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THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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The CMA professionals would ethically drive enterprises globally by creating value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting.

Vision Statement

The Institute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally.

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FOREWORD

Greetings and best wishes of New Year!!!

I am in high spirits to bring forth the present volume of the Research Bulletin Vol.46 I & II, April & July'20 issue of the Institute. The publication contains well-researched and thought provoking articles on a variety of relevant issues for researchers, academicians and professionals.

Hon'ble Prime Minister Mr. Narendra Modi on May 12, 2020 announced the Special economic and comprehensive package of Rs 20 lakh crore to fight COVID-19 pandemic in India. He gave a clarion call for Aatma Nirbhar Bharat or Self-Reliant India Movement. He also outlined five pillars of Aatma Nirbhar Bharat – Economy, Infrastructure, System, Vibrant Demography and Demand.

The stimulus package announced by the Government recently under 'Atmanirbhar Bharat 3.0' will have a trigger impact on consumption, especially across stressed sectors, accelerate economic recovery and incentivise job creation, executives of large consumer goods companies said. Under the stimulus package, an additional Rs 10,000 crore has been set aside for the PM Garib Kalyan Rozgar Yojana in the current financial year, while Rs 73,504 crore has been released for rural jobs guarantee scheme NREGS and 251 crore person-days of employment have been guaranteed. Consumer electronics and mobile phone manufacturers said they expect a surge in consumption due to the direct and indirect sops provided to the industry for job creation.

In this edition, a wide array of topics based on Indian Economy – Financial Performance Analysis, Banking, Taxation, MSMEs, Environmental Accounting and Reporting, etc. have been inserted. Hope this would persuade readers to board on a lifelong journey of learning and enriching their knowledge base.

CMA Biswarup Basu
President
The Institute of Cost Accountants of India

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CHAIRMAN'S COMMUNIQUÉ

COVID-19 has led to huge structural and behavioural changes in the form of social distancing, drive for economic rejuvenation, and increasing regulatory and government interventions. These changes, such as disruptions to physical operations, impact on asset quality and liquidity, and demand pressure on digital channels, have posed challenges to financial institutions across key functions.

Each financial services organisation should make sure it is evolving in line with its competitors to create greater value for customers and employees. This can be achieved through innovation in products and services. AI and robotics can be used to reduce costs and mitigate risks through capabilities such as self-supervised learning and logical reasoning. Blockchain can be used to provide a holistic view of an organisation's ledger, which increases collaboration and transparency across the business. Both forms of innovation enable employees to focus their time towards value-add activities which will continue to provide a more seamless experience for the customer.

There is always certain amount of risk involved in transformation, but this can be overcome by carefully managing business operations and eliminating silos. Due to the impact of COVID-19, business continuity planning is not an option but a necessity, and needs to be built into any transformation alongside industry-specific demands that financial services organisations face, including changing customer expectations and strict regulations. Thus, the most important aspect for businesses to remember is that value drives every aspect of change, i.e., transformation strategy to be viewed through a value lens.

I feel privileged to place before you the present volume of Research Bulletin, Vol.46 I & II, April & July 2020. Our Research Bulletin mainly highlights on pragmatic research articles and has a much wider reader base consisting of academicians, researchers, industry professionals and practitioners.

This Bulletin comprises of articles on contemporary economic issues- Corporate Governance, Cross-Border Acquisition, Financial Performance, Banking, Taxation, etc.

The readers are invited to put forward their valuable feedback towards enrichment of Research Bulletin.

Suggestions for improvement of this Bulletin shall be highly cherished.

CMA (Dr.) K Ch A V S N Murthy
Chairman
Journal & Publications Committee
The Institute of Cost Accountants of India

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EDITOR'S NOTE

Greetings!!!

It is our pleasure to launch the current volume of the *Research Bulletin, Vol.46 I & II, April & July 2020,* an offering of the Directorate of Journal & Publications of the Institute. The Research articles incorporated here constitutes varied issues of socio-economic aspects. Thus our endeavour is to draw attention to the vitality in environmental, social, economical and market-related issues, so that the society can explore the surroundings, become adapted to the transformation in an effective manner and can take decisions aptly.

The present volume of Research Bulletin comprises of articles on contemporary economic issues - Corporate Governance, Cross-Border Acquisition, Environmental Accounting, Financial Performance, Banking, Taxation, etc.

Good governance is crucial for real growth of any organization. India has made substantial progress ever since the SEBI regulations of 2000 but the implementation remains sketchy especially in PSUs. However with reference to the Asian and world benchmark codes, definite challenges remains for these major economies particularly in practice and implementation of the best practices. As better governance is a dynamic process of evolution, further refinements, better implementation and oversight needs to be done to better the impact for overall Business Enterprise Governance.

With a substantial increase in the number and value of cross-border acquisitions, it becomes a compulsion to evaluate the financial efficacy of such an evolving corporate strategy. Whether a paradigm shift in corporate strategy of expanding operations abroad via overseas acquisitions actually increase the value of the acquiring firm, needs to be evaluated and estimated. Major advantage of using Data Envelopment Analysis is that it indicates how much the inefficient firm deviates from the efficient firm; thus allowing for possible efficiency improvement.

