary initiative to introduce the new capital adequacy forms work in India with suitable modification while remaining within philosophical framework of the Basel proposal. The RBI has constituted a group of seven banks (three public sector banks, two new private banks and two old private banks) for the

purpose of participation in the quantitative impact study conducted by the Basel Committee to assess the impact of the new accord.

Section 3: Concluding Observations

The existing capital adequacy standard has many weaknesses. This makes assessment of capital adequacy of the Indian commercial banks a difficult proposition. The capital adequacy standards are, however, expected to change radically once the new framework is accepted.

Given the emerging scenario, Indian commercial banks face two major challenges. In the first place, they need to adopt the RORAC (Return on Risk Adjusted Capital) framework so that capital requirements are directly linked with the business decisions. This not only facilitates prudent decision making but also ensure necessary capital allocation.

The second challenge relates to the public sector banks and is the task of mobilising resources for meeting their Tier I capital requirements. The current legal provisions do not allow them to mobilise resources beyond 49 per cent of total equity capital. Whether this restriction will be a bottleneck for them or not is only to be seen in future.

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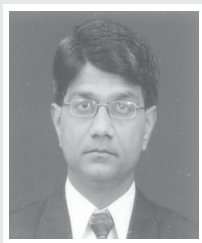
Financing Pattern

Indian Corporate Sector

Sanjay J.Bhayani

Designing of financial structure of corporate is a critical problem for the firms. Financial structure is a combination of mix of various component of finance; it includes owner's fund and borrowing fund. Owner's fund includes equity financing and retained earnings while borrowing fund covers debt financing, which includes short term and long-term debt. India is a developing country after liberalization of Indian economy. Indian industry has made a tremendous growth, which has resulted into a greater GDP. In the present paper, an attempt has been made to study financing pattern of Indian corporate. Paper has been divided into four parts for the purpose. The study comprises 18 industries. For the purpose of analysis an attempt has been also made to study the effect of liberalization on financing pattern of corporate. Study concludes that Indian corporate relies more debt financing.

It is the reality in most developing countries that firms (indeed, the company sector) must be able to finance their activities and grow over time if they are ever to play an increasing and predominant role in: creating the value-added; providing employment as well as income in terms of profits, dividends and wages to households; expanding the size of the directly productive sector in the economy; generating tax revenue for the government; and, all in all, facilitating poverty reduction through fiscal transfers and income from employment and firm ownership. But how do firms finance their existing activities and grow over time? What combination of market and institutional factors determines the corporate structure of firms, and how does this structure influence firms' performance? Although they are clearly important, these questions still remain puzzling and are not close to being fully answered in the major industrial countries, let alone in developing and emerging economies where they are of crucial concern.



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In any Financial Structure of a business as consisting of three elements: assets, liabilities and capital. The financial structure provides an insight into various types of sources tapped to finance the total assets employed in business enterprise. Corporate financing decision involves the various policy issues. i.e., capital market development, government

regulations etc. The choice of debt and equity in financing the assets of corporate firms assumes vital significance in corporate finance due to their influence both on return and the risk of equity shareholders. Corporate enterprises generally are inclined to use more debt in financing their assets. The major reasons are: (i) debt is considered to be a cheaper source of finance in view of tax advantage on interest payments, (ii) it does not lead to the problem of dilution of control from existing owners, unlike equity and (iii) it magnifies the rate of return to its equity holders. However, the corporate mangers are to guard themselves against the excessive use of debt as it may endanger the very survival of the corporate firms.

The present study intends to study the financing pattern behaviour of the private corporate enterprises in India, one of the leading developing nations, during 1997-98 to 2004-05. Researcher has tried to study the composition of equity and debt (short term and long-term debt) financing pattern of Indian corporate. Are the relative proportions changing or fairly steady? The paper also discusses the major policy implications, based on the empirical evidence, on the debt practices of the private corporate enterprises in India.

Capital structure decision, related to appropriate blend of debt and equity, are significant decisions of the corporate firms, in that they influence both the return and risk of shareholders. The excessive use of debt may endanger the very survival of the corporate firm; in contrast, the conservative policy may deprive its equity holders of advantages of debt as a cheaper source of finance to magnify their rate of return. The importance of an appropriate and sound/optimal capital structure, is thus, very obvious from the perspective of corporate enterprises and its owners and other stakeholders. The objective of this paper is to enumerate the debt practices of the private corporate enterprises in India, one of the leading developing nations from South East Asia, during 1998-2005. The paper focuses on the composition of debt – the short-term and long-term debt - practices of the private corporate sector. Are the relative proportions changing or fairly study? For better exposition, this paper is organized under the following headings, (i) Survey of existing literature (ii) Methodology of the study (iv) Empirical Findings and (iv) Summary and findings.

Survey of Existing Literature

The companies finance their operations through internal and external sources. Management chooses one or a combination of these sources after considering all available alternatives and evaluating their relevant costs and terms. Traditional finance models suggest that companies select optimal structures by trading off various costs and benefits. There is also evidence that suggests that a company's history plays an important role in determining its capital structure. High profitable companies often use their earnings to pay down their liabilities to outside financing sources and as a result, they are usually less levered than their less profitable counterparts, Titman and Wessels (1988). In addition, companies tend to increase their capital stocks following an increase in their stock prices, Masulis and Korwar (1986) and Asquith and Mullins (1986), implying also that companies perform well to reduce their leverage.

As per the view of neo-classical irrelevance theory of Modigliani and Miller (1958) the financial structure should not matter in determining either the valuation of firm, or investment pattern of firm. The debate on optimal capital structure that leads to maximum market valuation and minimum cost of capital is enduring. There are two extreme views on the subject, one school of thought, mainly pronounced by Modigliani and Miller (more popularly referred to as MM thesis) contends that the capital structure decisions are irrelevant, given certain set of assumptions (say of no corporate taxes and perfect capital markets). The other school (known as traditional view associated with Ezra Solomon (1963) hold the view that capital structure decisions are relevant decisions and the optimal capital structure can reduce the firm's overall cost of capital and thereby increase its total value. After an intense debate for a period of three decades, it is generally accepted today that the capital structure decision is a significant managerial decision. Bowen, Daley and Huber (1982), introduced a methodology for analyzing the optimal capital structure. Their main hypothesis was that individual firm's debt structures tend to converge to the industry mean over time. The conclusion of their study was that firms exhibit a statistically significant tendency to move toward their industry mean over both five and ten year time periods. March (1982) concluded that the companies appear to make their choice of financing instrument as though they had target levels in mind for both long-term ratios and the ratio of short term to total debt. Mayer (1988, 1989, 1990) has conducted series of empirical research on financing pattern of corporate and he found that in developed country more than three-quarters of investment were made through internal financing and banks were the major source of finance for the corporate in Europe and Japan. Small firm were more dependent on external finance. IFC (1991) analyzes the corporate financial structure in developed and developing countries and it has found firms in developing countries are found to be

more dependent on new equity for finance their corporate growth. The study on the capital structure for seven developing countries for period 1980-92 conducted by Glen and Pinto (1994) and found that significant difference in the capital structure of the sample companies. Jalilvand and Harris (1984) concluded that the firms' targets are a driving force one of several in the firms' financial behaviour.

As per the Corbett and Jenkinson (1994) empirical research on financing pattern of developed country findings supported the results of Mayer that major source of finance for firm were internal finance. Wald (1999) examined the factors correlated with capital structure in France, Germany, Japan, the UK, and the USA. He conducted a cross-country comparison of five countries to test alternative theories of capital structure within an international context. Wald verified many of the broad conclusions of similar leverage across countries given by Rajan and Zingales (1995), but also pointed out areas where differences may have existed. For although some variables, such as those associated with moral hazard, tax deductions, research and development, and profitability, had the expected signs and consistent across countries, other variables, such as those associated with risk, growth, firm size, and inventories showed different effects in different countries. The result of the study indicated that institutions could be significant determinants of capital structure, and that agency and monitoring problems, while existing in every country, could create different outcomes. Singh and Hamid (1992, 1995) have conducted various study related to financial structure and found that in developing country corporations use both external finance and equity finance to much greater extent than developed country corporations. Samuel (1996) has done comparative study of financing pattern of Indian and U.S. firms and concluded that Indian firms are more dependent on external funds than U.S. firms. Babu and Jain (1999) have tried to evaluate debt financing pattern of Indian Corporate and have found that in India corporate were relying on both long-term and short term financing. In Stock Market development and financing pattern, study conducted by Pal (2001) he has covered nine Indian industries for the period of 1991 to 1998 and found that external finance is more important as source of finance for Indian firms.

Most of the studies mentioned in the above discussion were up to 1999. After liberalization process in India and development of capital market, the financing pattern and even debt financing have been brought under investigation under this study.

Methodology of the Study

This section of paper briefly explains the objectives, selection of the sample, methods of the data collection and tools and techniques used for analysis of data. The scope of the paper is limited to the Indian private corporate firms listed on Bombay Stock Exchange.

Objectives

The objectives of the study are

- Ø To examine the financing pattern of Indian corporate.
- Ø To evaluate the debt pattern of financing, namely the short-term and long-term debt, followed by the private corporate firms in India.
- Ø To examine the changes, if any, in the private corporate sector firms on the use of compositions of debt in the wake of liberalization policies in India; and
- Ø To analyze the policy implications to stakeholders in view of the prevailing owners and borrowing capital financing practices of private corporate firms in India.

Sample Selection

The study uses systematic stratified random sampling method for the data collection. The study covers all manufacturing industrial groups, these groups are as per classification provided in Capital Market Capitaline database. The study uses the list of companies available in each strata (industrial group) in Capitaline database from the manufacturing sector India only. The study excludes companies having less than four years data, as on 2004-05, from the sample population. The number of companies varied among industry groups, from the point of view of having appropriate representation of each industry group. The sample of the study covers 532 listed companies divided into 18 manufacturing industries listed on the Bombay Stock Exchange. Table 1 provides details of the number of companies from each industrial group.

Data Collection

For the purpose of the study necessary data collected from the financial statements of the corporate firms, were collected from the Capital Market Capitaline database for the period 1997-98 to 2004-05. Care has been observed to ensure that data are accurate. Apart from random checks, in the case of doubt, the accounting data have been checked with other publications and annual reports of the firms.

Data Analysis

The entire set of data collected for the 532 sample companies, from the financial statements for the eight years period (1997-98 to 2004-05), has been analyzed using Microsoft Excel and SPSS packages. The analysis has been based on tools and techniques used in financial management and statistics. The study relied primarily on 'financial ratios,' a widely accepted tool of financial analysis. Important financial ratios used are (i) Internal Finance as Share of Total Finance (ii) Equity as Share of Total Finance (iii) Debt Finance as Share of Total Finance (iv) short-term debt to total asset, (v) long-term debt to total assets,(vi) debt equity ratio (vii) interest coverage ratio and (viii) debt service coverage ratio. These ratios indicate the direction of changes in composition of total finance and debt and the corporate firm's capacity to service debt. All these ratios were computed on a year-to-year basis for the sample companies. To study the financing pattern and debt practices and its implications, the study computed the descriptive statistical values of each ratio, for each year as well as two subsets of four years each (1997-98 to 2000-01 and 2001-02 to 2004-05). The average based data adds credence to the analysis.

In the present study an attempt has been also made to analyze post liberalization effect in the financing pattern of Indian corporate. For this purpose post liberalization period segregated into two parts i.e. 1997-98 to 2000–01 and 2001-02 to 2004-05 considered as post liberalization first phase and second phase of the study. Based on the sample selection, the study assumes for all practical purpose, the post-liberalised first phase and post-liberalised second phase samples as two independent samples; and uses t-test and analysis of variance to test the impact of economic liberalisation using the null hypothesis.

Hypothesis

Null Hypothesis

* There is no difference in the mean value of average financing pattern (Internal, Equity and Debt) of finance for the post-liberalised first phase and post-liberalised second phase of sample.
* μ post –lib first phase = μ post-lib second phase
* There is no difference in the mean value of debt ratios for the post-liberalised first phase and post-liberalised second phase of sample.
* μ post –lib first phase = μ post-lib second phase.

Alternate Hypothesis

* The mean value of average financing pattern of (Internal, Equity and debt) finance for the post-liberalised first phase and post-liberalised second phase of sample differ.
* μ post-lib first phase - lib # μ post–lib second phase.
* The mean value of ratios for the post-liberalised first phase and post-liberalised second phase of sample differ.
* μ post-lib first phase -lib # μ post–lib second phase.

Empirical Findings

The main findings of the study are as follows.

Average Financing Pattern for the period 1998 to 2005

The average financing pattern of Indian corporate is presented in table - 5 for the period 1998 to 2005. Following observations can be made from them.

- ¤ Debt financing is an important source of finance for all the industries. It contributes more than 23 per cent of the total financing for all the industries. The contribution of external debt has been more than 65 per cent for samples from Cast Steel, Cement, Steel, Sugar, Tea, and Textiles industries.
- ¤ Internal finance plays an important role for the financing of the industries. The average contribution of internal finance is 32 per cent. It varies between two per cent for Tea to more than for 68 per cent for Aluminium.
- ¤ For the sample period, the average contribution from equity varies from three per cent for Tyre to more than 34 per cent for Pharmaceutical industries.

Trends in the Financing Pattern

Table – 2, 3 and 4 indicate the financing pattern of various component of Indian corporate. The results are summarized here.

- In the financing activities of Indian corporate the share of internal finance has played a dominant role. The contribution of internal finance has shown fluctuated trend over the years. The half of the industries has raised more than 30 per cent of their financing need through this source. The share of internal fund in Aluminium and Chemical industry were more than 60 per cent of total finance.

- The trends of equity finance in Indian corporate have not indicated any uniformity. For some industries like Auto Car, Tea and Textiles the contribution of equity finance was highest during the period 2003–2005. While in Aluminium, Sugar and Tyre industries trends indicated a declining trend in the equity financing and other industries have not reported any systematic trends during study period.
- Debt plays an important role for all the industries. The proportion of debt financing in Indian corporate was more than 52 per cent in Indian corporate. The textile industry is highly dependent on such financing, in the year 2003 and 2004 the proportion of debt financing here more than 100 per cent, indicates negative net worth for the industry.
- Result of statistics analysis indicates that there is no any significance difference in financing pattern of Indian corporate in two phases in post-liberalized period. It can be concluded that liberalized policy implication was started in the mid of 1995 so Indian corporate got its benefits from 1995 and still they are enjoying its benefits.
- The correlation among all the three components (internal, equity and debt) of finance was highly positive between two phases of study.

Trends in Debt Financing

Short-term Debt to Total Assets Ratio - Researchers in recent years have shown increasing importance to short-term debt in analyzing the capital structure practices. This study also attempted to analyze the role played by the short-term debt in financing operations of the corporate firms in India. The present study has taken only loans and advances reported in the balance sheet as the short-term debt. It consists of obligations incurred in the normal course of business and are normally expected to be paid within a period of one to two years.

Average value of short-term debt to total assets ratio of the sample companies during 1997-98 to 2004-05 is exhibited in Table-7. The statistics indicates that corporate firms in India finance about one-third of their assets through short-term sources. It can be observed that no obvious trend is discernible for the ratio during the first phase of the study, while, it is showing an increasing trend in first three years of study period of second phase. (2001-02 to 2003-04). The share of short-term debt in the assets of the corporate firms was 32 per cent during the study period.

Median and quartile values shown in Table-7 provide greater insight on the short-term debt practices of the sample firms during 1997-98 to 2004-05. These values indicate that the trend has been increasing during the second phase of the post-liberalised period (2001-02 to 2004-05). Quartile values reveal that one-fourth of the sample firms (Ql) finance about less than twenty percent of their assets through short-term debt, while, a similar number of firms (Q3) finance about more than 40 per cent of their assets through short-term borrowings.

The 't' test as well as ANOVA results (shown in table-12) pertaining to the mean short-term debt to total assets ratio of the first phase of post-liberalised period and second phase of post-liberalisation period samples do not indicate any significant variation. In other words, there has not been a notable change in the use of short-term debt by the private corporate firms in India.

Long-term Debt to Total Assets Ratio

After examining the short-term debt, we now examine the share of long-term debt in financing the assets of the corporate firms in India. Long-term debt consists of long-term loans and debentures, for which the firms have fixed interest obligations.

Average long-term debt to total assets ratio of the sample firms for the period 1997-98 to 2004-05 is displayed in Table-8. The values denote that on an average more than half of the corporate assets were financed through long-term funds. There were no systematic trends found in the ratio during the period of our study. It was fluctuated nearly to 50 per cent. The average ratio of first phase, and second phase and whole period of study was nearly too similar ratio.

Median and positional values also indicate (Table- 8) the rising trend in the use of long-term debt in financing the assets of the private corporate sector during 1997-98 to 2004-05. The value of median showed an increasing trend except second year and last year of study, in the use of long-term debt by the corporate firms. For instance, the median figure was 55.44 (1997-98 to 2000-01), and 52.40 (2001-02 to 2004-05). Similar trend is noted in respect of quartile values for all two sub-phases.

The study reveals that value of Q1 and Q3 were higher in first phase of liberalized period as compared to second phase of liberalization. It indicates in second phase the firm has not used more debt fund to acquire total assets. The result of t test and F test indicates that there is no significance difference in the financing pattern of total

assets of Indian industry during the two phases of the study period.

Debt Equity Ratio

From Table–9 reveals that the debt equity ratio shows an increasing trend during entire study period except last year of the study period. During the first phase of study period it was 1.32 and it increased and reached at 2.68 per cent. The average ratio for whole period is 2.0 while the standard norms for industry are 1:1. So, it indicates that Indian corporate is more dependent on debt financing. This result is also supported our trend analysis result.

However, the median and quartile values explain the implications on a larger scale. The median value is below above one in during entire study period. There is no significant change in the median value of first phase, second phase and whole study. It indicates still there is no any change has been taken place in the financing policy of Indian corporate. Corporate firms increasingly prefer long-term debt to equity.

The statistical results shown in Appendix substantiate our conclusion reported earlier. The results indicate there is no any significant difference in the financing pattern of Indian industry in first phase of post- liberalised period and the second phase of post-liberalised period of study. This leads to the conclusion that the more and more Indian industry are relied on debt financing because of economic reforms debt fund easily available and are cheaper as compared to equity.

Debt Service Capabilities of Corporate Firms in India

The preceding analysis amply indicates that the private corporate sector in India is having a debt dominated capital structure. This section examines the debt service capabilities in terms of the periodic payment of interest and the repayment of principal on maturity or in predetermined installments at due dates of the sample firms during the period under reference.

For a normal firm, in the ordinary course of business, the claims of lenders/creditors are not met out of the sale proceeds of the permanent assets of the firm. The obligations of a firm are normally met out of the earnings or operating profits. The claims of lenders primarily consist of interest on loans, and the repayment of loan in lump sum or in periodic installments. The soundness of a corporate firm, from the viewpoint of long-term lenders, lies in its ability to service their claims; this ability is indicated by the coverage ratios. Coverage ratios measure the relationship between what is normally available from operations of the firms and the claims of the lenders. Corporate firm's ability to service obligations arising due to debt is measured by two ratios, namely, gross interest coverage ratio and debt service coverage ratio.

Interest Coverage Ratio

Interest cover is nothing but profit cover of interest i.e. number time's debenture interest or interest on loan is covered by available profit. In the words of Brigham, "The times-interest earned ratio is determined by dividing earning before interest and taxes (EBIT) by the interest charges." It is one of the most conventional coverage ratio used to test the enterprise's debt-servicing capacity. Greater the cover better is the position of the debenture holders or loan creditors regarding possibility of timely payment of interest.

The ratio indicates the extent to which the earning may fall without causing any embarrassment to the enterprise regarding the payment of the interest charges. If the times covered falls then the risk of enterprise's failure increases. According to Wright, "its basis as a measurement tool is that, as the times covered declines, the risk of failures increases." A high ratio is desirable, but too high ratio indicates that the enterprise is very conservative in using debt, and it is not using credit to the best advantage of shareholders.

Relevant data of interest coverage ratio of the private corporate sector during the period 1997-98 to 2004-05 has been shown in Table. The average coverage ratio, *prima facie,* is satisfactory. Corporate earnings, during the period 1997-98 to 2004-05, were more than adequate to cover their interest obligations; corporate earnings were able to cover two to three times of interest. However, as per trend, the ICR has shown fluctuating trend over the period under reference. But the ratio was increased in second phase of study as compared to first phase of study period. Median and quartile values are more revealing. Coverage ratio of half of the sample firms is more than 1.5 in four out of the eight years period of study under reference. Quartile one value indicates that one fourth of the sample firms had coverage ratio only marginally higher than one. This suggests that any additional use of debt or decline in earnings may put these firms into serious difficulties in meeting even their interest obligations, is also supported by the five year average median and quartile values.

Debt Service Coverage Ratio

After examining the interest coverage capacity of the private corporate sector, the following pages examine the total debt, service capacity

of the corporate sector. Debt service Coverage Ratio (DSCR), in finance literature is considered more comprehensive and more apt measure to compute debt-service capacity of a corporate firm.

The capacity of the sample firms to service debt obligations in terms of payment of interest along with repayment of principal/ repayment of loan installment is of significant importance to the corporate firms as well as lenders.

The DSCR is computed by dividing the earnings before depreciation, interest and taxes by the sum of interest plus twenty five per cent of the long-term debt. This ratio differs from the earlier interest coverage ratio, by the fact that we add back depreciation, to the earnings and incorporate the repayment due for the principal debt to the denominator.

Relevant data, in terms of average and positional values, of debt service coverage ratio of the private corporate sector for the period 1997-98 to 2004-05 has been shown in Table 11. Average values (median and quartile 1) indicate, *prima facie,* inadequate debt service capacity for majority of the sample firms. This apart, as per trend, marked ups and down trend in debt service capacity of the corporate firms has been noted. This is borne out by the fact that median value ranged between 61.62 to 131.27 during period of the study. It is very apparent from the data that majority of the sample firms seem to have excessive debt than they can service. Quartile one values for eight years studied were between 38 to 93 per cent. This indicates that one third of the sample firms had clearly excessive borrowings and entail very serious risk of default. This apart, the marked increase in the corporate debt capacity is born out by the fact that median value has increased from 65 per cent during the first sub-phase of the study to 98 per cent in second phase.

The results shown in Appendix indicate that economic reforms and its impact have not caused any significant changes in the debt service capacity of the private corporate sector in India.

Summary and Findings

To sum up, this section finds that financing pattern of corporate sector in India shows some broad similarity across the samples. The main findings of financing pattern are below:

- Debt finance is more important as a source of finance for Indian firms. The importance of external debt has increased over the years.
- Out of 18 industries nine industries use more than 32 per cent internal fund as source of finance. The Aluminium industry satisfies their financing need through internal fund by 68 per cent while this proportion in Tea industry is 2 per cent.
- The sample data indicates that the use of equity as sources of fund trend is stable near to 15 per cent.
- Study also find there is no significance difference in financing pattern of Indian corporate in two phases of study.
- The study brings to fore that the private corporate sector in India has shown marked preference for both long-term and short-term debt in designing their capital structure during the period of the study of 1997-98 to 2004-05. The notable finding of the study is that debt, *interse;* there is a shift towards preference for long-term debt in lieu of short-term debt. The economic and financial reforms have caused significant changes (increased) in the use of long-term debt in financing the assets of the private corporate sector in India.
- The research revealed that the ratio of financing the operations by long term external parties has increased from 52 per cent in first phase 1992 to 54 per cent in second phase. The cost of long term financing by external parties is known to be the lowest compared to cost of short term debt and cost of equity. The trend of utilizing long term debt more is expected to result in lower average cost of financing and therefrom better financial statements. The research has also revealed the primary importance of equity financing.
- The anlysis of correlation indicates btween two phases of study debt service coverage ratio was highly positively correlated. On other hand, LT to TA, DER and ICR ratio were negatively-correlated in the two phases of study.
- In view of their debt ascendant capital structure of the private corporate enterprises, *pari passu,* with the declining and alarmingly low debt service capacity, the majority of corporate firms is exposed to a very high degree of risk and is subject to financial distress.

Key Words: Financing Pattern, Indian Corporate Finance, Debt Financing.

Table - 1
Industry-wise Classification of Sample Companies

Sl. No.	Industry	No. of Companies	% of Total Sample
1	Aluminium	8	1.50
2	Auto Car	9	1.69
3	Cast Steel	54	10.15
4	Cement	34	6.39
5	Ceramic	31	5.83
6	Chemical	22	4.14
7	Computer HW	10	1.88
8	Engg Heavy	13	2.44
9	Forging	7	1.32
10	Medical Equipment	13	2.44
11	Misc.	19	3.57
12	Paper	27	5.08
13	Pharmaceuticals	122	22.93
14	Steel	100	18.80
15	Sugar	23	4.32
16	Tea	10	1.88
17	Textiles	18	3.38
18	Tyre	12	2.26
	Total	**532**	**100.00**

Table - 2
Internal Finance as Source of Finance
(as a Percentage of Total Financing) for Indian Corporate

Industry	1998	1999	2000	2001	2002	2003	2004	2005	Average
Aluminium	61.93	71.36	74.03	75.15	68.40	63.33	65.16	65.16	68.07
Auto Car	33.30	28.08	22.26	18.08	24.32	51.61	57.85	25.94	32.68
Cast Steel	9.70	14.21	10.94	11.17	-7.65	13.82	30.82	3.89	10.86
Cement	30.85	30.29	27.42	26.15	21.69	20.83	31.89	32.38	27.69
Ceramic	25.39	21.31	22.43	22.88	19.89	21.75	24.16	22.79	22.58
Chemical	60.99	69.47	67.44	60.04	50.22	63.30	82.68	63.42	64.70
Computer HW	36.28	53.79	57.10	63.42	64.50	71.01	62.35	62.65	58.89
Engg Heavy	33.24	42.80	42.61	39.23	34.10	31.92	54.70	30.85	38.68
Forging	39.99	42.32	41.15	27.19	30.76	32.35	40.03	40.03	36.73
Medical Equipment	-8.06	11.93	46.22	51.65	57.62	53.73	51.40	25.83	36.29

Industry	1998	1999	2000	2001	2002	2003	2004	2005	Average
Misc.	70.59	63.60	67.48	69.62	59.31	47.17	50.01	47.78	59.44
Paper	22.53	24.21	18.10	23.39	18.74	25.28	32.00	27.09	23.92
Pharmaceuticals	17.93	1.39	3.78	-8.70	-8.62	18.38	42.57	2.49	8.65
Steel	9.38	7.07	5.23	-2.13	-1.13	13.90	38.33	10.60	10.16
Sugar	28.32	26.99	27.30	25.76	26.76	25.12	28.54	25.29	26.76
Tea	16.12	8.26	3.77	-0.94	-7.06	-11.93	7.26	2.46	2.24
Textiles	42.88	32.64	48.22	9.92	2.36	-18.65	-38.50	-17.54	7.67
Tyre	43.88	47.01	48.36	45.74	48.69	52.56	52.34	50.62	48.65
Average	31.96	33.15	35.21	30.98	27.94	31.97	39.64	28.98	32.48

Table - 3
Equity Finance as Source of Finance (as a Percentage of Total Financing) for Indian Corporate

Industry	1998	1999	2000	2001	2002	2003	2004	2005	Average
Aluminium	19.11	11.42	8.71	7.91	7.53	7.02	6.38	6.38	9.31
Auto Car	16.31	19.45	24.02	24.64	20.32	24.52	22.33	24.83	22.05
Cast Steel	11.17	17.98	17.69	19.66	19.28	17.46	14.96	24.40	17.82
Cement	5.46	6.43	6.43	6.01	6.34	7.06	5.39	5.71	6.10
Ceramic	11.81	17.29	17.68	16.81	17.97	19.04	17.38	16.52	16.81
Chemical	17.15	11.59	9.28	6.83	5.96	5.97	7.65	6.10	8.82
Computer HW	17.08	16.38	14.30	12.47	11.60	10.76	5.89	11.22	12.46
Engg Heavy	12.00	10.84	11.67	15.03	14.39	17.19	13.78	18.59	14.19
Forging	5.56	6.15	6.76	8.79	9.80	11.10	9.66	9.66	8.43
Medical Equipment	39.34	34.91	32.76	34.13	24.17	22.37	21.05	26.75	29.44
Misc.	11.74	10.47	9.82	10.04	8.68	8.29	7.40	7.26	9.21
Paper	20.99	20.54	26.21	21.06	27.67	21.63	19.84	23.89	22.73
Pharmaceuticals	38.27	32.37	33.51	36.96	44.18	39.83	9.95	37.02	34.01
Steel	20.24	24.97	24.92	26.16	25.95	16.47	6.73	24.42	21.23
Sugar	6.18	5.98	5.30	5.86	5.80	5.40	1.60	5.32	5.18
Tea	15.38	17.58	20.08	18.86	20.51	24.08	17.99	19.77	19.28
Textiles	9.34	9.68	9.85	15.50	16.62	16.65	19.41	18.34	14.42
Tyre	3.69	3.92	3.74	3.89	3.82	3.32	2.98	3.56	3.62
Average	15.60	15.44	15.71	16.14	16.15	15.45	11.69	16.10	15.28

Table - 4
Debt Finance as Source of Finance (as a Percentage of Total Financing) for Indian Corporate

Industry	1998	1999	2000	2001	2002	2003	2004	2005	Average
Aluminium	18.96	17.23	17.26	16.94	24.07	29.66	28.45	28.46	22.63
Auto Car	50.39	52.48	53.72	57.28	55.37	23.87	19.81	49.23	45.27
Cast Steel	79.12	67.82	71.37	69.18	88.36	68.73	54.22	71.71	71.31
Cement	63.69	63.28	66.15	67.84	71.97	72.11	62.72	61.91	66.21
Ceramic	62.80	61.40	59.89	60.31	62.14	59.21	58.46	60.69	60.61
Chemical	21.86	18.94	23.28	33.14	43.81	30.73	9.67	30.48	26.49
Computer HW	46.64	29.84	28.60	24.12	23.90	18.23	31.76	26.13	28.65
Engg Heavy	54.76	46.35	45.72	45.74	51.51	50.89	31.52	50.56	47.13
Forging	54.45	51.53	52.09	64.02	59.44	56.55	50.31	50.31	54.84
Medical Equipment	68.73	53.15	21.01	14.22	18.21	23.90	27.55	47.42	34.28
Misc.	17.68	25.93	22.71	20.34	32.01	44.54	42.59	44.96	31.35
Paper	56.48	55.25	55.68	55.55	53.59	53.09	48.16	49.02	53.35
Pharmaceuticals	43.79	66.24	62.71	71.74	64.44	41.79	47.48	60.50	57.34
Steel	70.38	67.95	69.85	75.97	75.18	69.63	54.93	64.98	68.61
Sugar	65.50	67.03	67.40	68.38	67.44	69.48	69.87	69.38	68.06
Tea	68.50	74.16	76.14	82.08	86.55	87.85	74.75	77.76	78.48
Textiles	47.78	57.67	41.93	74.58	81.03	102.00	119.09	99.20	77.91
Tyre	52.43	49.07	47.89	50.36	47.49	44.12	44.68	45.82	47.73
Average	52.44	51.41	49.08	52.88	55.92	52.58	48.67	54.92	52.24

Table - 5
Average of Annual Sources of Finance as a Percentage of Total Finance for the Period 1997-98 to 2004-05

Industry	Internal	Equity	Debt	Total
Aluminium	68.07	9.31	22.63	100
Auto Car	32.68	22.05	45.27	100
Cast Steel	10.86	17.82	71.31	100
Cement	27.69	6.10	66.21	100
Ceramic	22.58	16.81	60.61	100
Chemical	64.70	8.82	26.49	100
Computer HW	58.89	12.46	28.65	100
Engg Heavy	38.68	14.19	47.13	100

Industry	Internal	Equity	Debt	Total
Forging	36.73	8.43	54.84	100
Medical Equipment	36.29	29.44	34.28	100
Misc.	59.44	9.21	31.35	100
Paper	23.92	22.73	53.35	100
Pharmaceuticals	8.65	34.01	57.34	100
Steel	10.16	21.23	68.61	100
Sugar	26.76	5.18	68.06	100
Tea	2.24	19.28	78.48	100
Textiles	7.67	14.42	77.91	100
Tyre	48.65	3.62	47.73	100
Average	32.48	15.28	52.24	100

Chart - 1

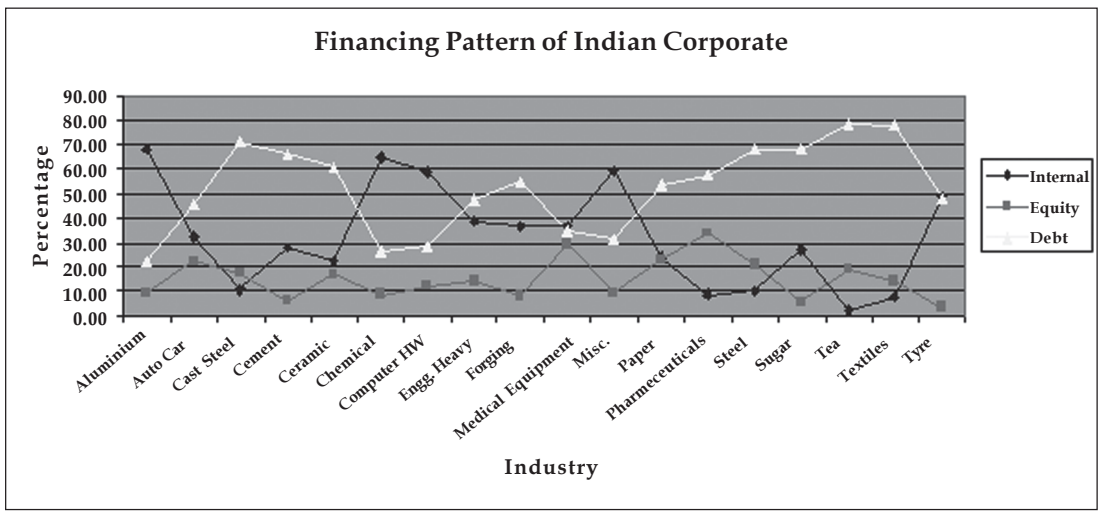

Table - 6
Average Debt Ratios of Sample Industries for the Study Period

Industry	DER	ICR	STD to TA	LTD to TA	DSCR
Aluminium	0.31	8.87	13.09	22.63	279.97
Auto Car	0.99	4.59	29.27	45.27	154.40
Cast Steel	0.65	0.87	22.52	71.31	51.45
Cement	3.87	0.86	18.54	72.34	48.00
Ceramic	3.74	1.53	16.22	60.61	71.54
Chemical	1.53	4.56	39.67	42.67	182.75
Computer HW	1.05	4.70	80.31	28.65	221.11
Engg Heavy	0.48	1.54	73.46	47.77	73.68

Industry	DER	ICR	STD to TA	LTD to TA	DSCR
Forging	1.09	2.58	35.56	54.84	119.14
Medical Equipment	1.32	3.42	31.55	34.28	151.32
Misc.	0.62	4.47	41.52	27.49	198.75
Paper	0.47	1.59	26.31	53.35	70.19
Pharmaceuticals	1.24	0.97	47.51	57.34	76.09
Steel	1.57	1.20	31.70	68.61	67.44
Sugar	2.52	1.27	27.93	68.06	65.67
Tea	2.14	3.35	22.17	78.48	43.20
Textiles	0.48	-0.18	39.89	77.91	28.94
Tyre	11.45	1.78	37.98	47.73	88.62
Average	1.97	2.67	35.29	53.30	110.68

Table -7
Mean, Median and Quartile Values of Short-Term to Total Assets Ratio of Sample Companies for the Study Period

	Mean	Median	Q1	Q3
1997-98	30.12	27.22	17.27	38.9
1998-99	32.11	26.14	20.52	41.62
1999-2000	31.4	27.85	20.43	37.11
2000-01	32.57	29.48	21.83	40.57
2001-02	33.97	29.14	22.72	42.41
2002-03	37.52	37.1	23.82	45.2
2003-04	44.97	40.67	24.13	55.39
2004-05	39.65	30.82	24.58	45.3
1997-98 to 2000-01	31.55	27.67	20.01	39.55
2001-02 to 2004-05	39.03	34.43	23.81	47.08
1997-98 to 2004 -05	35.29	31.05	21.91	43.31

Table -8
Mean, Median and Quartile Values of Long-Term to Total Assets Ratio of Sample Companies for the Study Period

	Mean	Median	Q1	Q3
1997-98	30.12	27.22	17.27	38.9
1997-98	53.47	55.05	46.93	65.95
1998-99	52.93	55	49.69	66.83
1999-2000	50.56	52.91	41.25	66.23
2000-01	54.29	58.8	46.56	71.1
2001-02	56.09	58.28	46.18	73.24
2002-03	52.85	52.3	33.95	69.29

	Mean	Median	Q1	Q3
2003-04	51.1	49.24	34.96	57.58
2004-05	55.08	49.77	46.08	68.28
1997-98 to 2000-01	52.81	55.44	46.11	67.53
2001-02 to 2004-05	53.78	52.40	40.29	67.10
1997-98 to 2004 -05	53.30	53.92	43.20	67.31

Table - 9
Mean, Median and Quartile Values of Debt Equity Ratio of Sample Companies for the Study Period

	Mean	Median	Q1	Q3
1997-98	1.29	1.32	0.9	1.51
1998-99	1.34	1.13	1.03	1.59
1999-2000	1.3	1.11	0.7	1.52
2000-01	1.36	1.3	0.54	1.81
2001-02	1.66	1.37	0.55	2.23
2002-03	2.31	1.21	0.69	2.24
2003-04	4.46	1.06	0.52	2.05
2004-05	2.27	1.16	0.91	2.13
1997-98 to 2000-01	1.32	1.22	0.79	1.61
2001-02 to 2004-05	2.68	1.20	0.67	2.16
1997-98 to 2004 -05	2.00	1.21	0.73	1.89

Table -10
Mean, Median and Quartile Values of Interest Coverage Ratio of Sample Companies for the Study Period

	Mean	Median	Q1	Q3
1997-98	2.95	1.4	1.06	4.32
1998-99	2.44	1.58	0.9	2.87
1999-2000	2.54	1.4	1.11	3.81
2000-01	2.48	1.45	0.92	3.14
2001-02	2.11	1.43	0.62	2.22
2002-03	2.45	1.97	0.97	3.17
2003-04	3.87	3.2	1.86	4.33
2004-05	2.49	2.06	1.67	3.17
1997-98 to 2000-01	2.60	1.46	1.00	3.54
2001-02 to 2004-05	2.73	2.17	1.28	3.22
1997-98 to 2004 -05	2.67	1.81	1.14	3.38

Table -11
Mean, Median and Quartile Values of Debt Service Coverage Ratio of Sample Companies for the Study Period

	Mean	Median	Q1	Q3
1997-98	101.81	61.2	48.79	91.45
1998-99	100.98	66.65	43.04	119.28
1999-2000	107.09	71.09	55.35	153.33
2000-01	99.96	62.58	38.67	117.28
2001-02	98.07	67.19	45.91	91.83
2002-03	123.62	107.81	56.62	150.47
2003-04	152.2	131.27	93.16	182.39
2004-05	101.72	85.29	64.87	120.53
1997-98 to 2000-01	102.46	65.38	46.46	120.34
2001-02 to 2004-05	118.90	97.89	65.14	136.31
1997-98 to 2004 -05	110.68	81.64	55.80	128.32

Table - 12
Statistical Results of Various Financial Ratios of the Study

Financial Ratio	First Phase		Second Phase		t-Test		ANOVA	r	Significance
	Mean	SD	Mean	SD	P Value	t	Value		
Internal Finance	32.83	1.82	32.13	5.29	0.920	0.180	0.008	0.750	Not significant
Equity Finance	15.75	0.30	14.85	2.13	0.760	0.840	0.091	0.870	Not significant
Debt Finance	51.45	1.70	53.02	3.22	0.810	-0.490	0.060	0.760	Not significant
Short Term Debt to Total Assets	31.55	1.07	39.03	4.60	0.020	-3.502	0.054	0.416	Not significant
Debt Equity Ratio	1.32	0.03	2.68	1.23	0.058	-2.190	0.001	-0.240	Not significant
Long Term Debt to Equity Ratio	0.95	0.04	1.82	0.77	0.054	-2.260	0.002	-0.043	Not significant
Interest Coverage Ratio	2.60	0.23	2.73	0.78	0.397	-0.285	0.091	-0.385	Not significant
Debt Service Coverage Ratio	102.46	3.18	118.90	24.90	0.118	-1.479	0.016	0.858	Not significant

Critical F value at 0.01= 6.63 and 0.05=3.84

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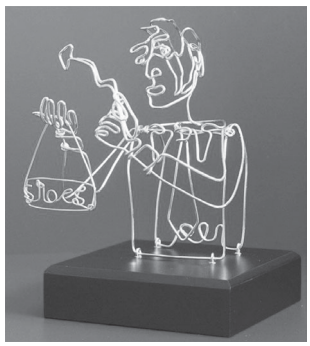

Institutional Investors Choosing a Stockbroker?

Rooma Roshnee Ramsaran-Fowdar

This research includes a study of institutional investors' selection criteria for stockbrokerage firms. The findings of the study are that "credibility and reliability," "understanding clients," "scale of the firm" and "expertise" are indicators of the service quality sought by institutional investors when selecting stockbrokerage firms. A sample of 46 companies was targeted and the mail survey technique was used. 28 usable questionnaires were returned, representing a response rate of 61 per cent.

Service quality offers a way of achieving success among competing services (Bateson, 1995). Establishing service quality may be the only way of differentiating oneself. That is why many existing businesses are using enhanced service quality to position them more competitively both domestically and globally (Brown and Swartz, 1989; Parasuraman *et al.*, 1988).

A frequently used and highly debated measure of service quality is the SERVQUAL scale (Parasuraman *et al.*, 1988). The SERVQUAL instrument is based on five service quality dimensions that include reliability, responsiveness, assurance, empathy and tangibles (Zeithaml and Bitner, 2000) and they provide the basic "skeleton" underlying service quality, which is represented as a multidimensional construct.

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Although the terms quality and satisfaction are sometimes used interchangeably, researchers stress the need for greater precision. Zeithaml and Bitner (2000) portray satisfaction as a broader concept, arguing that perceived service quality is but one component of customer satisfaction, which also reflects price quality trade-offs and personal and situational factors.

Literature Review

Investor Behaviour

In the 1970s, it was observed that there was a lack of knowledge on the issue of investor behaviour. Since then, research on individual investors has thrived. For instance, financial analysts have conducted studies on portfolio decision-making, the structure of financial markets and the movements of stock and bonds (Bicksler and

Samuelson, 1974; Carter, 1974; Ohlson and Rosenberg, 1982). Others were more interested in the psychology of investing in stocks. For example, Crockett and Friend (1967) studied relationships between asset holdings and household characteristics. Nevertheless, little has been done in understanding how investors select brokers/brokerage firms. A group of researchers (Chan, Chan and Yau, 1990; Yau, Ip and Chan, 1995) examined the issue of investor's selection of brokerage firms, but it seems that researchers in investor behaviour have neglected the importance of services provided by brokers or brokerage firms. On the one hand, these services would influence successful investment in commodities and stocks. On the other hand, brokers or brokerage firms would also be better equipped to face competition by offering the right service demanded by investors.

Selecting a Stockbroker or a Stockbrokerage Firm

From the viewpoint of brokers or brokerage firms, the delivery of good and proper services is one strategy that has been related to success (Thompson, DeSouze and Gale, 1985; Rudie and Wansley, 1985). These services and their quality make up the criteria of selecting brokers/brokerage firms. Different investors may require different services/quality.

Buying and selling securities for customers or investors is the fundamental function of a broker or brokerage firm (Levine, 1975). In performing this basic function, it is the obligation of the broker/brokerage firm to execute the investor's orders and to exercise due cares in the process and demonstrate a reasonable amount of skill. The broker/brokerage firm is also obliged to refrain from making or releasing secret profits on the transaction, from crossing orders, and from acting as both broker and dealer in the same transaction. Acting honestly, fairly and legally in dealing with investors is the other obligation of brokers.

Another function of a broker/brokerage firm is to provide its customers with the best information that can be obtained about securities in which it deals. Many brokerage firms also provide some portfolio and investment management services for their customers on a fee basis. These brokerage firms perform this function to offer wide and more specialised services to their customers and to receive more business from other companies through the purchase and sale of shares.

From investor's perspective, they are interested in knowing the functions provided by brokers/brokerage firms so as to help them select a broker/brokerage firm who will provide them with the services they want. The following are some examples of criteria in regard to selecting a broker/brokerage firm:

1. Prompt and Efficient Service-This means that the broker/brokerage firm is able to confirm a purchase or sale within minutes and provide quotes quickly.
2. Integrity-This implies that the broker/brokerage firm should have an excellent reputation in society.
3. Good Experience-The broker/brokerage firm has an established record or service over a long period of time.
4. Availability of Information and Research Facilities-The broker/brokerage firm is able to supply general economic information data about companies and industries along with economic forecasts.
5. Appropriate Qualifications-The broker has individual qualifications with a philosophy that is compatible with the investor's aims and objectives.

Methodology

Questionnaire Design

The measures for all the constructs in this study were adapted from past research. The 7-point Likert scale was used for the entire study.

The Sample

The population was defined as all institutional investors who had invested in the stock market for the past 12 months. 46 questionnaires were dispatched to these companies by mail and 28 usable questionnaires were returned, resulting in a response rate of 60.9 per cent.

Data Analysis

Results showed in Table 1 indicate that the majority of the institutional investors were male (89.3 per cent) and only 10.7 per cent were female investors. Almost 53.6 per cent of the respondents were in the age group 30-49 years old and held Top Management position in their companies. As far as educational spread of respondents was concerned, most respondents (67.9 per cent) in the sample had received postgraduate education.

Table 1: Demographic Characteristics of Institutional Investors (n=28)

Characteristics	Percentage
Gender	
Male	89.3
Female	10.7
Age	
18-29 years old	25
30-49 years old	53.6
50-64 years old	21.4
65 years or older	0
Occupational Status	
Top Management	53.6
Middle Management	46.4
No. of Employees	
0-50	32.2
51-150	28.6
151-300	25
301-500	7.1
Over 500	7.1
Annual Turnover (Rs. M)	
Less than 100	11.2
101-500	25.9
501-1000	48.1
Above 1000	14.8
No. of Years in Business	
1-10 years	10.7
11-20 years	21.4
21-30 years	35.7
Over 30 years	32.2
Affiliation	
Local	96.4
Foreign	3.6
Joint Venture	0
Level of Education	
Primary	0
Secondary	0
Diploma	7.1
Undergraduate Degree	25
Postgraduate Degree	67.9

The majority of the companies who participated in this survey employed less than 50 employees (32.1 per cent), 48.1 per cent of them have an annual turnover between Rs.501–1000 million and 67.8 per cent were in business for less than 30 years. Finally, 96.4 per cent of these companies had local affiliation and only 3.6 per cent were foreign.