Today environmental accounting plays an important role for measuring and understanding the natural environment and its effect on the development of an economy. Such environmental accounting provides data relating to contribution of natural resources to economic development as well as cost imposed by environmental pollution and resource degradation. In India, the environmental accounting and reporting is in initial stage and its disclosure in the corporate annual report is poor. A well-defined environmental policy and proper accounting practice and disclosure must be advocated in the Indian and global outlook for the sustainable development of a country otherwise the eyes of the corporate management will remain shut towards the deterioration of the environment.

Principal Component Analysis (PCA) is a valuable statistical technique which helps us to group common types of factors among a number of factors. It can be used to measure the magnitude of financial problems of MSME sectors and to identify the factors which are mostly responsible for financial problems of MSME. By applying PCA it was found that complex formalities, taking too much time to sanction loan and loan limit are the major factors for financial problems of MSME sector.

The banking sector in India especially the public sector banks, are facing cut-throat competition in terms of capital adequacy, assets quality, management ability, and cutting edge technology from private sector competitors. With the new entrants recently, the competitive challenge is set to increase dramatically. Unquestionably, the public sector banks desperately need to minimize costs, develop customers relationships, enhance the market share and product mix, and take suitable pricing decisions to increase profitability and to sustain in the market circle. In knowledge driven banking sector, turning out every employee into efficient and effective helps the banks to stand against the competition. Performance management system is a means to measure and improve the performance of employees and the organization. Though presence of BSC is prevalent in the international banking arena, its performance measurement tool, has not found much of its way to the banking sector in India as revealed by the literature. The current research contributes to the literature on banking studies written in the context of India. Further, this study shall address the problem of developing a BSC model to understand the holistic performance of PSBs. The performance results can benefit the banks under study, financial sector analysts and the stakeholders.

Taxes provide the most sustainable source of revenue to governments to help accomplish their basic duty of ensuring the progressive realization of human rights of citizens. Taxes levied on multinational corporations contribute much to nation. Despite this, issues concerning taxation and other fiscal policies rarely follow UN human rights declarations or policy discussions. Materiality is that fund missing through negative tax incentives magnified the deprivation by individual countries and fabricate the ground for transgression of human rights. Governments should necessarily increase their tax bases so that public services key to fulfilling basic rights and combating poverty are available to all.

I look forward to present the next issue of *Research Bulletin Vol.46 No. III & IV, October 2020 & January 2021* which will be a Non-theme too.

We look forward to constructive feedback from our readers on the articles and overall development of the Research Bulletin. Please send your mails at *research.bulletin@icmai.in*.

We thank all the contributors and reviewers of this important issue and hope our readers enjoy the articles.

Warm regards,

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Contents

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CORPORATE GOVERNANCE IN MAJOR ASIAN ECONOMIES & CANADA - A CRITICAL STUDY

Padmanabhan Satyes Kumar

Abstract:

Good governance is crucial for real growth of any organization. Hence its actual implementation in the major Asian economies (China, Japan and India) is critically reviewed with reference to some international benchmark practices (Singapore and Canada). While Japan's seems to be lagging behind India in current evaluations, China's score is quite low mainly due to some concerns on regulatory risk and inadequate implementation, though there are some good provisions in its current regulations.
India on the other hand has made substantial progress ever since the SEBI regulations of 2000 but the implementation remains sketchy especially in PSUs. However with reference to the Asian and world benchmark codes, definite challenges remains for these major economies particularly in practice and implementation of the best practices. As better governance is a dynamic process of evolution, further refinements, better implementation and oversight needs to be done to better the impact for overall Business Enterprise Governance.

Key Words:

Corporate Governance, Independent Directors, Audit Committee, Disclosures

Motivation

Having seen the emergence of Corporate Governance in India, especially in IA role in a PSU, I was motivated for this research study aimed to understand:

a) Actual Impact of CG in India, China and Japan;
b) Comparative study of CG in a PSU vs. non PSU;
c) Some Benchmark CG codes & practices (Canada & Singapore).

The key focus of this study is to evaluate the efficacy of the AC and IDs as according to me, ***concurrent oversight mechanism, along-with qualitative disclosures, is perhaps the most potent pillars of a robust CG architecture***.

Section I: Introduction

Long term sustainable growth separates a star organization from the laggards. Apart from the consistent quality of its product/services, this depends on ***the maturity of its CG practices***.

While a visionary Board can successfully lead the organization to its true potential, its ***diligent internal controls, dynamic risk management and organizational culture based on ethics, integrity and transparency*** enables it to truly preserve and enhance all stakeholder value in the long run.

As India resolves to become an economic superpower ***its EODB ranking and better CG norms hold the key for emergence of stronger business entities*** and encouraging the growth of risk capital to take it to the coveted ANB status within next few years.

Also its comparative position to China and Japan and ***ability to replicate the global benchmarks practices*** of countries like ***Singapore or Canada will be crucial***.