The investment behaviour of Mauritian institutional investors can be summarised in the following manner. With regards to the investment orientation, the mean score (5.21) was inclined towards long-term capital appreciation. Very frequent trades were evidenced by institutional investors as about 71.4 per cent traded more than five times on average in a month. 63 per cent of the respondents had invested more than 40 per cent of their assets into the stock market and for approximately 57.1 per cent of these institutional investors; their companies had been investing on the stock market for more than 10 years. Nearly 32.1 per cent of them had dealt with their company stockbroker for 4-6 years and some other 32.1 per cent had done the same for more than 10 years. It was also verified that on one hand 50 per cent of the investors had good investment experience whereas on the other hand 50 per cent of them had extensive investment experience. Finally, around 85.7 per cent of institutional investors used their stockbrokers' services to invest locally and at least 14.3 per cent used their services for investment both locally and overseas.

Interestingly, on a scale of 1 to 7 where 1 is 'Low' and 7 is 'High,' a mean of 5.68 shows that the stockbrokers of institutional investors provided a rather high service quality.

Reliability and Validity Testing

The validation of the measures using factor analysis and reliability testing were carried out for selection criteria (Table 2).

Investors' criteria in selecting broker firms were obtained using a series of 14 descriptive scale items developed in a pilot study. The items were modified in order to expand the scope of services rendered by broker firms under investigation as shown in Table 2. Investors were asked to indicate their degree of agreement or disagreement on each item using a seven-point Likert-type scale ranging from "strongly agree" to "strongly disagree." The construct validity of the selection scales was assessed using a factor analysis. The K-M-O measure of sampling accuracy and the

Table 2: Results of Factor Analysis and Reliability Estimates of Measurement Scales for Investors' Selection Criteria

Measurement Scale	Mean	Standard Deviation	Factor Loading	Cronbach Alpha
(a) Credibility and Reliability	**6.35**	**0.411**		**0.7444**
Good reputation	6.46	0.508	0.657	
Honest and responsible	6.57	0.504	0.992	
Providing quick and accurate transaction services	6.29	0.535	0.557	
Good relationship with clients	6.46	0.693	0.690	
Good experience	6.29	0.600	0.689	
Able to provide continuous company information	6.00	0.816	0.766	
(b) Understanding Clients	**5.90**	**0.452**		**0.5884**
Understand our investment ability	5.75	0.585	0.604	
Understand our investment philosophy	5.71	0.659	0.880	
Providing general services	6.25	0.585	0.719	
(c) Scale of the firm	**5.93**	**0.611**		**0.6980**
Large scale	5.39	0.832	0.830	
Providing extra services	5.71	0.659	0.778	
Low commission	6.68	0.819	0.766	
(d) Expertise	**5.86**	**0.679**		**0.7615**
Initiates investment proposals	5.89	0.685	0.772	
Understands the market well	5.82	0.819	0.925	

Bartlett test indicated that the input correlation matrix was amendable to factor analysis. A varimax rotation of the factor matrix yielded four significant factors with eigenvalues greater than one. Taken together, these factors accounted for over 67.7 per cent of the variance in the selection scale items. A cutoff of 0.40 was used for item-scale selection.

Internal consistency of each scale was tested using item-to-total correlation. For each scale, correlation coefficients were significant at the level of 0.05 thus indicating that the selection scales were internally valid.

The selection scales were also tested for reliability, or the extent to which the measures are repeatable (Nunnally, 1967), using Cronbach's coefficient alpha. The coefficients were 0.7444, 0.5884, 0.6980 and 0.7615 for "credibility and reliability," "understanding clients," "scale of the firm" and "expertise" respectively. Thus, the four dimensions exhibited well over the 0.50 reliability level suggested by Nunnally (1978) as a minimum score for acceptable reliability in pilot studies.

Conclusion

With regards to the measurement scale for selection criteria, four dimensions emerged namely "credibility and reliability," "understanding clients," "scale of the firm" and "expertise" and these scales proved to be reliable. These dimensions are to some extent different from the five dimensions proposed by Parsuraman, Zeithaml and Berry (1988) namely reliability, responsiveness, assurance, empathy and tangibles. Institutional investors, in particular, tended to select their stockbrokers/ stockbrokerage firm on the basis of the 'credibility and reliability' dimension. They are much interested in their honesty and responsibility and above all would like their stockbroker to charge low commission rates on transactions done.

The limitations of this study were that this study was carried out in a developing country and the findings may not be replicable outside Mauritius. This study also focused only on institutional investors and excluded investors from the public at large, which could constitute the population for future research.

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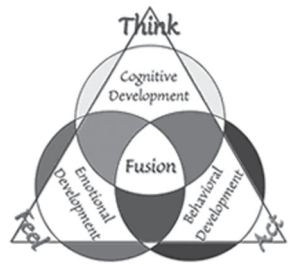
Pre-requisites

Organizational Commitment



Jyoti Sharma

HR practitioners have recognized for converting the science of emotional intelligence into pragmatic, results-oriented programs for leadership development, coaching, teambuilding, and culture change. These efforts have resulted in improved leadership effectiveness, more productive organizational climate, enhanced teamwork, more trusting relationships, increased ability to overcome adversity and adapt to change, and greater personal motivation and commitment to excellence. The present paper focuses on investigating the impact of organizational climate and emotional intelligence on organizational commitment. Research findings indicate emotional intelligence as one of the primary significant component for organizational commitment. Organizational climate facilitates the emotional setup of the employees, which results in committed efforts.

Organizational climate is referred as the situational or environmental determinant, which affects human behaviour. Some persons have used organizational culture and organizational climate interchangeably. But there are some basic differences between these two terms. Climate of an organisation is somewhat like the personality of a person in which every individual possesses different potentialities that makes him/her unique and different from other persons. Each organisation has an organizational climate that clearly distinguishes it from other organizations. Basically, the organizational climate reflects a person's perception of the organisation to which he/she belongs. It is a set of unique characteristics and features that are perceived by the employees about their organizations, which serves as a major force in influencing their behaviour.

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Thus, organizational climate in a broad sense can be understood as the social setting of the organization. Modern industrial organization is a complex entity. It consists of many individuals who, working in different functions and roles, are engaged in the pursuit of some overall goal or a set of goals. Every organisation operates in terms of a set of policies and norms, which are sometimes clearly laid down while at other times are in the form of traditions and conventions. For planning, coordinating and controlling its various activities, an organisation requires

managers who, in their day-to-day interactions, reflect a variety of leadership styles and skills in dealing with their subordinates. The sum total of these and many other such activities creates an internal environment within each organization that accounts for its uniqueness and identity.

Members of an organisation work within and are continuously influenced by this internal environment, which is also called as organizational culture or organizational climate. Culture refers to the deep structure of organizations, which is rooted in the values, beliefs and assumptions held by organizational members. Socialization is established through a variety of identity groups that converge in the workplace. Interaction reproduces a symbolic world that gives culture both stability and a certain precarious and fragile nature rooted in the dependence of the system on individual cognition and action. Climate, in contrast, portrays organizational environment as being rooted in the organization's value system, but tends to present these social environments in relatively static terms, describing them in terms of a fixed set of dimensions. Thus, climate is often considered as relatively temporary, subject to direct control, and largely limited to those aspects of the social environment that are consciously perceived by organizational members.

Organizational climate registers its positive effect when emotional receptors of the employees receive it in its correct manner. This indicates to the intelligence use of emotions. Recently emotional intelligence has gained lot of attention by corporate, which has positively affected employees' relations and helped them even assess negative and positive relations.

Emotional intelligence (EI) refers to an assortment of emotional, personal, and interpersonal abilities and skills that influence one's overall capability to effectively cope with environmental pressures and demands. Emotional intelligence plays an important role in intelligent behaviour and is vital for successful performance in the workplace. Emotional intelligence is what motivates us to pursue our unique potential and purpose. It activates our innermost values and aspirations, transforming them from things we think about to how we live. It is concerned with understanding self and others, relating to people, adapting and coping with the environment.

Commitment is the function of inherent sincerity of an individual, which develops the capacity to work hard and give good results even in poor and adverse circumstances. Effective managers consider commitment as both, the aspect of an individual and institutional importance in which a person with commitment towards the job work with sincerity and honesty and efficiently sustain hard work which gives him internal satisfaction of pulling his optimum strength into work with genuineness. Organizational commitment has been used to refer three aspects of staff attitudes that indicates the extent to which the employees demonstrate a strong desire to remain the member of the organization, the degree of willingness to exert high level of efforts for organization and belief and acceptance of the major goals and values of the organization (Mowday et al 1979). Behaviour of "employee as citizen" is an indicator of performance which goes beyond the requirement of the job, such as helping co-workers with job related problems, tolerating temporary impositions without complaining and co-operating at the time of crisis.

Literature Review

Tagiuri and Litwin (1968) presented a variety of approaches ranging from climate as an objective set of organizational conditions to climate as a subjective interpretation of individual and organizational characteristics. Litwin and Stringer (1968) focused on the consequences of organizational climate for individual motivation, thus supporting the general idea that climate encompasses both organizational conditions and individual reactions. They (1968) defined organizational environments in terms of nine climate dimensions namely structure, responsibility, reward, risk, warmth, support, standards, conflict and identity.

Austin and Holland (1961) found sizeable correlations between perceptual and objective climate measures. Stern (1970) explored the association between a person's needs and his perception of climate using Murray's needs-press theory as a framework for both a personality measure and a climate measure. Increasing attention has been focused upon employee behaviour as a function of the simultaneous variation of both personal and organizational factors. Thus, to formulate generalizations about organizational behaviour, it is necessary to focus on the multiple interactions of individual and situational determinants of behaviour (Sells, 1963). Gavin (1975) examined personal and organizational correlates of climate perceptions to determine the interaction of the two in influencing organizational climate. The results indicate that climate perceptions are influenced equally by personal and organizational factors.

Human beings operate from two minds - the rational mind and the primitive mind, which form purely the emotional mind (Singh, 1995). The first component of emotional intelligence is Emotional Self-Awareness, knowing what one feels. Mayer and Stevens,

1994, uses the term meta-mood, the affective analogue of meta-cognition for key aspects of Emotional Self-Awareness. The second component of emotional intelligence is Emotional Self-Management, which is the ability to regulate distressing affects like anxiety and anger and to inhibit emotional impulsivity. McClelland (1975) has defined motivation as an affectively toned associative network arranged in a hierarchy of strength and importance in the individual, which determines what goals one seeks.

Social awareness, the third emotional intelligence component, which encompasses the competency of Empathy. Empathy helps in taking unbiased decisions. One is able to feel others person's situation and act accordingly, it does not mean that one is drifted by the emotions and the other but definitely tries to feel for others. Brothers (1989) reviewing both neurological findings and comparative studies with primates, specifies that certain neurons in the visual cortex respond only to specific emotional cues, such as a threat. Finally, the fourth emotional competence component i.e., Relationship Management or Social Skill poses a more complex picture. In a fundamental sense, the effectiveness of one's relationship skills targets on the ability to attune oneself to or influence the emotions of another person. The ability in turn builds on other domains of emotional intelligence, particularly Self-Management and Social Awareness. If one cannot control the emotional outbursts or impulses and lacks empathy, there is less chance that one may be effective in relationships. Boyatzis et al (2000) and Goleman (2000) have found that Emotional Self-Awareness is a prerequisite for effective Self-Management, which in turn predicts greater Social Skills for workplace effectiveness.

Organizational commitment has been defined and measured in several ways signifying a bond between the individual and the organization (Mathieu and Zajac, 1990). Morris and Sherman (1981) propose an exchange approach in which commitment is the result of investments in the organization or a psychological approach in which commitment is depicted as a positive high-involvement orientation towards the organization. Mowday et al, 1979 and Mowday et al, 1982 suggested that organizational commitment is an internalization of the values and goals of the organization, a willingness to work hard on behalf of the organization and a strong desire to remain with the organization. This type of psychological commitment has been named as affective commitment (McGee and Ford, 1987; Gregersen and Black, 1992; and Mayer and Schoorman, 1992) whereas in the institutional commitment, individual works with a feeling of belongingness, sense of pride and sense of group achievements, with a spirit of dedication and determination in putting efforts to accomplish goals of organization.

Methodology

Data and Sample

Manager Sample-The study was carried out on 120 executives working in manufacturing and service industry, who were selected on random basis. The respondents belonged to the senior and middle level with 15 years and above years of work experience. The extraneous variables of age, sex, education and other variables were controlled by randomization and elimination.

Hypotheses

Hypothesis 1 Organizational climate positively affects organizational commitment among employees.

Hypothesis 2 Emotional Intelligence positively affects organizational commitment among employees.

Hypothesis 3 Organizational climate positively affects concern for organization dimension of organizational commitment among employees.

Hypothesis 4 Organizational climate positively affects identification with the organization dimension of organizational commitment among employees.

Hypothesis 5 Emotional Intelligence positively affects concern for organization dimension of organizational commitment among employees.

Hypothesis 6 Emotional Intelligence positively affects identification with the organization dimension of organizational commitment among employees.

Tools Used

Data was collected through three questionnaires measuring organizational climate, emotional intelligence and organizational commitment. Details of the questionnaires are as follows:

A-Organizational Climate Scale

Author - Dr. B.R. Sharma
Structure - (27 items)
Duration- No Limit
Reliability- .93
Scoring- The respondents were expected to tick (") mark one of the four responses:
Not at all (0) A little (1) A good deal 2) Very much (3)
Source-Shri Ram Centre, New Delhi

B- Emotional Intelligence

Author- Daniel Goleman
Structure (10 items)
Duration- No Limit
Reliability- .73

Scoring- Scoring is done manually. Every correct answer will be given points accordingly as mentioned below and later will be added and compared to different categories:

1. A-20, B-20, C-20, D-0
2. A-0, B-20, C-0, D-0
3. A-20, B-0, C-0, D-0
4. A-0, B-0, C-20, D-0
5. A-0, B-0, C-20, D-0
6. A-0, B-05, C-05, D-20
7. A-20, B-0, C-0, D-0
8. A-0, B-20, C-0, D-0
9. A-0, B-05, C-0, D-20
10. A-0, B-20, C-0, D-0

Every correct answer is given 20 marks and later it is added and compared to different category: 0-100 Low Emotional Intelligence. Respondent needs to work on EQ.

100-150 High Emotional Intelligence. Not bad, still respondent can improve. Above 150 till 200 Very high Emotional Intelligence.
Source-Prestige Institute of Management and Research, Indore.

C-Organizational Commitment

Author- Dr. Upinder Dhar, Dr. Prashant Mishra and Prof. D.K.Shrivastava.
Structure (8 items)
Duration- No Limit
Reliability- .61
Scoring- Scoring is done manually. The scale yields the scores for two dimensions. The dimensions are:

1- Concern for the organization that is measured by the item numbers
1, 2, 3, 5 and 7.
2- Identification with the organization that is measured by the item numbers
4, 6 and 8.
The respondent is expected to tick (") mark 5,4,3,2 and 1 for positive items. In the case of items 6 and 8 the rated scores were to be reversed. The sum of scores of all the items is taken as the final score.
Source-Vedant Publication, Lucknow.

Statistical Analysis

Simple correlation and multivariate regression analysis was done by SPSS for examining the casual affect for variables under study. Organizational climate and emotional intelligence are used as composite variables whereas organizational commitment is used with its two dimensions, namely concern for organization and identification with the organization.

Results

The executives from senior and middle levels having experience of 15 yrs. and above were approached for the study. The purpose of the study was explained to the respondents and attempts were made to remove and clarify the doubts after establishing the rapport.

The data was collected and the filled scales were scored and multivariate regression was computed between the total scores of the variables and their dimensions. The correlation was calculated between the variables and also dimensions of the dependant variable. The dimensions of dependant variable i.e. organizational commitment were considered 1- Concern for organization and 2-Identification with the organization. Firstly correlation and then multivariate regression was calculated to observe the casual affect among variables.

Correlations

Table 1

		EI	OCM	CO	IO	OCL
EI	Pearson Correlation		.389(**)	.279(**)	.356(**)	
	Sig. (2-tailed)		.000	.002	.000	
	N		120	120	120	
OCM	Pearson Correlation	.389(**)				.055
	Sig. (2-tailed)	.000				.550
	N	120				120
CO	Pearson Correlation	.279(**)				.154
	Sig. (2-tailed)	.002				.093
	N	120				120
IO	Pearson Correlation	.356(**)				-.045
	Sig. (2-tailed)	.000				.629
	N	120				120
OCL	Pearson Correlation		.055	.154	-.045	
	Sig. (2-tailed)		.550	.093	.629	
	N	120	120	120	120	120

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 1 Organizational Climate positively affects Organizational Commitment of Employees.

The correlation between organizational climate and organizational commitment has been found to be .055. Hence, organizational climate seems to affect organizational commitment.

Hypothesis 2 Emotional Intelligence positively affects organizational commitment of employees.

The correlation between emotional intelligence and organizational commitment has been found to be .389, which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence, organizational commitment also increases. Hence, higher the emotional intelligence, higher is the organizational commitment.

Hypothesis 3 Organizational Climate positively affects concern for organization dimension of organizational commitment among employees.

The correlation between organizational climate and concern for organization has been found to be .154. Hence, organizational climate seems to affect the dimension of organizational commitment, concern for organization.

Hypothesis 4 Organizational Climate positively affects identification with the organization dimension of organizational commitment among employees.

The correlation between organizational climate and concern for organization has been found to be -.045. Hence, organizational climate seems not to affect the dimension of organizational commitment, identification with organization.

Hypothesis 5 Emotional Intelligence positively affects concern for organization dimension of organizational commitment among employees.

The correlation between emotional intelligence and dimension of organizational commitment i.e. concern for organization has been found to be .279 which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence dimension of organizational commitment i.e. concern for organization also increases. Hence, higher the emotional intelligence, higher is the concern for organization.

Hypothesis 6 Emotional Intelligence positively affects identification with the organization dimension of organizational commitment among employees.

The correlation between emotional intelligence and dimension of organizational commitment i.e. identification with the organization has been found to be .356 which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence dimension of organizational commitment i.e. identification with organization also increases. Hence, higher the emotional intelligence, higher is the identification with organization.

Regression Table
Table 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.390(a)	.152	.137	3.31459

a Predictors: (Constant), OCL, EI

Anova (b)

Table 3

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	230.044	2	115.022	10.469	.000(a)
	Residual	1285.423	117	10.987		
	Total	1515.467	119			

a Predictors: (Constant), OCL, EI

b Dependent Variable: OCM

Coefficients

Table 3

Model	Unstandardized Coefficients		Standardized Coefficients	F	Sig.
	B	Std. Error	Beta	t	Sig.
(Constant)	29.043	1.224		23.734	.000
EI	.044	.010	.387	4.530	.000
OCL	.006	.020	.026	.300	.765

a Dependent Variable: OCM

The model summary table 3 (b) reports the strength of the relationship between the model and the dependent variable. Here the model refers to the independent variables used in the study. R, the multiple correlations co-efficient, is the linear correlation between the independent and the dependent variable. Its large value indicates the strong relationship. The R-value .390(a) confirms the strong relationship between organizational climate and emotional intelligence as independent variable and organizational commitment as dependent variable. The R square value, which is the coefficient of determination of squared value of the multiple correlation coefficients, indicates the variation between organizational climate and emotional intelligence as independent variable and organizational commitment as dependent variable. These values being R=.390(a) and R square =.152 registers variation which is in the acceptable range.

The standardized coefficients Beta value for emotional intelligence is .387, which is registered at .000 levels and confirms its significance but standardized coefficients Beta value for organizational climate is .026 and which is observed at .765 significance level. This finding proves that emotional intelligence appears to be more in casual affect for organizational commitment rather than organizational climate.

Discussion

The correlation between organizational climate and organizational commitment has been found to be .055. Hence, the *first hypothesis is accepted* that organizational climate positively affects organizational commitment among employees. This correlation may not appear too high or even may not be found correlated at any significant level but still correlation between the two variables is evident.

The emotional intelligence and organizational commitment has been found to be correlated which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence organizational commitment also increases and therefore the *second hypothesis of the research is also accepted* that emotional intelligence positively affects organizational commitment among employees. Managers who seem to be emotionally intelligent appeared to be more committed. The research on emotional intelligence and work commitment has concentrated thus far on organizational commitment. The latter was investigated (Abraham, 1999) in the context with which it has traditionally been defined as "the relative strength of an individual's identification and involvement in a particular organization" (Mowday *et al*, 1982). However, this is still a somewhat narrow approach that limits our understanding not only of the relationship between emotional intelligence and organizational commitment (a concept that comprises three distinct constructs), but also regarding how the former is related to work commitment forms such as career commitment and job involvement.

The correlation between organizational climate and concern for organization dimension of organizational commitment has been found to be .154. Hence, *the third hypothesis is accepted* that organizational climate positively affects the concern for organization dimension of organizational commitment among employees. The organizational climate reflects a person's perception of the organisation to which he/she belongs. It is a set of unique characteristics and features that are perceived by the employees about their organizations, which serves as a major force in influencing their behaviour. Members of an organisation work within and are continuously influenced by this internal environment, which is also called as organizational culture or organizational climate. According to Payne (1971), organizational climate is a molar concept, which reflects the content and strength of the prevalent values, norms, attitudes, behaviours and feelings of the members of the social system. According to Campbell et al (1970), these specific attributes, which differ from organization to organization, are induced by the way organization deals with its members and environment.

The correlation between organizational climate and identification with the organization dimension of organizational commitment has been found to be -.045, which states negative correlation between the two variables and therefore, the *fourth hypothesis stands rejected* that organizational climate positively affects identification with the organization dimension of organizational commitment among employees. Here, organizational climate has failed to make any positive impact on organizational commitment. If the organizational climate rejects the identity of the employees in the name of strict norms and policies, employees do not wish to get associated and identified with the organization and the commitment level decreases.

Emotional intelligence and dimension of organizational commitment i.e. concern for organization has been found to be correlated which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence dimension of organizational commitment i.e. concern for organization also increases. Therefore, *the fifth hypothesis is accepted* that emotional intelligence positively affects concern for organization dimension of organizational commitment

among employees. The concept of organizational commitment incorporates three distinct constructs: affective, continuance, and normative commitment. Continuance commitment is defined as "the extent to which employees feel committed to their organizations by virtue of the costs that they feel are associated with leaving" (Meyer and Allen, 1984). Affective commitment is "positive feelings of identification with, attachment to, and involvement in the work organization" (Meyer and Allen, 1984). Normative commitment refers to "commitment based on a sense of obligation to the organization" (Allen and Meyer, 1996). Employees with strong affective commitment remain because they want to; employees with strong continuance commitment remain because they need to; employees with strong normative commitment remain because they feel ought to do so (Allen and Meyer, 1990). In this study, we examined the relationship between emotional intelligence and two forms of organizational commitment – affective and continuance.

Emotional intelligence and dimension of organizational commitment i.e. identification with the organization has been found to be correlated which is significant at 0.01 levels. It shows that with increasing level of emotional intelligence dimension of organizational commitment i.e. identification with organization also increases. Therefore, *the sixth hypothesis is accepted* that emotional intelligence positively affects identification with the organization dimension of organizational commitment among employees. Hence, higher the emotional intelligence, higher is the identification with organization. Emotionally intelligent individuals are "optimistic," a trait that enables them to focus on the resolution, rather than the reasoning (who is at fault). The work in any given organization imposes difficulties that may result in feelings of frustration. Emotionally intelligent individuals would know not to hold the organization responsible for every feeling of frustration (Abraham, 1999), as they are adept at placing themselves in positive affective states, and able to experience negative affective states that have insignificant destructive consequences (Salovey and Mayer, 1989). This is especially true for senior managers who have to reconcile the feelings of frustration of conflicting interest groups within and outside the organization. This can be done effectively only when they are able to place themselves in a positive state of mind. In addition, emotionally intelligent individuals would know how to avoid dysfunctional emotions and use them in adaptive ways to alleviate feelings of frustration.

Results of the study indicate that emotional intelligence has being a major casual factor for organizational commitment whereas organizational climate is also found to be casual for organizational commitment. Goleman (1995) has contended that emotionally intelligent executives are able to work with personal competence, where they know how to manage themselves and secondly by social competence where they know how to manage social relationships. It appears that probably the respondents of the study who have experience for more than 15 years and above are affected more by their emotional balance and are committed. Organizational climate does affect them in terms of commitment, where the feel of concern for the organization is reflected in form of commitment. Steers (1977) has contended that climate, which emphasize goal attainment and simultaneously encourage mutual support, cooperation and participation, demonstrate high level of interpersonal skills. Executives with versatile experience are able to work in both favourable and less favourable organizational climate with committed efforts.

Favourable organizational climate does facilitate the commitment level of executives but its less impact at times does not influence their commitment because they work with emotional balance. Rahim and Psenicka (1996) had reported that among small business owners and employees who were high in emotional intelligence have stronger sense of control over themselves and also on events in their lives and are less likely to become angry or depressed or even less committed when faced with job stress. They are people who stayed committed even in crucial times, managed adverse circumstances, provided solutions to the problems, and faced challenges.

In a study reported by Mowday et al (1982) in insurance sector, the climate created by CEOs predicted the committed efforts for business performance of the entire organization, and in three quarters of the cases climate alone was used to correctly sort companies by their profits and growth. When managers received emotional satisfaction for the outperformed results and got due recognition and status as a reward, they were infused with more committed feelings for the organization.

The standardized coefficients Beta value for emotional intelligence is .387 and organizational climate is .026, which is registered at .000 and .765 significant levels respectively. This finding proves that emotional intelligence appears to be a vital component in casual affect for organizational commitment after organizational climate. The use of emotional intelligence reflects manager's personal competence of managing oneself, self-awareness that indicates knowing one's internal states, preferences, resources and intuitions, emotional awareness that helps in recognizing one's

emotions and their effects, self-regulation that helps in managing one's internal states, impulses in check, self control that maintains descriptive emotions and impulses in check, conscientiousness that takes care of assuming responsibility for personal performance, motivation that reflects to emotional tendencies that guide or facilitate reaching goals, achievement drive that helps to strive to improve or meet standards of excellence along with commitment that aligns with the goals of the group or organization. The result findings clearly indicate that if the emotional state of an employee in the organization is satisfied than only organizational climate of the organizational climate affects the commitment level. This probably is indicative of the fact that commitment is taken as a personality trait that reflects the internal psychological base rather than external state in form of organizational climate. Many of the studies in fact has also proven that organizational climate set in an organization in such a manner positively affects the satisfied psychological state of an employee which results in increased commitment level.

Human beings are psychologically very complex. The human mind is able to reason, remember, learn and form concepts or ideas as well as direct actions towards specific goals. In other words, human beings are not only motivated by reason and intelligence, but are also subject to passions, desires, and a range of other feelings which can motivate them strongly - often in a direction different from that of reason. These feelings are called emotions. Because emotions move humans to do things, some psychologists have compared them to the mainspring (or battery) of a watch. Just as the hands of a watch would be motionless without the mainspring or battery, so would human beings be listless and accomplish little or nothing if there were no emotions to motivate them. A few traditional terms associated with emotion are love, hate, fear, happiness, surprise, anger, determination, disgust and contempt.

There is another way of describing emotion - there are certain things that one considers pleasant and other things that you view as unpleasant. Certain things appeal individual, and some other things repel them. The basis for deciding what is pleasant or unpleasant, what is appealing or objectionable, is quite uncertain. Some people are afraid of snakes and spiders, while others show no fear of them at all. Such fear is a reflex conditioned by an experience early in life. But fear can also be expressed for the unknown, without any prior conditioning. For example, one may suddenly come upon an animal by chance having never before encountered it and be instantly afraid of it. Neuroscientists and evolutionists have explained the reasons underlying some of the most unreasonable behaviours. Primitive emotional responses hold the key to survival by stating that in fear the blood flows in the larger muscles, making it easier to run; in surprise the eyebrows rise, allowing the eyes to widen their view and gather in more information about an unexpected event; in disgust the face and the nostrils wrinkle up.

Hellriegal and Solcum (1974) have defined organizational climate as a perceptual summation of all the individuals in an organization. It can be further stated that when the psychological climate (perception) of all the individuals in an organisation is summated, the resultant is organizational climate. It can be classified as good or bad on the basis of people's perception and indirectly by their performance.

Conclusion

Therefore, it can be stated on behalf of the research findings that in classifying the prerequisites of organizational commitment, emotional intelligence is considered as a vital component than organizational climate still its impact cannot be ignored. According to Gupta and Joshi (2002), organizational climate is a relatively enduring quality of the internal environment that is experienced by its members, influences their behaviour and can be described in terms of the value of a particular set of characteristics of the organisation. It may be possible to have as many climates as there are people in the organization when considered collectively, the actions of the individuals become more meaningful for viewing the total impact upon the climate and determining the stability of the work environment. The climate should be viewed from a total system perspective. While there may be differences in climates within departments these can be integrated to a certain extent to denote overall organizational climate.

Key words- Emotional Intelligence, Aspirations, Interchangeably, and Cognition.

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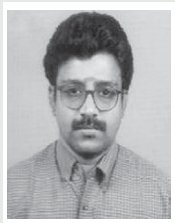
Job Contentment

University Academics

Vanniarajan T. and Anbazhagan B.

The job dissatisfaction of teachers may lead to "non-involvement" in the teaching process. As job satisfaction of teacher is important for the overall standard of education, the researchers have made an attempt to empirically verify the level of satisfaction using a two group discriminate analysis. This study is conducted in Madurai city amount hundred college teachers of ten different private aided colleges with the prime objectives to assess the level of job satisfaction and to identify the factors which discriminate the satisfiers of dissatisfiers. It is found that the salaries, working hours are the job satisfying variables while bring benefits, scope for promotion and career development are dissatisfying variables. The study concludes that the real motivator for job satisfaction is non-monetary like self-esteem, four psychological regard.

Teachers are the pillars of the society. They are vested with the task of building the nation on sound line since they have the responsibility of moulding the character and development of the youth. Teachers who are capable of changing the attitude and aptitude of the people in the prime of their youth should have satisfaction in their jobs. Today there is a general feeling among the education is that the standard of education has gone down. There is a hue and cry by religionists that the morality and self-discipline among students have diminished sizably. There is a lament by sociologists that the fellowship among students has shown a decreasing trend and the researches are of the opinion that it is all due to the teacher's non-involvement in the teaching process which is a resultant factor of their dissatisfaction in their job. When it is said that the job satisfaction of the teachers is crucial in setting the standard of education, making the students self disciplined with high morale and with good interactive fellowship, it becomes the prime duty of researchers to empirically verify whether there is dissatisfaction among teachers and if so, what are the determinants and discriminates of the job satisfaction.



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Job satisfaction is a widely accepted psychological aspect of functioning in any profession. The concept of job satisfaction came into prominence after the famous Hawthorne studies in the

1920's. In Organizational Psychology it is assumed that job satisfaction leads to increased productivity and human relationships in organizations. The industrial revolution has been a revolution not only in technology but also in human relations. As technology grew more and more complex, people became more independent on one another and the problem of working together became difficult. The workers started to recognize their needs and organized themselves to fight for the satisfaction of their needs.

Job satisfaction is a pleasure or positive emotional state, resulting from the appraisal of one's job or job experience. Job satisfaction is the combination of psychological and environmental circumstances that cause a person truthfully to say "I am satisfied with my job." Job satisfaction or dissatisfaction is the result of various attitudes, the person holds towards his job, towards the related factors and towards life in general. Job satisfaction is reflected in the attitudes people hold toward their jobs, positive attitudes towards the job connote satisfaction with it and negative attitudes towards it connote dissatisfaction with it. Thus job satisfaction is the end state in feeling, accompanying the attainment by an impulse of its objective.

Job satisfaction is essentially related to human needs and their fulfillment through work. In fact, job satisfaction is generated by the individual's perception of how well his job on the whole is satisfying his various needs. The need for gratification and satisfaction is a continuous process. Job satisfaction at a point of time depends upon the worker's aspiration level and the degree of dissatisfaction he gets from his job. If the work situation fulfills the desires of the employees, it is to be expected that their attitudes will tend to be favourable. In turn frustration resulting from such desires, tends to produce unfavourable attitudes and possibly by a sort of chain reaction, hostility, poor job performance, attendance problems, high turnover and other undesirable side effects. So here researcher wants to know the job satisfaction in different aspects, determinants and discriminants of job satisfaction among College teachers in Madurai city.

Objectives

The empirical study has the following objectives:

1) To assess the level of job satisfaction on different aspects of the job among College teachers; and
2) To identify the factors which discriminate the satisfiers and dissatisfiers.

Methodology

The study was conducted in Madurai city in Tamilnadu. The researcher had collected data from the hundred college teachers who are working in ten different Private aided colleges at Madurai city. Only ten college teachers were chosen in each college for universal representation. The researcher had collected the data from the college teachers who are ready to respond the interview schedule for this field study.

To measure the job satisfaction among the college teachers, 12 different variables related to the job are selected with the help of some reviews and the view of experts. The selected variables are Salary, Working hours, Staff room facilities, Job security, Leave and the sanctioning procedure, Academic achievements, Library facilities, Fringe benefits, Promotional chances, Recognition, Career development facilities and Rules and regulations in the colleges. To quantify these materials, the college teachers are asked to rate the above said variables at five-point scale as highly satisfied, satisfied, moderate, dissatisfied and highly dissatisfied, which carries 5,4,3,2 and 1 marks respectively.

The Multi Discriminant Analysis is used to identify the discriminating variables on job satisfiers and dissatisfiers. The Mahalanobis D^2 (Rao1968) statistic was calculated to measure the distance between two groups. The F statistic was used to see if the two groups were different from each other.

$$F = \frac{N_1 N_2 (N_1 + N_2 + P - 1)}{P (N_1 + N_2) (N_1 + N_2 + 2)} \quad D^2$$

whereas N_1 and N_2 are the samples drawn from two populations (satisfiers and dissatisfiers) P = Number of variables considered.

Discriminant function is defined as a linear function of several characteristics d_1 —— d_2 —— d_n of the form.

$$D^2 = l_1 d_1 + l_2 d_2 + \ldots\ldots + l_n d_n$$

Whereas l_1 l_2 $\ldots\ldots$ l_n are the coefficients chosen in such a manner that (mean square/variance)^2 is maximum. The value of F is tested for its significance with P and $(N_1 + N_2 - P - 1)$ degree of freedom.

Table 1

Distribution of Respondents According to their Attribute on Job Related Variables

Sl. No.	Variables	Highly Satisfied	Satisfied	Moderate	Dissatisfied	Highly Dissatisfied	Total
1.	Salary	62	12	11	7	8	100
2.	Working hours	29	39	23	5	4	100
3.	Staffroom facilities	11	9	36	24	20	100
4.	Job security	43	28	21	5	3	100
5.	Leave and its sanctioning procedure	27	32	24	9	8	100
6.	Academic achievements	9	19	26	22	24	100
7.	Library facilities	16	19	29	26	10	100
8.	Fringe benefits	4	11	14	32	39	100
9.	Promotional chances	2	6	21	17	54	100
10.	Recognition	8	14	26	34	18	100
11.	Career Development facilities	5	8	16	23	48	100
12.	Rules and regulations in the College	9	14	18	31	28	100

Findings and Discussion

The level of job satisfaction is analyzed with the help of the attitude towards the selected job variables. The twelve selected variables are measured at five points scale viz., namely highly satisfied to highly dissatisfied. The attitude towards the selected job variables among the respondents is shown in Table -1.

Table 1 infers that 74 per cent of the respondents are satisfied towards their salary in the job whereas only 15 per cent are dissatisfied. Regarding the working hours, 68 per cent of the total respondents are satisfied and only nine per cent are dissatisfied. Out of 100 respondents, 71 per cent are satisfied on their job security whereas 21 and eight per cent are moderate and dissatisfied respectively. In case of leave facilities and the sanctioning procedure 83 per cent are moderate to highly satisfy and the remaining 17 per cent are dissatisfied and highly dissatisfied. The dissatisfaction is noticed as higher in the aspects of Fringe benefits, Promotional chances and Career Development facilities, which constitute 71 per cent to the total of each. The other dissatisfied aspects among the college teachers are rules and regulations in the College and Recognition, which since it constitutes 59 and 52 per cent to the total.

It is clear from the table that the salary, working hours and job satisfaction are the job satisfying variables whereas the Fringe benefits, Promotional chances and Career Development facilities are the dissatisfying variables. It is informed that the teachers are willing to enrich their knowledge for their career development, which is not available in the present job. The recognition of their works by the Heads, Principal and Management are perceived as poor by the respondents. The infrastructural facilities like Staff room and Library facilities are good only in few institutions whereas the majority of the institutions are not fully equipped regarding this aspect.

Discriminating Factors

The overall satisfaction among the College teacher is measured by the summation of their attitude on 12 different job related variables. The mid value assigned is 30. The respondents who scored more than 30 as their total scores are classified as "satisfied" whereas who scored less than 30 is classified as "dissatisfied." The respondents belonging to satisfied and dissatisfied groups are 46 and 54 respectively. The calculated D^2 and F ratio were 7.39 and 4.71 respectively. The F ratio was found to be significant at five percent level. Hence the distance between satisfied and dissatisfied was significant. This implied that those 12 variables together were useful in discriminating the satisfiers and dissatisfiers. Among the mean differences obtained over 12 variables, the significant differences were found only in 8 variables. The mean differences, coefficient of discriminant function the product of both and percentage to the total are presented in Table - 2.

Table 2

Discriminant Function Co-efficient and its Relative Importance

Sl. No.	Name of Variables	Mean Difference (d_i)	Discriminant Function Coefficient (I_i)	$D * I_i$	Percentage to the Total
1.	Promotional Chances	2.93 (5.2121*)	0.8513	2.4943	23.68
2.	Recognition	2.26 (5.4292*)	0.8968	2.0268	19.24
3.	Carrer Development Facilities	2.14 (3.9231*)	0.8566	1.8331	17.41
4.	Fringe benefits	2.37 (3.7064*)	0.6763	1.6028	15.22
5.	Library facilities	1.62 (2.9171*)	0.8157	1.3214	12.55
6.	Rules and Regulations in the College	1.49 (2.4462*)	0.6052	0.9017	8.56
7.	Leave and Sanctioning Procedure	1.93 (3.2014*)	0.4271	0.8243	7.83
8.	Staff room facilities	1.42 (2.3917*)	0.4188	0.5947	5.64
9.	Academic Achievements	0.97 (1.6126*)	0.0248	0.0241	0.23
10.	Job Security	0.87 (1.2435)	-0.2849	-0.2479	-2.35
11.	Working Hours	0.54 (1.0729)	-0.6238	-0.3369	-3.20
12.	Salary	0.83 (1.3421)	-0.6101	-0.5064	-4.8

$D^2 = 7.39$ F (12, 87) = 4.71*

The ranking of percentages of distance measured by important variables revealed that, first three ranks comprising promotional chances, recognition and career development facilities with a

percentage to the total of 23.68, 19.24 and 17.41 respectively which were found individually contributing more than average distance in terms of discrimination as compared to other variables in discriminating the satisfiers and dissatisfiers.

The calculated discriminant score Z_1 and Z_2 for satisfiers groups were 16.9436 and 5.9855 respectively. The critical value of discriminant score (Z) for these two groups was 11.3646. Based on these scores, the discriminant function can be used to predict whether the teacher would belong to dissatisfier or satisfier. If the value of discriminant score of a given teacher was more than 11.3646 it could be predicted that he/she could be satisfier and less than 11.3646 would indicate a tendency to be a dissatisfier.

The importance of relevant variables is discussed below:

Promotional Chances

One of the human needs is self-esteem need. According to that needs, the teachers are expecting some promotion in their career, which may be a qualification, bound promotion. But in the colleges, the promotional chances to the teacher are only at time bound. But that promotion is used to get some additional monetary benefit but in no way it is related to authority and responsibility. The College teachers started their career as Lecturer and end as Selection Grade Lecturer or Reader. Only a few are having a chance of Principalship. This lack of promotional chances among the College teachers makes their work as monotonous. If a teacher is highly satisfied with the aspect of promotion, it influences more on the job satisfaction. The important variables namely recognition, career development facilities, fringe benefits and Library facilities would have propelled the teacher to establish his promotion. Therefore the promotional chances are rated higher on all these variables and possession of these characteristics definitely influences the job satisfaction. In addition, all these variables would have channelised their energies to enrich their knowledge towards promotion.

Recognition

The psychological needs are followed by the physiological needs. One of the important psychological needs is recognition. The teachers are expecting recognition for their work from students, head of the department, Principal and the Management. The higher recognition of the teachers would facilitate the teachers to enrich their idea and deliver the product to the students in a perfect manner. The recognition would also encourage the teachers to go for some research works, guest lecturers and publication of books.

Career Development Facilities

The career development facilities represent the facilities namely research, articles writing, guest lecture, seminar, workshop, orientation, team building, counseling etc. The above said facilities at the college are useful not only to the students, staff but also to the institutions and the society. The College teachers are expecting more on the above aspects at their college level for their career development. Therefore, a College teacher with good career development facilities at their college campus is rated higher on all the variables and possession of these characteristics definitely influences the job satisfaction at a higher level.

Conclusion

The monetary reward is not only the regard in the job especially in the teaching profession at the College level. The psychological regard and self-esteem regard are the real motivators to the College teachers. The expectation on promotion, recognition and career development facilities at the college level by the college teachers is reasonable and also respectable. It is concluded that the college teachers are expecting more qualification bound promotion, recognition, career development facilities and fringe benefits for getting job satisfaction. Job security, working hours and salary are least considered variables in job satisfaction among the college teachers because they had enough content. So the study concludes that the real motivator for job satisfaction among the college teachers is non-monetary factors, which show good symptom for the society.

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Effect Stock Volatility on ESOPS

Sai Giridhar B. and Sri Ram R.

Employee compensation has been an issue since employment began. Employers have been innovative in finding new ways to remunerate their employees. In this journey of innovation, after a metamorphosis from gold coins to cash bonuses, was born ESOPs. Employee Stock Option Plans were introduced primarily as an HR tool to retain their existing workforce and to inculcate in them a sense of ownership. ESOPs were supposed to drive the employees to work hard because good financial performance would enhance the stock values resulting in personal wealth creation. ESOPS subsequently lost its glory. The accounting restrictions reduced their popularity. The study here was an attempt to find the relationship and effect of stock volatility on ESOPs. The study empirically investigated 19 firms from the IT and diversified group of companies. It found that stock volatility and ESOPs were negatively correlated and revealed that there was statistically less significance in the regressed relationship. Finally, the study identified certain qualitative and quantitative factors that may have an effect on ESOP issuances.

Twenty years ago, the biggest component of executive compensation was in cash, in the form of salaries and bonuses. Stock option was just a footnote. Now the reverse is true in many parts of the world. With outstanding speed, stock option grants have come to dominate the pay and often the wealth of top executives throughout the world and especially in the United States.

But slowly the employee stock options grants have been losing their glamour. What was supposed to be a HR tool is working in the opposite direction, the volatility in the stock market and the accounting restrictions have posed a serious threat to the stock option grant holders.

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Review of Literature

Joseph Blasi and Douglas Kruse[1] found that ESOP companies grow 2.3 per cent to 2.4 per cent faster than would have been expected without an ESOP for sales, employment, and sales per employee. A study by Hamid[2] found that the returns on assets for 382 publicly traded ESOP companies were 2.7 per cent per year greater than what a model of their predicted performance would have been. In 2003 Joseph Blasi, Douglas Kruse and Michael Conte[3], found that an investment of equal amounts in a basket of securities in public companies with more than

ten per cent broad employee ownership would see a return of 170 per cent compared to 143 per cent for the Dow and 152 per cent for the S&P 500.

All these researches were making the ESOP issue popular until the FASB's exposure draft required expensing of ESOPs. There were a lot of controversies in this regard. Maribeth Coller and Julia L. Higgs[4] SFAS No. 123 to six publicly traded firms and show that significant differences in cost may arise when different calculation methods are used to estimate option value and this could materially affect a company's income statement. William A. Sahlman[5] also agrees with the previous statement saying that expensing options may lead to an even more distorted picture of a company's economic condition than financial statements currently paint.

But on the contrary, Patricia M. Dechow, Richard G. Sloan and Amy P.Sweeney[6] examined (i) a sample of firms in industries that are intensive users of employee stock options; (ii) a sample of firms in an emerging 'high-tech' industry (biotechnology); and (iii) a sample of firms submitting comment letters to the FASB opposing the expensing of employee stock option. Their results indicate that investors do not share the feeling that expensing employee stock options would have negative economic consequences.

When the debate was still on volatility in the market further increased the unpopularity of ESOPs issuance Brian J. Hall and Kevin J. Murphy[7] in their research work has shown how the changes in volatility affect the value of an at-the–money option with a ten year maturity. John Hartley[8] gives a new dimension to volatility saying that whether a company's stock value has moved up or down many of the same problems result. If employees perceive that a company's stock price is moving not because of the external market factors, this can cause a weakening of the linkage between employee effort and reward. The employees may no longer see the stock price running up or down strictly with the market. They may conclude that rewards are based more on luck and timing than on contribution to success and ability. Vivek Law[9] gives the statistics on the fall in the stock options issued by big companies to their employees. He also says that the volatility of the stock market has made the carrot look like a stick.

With these issues in the background the study undertakes to identify whether the volatility in stocks has an effect on ESOPs issued. The study also tries to identify certain factors that may have an impact on the issuance of ESOPs.

Methodology

Source

The stock price data and ESOPs issued data of 19 stocks listed in the group "A" on the BSE Sensex were obtained from the Capitaline Database.

Sampling

The two main criterions for selection of companies for the purpose of the study were: They must have belonged to one of the industrial group i.e. Computer Software (large) or Diversified, classified according to the Capitaline database and, availability of Stock price data for all the periods between January 1997 and March 2003.

Data Variables

The variables which are taken for the study are Stock Volatility and ESOPs issued. The variable stock volatility was obtained by taking the monthly average share prices of the selected companies and finding the overall standard deviation of the stock price values.

Firstly, the monthly stock prices of the selected companies were taken from the year 1997-2003. Then these values were arranged year-wise. The standard deviation of the individual stock prices was obtained for each year for all these companies. For comparison sake the coefficient of variation (CV) was calculated for these figures. The overall standard deviation of all the companies CV was found which the Stock volatility of the selected companies was. The ESOPs issued in aggregate of all the selected companies in each year was taken as the second variable i.e. ESOPs issued.

Data Analysis

The second difference of all the variables was taken. Subtracting the previous value of a variable from its subsequent value does this. This changes the interpretation of the Probability (F-statistic) of the resultant equation. This was done to negate the effects of non-stationarity. A time series is said to be stationary if the mean and variance of it is constant no matter at which point of time it is taken, it is time invariant. A correlation matrix was constructed both before and after differencing. The analysis was done using the help of software like SPSS, EViews and Microsoft Excel.

Data Analysis and Findings

Determination of Variables

The variables that are used for this analysis are (i) ESOPs issued

Table 1: Total ESOPs issued for years 1997-2003

Years	Total ESOPs issued (Rs. In crores)
1997	126.89
1998	27.11
1999	129.83
2000	403.96
2001	605
2002	1085.94
2003	504.35

Table 2: Stock Volatility for the Years 1997-2003

Years	Volatility (%)
1997	15.42432
1998	21.92736
1999	27.62352
2000	15.0246
2001	26.43085
2002	9.227012
2003	11.07543

and (ii) volatility. The variable ESOPs issued was obtained by aggregating the ESOPs (Table 1) issued by the 19 selected companies from the year 1997-2003.

The second variable, volatility, was calculated by taking the monthly stock prices of these every year and found their standard deviation for each and every stock in the selected list. Then the coefficient of variation (CV) was found. Where standard deviation gives the absolute variation of the variables from the mean, CV gives the *relative dispersion*.

Relative Dispersion = absolute dispersion/average

(Or)

Coefficient of variation (CV) = standard deviation/mean.

The advantage of CV is that it is comparable. So, the CV of every company's stock price deviation for every year was found. This gave the volatility of every single stock in a particular year. The CV of all the stocks was taken and standard deviation was calculated to find the volatility of all the stocks in a particular year. This process was repeated for each of the seven years to get the data below.

Further analysis was done with these two variables to determine the relationship between them.

Figure No.1 Graph showing Volatility

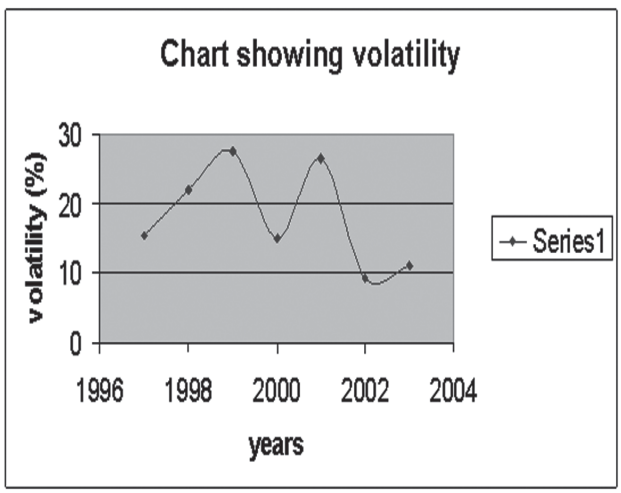
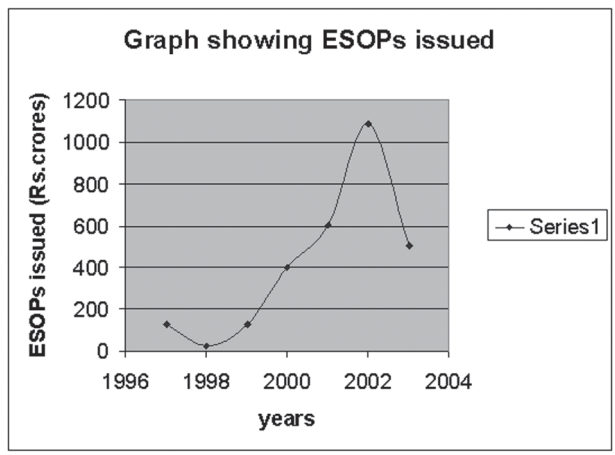


Figure No.2 Graph showing ESOPs issued



A look at the graphical representation (Fig 1&2) of the variables for seven years depicts their movement and some details regarding their movement can be inferred.

Interpretation of the Graphs

Looking at figure 1 it can be inferred that the stocks are very volatile. It can also be observed that the ESOPs issued increased steeply

till 2002 thereafter fell sharply. This shows that ESOPs issued were increasing even amidst increasing and decreasing volatility till 2002 but after 2002 it has fallen significantly with a smaller increase in volatility.

This explains the negative relationship between the two, though not very clearly. The use of statistical tools discussed below would help in establishing the relationship in a crystal clear manner, which would be dealt under. The figures 1 & 2 also give a hint that there are some other factors that are operating other than Stock Volatility because otherwise the small increase in volatility could not have produced a drastic fall in the issuance of ESOPs. These observations would become clear with statistical analysis.

Table: 3
Result of Augmented Dickey-Fuller Unit Root Test for ESOPS

		1% Critical Value	-6.673
ADF Test Statistic	-2.67042	5% Critical Value	-4.581
		10% Critical Value	-3.741

Table: 4
Result of Augmented Dickey-Fuller Unit Root Test for Volatility

		1% Critical Value	-6.673
ADF Test Statistic	-3.05707	5% Critical Value	-4.581
		10% Critical Value	-3.745

Testing the Stationarity of Data

Before doing any analysis on a time series it is always necessary to do a stationarity test on it. Both the variables ESOPs issued and volatility was tested for stationarity.

Augmented Dickey-Fuller Unit root test was done on both the variables. This test checks for the stationarity of the data. The results were as follows:

If the ADF Test statistic value (signs ignored) is greater than the critical values at various levels i.e. at one per cent, five per cent and ten per cent (signs ignored) then there is stationarity in the variables.

From tables 3 and 4 it can be observed that both the variables lack stationarity. So the ADF values are calculated using 1st or 2nd differences on the variables till they are found to be stationary. Doing this it was found that ESOPs issued was stationary at 2nd difference and Volatility at 1st difference. The results obtained are as under.

Table: 5
2nd Difference ADF Test for ESOPs

		1% Critical Value	-9.017
ADF Test Statistic	-248.52	5% Critical Value	-5.536
		10% Critical Value	-4.206

It is clearly evident that ESOPs are stationary at 2nd difference. It is also clear that Volatility also is stationary in the 1st difference at five per cent and ten per cent. It is satisfactory if the variables are stationary at the above levels.

Table 6: 1st Difference ADF Test for Volatility

		1% Critical Value	-7.5320
ADF Test Statistic	-5.66624	5% Critical Value	-4.9336
		10% Critical Value	-3.9147

Finding the Correlation

The variables were analyzed using the correlation coefficient. The results showed that they were 0.5221 negatively correlated. The correlation matrix is shown hereunder.

Table 7: Correlation Matrix

CORRELATION	VOLATILITY	ESOPS
VOLATILITY	1.000000	-0.522096
ESOPS	-0.522096	1.000000

Regression Results

The variables were regressed and the results are given below:

Table 8: Regressed Equation

Dependent variable ESOPs

VARIABLE	COEFFICIENT	T-STATISTIC
VOLATILITY	-26.27558	-1.368813
C	887.5807	2.392784

The strength of relationship between the two variables is given in this regression analysis. The results show that the relationship in the following given equation:

$$Y = b * X + C$$

ESOPS = -26.27557533 * VOLATILITY + 887.5807271

Because the correlation between the variables is negative it can be observed that the intercept, which is represented as "b" in the equation, is also having a negative coefficient.

The significance of the equation can be evaluated by looking at the Prob (F-statistic) in Table: 9.

Table 9: R-squared

R-squared (R^2)	0.272584	Prob(F-statistic)	0.229349

The *Prob (F-statistic)* calculated is 0.229349.An equation in which the Prob (F- statistic) is less than 0.05 explains the significance of the equation itself in the regression analysis. In this case the figure is 0.229349, which depicts the low amount of significance.

The *t-statistic* should have a value of more than +2 or -2 in absolute terms if the regression is significant. In this case the t-statistic of the independent variable is volatility is -1.369, which is less than -2. This automatically clarifies the lesser significance.

The *R -squared (R^2)* calculated shows a value of 0.2726, which implies that only 27.26 per cent of the variation in the dependent variable (ESOPs) is explained by the independent variable (Volatility).

These results were obtained before the stationarity test was conducted. The stationarity test would enhance the quality of results obtained. The tables 10 & 11 give the regressed results after the stationarity test.

Table 10: t-Statistic

VARIABLE	COEFFICIENT	T-STATISTIC
D(ESOPS,2)	-0.027295	-1.538669

Table 11: R-Squared after 2nd Difference

R-squared	0.441081	Prob(F-statistic)	0.221504

Though the Prob (F-statistic) has not changed much it still remains at 0.2215 showing poor significance. The t-statistic also remains below -2 at -1.539. This clearly shows that the results would be more reliable if more variables are included in the analysis.

The R-squared value on the other hand shows significant increase at 44 per cent from 27 per cent. This shows that when stationarity is achieved the independent variable explains the changes in the dependent variable better.

Thus from the above analysis it could be concluded that ESOPS and Volatility are negatively related and that the relationship is not very significant. It can also be inferred from R-squared that Volatility does explain a significant part of the changes in the Stock options issued but because of unfavourable Prob (F-statistic) it suffers from lesser significance in the regression itself. If more variables were taken into the analysis the results would improve better.

Interpretation of the Results

The results showed a negative correlation between the variables ESOPs issued and volatility in the market. The negative correlation exists because the employees would not want to receive stock as compensation when they know that the stocks are fluctuating badly. This could be found in the case of companies like Infosys where employees rejected 3.3 lakh worth options in the year 2001-02. It is a well-known fact that Infosys shares traded as high as Rs.14000 per share and dropped down to a meager Rs.2000 (There was a stock split). With this kind of volatility the IT industry is facing, it can be deduced that the employee preference for stock option may no longer be prevalent.

The Volatility taken in the study is the historical volatility. It is not necessary that the historical volatility would equal the volatility as perceived by the employees. Where the market has shown a downturn employees may seem optimistic. Therefore it is important also to study the volatility as perceived by the employees.

Here the study assumes that employees can exercise their options at any time. Sometimes it may happen that companies may fix a vesting period before which the stock options may not be exercised. In that case the unexercised options exist not because the employee would want to hold on to the shares but because the vesting period is restricting him to exercise his option.

Furthermore, the results indicate that the changes in the issuance are only partly explained by volatility, which gives scope to ruminate on the unexplained part.

The other major reason for the unpopularity in the stock options was the accounting restrictions that were placed on the companies that issued stock option grants to their employees. The companies had to show the difference between the issue price of the option and the market price of the option as an expense in the profit and loss account. This discouraged the companies in introducing compensation through issue of stocks to their employees. There was an initial reduction in the issue of ESOPs due to this. But later this restriction was removed. There can be such factors, which may exist for a short term but can have a significant impact on the option issues.

Apart from stock volatility there may be other factors that affect the issuance of the ESOPs. There can be other quantitative factors like

- Dividends issued by the company
- Value of options.
- Vesting period of the option
- Transaction costs applicable at the time of exercise.

If such factors are taken into consideration then may be the changes in the ESOPs can be explained with greater amount of significance.

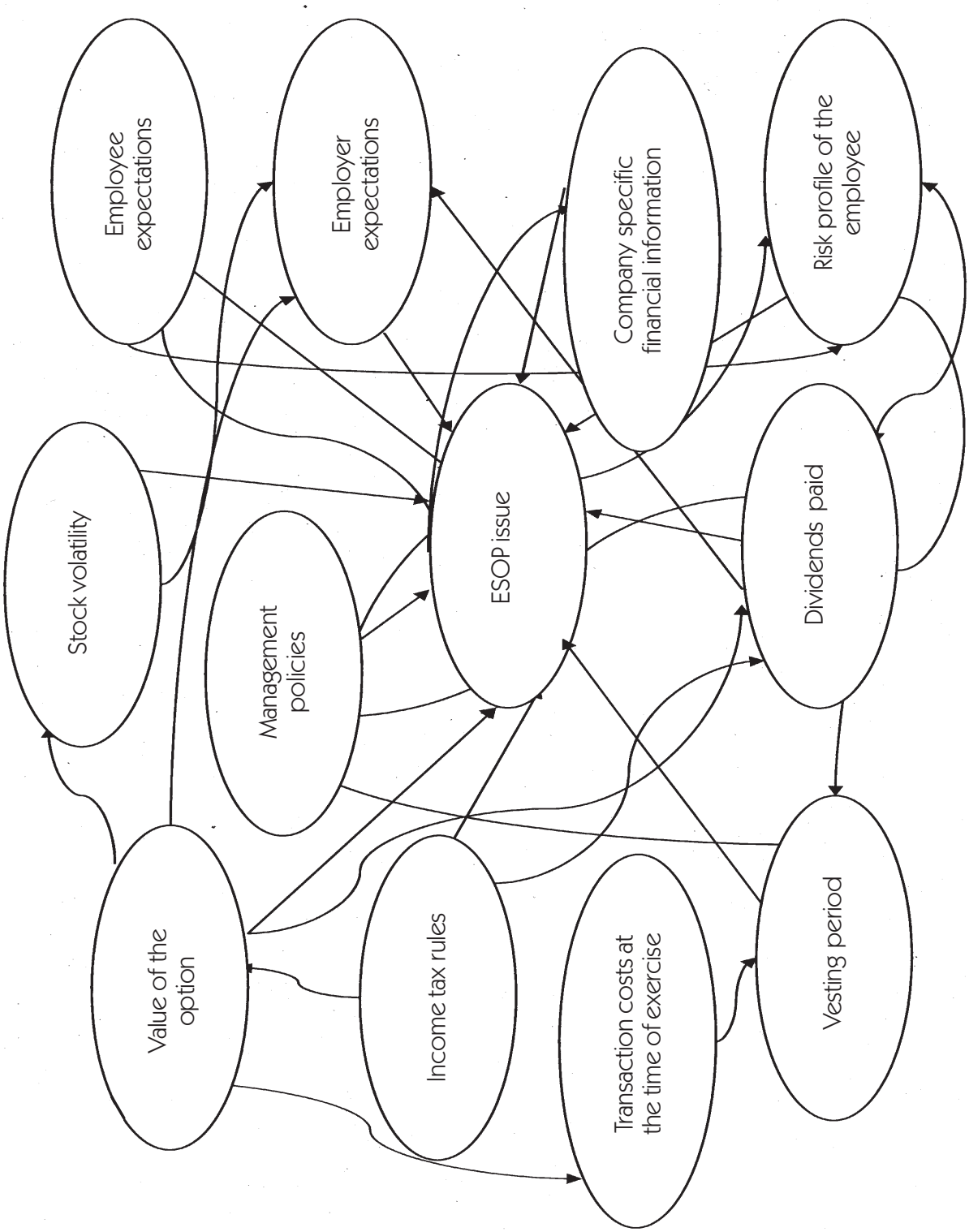
There could also be qualitative factors that affect the issuance of ESOPs. These include

- Management policies
- Employee expectations
- Employer expectations
- Company specific financial details
- Risk profile of the employee

The Figure 3 shows the complex relationship that exists between the factors that affect ESOPs. Each and every factor is interconnected with at least one of the factors other than ESOPs. This shows that this study cannot be done in isolation. Moreover it can be observed in the diagram that the qualitative factors are more interconnected than the quantitative factors. This more so fits into this topic because ESOPs per se is a HR tool than a financial technique to compensate people.

The relationship that directly exists between the qualitative and quantitative factors on ESOPs is discussed below.

Figure 3


Employee expectations
Employer expectations
Company specific financial information
Risk profile of the employee
Stock volatility
Management policies
ESOP issue
Dividends paid
Value of the option
Income tax rules
Transaction costs at the time of exercise
Vesting period

Quantitative Factors

Stock volatility: the effect of this factor on ESOP has been described amply. The effect of other factors will be explained below.

Dividends paid: Because dividend rates have an impact on the option value it has major role to play when an organization decides to remunerate its employee through option grants. It also has impact because the employer will grant more options before the dividend payment as it would motivate the employee in holding the options.

Option value: the value of the option has a bearing on ESOP issue because if the option is value is more than the market price then the employee may feel that he has an asset that is worth holding. If the option is underwater then there is no incentive for the employee to accept the option.

Vesting period: If the vesting period is too long then the employee may feel that he is bound to the employment contract till that period and so such issues would be unattractive.

Income tax rate: The income tax rate plays a useful role in selecting between options or cash salary whichever is more beneficial in terms of tax planning for the employee.

Transaction costs at the time of exercise: These affect ESOPs if they are significantly large amounts that may affect the employee decision.

Qualitative Factors

Management policies: Often companies have policies that control the wages and salary administration. If the management decides that a certain percentage of ESOPs have to be issued at regular intervals then this can affect the issuances of ESOPs.

Employee expectations: If an employee feels that because of his tax status it would be better for him to accept ESOPs than salary then the company would not hesitate to grant him stock options. This is because it is beneficial both for the employer and the employees.

Employer expectation: If the employer believes that an issuance of ESOP would increase the responsibility of the employees because a part of their earning would depend on the capital appreciation and so they would work hard to achieve it, in the course increase the competitive strength in the market place.

Company specific financial data: If the company is doing well financially and the employees have the right to buy shares of the company then the employees would definitely accept the issuance because it would increase their personal wealth. If the employees do not see any growth prospects with the financial information available they would choose salaries for ESOPs.

Risk profile of the employee: In India especially, we find that people are more conservative than in many parts of the globe. Employees in our country are happy with salaries and bonuses they receive and do not want to have stocks as a part of their compensation package. The major reason for this is that they do not watch the stock market closely and are not interested in making money with the changes in the prices of the stock they hold.

These may be some of the quantitative and qualitative factors that affect issuance of ESOPs. It is important to look at the qualitative factors because they play a major role in the employer/ employee's mindset. This softer part of the management goes unnoticed but may have a deep impact on the financials.

Summary and Conclusions

- The results that were obtained show that Stock volatility and ESOPs issuance are negatively correlated and that the relationship does not explain statistical significance. The results are consistent with the studies done by Larcker and Lambert who also conclude that though the stock prices had been volatile the executives of the sample firms showed signs of optimism. This can very well be explained with the expectations of the employee. If the employee feels that the stock price fluctuations are just a temporary aberration and they have to come to normality then there will be no changes in the ESOP issues.

- The very fact that there is a negative correlation explains that employees surely do not enjoy volatility. Maybe, they would not mind having stocks whose price is

volatile but surely they would not accept new issues of volatile stocks.

- But because the study also showed statistically less significance, it can be concluded that volatility alone would not explain the movement in the ESOP issuance.

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Performance Evaluation

Choice Mutual Funds

Sathya Swaroop Debasish

In the backdrop of liberalization and private participation in the Indian mutual fund industry, the challenge to survive and retain investor's confidence has been a prime concern for fund managers. For small investors wanting us expertise in direct investment decision in equities, the alternative is to invest in mutual funds. Performance of the mutual fund products become more complex in context of accommodating both return and risk measurements while giving due importance to investment objectives. In this paper, an attempt has been made to study the performance of selected schemes of mutual funds based on risk-return relationship models and measures. A total of 23 schemes offered by six private sector mutual funds and three public sector mutual funds have been under study over the time period April 1996 – March 2005 (nine years). The analysis has been made on the basis of mean return, beta risk, co-efficient of determination, Sharpe ratio, Treynor ratio and Jensen Alpha. The overall analysis finds Franklin Templeton and UTI are the best performers, and Birla Sun Life, HDFC and LIC mutual funds show poor below – average performance when measured against the risk-return relationship models.

Growth and developments of various mutual funds products in Indian Capital Market have proved to be one of the most catalytic instruments in generating momentous investment growth in the capital market. In this context, close monitoring and evaluation of mutual funds has become essential. With emphasis on increase in domestic savings and improvement in deployment of investment through markets, the need and scope for mutual fund operation has increased tremendously. Thus the involvement of mutual funds in the transformation of Indian economy has made it urgent to view their services not only as financial intermediary but also as pace setter as they are playing a significant role in spreading equity culture.

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Mutual Fund is one of the most preferred investment alternatives for the small investors as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost. A Mutual Fund is a trust that pools the savings of a number of investors who share a common financial goal. Over the past decade, mutual funds have increasingly become the investor's vehicle of choice for long-term investing.

The Indian mutual fund industry has a total corpus of over Rs.700 billion collected from more than 20 million investors. The largest category of mutual funds are those of Unit Trust of India (UTI), followed by ones floated by nationalized banks

(like SBI) and the third largest category of mutual funds is the one floated by the private sector and by foreign asset management companies (like Prudential ICICI and Birla Sun Life). In recent times, the important trend in the mutual fund industry is the aggressive expansion of the foreign owned mutual fund companies and the decline of the companies floated by nationalized banks and smaller private sector players.

In this context, it becomes pertinent to study the performance of Indian mutual fund industry. The relation between risk-return determines the performance of a mutual fund scheme. As risk is commensurate with return, therefore, providing maximum return on the return on the investment made within the acceptable associated risk level helps in demarcating the better performers from the laggards.

Objectives of the Study

Indian mutual fund industry is featured by a plethora of mutual fund schemes consisting of varying portfolio mix, investment objectives and expertise of professional fund management. For the small investor, choosing a suitable one is a complex decision. This present study has the objective of finding out the necessary facts regarding performance of selected growth-oriented open-ended schemes, which can benefit the investors and fund managers.

The specific objectives of the study are:

i) To measure the return earned by the sample mutual funds schemes and compare against the market portfolio returns to distinguish the performers from the laggards.

ii) To find out those mutual fund schemes offering the advantages of diversification, along with adequate systematic risk compared to market beta risk.

iii) To analyze the excess return per unit of risk evidenced by mutual fund schemes belonging to public sector and private sector, and to draw comparisons.

Literature Review

In this paper, an attempt has been made to study the performance of selected schemes of mutual funds based on risk-return relationship. For this purpose, apart from standard measure like mean return, beta and coefficient of determination, the time-tested models of mutual funds performance evaluation given by Sharpe, Treynor and Jensen have also been applied.

Early study on mutual funds included the several works of Jensen (1968), Sharpe (1966), and Treynor (1965) who used the capital asset pricing model to compare risk-adjusted returns of funds with that of a benchmark market portfolio. The findings of Sharpe and Jensen demonstrated that mutual funds under perform market indexes and suggest that the returns were not sufficient to compensate investors for the diverse mutual fund charges. Friend, Brown, Herman and Vickers did a systematic study on mutual funds considering 152 funds with data period 1953-1958 and created an index of Standard and Poor's indexes of five securities, with the elements by their representation in the mutual fund sample. Friends and Vickers (1965) concluded that mutual funds on the whole have not performed superior to random portfolio. Friend, Blume and Crocket (1970) in their study on mutual funds found that there is a negative correlation between fund performance and management expense measure.

John McDonald (1974) examined the relationship between the stated fund objectives and their risks-return attributes and concluded that on an average, the fund managers appeared to keep their portfolios within the stated risk. Richard A Ippolito (1989) concludes that mutual funds on an aggregate offer superior returns, but they are offset by expenses and load charges. Barua, Raghunathan and Varma (1991) evaluated the performance of Master Share during the period 1987-1991 using Sharpe, Jensen and Treynor measure and concluded that the fund performed better that the market, but not so well as compared to the Capital market Line. The mutual fund study by Gupta and Sehgal (1997) showed that out of sample of 80 schemes, income-growth schemes were the best performers and consistently out-performed the market index. Regarding consistency between measures and fund objectives, the relationship between fund objectives and betas is inconsistent with expectations. Sethu (1999) conducted a study examining 18 open-ended growth schemes during 1985-1999 and found that majority of the funds showed negative returns and no fund exhibited any ability to time the market. Amitabh Gupta (2000) has examined the investment performance of Indian mutual funds using weekly NAV data and found that the schemes have shown a mixed performance during 1994-1999.

In the Indian context, very few studies have compared the performance of the mutual fund schemes of private sector and public sector, which this present work has attempted to study.

Sources of Data and Selected MF Schemes

The period of study is form 1996-97 to 2004-05 (09 years). Six Private Sector Mutual Funds and Three Public sector Mutual funds; combinedly accounting for 23 Open-ended Growth-Oriented (equity-based) Mutual Fund Schemes have been selected for this study (Table-1). An open-end fund is one that is available for subscription all through the year. These do not have a fixed maturity. Investors can conveniently buy and sell units at Net Asset Value ("NAV") related prices. These schemes have been selected on the basis of regular data availability and launched during April 1996 until March 2005.

Daily Net Asset Values (NAV) data have been used for the Schemes and the daily closing prices for the benchmark market index (NSE Nifty) have been used. The Primary sources of data have been Economic Times Investment Bureau and the official website of National Stock Exchange (www.nse-india.com).

Research Methodology

Return: The returns are computed on the basis of the Net Assets Values (NAVs) of the different schemes and returns in the market index are calculated on basis of NSE Nifty on the respective date.

Portfolio or fund's return is calculated as follows:

$$R_{ft} = (NAV_t - NAV_{t-1}) / NAV_{t-1}$$

where NAV_t and NAV_{t-1} are net assets values for time period t and t-1 respectively.

Mean Return of Mutual fund scheme is given as:

$R_f = {}^{n}\sum_{t=1} R_{ft} / n$, where n is the total number of time period studied.

Table-1: List of Selected Mutual Funds (MF)

Private Mutual Funds	Public Mutual Funds
Birla Sunlife (2 schemes)	IC (3
Deutsche (2 Schemes)	
DSP Merill Lynch (3 Schemes)	SBI (3 Schemess)
Franklin Templeton (3 Schemes)	UTI (3 Schemess)
HDFC (2 Schemes)	
Prudential ICICI (2 Schemes)	
6 MFs (14 Schemes)	**3 MFs (9 Schemes)**

Market return is given by:

$$R_{mt} = (I_t - I_{t-1}) / I_{t-1}$$

where I_t and I_{t-1} are value of benchmark market indices on period t and t-1 respectively.

Mean Return for the Market portfolio is given as:

$R_m = {}^{n}\sum_{t=1} R_{mt} / n$, where n is the total number of time period studied.

NSE Nifty consisting of 50 leading scrip listed in National Stock Exchange (NSE) has been taken as a proxy for market Index.

Risk-Free Rate of Return (R_f): In this study, the weekly yields on 91-day Treasury bills have been used as risk free rate.

Risk: The risk is calculated on the basis of weekend Net Assets Values. The following measures of risks associated with mutual funds have been for the study:

i) Beta (β) – i.e., fund's volatility as regard market index measuring the extent of co-movement of fund with that of the benchmark index.

ii) Standard Deviation (σ) – i.e., fund's volatility or variation from the average expected return over a certain period.

iii) Co-efficient of Determination ($R^{2)}$ – i.e., the extent to which the movement in the fund can be explained by corresponding benchmark index (here, NSE Nifty).

For further evaluating the performance of mutual funds, the risk-return relation models given by Sharpe (1966), Treynor (1965) and Jensen (1968) have been applied.

Sharpe Ratio: The Sharpe measure provides the reward to volatility trade-off. It is the ratio of the fund portfolio's average excess return divided by the standard deviation of returns:

$$\text{Sharpe measure} = (AR_p - AR_f) / \sigma_p$$

where AR_p = average return on mutual fund portfolio over the sample period, AR_f = average risk free return over the sample period, and σ_p = standard deviation of excess returns over the sample period.

Treynor Ratio: The Treynor measure is similar to the Sharpe ratio, except that it defines reward (average excess return) as a ratio of the CAPM beta risk:

$$\text{Treynor measure} = (AR_p - AR_f) / \text{Beta}_p$$

where $Beta_p$ = beta risk value for the mutual fund portfolio.

Jensen Alpha: The Jensen alpha measure is the intercept form the Sharpe-Litner CAPM regression of portfolio excess returns on the market portfolio excess returns over the sample period:

$$R_{Pt} - R_{ft} = Beta_p (R_{Mt} - R_{ft}) + e$$

where R_{Pt} is the mutual fund portfolio return in time period t, R_{ft} is the risk free return in time period t, R_{Mt} is the return on the market portfolio in time period t and e is the error term or residual value.

Results and Discussion

Return Earned by the Schemes

Table-2 depicts the return earned by schemes against market return for the corresponding since inception date of scheme till March 2005. Return for both the scheme and the market has been calculated form the Net Asset Value (NAV) and daily index value (S&P NSE Nifty) respectively.

All the three schemes of Franklin Templeton i.e., Balanced, Bluechip and Prima Plus among private sector, and the three schemes of UTI

Table-2: Mean Return, Beta and Co-efficient of Determination (R^2)

Name of Scheme	Scheme Return	Market Return	Beta	R^2
Birla Sunlife - Gilt-plus Liquid	-.0021	- .0017	1.0323	0.325
Birla Sunlife - Asset Allocation Aggressive	.0014	.0015	1.0915	0.492
Detusche - Alpha Equity	.0007	.0009	0.8142	0.431
Deutsche - Dynamic Equity Reg.	.014	.0011	0.7911	0.493
DSP Merill - Balanced	.0010	.0007	0.9827	0.662
DSP Merill – India TIGER Fund	.0037	.0021	0.8814	0.678
DSP Merill – Top 100 Equity	.0019	.0013	0.8927	0.754
Franklin Templeton – Balanced	.0033	.0017	0.9913	0.692
Franklin Templeton – Bluechip	.0047	.0016	0.9421	0.714
Franklin Templeton – Prima Plus	.0041	.0011	0.8132	0.729
HDFC – Capital Builder	.0010	.0014	0.7314	0.481
HDFC – Gilt Short Term	.0019	.0027	0.7419	0.581
LIC – Equity	- .0008	.0029	1.0143	0.232
LIC – Index Sensex	- .0051	.0031	1.0215	0.249
LIC – Short Term Plan	.0005	.0016	0.9192	0.330
Prudential ICICI – Balanced	.0004	.0001	0.8929	0.417
Prudential ICICI – Gilt Treasury	.0005	..003	0.7947	0.465
SBI – Magnum Index	.0009	.0008	0.9245	0.786
SBI – Magnum Balanced	.0031	.0020	0.8133	0.610
SBI - Magnum Gilt	.0021	.0014	0.8428	0.625
UTI – Dynamic Equity	.0017	.0011	0.9122	0.703
UTI- India Advantage Equity	.0029	.0015	0.8945	0.714
UTI – Money Market	.0024	.0013	1.0023	0.697

i.e., Dynamic Equity, India Advantage Equity and Money Market among Public sector were the highest return-earning schemes as against corresponding market returns witnessing returns in range of 0.33 per cent to 0.47 per cent and 0 .17 per cent to 0.29 per cent, respectively. Negative returns were observed in three schemes namely, Birla-Gilt-plus Liquid, LIC – Equity and LIC – Index Sensex which also failed to beat the market, and thus were the worst performers. Out of the 23 schemes, 15 schemes (about 65 per cent) had mean returns above their corresponding market returns, which is a fairly good indicator of mutual fund performance. Only the schemes of LIC showed poor performance, while rest had average returns.

Systematic Risk (Beta)

The fourth column of Table-2 presents the systematic risk of the 23 mutual fund schemes. Beta values of higher that unity implies higher portfolio risk for the schemes than the market portfolio, and vice-versa. Five schemes namely, Birla-Gilt-plus Liquid (1.0323), Birla - Asset Allocation Aggressive (1.0915), LIC – Equity (1.0143), LIC – Index Sensex (1.0215) and UTI – Money Market (1.0023) were found to be more risky (beta > 1.0) than the market. Remaining 28 schemes had beta in the range of 0.800 to 0.995 except HDFC – Capital Builder (0.7314), HDFC – Gilt Short Term (0.7419) and Prudential ICICI – Gilt Treasury (0.79470) holding portfolio that were least risk among the lot. In private sector, schemes of DSP Merill and Franklin Templeton were those having adequately risky portfolios well below the market risk, while in public sector the same phenomenon was observed in the three schemes of SBI.

Co-efficient of Determination (R^2)

The last column of Table-2 shows the values of co-efficient of determination for the 23 schemes considered for the purpose of this study, when measured with the market index, NSE Nifty. High value of R^2 shows higher diversification of the schemes portfolio that can easily contain the market variability. The highest R^2 value was found in SBI – Magnum Index (0.786), followed by DSP Merill – Top 100 Equity (0.754) and Franklin Templeton – Prima Plus (0.729), which indicates that these schemes have reasonably exploited the diversification strategy for forming their portfolio. Lower values of R2 as witness in schemes of Birla Sunlife (less than 0.50) and Detusche (< 0.50) among private sector, and LIC in public sector (<0.35) suggest that these are inadequately diversified. The schemes of these three Mutual funds were also observed to have low mean returns with most of them failing to beat the market returns as shown in second and third column of Table-2. Thus it may be safely concluded that inadequate diversification of mutual fund schemes correlated with below-market returns.

Simple mean returns or measures of systematic risk (beta) as discussed above do not highlight the combined effect of both portfolio risk and returns. Thus for meaningful evaluation of mutual fund schemes, risk-return relationship has been analyzed by using different measures of performance as given by Sharpe, Tryenor and Jensen models.

Results of Sharpe Ratio Measure

Table-3 depicts the values of Sharpe ratio for the schemes and the market index. It is an excess returns earned over risk-free return (R_f) per unit of risk i.e., per unit of standard deviation. Positive values of schemes indicate better performance. Higher positive values of Sharpe ratio found in Detusche - Alpha Equity (1.840), Deutsche - Dynamic Equity Reg. (1.781), DSP Merrill – Top 100 Equity (1.771) among the private sector, and SBI – Magnum Index (1.694), SBI – Magnum Balanced (1.923), SBI - Magnum Gilt (2.189), UTI – Dynamic Equity (1.552), UTI- India Advantage Equity (1.300) and UTI – Money Market (1.341) among public sector shows existence of adequate returns as against the level of risk involved. Thus, the investors of these schemes have been rewarded well on their invested money. These schemes were also those, which have out-performed the market index, which further strengthens our above conclusion. 11 schemes (48 per cent) have failed to beat the market Sharpe ratio, and also have shown negative values. The worst performers are the three schemes of DSP Merrill Lynch (negative values and or less than market Sharpe ratio) and the three schemes of LIC namely, LIC – Equity (-0.733), LIC – Index Sensex (-0.841) and LIC – Short Term Plan (-0.433).

Although the three schemes of Franklin Templeton namely Balanced, Blue-chip and PrimaPlus had negative Sharpe values; these schemes had higher values than their corresponding values of market index, which goes to show the better performance of Franklin Templeton in a falling market.

On the whole, the performance has been a mixed one with SBI and UTI being the best in public sector and Detusche taking the glory in private sector.

Table: 3 – Sharpe Ratio, Treynor Ratio and Jensen's Measure (Alpha) of the Mutual Fund Schemes

Name of Scheme	Sharpe Ratio		Treynor Ratio		Jensen Alpha
	Scheme	Market	Scheme	Market	
Birla Sunlife - Gilt-plus Liquid	0.894	1.273	.033	.047	.001
Birla Sunlife - Asset Allocation Aggressive	0.799	1.118	.045	.079	.003
Detusche - Alpha Equity	1.840	1.325	.049	.033	-.012
Deutsche - Dynamic Equity Reg.	1.781	1.259	.037	.024	-.014
DSP Merill - Balanced	-0.673	-0.433	-.093	-.058	.009
DSP Merill – India TIGER Fund	- 0.844	-0.723	-.072	-.067	.014
DSP Merill – Top 100 Equity	1.771	1.826	.084	.092	.018
Franklin Templeton – Balanced	-1.347	-1.449	-.017	-.022	.007
Franklin Templeton – Bluechip	-1.507	-1.818	-.031	-.053	.005
Franklin Templeton – Prima Plus	-1.602	-1.934	-.043	-.061	.002
HDFC – Capital Builder	0.934	0.993	-.077	.089	-.011
HDFC – Gilt Short Term	0.847	1.243	.076	.098	-.004
LIC – Equity	-0.733	-0.507	-.084	-.057	-.004
LIC – Index Sensex	-0.841	-0.615	-.092	-.062	-.001
LIC – Short Term Plan	-0.433	-0.317	-.042	-.035	-.005
Prudential ICICI – Balanced	-0.217	-0.143	-.031	-.037	.004
Prudential ICICI – Gilt Treasury	-0.119	-0.107	-.027	-.022	.002
SBI – Magnum Index	1.694	1.443	.084	.073	.011
SBI – Magnum Balanced	1.923	1.334	.097	.081	.017
SBI - Magnum Gilt	2.189	1.430	.154	.094	.006
UTI – Dynamic Equity	1.552	1.211	.073	.055	.021
UTI- India Advantage Equity	1.300	1.128	.056	.053	.008
UTI – Money Market	1.341	1.098	.058	.041	.014

Results of Treynor Ratio Measure

This measures the excess return earned over risk-free return per unit of systematic risk i.e., beta. The fourth and fifth column of Table-3 presents the Treynor ratio values for the schemes and the market portfolio, respectively. Here, the major observations mirror the similar finding as in Sharpe ratio. The only exception being the 2 schemes of Prudential ICICI namely, Balanced (-0.031) and Gilt Treasury (-0.027) out-performing the market portfolio while in Sharpe measure these were under-performers as against the market. This is primarily due to lower values of beta for these schemes as shown in fourth column of Table-2.

The highest Treynor ratio was found in SBI - Magnum Gilt (0.154), followed by SBI – Magnum Balanced (0.097), SBI – Magnum Index (0.084) and UTI – Dynamic Equity (0.073). The least values of Treynor ratio was witnessed in DSP

Merill–Balanced (-0.093), followed by LIC – Index Sensex (-.092) and LIC – Equity (-.084). 13 schemes (about 57 per cent) showed positive values for Treynor ratio with 15 schemes (about 65 per cent) out-performing the market portfolio values of Treynor ratio.

Results of Jensen Measure (Alpha)

The last column of Table-3 shows the Jensen's Alpha values for the 23 selected open-ended growth-oriented Mutual funds schemes. It is the regression of excess return of the scheme (dependent variable) with excess return of the market (independent variable). Higher Alpha values indicate better performance. Among the public sector, higher alpha was fond with UTI – Dynamic Equity (.021) followed by SBI – Magnum Balanced (.017) and UTI – Money Market (.014), while in private sector higher alpha measures was evidenced in the three schemes of DSP Merill Lynch namely, Top 100 Equity (.018), India TIGER Fund (.014) and Balanced (.009). Positive but t negligible (<0.004) alpha values were recorded in Birla Sun Life namely Gilt-plus Liquid (.0001) and Asset Allocation Aggressive (.0003).

Only seven schemes (30 per cent) showed negative alpha values, which indicate the failure on part of their funds, managers to forecast security prices in time for taking better investment decisions. While LIC failed to have positive alpha value in public sector, negative values was shown in schemes of Detusche and HDFC in private sector.

Table-4: Overall Performance of the Selected Mutual Funds

Mutual Fund Scheme		Return	Beta (Risk)	Sharpe Ratio	Treyor Ratio	Jensen Alpha	R^2
Private Sector	**Birla Sunlife**	Poor	High	+ ve Under-performer	+ ve Under-performer	+ ve Very Low	Very Low
	Deutsche	Moderate	Low	+ve Over-Performer	+ ve Over-Performer	- ve Moderate	Low
	DSP Merill Lynch	Good	High	- ve Under-performer	- ve Under-performer	+ ve Relatively High	High
	Franklin Templeton	Excellent	High	- ve Over-Performer	- ve Over-Performer	+ ve Low	High
	HDFC	Poor	Low	+ ve Under-performer	+ ve Over-Performer	- ve Mixed	Low
	Prudential ICICI	Moderate	Low	- ve Over-Performer	- ve Over-Performer	+ ve Very Low	Low
Public Sector	**LIC**	Poor	High	- ve Under-performer	- ve Under-performer	- ve Low	Very Low
	SBI	Good	Low	+ ve Over-Performer	+ ve Over-Performer	+ ve Relatively High	High
	UTI	Excellent	High	+ ve Over-Performer	+ ve Over-Performer	+ ve Relatively High	High

Note: **Under-performer** denotes situation where the Scheme's Performance is **BELOW** that of the Market;
Over-performer situation where the Scheme's Specific Performance is **ABOVE** that of the market.

Concluding Remarks

Table-4 presents the performance of the mutual funds classified as private sector and public sector, in summarized form showing various parameters of performance. On the basis of returns, UTI mutual fund schemes and Franklin Templeton schemes have performed excellent in public and private sector, respectively. Much of this is due to these schemes having portfolio of equities with high risk (high beta risk). On the other hand, LIC, Birla Sun Life and HDFC schemes have failed to satisfy their investors in terms of returns, which was in spite of taking higher risk.

On the basis of Sharpe ratio, Deutsche, Franklin Templeton, Prudential ICICI (in private sector) and SBI and UTI (in public sector) mutual funds have out-performed the market portfolio with positive values. These funds (except Deutsche and Prudential ICICI) are also observed to have high R^2 values (Coefficient of determination) indicating better diversification of the fund portfolio. The remaining four mutual funds witnessed negative values and also had Sharpe ratio below that of the market. The conclusion remained more or less similar with regard to Treynor measure except HDFC mutual fund turning out to beat the market as out-performer with positive values. Jensen Alpha measure had mixed responses in private sector funds, while in public sector only UTI and SBI managed to relatively high alpha values indicating better performance.

The overall analysis finds Franklin Templeton and UTI being the best performers, and Birla Sun Life, HDFC and LIC mutual funds showing poor below-average performance when measured against the risk-return relationship models and measures. One of the lacunas of this study is that only open-ended growth-oriented schemes have been analyzed for the sample mutual funds. Future research may attempt to investigate and compare the close-ended schemes with open-ended, and also the debt schemes with equity based growth oriented schemes.

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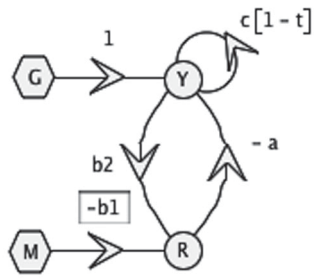


Financial Sector

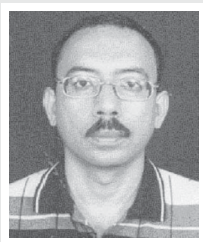
The IS-LM Framework

Ram Pratap Sinha and Debansu Ray

The seminal contribution of J.R. Hicks (1937) in the form of IS-LM analysis expressed Keynesian ideas in terms of a general equilibrium framework. However, in the original IS-LM framework there was no explicit role of the financial sector. The integration of the financial sector into the framework can facilitate the analysis of financial sector disturbances and their impact on the macro economy.

In (neo)classical economics there has been a clear dichotomy between the real and monetary sector. The real sector is concerned about the allocation of scarce resources among competing uses and determines the relative prices. The monetary sector, on the other hand, is concerned about the determination of monetary prices depending on the quantity of money in circulation and the cash holding behaviour of the community. The salient feature of the (neo)classical framework is the neutrality of money in the matter of resource allocation.

The contribution of J.M. Keynes (1936) signified a major departure from the (neo)classical tradition Keynes first pointed out the nexus between the real sector and the monetary sector in terms of speculative demand for money. It was, however, left to Prof. John Hicks (1937) to express Keynesian ideas in terms of a general equilibrium framework popularly known as the IS-LM analysis.



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The introduction of IS-LM analysis in the field of macroeconomic analysis opened new horizons for theoretical modelling. On the one hand, the IS-LM framework provided neat exposition of general equilibrium in terms of product and money markets. On the other hand, comparative static exercises using the IS-LM framework allowed policy makers, economists to consider the impact of various macro measures on real output and interest rates.

In the original IS-LM framework, no

explicit mention has been made of the financial markets and intermediaries. The bond market was considered to be a mirror image of the money market. While this simplified the analysis of financial sector macro economy to a considerable extent, this also deprived the possibility of discussing the effects of financial sector problems on the economy.

The present paper is an attempt to consider the financial sector within the IS-LM framework and consider/analyze the implication of such inclusion for the economy. The present paper is divided into four sections. Section I considers the implication of explicit introduction of the bond market in the IS-LM analysis but ignores the existence of the banking system. Section II introduces the banking sector However, it is assumed that only the quantum channel is available form monetary control. Section III removes this assumption so that money is now endogenous i.e. bank deposit supply is interest elastic. Section IV considers how financial market problems can have its spill over effect on the real sector.

Section I:-IS-LM Analysis with a Bond Market

At the outset, we consider a simple macro model with one output, two financial assets (money & bond) and three types of economic agents: individuals, firms & government. The underlying assumptions are as follows:

1) Real saving in the economy is determined by real income & the real interest rate on bonds i.e. $S=S(Y, Rb)$, $dS/dY>0$, $dS/dRb>0$.

2) Money is demanded by households and firms(Mh and Mf) while its supply is exogenously given (Mo).

3) Bonds are supplied by firms (Bf) and the government (Bg) while they are demanded by house holds hads: Bgh and Bfh are the money value of bonds held by house holds.

4) Government spending in each period are partly money financed and partly bond financed ie. $G = 1/P [dBg/dt + dMo/dt]$.

General Equilibrium for the Economy

The economy is in equilibrium when all the output and input markets clear.

Product Market Equilibrium

Product market equilibrium requires that $S(Y,Rb) = I(Rb) + G$ ——(1) i. e. in equilibrium, real saving must be equal to real private investment plus real government expenditure.

Asset Market Equilibrium

In the asset market, equilibrium requires that the value of assets demanded must equal the value of assets supplied ie.

$Mh(Y,Rb)+Mf(Y,Rb)+Bfh(Y,Rb)+Bgh(Y,Rb)=Bf(Rb)+Bg+Mo$—(2). We can rearrange equation (2) to write $Mh+Mf-Mo=Bf+Bg-(Bfh+Bgh)$—(3).

Equation (3) shows that the bond market is mirror image of the money market & vice versa . Thus an excess demand in the money market ($Mh+Mf>M0$) will cause an excess supply in the bond market ($Bf+Bg-Bfh-Bgh>0$).

Labour Market Equilibrium

Throughout our analysis, we have ignored the labour market. Our assumption is that due to the operation of Walras' law, the labour market will be in equilibrium when the other three markets clear. Therefore we have continued our analysis with the remaining three markets. Introduction of the Bond Market: Implication for the General Equilibrium: The conventional IS-LM analysis describes general equilibrium in terms of the following:

The commodity market is in equilibrium when producer's production plans are realised i.e.

i) $S=I+G$ ——(I)

ii) The money market is in equilibrium when money demand is equal to money supply $Mh+Mf = Mo$——(ii).

However in our present framework, we must add the third condition, which is that the producer's financing plans must be realised.

$dBf/dt = dBfh/dt$ ——————(iii)

Here Bfh is the value of firm issued bonds held by households.

Condition (iii) is of crucial importance for general equilibrium. Condition (i) is a flow condition corresponding to the product market. We must have a parallel flow condition for the bond market, which is given by (iii). Condition (iii) can be derived from the following:

$I = 1/p \{dBf/dt - dMf/dt\}$

$S = 1/p\{ dBfh/dt + dBgh/dt + dMh/dt\}$

$G = 1/p (dBg/dt + dMo/dt)$

Then from $S = I + G$ we have

$1/p\{dMh/dt + dBgh/dt + dBfh/dt\} = 1/p \{dBf/dt - dMf/dt\} + 1/p\{dBf/dt + dMo/dt\}$

$dBhf/dt + dMh/dt = dBf/dt - dMf/dt + dMo/dt$

Money market equilibrium requires that

$dMh/dt + dMf/dt = dMo/dt \Rightarrow dBhf/dt = dBf/dt$

Non-fulfillment of condition (iii) has negative implication for the real sector as the realised output will be lower than the optimal output as assumed by the fulfillment of all three condition described above.

Section II: Introduction of the Banking System (Exogenous Money)

Following the approach of Bernanke & Blinder (1988), we now introduce banking system in our Framework. We define banks as financial intermediaries, which collect deposit D^h from households, and allocates this between loans & bonds (L^b and B^b respectively). The above modification has the following implication for our system:

(a) Households now allocate their saving between two types of financial assets bank deposits and bonds. The households holding of these two are denoted by D^h B^h respectively.

(b) Firms can now mobilise resources either by taking loans or by issuing bonds. Thus $I(Rb,Rl) = B^f(Rb,Rl) + L^f(Rb,Rl) - Mf(Y)$ ——————(4)

(c) Banks have three types of fasset (cash reserves, loans and bonds)
$D^b = D^h = R + L^b + B^b$ ——————(5)
We assume that only households maintain bank deposits.

(d) The quantum of deposits collected by bank is linked to their reserves i.e.
$D^h = R/V$ where V is the deposit multiplier. Thus
$L^b + B^b = R/v - R = R(1/v - 1)$ ——————(6)

(e) The allocation of funds mobilised by banks between loans bonds depend on portfolio optimisation exercise. We can write
$L^b = L(Rb, rL)\ R$ —————— (7)
$dL^b/dRb < 0,\ dL^b/dRl > 0$
and $B^b = B(Rb, Rl)R$ ——————(8)
$dB^b/dRb > 0,\ dB^b/dRl < 0$

(f) Money market equilibrium requires that $Mo = Mf + Mh + R = Md(Y,Rb,Rl)$ where Mhand Mfrefer to money demands of house holds and firms respectively.

Conditions for General Equilibrium in the Macro Economy:

Following the introduction of the banking sector, the familiar IS curve equation is to be replaced by the following two equations:

$I(Rb, Rl) + G = S(Y,Rb)$ ——————(9)

Which ensures equilibrium in goods market

$Lf(Rb,Rl) = L(Rb,Rl)\ R$ ——(10)

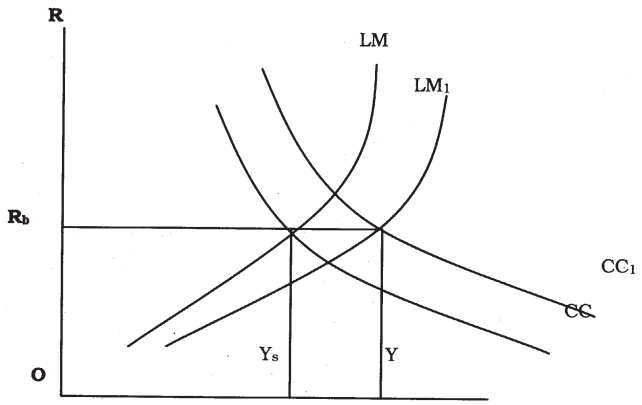
Which ensures equilibrium in the credit market. The equilibrium-lending rate Rl can be found out from equation ——————(10).

$Rl = Q(Rb,R)$ —(1) Using this in equation (11) yields the CC (commodities and credit) curve $I(Rb,R) + G = S(Y,Rb)$ ——————(12).

The General Equilibrium

General Equilibrium analysis is now carried out in terms of CC & LM curves. The CC curve has a negative slope and is subject to parametric shift for changes in the value of v (the deposit multiplier) and in R (cash balance held by banks in the form of reserves).

In the case of a decline in v, deposits mobilized by banks will go up leading to more allocable funds for the banking sector.



As a result of this, the LM curve will shift in the rightward direction. At the same time, the CC curve will move in the rightward direction because the volume of Credit will go up following a decline in v, thus there will be unambiguous positive effect on Y. However the effect on Rb is not clear–it depends on the relative impact on the CC & LM curves.

A similar result will be obtained in the case of increase in R. If banks have more access to reserves, they can increase their credit supply to firms, which in turn can invest more without significantly changing their demand for bonds.

Section III: Endogenous Money

We now consider a modified frame work

(a) Banks now pay an interest rate of Rd on the deposits. Rd is related to the lending/ investment rates in the following manner.

$Rd = (1 - v).Rm - m_d$ _____(13)

$Rm = wRl + (1-w) Rb$

When is m_d the perunit bank deposit maintenance cost

(b) Since firms can either borrow directly by issuing bonds or can take loans, we assume that $Rl = Rb + k \quad k>0$

(c) Banks hold three types of assets:

$L^b + B^b + R = D^b(Y,Rd)$ D^b = bank deposit

$R = R(Md) = aMd(Y,Rd,Rb)$————————(14)

Differentiating,we can get the LM curve equation

$(dY/dRb)LM = -1/dMd/dY\ (dMd/dRd * dRd/dRb + dMd/dRs)$———(15)

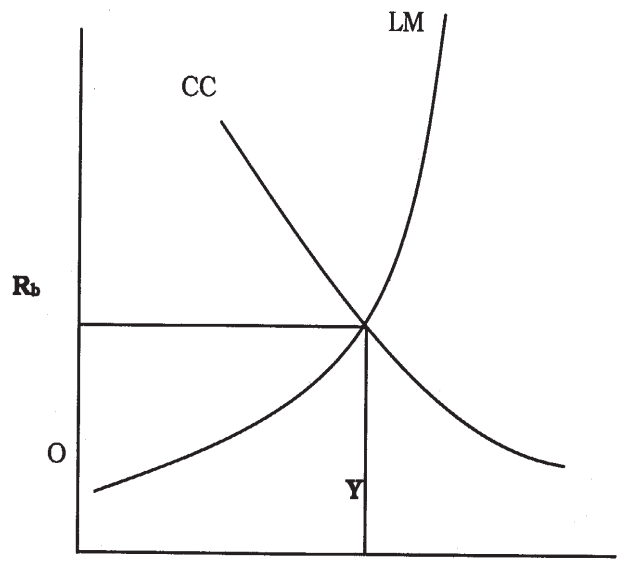
If the demand for money is very sensitive of the deposit rate, the expression can be negative so that LM carve can be downward sloping.

The CC curve is obtained from the IS equation:

$I(Rb,Rl) + G = S(Y,Rb,Rd)$————(16)

By incorporating the equilibrium values of Rl and Rd as a function of Rb. Thus we have $I(Rb) + G = S(Y,Rb)$————————(17).

The curve is decreasing in the (Y, Rb) plane. The curve is different from the previous one in the sense that this one is independent of R i.e. in the present framework; the quantum channel is ineffective unless it is able to influence the interest rates. The effect of a change in Rb on Y is unambiguous: a decline in Rb increases Y and vice-versa. However, the impact of Rb on Md depends on the sign and magnitude of dMd/dRb.



Section IV: Macroeconomic Consequences of Financial Market Failure

The incorporation of financial markets in the IS–LM framework

provide useful insights about how disturbances in the financial sector can have spillover effect on the real sector in the presence of asymmetric information, for example, banks may be subjected to the problems of adverse selection (inability to distinguish between borrowers according to their risk types) and moral hazard (borrowers having hidden private agenda). When such problems exist, both the CC and LM curves will shift in the leftward direction leading to a sub-optimal equilibrium output (Ys) instead of Y. Monetary policy is ineffective here in shifting the output level. On the other hand, expansionary fiscal policy can aggravate the problem by increasing the rate of interest. The analysis thus shows the importance of a sound financial system (characterized by transparency and greater dissemination of information) in bringing about high and sustainable real sector growth rate.

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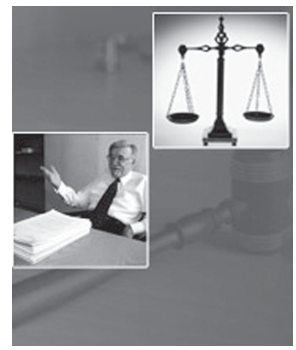
South-African Poultry imports from USA

Anti-Dumping Law, A Trade Barrier?

Kishore G.Kulkarni and Alexa Strear



In November 1999, the Southern African Poultry Association, in conjunction with Rainbow Farms, went to the South African Board on Tariffs and Trade (BTT) to initiate a dumping investigation, concerning the imports of chicken leg quarters from the United States. Their claim was that the United States was selling the leg quarters below the "normal cost" of the US market. A dumping investigation proceeded which ended in the injunction of tariffs against the chicken leg quarters equal to the dumping margins calculated by the BTT. Although the BTT found in favour of the South African Poultry Associations' claim, the United States was not in fact dumping dark meat chicken into the South African market. Instead, the BTT engaged in a miscalculation and manipulation of the data in order to prove dumping in a case in which the US was plainly engaging in fair trade practices. The reason in the first place was not because dumping was actually taking place, but, instead, because the South African poultry industry was seeking protection for their industry against the low and competitive prices of the US product. This case serves as an example of how countries are increasingly utilizing anti-dumping as a tool to protect domestic industries from foreign competition.

Dumping is defined as selling a product in an export market for less than it is sold for in the home market or for less than the importing country views as a fair value, which is usually based on estimates of average cost. Antidumping laws and duties are meant to curb the unfair trade practice of dumping. But beginning in the 1990s, many countries have come to rely on antidumping duties to protect domestic industries. Thus, antidumping duties have become a substitute for tariffs and other trade barriers that have been largely restricted because of the WTO (Dunn and Mutti, 2004).

Antidumping has become a popular trade weapon i.e., in recent years there has been a proliferation of antidumping cases but not due to proliferation of unfair trade practices. What is more often the case is that import-competing industries within industrialized and developing countries alike are initiating antidumping cases to provide protection to their domestic industries from foreign products. Agricultural products, especially high-value perishable items like poultry, have become popular targets for dumping investigations because agriculture is a popular area for protection ("Trade Remedy Laws and Agriculture," 2002).

When dumping is found to be

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occurring, it is supposed to uncover distortions in the foreign producers' market that allow the foreign producers to sell products at low prices abroad. Antidumping measures are then used to create a "level playing field" against the foreign producers (Lindsey and Ikenson "Coming Home to Roost," 2001).

Do antidumping measures ensure a "level playing field?" In some cases yes. But more and more countries are being accused of dumping when it is not in fact occurring. The low price of a product, the bone of contention in the "level playing field" can be due to perfectly fair marketplace behaviour. But an effective mechanism to distinguish between fair and unfair low prices is absent. That is, even if a foreign producer can justify the lower price, the misrepresentation and manipulation of data in a dumping investigation can mean an affirmative finding of dumping, ensuring import duties thus providing protection to the domestic industry (Ikenson, 2001).

The lower price of the foreign product compared to the domestic product does not automatically mean that there are market distortions present. Instead it may point to higher efficiency and cheaper inputs in the foreign market than in the domestic market churning out a cheaper output. It may also be a function of differing tastes between the two countries that allow a foreign industry to export a product at a low price. Furthermore, the market prices in the foreign country, determined by supply and demand, can create a situation where a product can be sold at a low price abroad, and sometimes at a higher price than they would receive in their home market.

This can prove to be trouble for import-competing industries because it may not be able to match the low prices of the foreign competition. Their production costs instead may dictate that they have to sell their product at a higher price. It is this situation that forces import-competing industries to approach the trade council in their country to initiate dumping investigations. Simply because they have a competitive price, the importing country wants to protect its domestic industry by blocking outside competition more and more countries that are competing fairly are being targeted where in fact dumping investigations are meant to target those countries that are engaging in unfair trade practices.

Poultry Industry

In order to understand the dumping case the South Africans brought against the U.S. dark meat chicken products, the nature of the U.S. and South African markets, the costing of chicken products, and information on the U.S. and South African poultry industries must be introduced. Traditionally, dark meat pieces sell for less than half the price of a whole chicken and less than a quarter of the price of breast meat ("India," 2001). The market is such in the United States and other countries (such as the EU, Canada and Mexico) that the breast meat (the white meat) commands a higher price than the dark meat due to consumer preferences and demands more white meat than they do dark meat (Sumner, 2001).

Because of its low consumer demand in the United States, the producers look for other markets to export the dark meat to. Outside the industrialized countries (in places like South Africa), dark meat is typically in higher demand on account of different consumer preferences and South African producers charge a higher price for it, which provides a perfect export market for the surplus dark meat. U.S. producers selling the dark meat at low competitive prices abroad make back the majority of the cost of production from the sale of breast meat at home. This means that the high demand in the export markets, helps U.S. producers to sell the dark meat at a higher price abroad then they are able to in their home market (Sumner, 2001).

When competing firms in countries like South Africa realize that low-priced imports are adversely affecting their sales and profits they are quick to claim that the U.S. is engaging in unfair competition. The dumping investigations ensue, but for the reason of the low competitive prices of the dark meat that the import-competing industry is unable to compete with. The dark meat imports are not in fact being dumped only due to the sale below the "normal cost" of the home market. Instead, the products are being sold above the "normal cost" of the home market per unit of the chicken production with out subsidization.

The United States happens to be the largest poultry industry and is considered to be the benchmark of world poultry producers in the world. The success of the U.S. poultry industry can be attributed to several factors (Sumner, 2001). The industry is vertically integrated, the production process is highly efficient, there is good disease control, a perfect climate for raising chicken, the most updated technology and the unlimited access to a cheap and plentiful grain supply, arising out of bountiful harvest every year, accounts for 50 per cent to 60 per cent of the production cost (Henry and Rothwell, 1995). These factors ensure that the cost of production is low, which makes the price of outputs low. The U.S. poultry industry is therefore highly competitive on the world stage and has a big say in what the world poultry market looks like. Being the largest player in this market, the world market more closely resembles the U.S. market than any other poultry market (Ellis, 2000).

South African poultry producers have a hard time being competitive with the United States for the reason that industry is plagued by high production costs that can be attributed to several factors. The production process is highly inefficient (Shane "South Africa," 1999). Though labor is cheap and plenty, the workforce is poorly trained ("Poultry Meat," 1997). The problems with trade unions have been disruptful to production (Johan Lambrechts & Associates, 2001). The chicken flocks plagued by disease are not always contained and free movement makes the entire flock sick (Shane "Economic Factors," 2002). The poultry industry has to contend with high transportation costs due to underdeveloped rail and roads (Ziggers, 2001). High shipping and packaging costs also add to the production cost ("Poultry Meat," 1997).

The biggest problem is its high feed costs due to the price and availability of grain in South Africa. Grain, the most important part of the production process, accounting for 50 per cent to 60 per cent of the total cost of production has a low yield due to erratic rainfall and temperatures in the country (Henry and Rothwell, 1995). The high feed costs in turn raises the price of the output (Ziggers, 2001).

The South African poultry industry must also contend with low feed conversion efficiency, which is the amount of feed (in kilos) it takes to produce one kilo of meat. It therefore takes more feed and therefore more money to make a kilo of meat than it does in other countries, like the United States (Germishuis, 2000). Below is listed the FCR compared to the live chicken weight.

Chart 1

South Africa's Feed Conversion Rate vs. Live Chicken Weight

Year	1996	(in kilos) 1997	1998	1999	2000
FCR	1.990	2.036	1.999	1.953	1.919
Live Chicken Weight	1.71	1.77	1.71	1.75	1.80

Source: Republic of South Africa 2000 Gain Report (Germishuis, 2000).

The South African poultry industry is an oligopoly. Six producers are responsible for 65 per cent of production (Shane "South Africa," 1999) the largest being Rainbow Farms, the company expected best equipped to contend with competition from the U.S. This is not however the case especially with reported huge losses of the company, besides the above-mentioned problems (Ziggers, 2001). It therefore, in conjunction with the Southern African Poultry Association, accused the United States of dumping dark meat into the South African market, the major component of U.S. chicken imports that were low priced.

Costs in the United States and other industrialized countries are based on net realizable value. That is, breast meat carries the highest cost of the bird because it is in highest demand while the dark meat parts are assigned lower costs accounting a lower demand thus recovering most of the production costs. For example the allocated cost of breast meat is 34.26 while the allocated cost for the legs is only 9.54 and the total cost of the bird is 49.31, while South Africans depended on the high market price of both their white and dark meat products to cover their high production costs.

South African market where the demand for dark meat is about equal to the demand for breast meat, the prices of dark meat and breast meat in South Africa are about equal (Shane "South Africa," 1999). Thus with high costs assigned to both cuts of meat in South Africa, the US had a real advantage with their lower priced dark meat products that the consumer was more inclined to buy, diverting business and creating a troublesome situation for the South African producers. The company sought protection, not from unfair trade practices but from competition they just could not contend with.

The Case of South-African Poultry Industry

Ever since South Africa joined the WTO it was forced to let down its protectionist barriers, opening up the market to foreign competition that proved to be too competitive. In 1997, in order to grant some relief to the South African poultry industry, the Board of Tariffs and Trade imposed a 2.20 rand per kilo tariff on all chicken products at the border ("South Africa," 2000).

However, imports still entered the market, and even with the added tariff of 2.20 rand per kilo, the foreign chicken products remained competitive with the South African prices. The industry struggled on for several more years and Rainbow Farms, sicklier than others in 1998 experienced an especially hard year reporting record losses. To stay afloat, Rainbow Farms, in conjunction with the Southern African Poultry Association, went to the Board accusing the US of dumping chicken leg quarters into the South African market (Board on Tariffs and Trade, 2000).

The Board initiated an investigation on November 5, 1999. The period under investigation was from August 1998 to July 1999. On July 5, 2000 the Board imposed preliminary duties on the chicken leg quarters from US and in December 2000, finalized the dumping

duties on the conclusion that the US had dumped chicken leg quarters into the South African market and that the South African poultry industry had experienced and was in threat of material harm (Board on Tariffs and Trade, 2000).

The dumping duties had been calculated by the South Africans. In addition to the 2.20 Rand per kilo tax at the border, Tyson Foods had to pay an additional 2.24, Gold Kist 2.45 and all other brands from US, 7.25 Rand per kilo which was later lowered to 6.96 Rand per kilo ("South Africa," 2002). These duties were equal to the large dumping margins of 209 per cent to 357 per cent (Lindsey and Ikenson, 2001).

After the imposition of tariff in 1997, U.S. chicken leg quarter imports fell significantly in the following years and with the incredibly high dumping duties in 2000, chicken leg quarters from the United States basically stopped ("South Africa," 2002). This is illustrated in the chart below.

Chart 2

Imports of Leg Quarters into South Africa

(in metric tonnes)

Year	1998	1999	2000	2001	2002
Leg Quarter (USA)	37,583	31,072	19,574	1,245	2,032
Leg Quarter (Brazil)	4,562	8,798	10,925	28,694	40,022
TOTAL IMPORTS (from all sources)	68,020	69,644	64,899	60,942	73,496
USA Market Share	55%	45%	30%	2%	3%
Brazil Market Share	7%	13%	17%	47%	54%

Source: ("South Africa's Broiler Situation," 2003).

The dumping duties achieved exactly what Rainbow Chicken and the Southern African Poultry Association had hoped for, that effectively cut out the U.S. chicken imports and protected against foreign competition.

Was the United States really guilty of dumping leg quarters into the South African market? According to the Board of Tariffs and Trades' finding, yes. But this was because of the way in which the data were collected and calculated that allowed the South Africans to find that dumping was occurring.

In order to find dumping, South Africa had to prove that the chicken leg quarters were in fact being sold in South Africa below "normal value" which could be based on the price of the leg quarters in US: if it is not available it could be determined by the price of leg quarters in a third country. If both of these methods were rejected, the normal value could be determined by "constructed value," or the cost to produce the leg quarters plus some amount for profit.

The cost test would be employed after determining the "normal value." The purpose of the cost test was to determine if the leg quarters were sold at prices lower than the full cost of production (Lindsey and Ikenson *Antidumping Exposed*, 2003).

If the United States was found to have dumped chicken quarters, failed the cost test and was found to threaten or cause material injury, then dumping duties would be imposed on the leg quarters equal to the dumping margins found by subtracting the export price from the normal value and then dividing the difference by the export price (Lindsey and Ikenson *Antidumping Exposed*, 2003).

The first step was determining the "normal value" of the leg quarters from US and then comparing them to the price of leg quarters in South Africa. As discussed earlier, the cost of leg quarters in the United States is based on net realizable value based on demand. Higher the demand higher the price.

As long as the market price for the breast meat is high, that will allow US producers to cost out the less desirable products at a lower relative cost, the return on the sum of the parts of the chicken equating the cost of the whole chicken. The net realizable value technique, a longstanding practice employed by the U.S. poultry industry, is consistent with the generally accepted accounting practices (GAAP) & WTO law, recognized and practiced by both the United States and many countries in the world (Kdunlap@colliershannon.com, 2001).

The U.S. poultry industry, including Tyson Foods and Gold Kist, in accordance with article 2.2.1.1 of the WTO Antidumping Agreement,[1] provided their records to the Board to determine the "normal value" of the leg quarters. The records provided were consistent with the net realizable value and the GAAP and were not concocted or manipulated. US was left with a surplus of leg quarters due to lack of demand that was exported to South Africa because of the high demand for the leg quarters in South Africa thus selling at a higher price in South Africa than it was able to get in the United States, which was consistent with the net realizable value. So how could this case constitute dumping when the United States was selling the leg quarters in South Africa at a price above the "normal value" in the United States and at a price that was consistent with net realizable value?

Chart 3

Average Unit Value of U.S. Leg Quarter Exports to South Africa and Average U.S. Regional Price ($/lb)

Month/Year	U.S. Exports Leg Quarters	NE U.S. Region	S U.S. Region
Aug '98	0.32	0.36	0.32
Sep '98	0.77	0.29	0.22
Oct '98	0.29	0.22	0.17
Nov '98	0.26	0.20	0.17
Dec '98	0.27	0.18	0.14
Jan '99	0.26	0.17	0.14
Feb '99	0.29	0.18	0.14
Mar '99	0.25	0.16	0.13
Apr '99	0.47	0.15	0.13
May '99	0.24	0.19	0.15
Jun '99	0.25	0.21	0.19
Jul '99	0.29	0.22	0.19

Source: (Coleman, Fry and Payne, 2003).

The above chart shows the prices of leg quarter exports (207.14) to South Africa, compared to the price of chilled chicken leg quarters in two regions of the United States (Northeast and South) during the period of alleged dumping (August 1998 - July 1999). What is clear is that the leg quarter prices in South Africa are higher than the leg quarter prices of the United States.

The Board recognized the records provided by the U.S. poultry industry, and its key players, Tyson Foods and Gold Kist, saying that "this costing policy may generally be consistent with acceptable international accounting practices…did not question or dispute the fact that the producer's methodology is consistent with the application of generally accepted accounting practices (GAAP) in the USA" or that "such allocations have been historically utilized by the exporter" (Board on Tariffs and Trade, 2000).

The Board decided to reject the cost allocation of the U.S. poultry industry based on the net realizable value for the reason that records did not "reasonably reflect the costs associated with the production and sale of the product under consideration" (Article 2.2.1.1 Antidumping Agreement). This was an unreasonable argument for the Board to make because the market determined that costs reflect

the premium commanded by the breast meat, which covered the majority of the cost of production allowing the U.S. to charge a lower price for the leg quarters.

The Board went on to state that the consumer preference for breast meat in the US constituted a "particular market situation" as "is also prevalent in a number of other countries, such as Canada and the European Union" along with the longstanding cost allocation system of the US utilized by other poultry industries of the world and they deemed the U.S. market as an abnormal situation and rejected allocations (Board on Tariffs and Trade, 2000). Instead they chose to focus on the South African consumers' equal taste for both white and dark meat, effectively nullifying net realizable value.

The question arises of which country actually constituted the abnormal situation when it comes to consumer preferences, the United States or South Africa? This is a matter of discretion, and the Board happened to have the power to make that decision. The US poultry market does not represent an "unusual market situation" as they reflect the world market.

The U.S. cost allocation system was further rejected by the Board based on the premise that the accumulation of costs principle was not used. The South Africans made the argument that any part priced below the cost of producing the whole chicken was dumping. South Africa used this unfathomable reasoning to argue that the United States could not sell leg quarters for less than the cost to produce the whole chicken and thus suggested that the price of leg quarters should be equal to the price of a whole chicken. This argument is completely illogical, yet an argument made by the Board in order to reject net realizable value. The Board determined that the appropriate way to reallocate costs was by weight, i.e., the whole chicken cost over the weight of the whole chicken. A cost was assigned to each cut of the bird, regardless of the type of meat (dark or white) (Ellis, 2000).

By rejecting net realizable value, the Board was able to utilize "constructed value" as its tool for determining the "normal value" of the U.S. leg quarters. This ensured that dumping would be found and that high dumping duties would be put into effect (Lindsey and Ikenson "Coming Home to Roost," 2001).

Under the Board's weight-based cost allocation system, the claim was that dark meat made up the greatest percentage of the chicken thus was assigned the highest cost resulting in a significant reassignment of costs from the breast meat to the dark meat which now had to cover the majority of the cost of production (Coleman, Fry and Payne, 2003). The weight-based method was faulty as the dark and light meat portions of the chicken are just about equal in parts. As shown in Chart 4 on the following page, the breast meat makes up 29 per cent of the bird and the dark meat makes up 29 per cent (wings + thighs + drumsticks).

Chart 4

Makeup of the Chicken

Cut	% of Carcass
2 breasts	29.0
2 wings	8.0
2 thighs	11.0
2 drumsticks	10.0
Back bone	11.0
1 gizzard	2.5
1 liver	1.5
1 neck	3.0
1 heart	0.05
2 feet	3.0
Feathers, entrails, blood	20.95
TOTAL	100

Source: ("Association of Meat Importers and Exporters Report," 2003)

The Board then went back to review the data provided by the U.S. poultry industry. Based on the weight-based allocation system, the United States was guaranteed to be found selling the leg quarters below "normal value" because leg quarters were assigned a significantly higher price by the Board. This made it look as if the United States was selling below the cost of production that was far from reality.

The next step for the Board was determining if the U.S. leg quarters had threatened or caused harm to the South African poultry industry. The Board proceeded with an equally problematic material injury investigation. One major problem is that there is a lack of clear standards available for judging whether there is actually a link between the dumped products and a real threat or injury to the import-competing industry. Often times, any coincidence of dumped imports and injury suffered by the competing industry is regarded as an affirmation of material injury. The job of the investigating body, in this case the Board, is to disentangle all the factors that could possibly be causing material injury and determine

if the dumped imports are in fact causing and threatening material injury (Lindsey and Ikenson *Antidumping Exposed*, 2003).

This is embodied in Article 3.5 of the WTO Antidumping Agreement[2], which was later affirmed by the WTO Appellate Body decision in the Japanese challenge to the U.S. antidumping investigation of hot-rolled steel (WT/DS184/AB/R). The Body affirmed that imports could not be lumped with other factors that might be causing material injury to the import-competing industry. The factors must be disentangled and the impact of each factor on the industry must be separately examined (Lindsey and Ikenson *Antidumping Exposed*, 2003).

In the South African antidumping case, the Board failed to take into account the other factors that might have caused material harm to the South African poultry industry. In the final report, the Board took note that there might have been factors within the domestic industry that led to injury, but they failed to investigate them further (Board on Tariffs and Trade, 2000).

There were other problems with the investigation of material injury. Based on Article 3.2 of the WTO Antidumping Agreement,[3] the Board found that the volume of leg quarters in the South African market was ground to convict the United States of material injury. South Africa claimed that the volume of U.S. leg quarters had increased; as was not in fact the case (refer to Chart 2, pg. 11). The U.S. poultry products did make up a significant share of the South African poultry market, this does not mean there was a direct correlation between the volume of U.S. poultry products and material injury which must be proved in order to prove material injury, and the Board failed to do this (Kdunlap@colliershannon.com, 2001).

In accordance with Article 4.1 of the WTO Antidumping Agreement,[4] the Board was responsible for investigating the material injury of the industry as a whole, not just a couple of key players that claimed to be injured from the U.S. leg quarters imports. The Board only investigated a couple companies that claimed injury. This investigation process was problematic for a couple reasons. The Board only collected information from three companies constituting 46 per cent of the industry, Rainbow Farms, Early Bird Farms and Country Bird (Board on Tariffs and Trade, 2000) and relied solely on this data provided to prove that material injury had occurred; where in fact these were the companies, especially Rainbow, that faced the most financial troubles, but, of course, was not considered by the Board. It also turned away information from firms that did not support the claim of material injury. Under WTO rules, the Board is under instruction to examine claims from the majority of the domestic industry. The three firms only made up (Board on Tariffs and Trade, 2000).

In the end, the Board found that the South African poultry industry had experienced material injury and that they were threatened with further injury if the United States was allowed to continue to export leg quarters into the South African market with the result of implementation of import tariffs equal to the dumping margins calculated by the Board (Board on Tariffs and Trade, 2000). With the reallocation of costs and the use of constructed value, the leg quarters assigned a significantly higher cost with the difference between the "normal cost" (calculated by the Board) and the export price being huge. These margins were then translated into dumping duties that equaled 209 per cent to 357 per cent (Lindsey and Ikenson "Coming Home to Roost," 2001) basically putting an end to leg quarter imports from the United States. Thus the South African poultry industry and Rainbow Chicken got what they wished, the exclusion of U.S. leg quarters from South Africa, or in other words, protection for the South African poultry industry against foreign competition.

Aftermath of the Investigation

Needless to say, the poultry producers in the United States were not pleased with the outcome of the case for one very important reason that the tools used to prove dumping case against the US, could easily be adopted by other countries whose import-competing industries were also struggling under the intense competition from the low price of U.S. leg quarters, a dangerous precedent which could potentially result in the U.S. loosing its biggest export markets, like Russia and China/Hong Kong ("Poultry Meat," 1998). Therefore U.S. poultry industry insisted that this case be appealed to the WTO but the US Trade Representative has so far refused the industry's request to take the matter to the WTO (Sumner, 2001). Instead, the U.S. government reported that it is working co-operatively with the South African government to address the poultry industry's concerns ("USTR," 2002).

Even with the high antidumping duties, there will be little growth in the industry and there is not expected to be any new producers entering into the market (Shane "Economic Factor," 2002). When it comes to production, the South African poultry industry remains disadvantaged in areas like grain production, which will continue to keep their production costs high and therefore the price of their products high (Shane "South Africa," 1999). The South African consumers are the ones who pay for the industry's protection. The

consumers, especially those in the lower income bracket, are worse off than before the antidumping duties. By 2001, the prices of leg quarters had already risen by 30 per cent (Cook, 2001).

Conclusion

This case is a clear-cut case of protectionism. The United States was not dumping leg quarters into the South African market. The cost-allocation system of the U.S. poultry industry, net realizable value, was historically used and longstanding not only a reflection of reality of the U.S. market but also was representative of the world market for poultry as well. Based on net realizable value, the records of the United States should have been used to determine the "normal value." The reasons used to reject the U.S. records, that of an "abnormal market situation" and the costs did not accurately cover the costs of producing the whole chicken had absolutely no sound basis. The basis for claiming material injury did not stand up because the South Africans failed to take into account the sickly state of their domestic poultry industry, which in fact was responsible for the industry's injury.

In the end, the South African poultry industry was seeking protection, not from dumped leg quarters, but from the competition, based on fair trade, the leg quarters brought with them. Since joining the WTO and letting down most of their barriers to trade, South Africa's poultry industry was opened up to foreign competition from foreign industries that simply had more factors going for them, allowing them to come out with low priced quality products. The South African poultry industry sought protection in 1997 with a 2.20 Rand per kilo tariff at the border against leg quarters ("South Africa," 2000). When this failed to adequately protect them from the foreign competition, they took advantage of what the industrialized countries had been using for years, antidumping measures. This provided protection that it effectively shut the U.S. leg quarters out of the South African market.

Further proof of the South African poultry industry's search for protection came when the Brazilians stepped in to take over the U.S. market share of leg quarters who provided the same competitive prices that the US had, not due to unfair trade practices, but because of the success of Brazil's poultry industry ("Association of Meat Importers and Exporters Report," 2003). In order to protect from Brazil's competition, the South African poultry industry approached the Board again in 2003 and asked for a dumping investigation of all poultry products originating from all countries ("South Africa," *International Egg and Poultry Review*, 2003). It is not plausible that every chicken product originating in all countries is being dumped into South Africa.

If the United States were to appeal the case at the WTO, there is no doubt that the United States would win its case against the South Africans. Already the U.S. poultry industry is seeing the repercussions from countries like India and Russia that are filing similar bogus charges. Not only would appealing the case to the WTO prevent similar cases from springing up in the future, it would also set a precedent that dumping cases are not meant for protection, they are meant to prevent dumping. It is too simple for countries to accuse and prove dumping, and the proof is in the increasingly high number of dumping cases initiated each year, especially by developing countries. The majority of dumping cases are brought to protect industries that simply cannot compete with low prices. Low prices do not necessarily mean dumping, low prices might be attributed to different factors including supply and demand, consumer preferences and low production costs.

Foot Note

Article 2.2.1.1 of the WTO Antidumping Agreement: Costs shall normally be calculated on the basis of records kept by the exporter or producer under investigation, provided that such records are in accordance with the generally accepted accounting principles of the exporting country and reasonably reflect the costs associated with the production and sales of the product under consideration. Authorities shall consider all available evidence on the proper allocation of costs, including that which is made available by the exporter or producer in the course of the investigation provided that such allocations have been historically utilized by the exporter ("Antidumping Agreement: Article VI of the GATT 1994").

Article 3.5 of the WTO Antidumping Agreement: The demonstration of a casual relationship between the dumped imports and the injury to the domestic injury shall be based on an examination of all relevant evidence before the authorities. The authorities shall also examine any known factors other than dumped imports, which at the same time are injuring the domestic industry, and the injuries caused by these other factors must not be attributed to the dumping imports ("Antidumping Agreement: Article VI of the GATT 1994").

Article 3.2 of the WTO Antidumping Agreement: With regard to the volume of the dumped imports, the investigating authorities shall consider whether there has been a significant increase in dumped imports, either in absolute terms or relative to

production or consumption in the importing Member ("Antidumping Agreement: Article VI of the GATT 1994").

Article 4.1 of the WTO Antidumping Agreement: For the purposes of this Agreement, the term "domestic industry" shall be interpreted as referring to the domestic producers as a whole of the like products or to those of them whose collective output of the products constitutes a major proportion of the total domestic production of those products ("Antidumping Agreement: Article VI of the GATT 1994").

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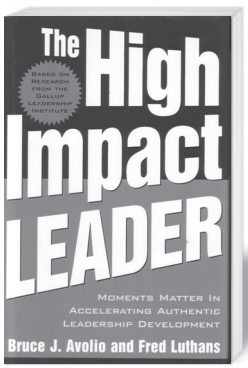
Skimming and Scanning



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Every individual, in the course of his life and experience, faces a number of positive or negative moments, sometimes the result of a carefully done exercise or at other times completely unplanned. These "moments that matter" or "trigger moments," inconsequential or monumental at the time, can become key moments that can profoundly shape our destinies provided we take advantage of them. These moments could be highly negative like a tragic event or positive things like recognition for the effort you make and success you gain. Conventionally, most of the people always highlight some negative moment that impacted them, but authors argue that people can draw value from all such moments, whether negative or positive, if one understands the potential in them. The book provides with the information and knowledge one needs to recognize and understand these "moments that matter," and use them in one's journey of Authentic Leadership Development (ALD).

The book is thoroughly based on research from the Gallup Leadership Institute. The authors argue that the bringing up of the person definitely has an impact on the process of one's own development into an authentic leader. They cite the examples of Jack Welch and Richard Branson, who were influenced by their mothers who always advised them to face things in a realistic manner or believe in the capacity to attain greater heights.

The most important revelation about authentic leadership arises when the authors compare the authenticity of business leaders and military leaders. A survey conducted by Gallup Leadership Institute over a period of thirty years shows that the confidence and trust in the US military leaders has more or less remained at 80 on a scale of 1 to 100 in spite of the Vietnam debacle, 9/11 or even recent criticisms against their war on Iraq. In contrast to this, confidence and trust in business leadership hovered around a low 28. This is, in spite of a jump in the number of ethics officers appointed in US organization by 25 per cent over the period. One thing business leaders can be happy about is that it has not dipped considerably despite the dot-com bubble burst, 9/11 and Enron & WorldCom. The authors go on to analyse what reasons make people more confident about military leaders or what makes military leaders to be seen as more authentic? The authors feel that there is no better way of demonstrating one's authenticity than the willingness to sacrifice your life for a cause, a mission and in the military people's case your fellow soldiers, for the people and the country. To others, self-sacrifice signals one's commitment. "It may be as simple as waiting in line last to be fed, delaying your vacation

to help someone get their project done, evenly splitting the rewards from a successful project, giving up something you value for the good of your group, and/or saying what you think when it most matters, even if it will detract from your career prospects or compensation bonus" says Avolio & Luthans. The authors narrate some of the well-known examples like Disney's Eisner, who over a recent five-year period, returned – 41 per cent to the shareholders, but was paid a whopping $706.1 million over the same period to point to why business leaders don't create confidence and trust in the minds of the people.

The authors, like any other book on leadership also, discuss the "born vs made" issue and concludes that it is one-third born and two-thirds made.

The ALD process has four basic core-components:

- Self-awareness: insights about one's own qualities, expectations, values, personality, attitude, efficacy, behaviour and action. This helps one to move from 'actual-self' to 'possible-self.'
- Self-regulation: taking the right fork on the road; when to stay the course and when to change.
- Self-development: authors introduce the term psycap for the constituencies that are essential for self-development like self-efficacy, hope, optimism, resiliency etc. In the process of self-development one has to move from will power (like beliefs and convictions) to way-power (establishing a pathway); one has to go on depositing into the "Psycap Bank" to increase the balance of Psycap at any point of time.
- Sustainable and veritable performance: the ALD is not the end in itself and the aim of ALD is sustainable, veritable performance; the leadership has to create the 'conditions of success.' The performance yardsticks have to be developed based on what constitutes the typical range and what constitutes extra-ordinary range.

The book provides a plan for one's ALD as the last chapter.

A good book on authentic leadership development. Of course mistakes like spelling Gandhi as Ghandi should not have occurred. The only drawback I could notice was that the authors have not given living examples of authentic leadership. They have mentioned only one example from the business world, Buffet, in the whole text. Of course, they argue that the book is on Authentic Leadership Development and not on Authentic Leaders. I feel that people usually will be able to get more inspired if they already know somebody who has been successful using the ALD process. For example, I could identify the qualities and traits of leadership better with material from *The Leadership Engine* or *The Cycle Of Leadership* or *The Leadership Challenge* since they contained stories of practices, behaviours and successes of real life examples.

About the Authors

Bruce J.Avolio, Ph.D., holds the Clifton Chair in Leadership and is the Director of the Gallup Leadership Institute at the University of Nebraska. He has published extensively in journals and authored books, *Full Leadership Development: Building the Vital Forces in Organizations* (Sage, 1999), Leadership *Development In Balance: Made/Born* (Lawrence Erlbaum, 2005) and *Psychological Capital: Developing the Human Competitive Edge* along with Fred Luthans and Carolyn M.Youssef (Oxford, 2007) etc. While serving on the editorial boards of several top academic and professional journals, he also consults with a number of companies around the globe.

Fred Luthans, George Holmes Distinguished Professor of Management at the University of Nebraska, is a senior scientist with Gallup Leadership Institute. A former president of the National Academy of Management, is a member of the Academy's Hall of Fame, Luthans has written more than 150 articles and papers, and a number of textbooks including the *Organizational Behaviour into its 10th edition*, *Organizational Behaviour Modification & Beyond* with Robert Kreitner which won the American Society of Personnel & Administration award (1985, Scott, Foresman), *International Management* with Richard Hodjetts and Jonathan Doh (2003,McGraw Hill) is also the Chief Editor of Journal of Business and Editor of Organizational Dynamics.

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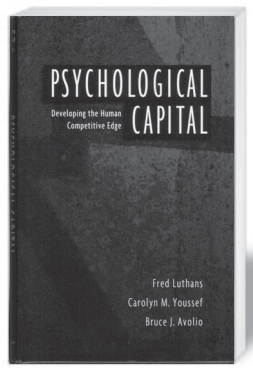

Title : ***Psychological Capital***
Developing the Human Competitive Edge
Author : **Fred Luthans, Carolyn M.Youssef & Bruce J. Avolio**
Edition : **2007**
ISBN : **0-19-518752-0**
Pages : **246**
Publisher : **Oxford University Press, Inc. New York.**

The book under review co-authored by Fred Luthans with Carolyn M. Youssef and Bruce J.Avolio goes beyond Human and Social Capital and unveils a new resource for competitive advantage – Psychological Capital (PsyCap).

An outstanding feature of this book is that it is the result of the confluence of the still emerging Positive Psychology movement and the authors pioneering research work on Positive Organizational Behaviour (POB).

Spanning across nine chapters, this book has a strong theoretical foundation. The Introductory Chapter provides the reader with the background and meaning of Psychological Capital including the relevance of this new approach: the contribution of Positive Psychology, Positive Organizational Scholarship (POS) and Positive Organizational Behaviour (POB). It is known to anyone that Organizational Behaviour draws heavily on the field of Psychology. Hence major shifts and trends in Psychology eventually ripple through OB. One such recent shift being felt in OB is the Positive Psychology Movement on which the PsyCap is based. At the outset, the authors give a clear differentiation of PsyCap from Human and Social Capital.

According to the authors, Psycap is an individual's positive state of development that is characterized by four capacities namely PsyCap Confidence: needed to succeed, PsyCap Hope: the will and the way, PsyCap Optimism: realistic and flexible and finally the PsyCap Resiliency: bouncing back and beyond. Separate Chapters are devoted for each of the above capacities providing the readers with a fairly good idea about each of the capacities.

In the next Four chapters devoted for each of the capacities mentioned above, a reader could see a consistency in the pattern of writing. All these Chapters begin with an introduction of the capacities under consideration followed by its relevance to the managers and leaders. The authors then move onto how a particular capacity can be developed and finally an overview of the impact on Organization and work related performance. Though the authors being staunch advocates of Positive Psychology Movement, the potential pitfalls associated with the implementation of each of these capabilities are also highlighted.

Chapter Six and Seven are devoted to the other selected Cognitive and Affective potential PsyCap constructs such as creativity, wisdom, well-being, flow followed by the possible Social & higher order strengths namely humour, gratitude, forgiveness, emotional intelligence, spirituality, authenticity and courage respectively. The authors summarize the research demonstrating the performance impact of PsyCap.

Chapter Eight on Measurement and Development of PsyCap provides the reader with a utility analysis indicating that investing

in the development of PsyCap as presented in this book can result in a very substantial return. This aspect of return on investment is crucial as far as the implementation of Human Resource Management concepts are concerned. Due to the qualitative nature of the human resource concepts; measurability still remains an area of great concern. Hence measurability of the usefulness of this new resource, PsyCap will make it all the more appealing to the technical people also.

The authors go on to provide the Psycap Intervention Model as a developmental aid and the PsyCap Questionnaire (PCQ) as a measurement tool. The effectiveness of the PCI model is substantiated with research evidence.

Nowadays, Organizations are re-engineered for greater speed, efficiency and flexibility. In this scenario of rapid change characterized by globalization, downsizing etc organizations rather than speaking at length about investing in their human resource it would be ideal if they could focus on the emerging concept of PsyCap which is essential for developing and sustaining competitive edge. The utility value of this new resource makes it all the more authentic. Moreover the term is not a vague or unscientific concept. This is a must read for all the people who believe in the power of Human Resource with all its capabilities and weaknesses.

The authors are successful in carefully interweaving certain reflective exercises to provide the reader with an opportunity to assess ones own Psycap.

This book speaks about the impact of the so-called intangibles in management today. This book may not have interesting stories and anecdotes to sustain the readers' interest but it is tangs of the indomitable force of detail and meticulous research. It is sure to create a ripple in the field of Human Resource Management. Globally speaking, this is a movement in the making!

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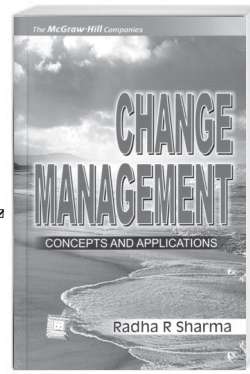

Title	:	***Change Management***
		Concepts and Applications
Author	:	**Radha R.Sharma**
Edition	:	**2007**
ISBN	:	**0-07-063586-2**
Pages	:	**272**
Publisher	:	**Tata McGraw-Hill Publishing Company Ltd., New Delhi.**

This book is borne out of an honest effort of the author by probing into the phenomenon of change. The book presents a cogent and scholarly account of change management, delineating the concepts, present trends, research and applications, that would prove to be a good text book for the post graduate students of management and teachers. This book would also serve as a good guide to the executives of the corporate world.

Change is the only accelerating constant in the contemporary business environment. In fact, successful companies go beyond adapting to the changes. They anticipate change and initiate actions within the organizations to meet those challenges; otherwise they will be wiped out in the tsunami of change. Hence management of change has become a critical and crucial factor for the organization's survival, growth and to have a sustainable competitive advantage.

The present book, under review, answers the questions such as what are the dimensions of change? What causes resistance to change? How to overcome those resistances? Who are change agents? How much role does leadership play? What kind of organizational structure facilitates? change in a lucid way. The book has seven chapters.

The first chapter gives a comprehensive overview of change forces, types of change along with the theoretical backdrop of organizational change. Different perspectives of organizational change are dealt in the second chapter. The significant feature of this chapter is the inclusion of spiritual and vedantic perspectives and their relevance in the present context. Chapter three discusses models of change in detail and their interpretations reflect the efforts of the author who has done substantial research in this area. Organizational efforts may turn to be a fiasco if the organization is not able to deal with the resistance that arose out of change initiatives. Resistance may take the forms of reduction in output, increasing quits and transfer requests, chronic quarrels, hostility and strikes. The chapter four embodies all those factors that contribute to resistance, cognitive and affective process underlying resistance and the steps for reducing resistance to change and methods for handling resistance. Various roles of change agents and leadership, skills required for a change agent are delineated in the fifth chapter. Chapter six deals with implementing organizational change from the practitioners' perspective in the form of diagnosing organization's capability and strategy for organizing change. The last chapter highlights the functions of organization's culture and change, and strategies for culture change.

This book is further rich with case studies on innovation (Wipro), business excellence (Tata Steel), organizational evolution (Reserve Bank of India), leadership and change (Clariant India), People problems (Xerox), Organizational turnaround (Asoka Spintex) that will help in applying the concepts presented in all the chapters.

Prof. Radha Sharma has to be appreciated for her excellent book on change management, which will help all those interested or engaged in the process of change management initiatives.

About the Author: Dr.Radha R. Sharma is Chairperson and Professor of Organizational Behaviour and Human Resource Development at MDI, Gurgaon. A gold medalist, she has over 28 years of experience of teaching, research, training, consultancy and psychometric testing in India and UAE. She is a prolific writer and has published eight books and 45 papers in journals of repute. The book on Change management-concepts and applications is another feather to her cap.

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Aims and Scope

The *SCMS Journal of Indian Management* is a peer-reviewed Journal. The Journal deems it its mission to submit to the readers fresh fruit of management thoughts and rich cream of current innovative research. The format of the Journal is designed reader-friendly. The academia and the corporates have an easy access to the Journal.

The Journal looks for articles conceptually sound, at once methodologically rigorous. The Journal loves to deal knowledge in management theory and practice individually and in unison. We wish our effort would bear fruit. We hope the Journal will have a long life in the shelves catering to the needs of b-students and b-faculty.

- § Proposals for articles that demonstrate clear and bold thinking, fresh and useful ideas, accessible and jargon-free expression, and unambiguous authority are invited. The following may be noted while articles are prepared.
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- § What are the real-world implications of the proposed article? Can the central message be applied in businesses today, and if so, how?
- § Who is the audience for your article? Why should a busy manager stop and read it?
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"It is one of these March days when the sun shines hot and the
wind blows cold: when it is summer in the light, and winter in the shade"

From SCMS Flora

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