Section II- CG in China, Japan & India

A1) **C*ardinal pillars*** of CG codes:

1) ID's roles and responsibilities.
2) Disclosure norms and its quality.
3) Auditing and compliances.
4) Accountability to stakeholders.

A2) **CG Practices ACGA 2018 (Ref#1)**

Rank	**Country**	**% score**	**Challenges/ Drawbacks**
1	Australia	71%	Bank govern. needs overhaul
2	Hongkong	60%	Dual class shares
3	Singapore	59%	Dual class shares
4	Malaysia	58%	Corruption and cynicism
5	Thailand	56%	Piecemeal reforms
6	Taiwan	55%	Corruption and press freedom
7	India	54%	Banks, new audit regulator
7	Japan	54%	Legal reforms

			needed
9	Korea	46%	Dual class share
10	China	41%	Party Comm. raises Qs.
11	Philippines	37%	CG reforms low on priority
12	Indonesia	34%	CG reforms low on priority

Note: ACGA's specific comments on China, Japan, India and Singapore under country-wise noting.

A3) APO report of 2007 (Ref #2) Asian Productivity Organization gave a distinct ***insight on the regional traditions and the evolution or adoption of the international best practices*** for CG in various Asian countries up to 2006 and important parts of which is noted in my further deliberations on China, Japan and Singapore.

B) CG Status in China-

1) Key Points -APO 2007 Report(Ref#2):

a) The ***traditional social and business networks of closely linked SMEs*** formed the backbone of corporate culture in China.
b) The state polices encouraged such SMEs which ***resulted in cross shareholding amongst them leading to issues on RPTs***. Hence a ***significant part of the Chinese code is for regulating RPTs***.
c) Another aspect was the ***higher proportion of the employee shares in the total shareholders leading to their greater say***.
d) However ***with liberalization and massive FDIs a hybrid model emerged*** leading to institutional compliances and partial erosion of traditional stakeholder's rights.

2) Latest Code on CG, Sept 2018 (Ref#3)

The latest code has 94 Articles to deal with:

a) The ***basic principles of CG*** of listed companies in China.
b) Means of ***protection of investor's interest and rights***.
c) Basic ***behavior rules and moral standards for Directors and Senior Management***.

<u>Important Articles of the new Code:</u>

a) Chapter 2 Article 12 to 14 on safeguards against the ***RPTs. include specific written agreements, market value, full disclosure***, safeguards for avoiding interference of and misuse by the related parties.

b) Chapter 3 Article 54 Main ***duties of AC***:
i) Recommend appointment/ removal of EA.
ii) Review the ***IA system and its execution***.
iii) Oversee interaction between IA & EA.

iv) Inspect company's financial information & disclosures.
v) Monitor company's IC system.

c) Chapter 4 Article 66 Supervisory Board can ***report directly to the security regulatory*** agencies in case of any ***violation of law, regulations or the company's AoA.***
Note: IDs & AC part of the regular Board, while the Supervisory Board also has reporting power/ duty even to the regulator.

d) Chapter 5Article 70- evaluation of IDs and the Supervisory Board through a ***combination of self-reviews & peer review***.

e) Chapter 6 Article 84-Company shall provide necessary information to banks & creditors to ***enable their judgment on company's operating & financial situation***.

f) Chapter 7 Article 91–***Disclosure on CG***:
i) Members & structure of the Board.
ii) ***Performance and evaluation of Boards***.
iii) Performance and evaluation of the IDs.
iv) ***Composition & work of the committees***.
v) ***Compliance of the CG code and gap***.
vi) Specific plans & measures to improve CG.

<u>3) Actual Status of CG in China-ACGA Survey Report 2018 (Ref#4)</u>

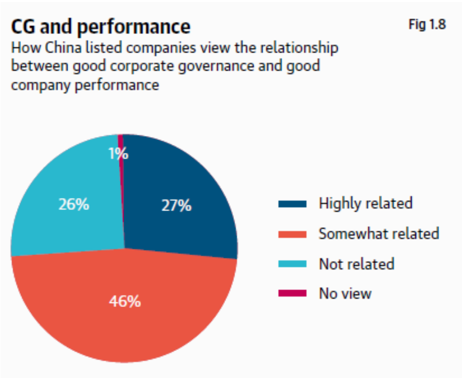
a) AGCA noted "We believe that three broad developments would be beneficial*:*
- CG & ESG not merely seen as compliance requirement, but as tools for enhancing organizational long term effectiveness & performance.
- The domestic institutional investors see CG & ESG as a platform for enhancing the value of existing investments.
- That FIIs view CG as something more nuanced than the traditional division between SoEs and PoEs."

b) "*But there are issues and concerns:*
-Communication gaps between FIIs and China listed companies. Majority (59%) admitted that they did not understand CG in China.

- Foreign investors face challenges in understanding the companies. due to:
  - Language, communication & cultural gaps and access difficulty;
  - Investor relations (IR): only few IR teams professional.
  - CG treated as compliance norms and not as spirited.
  - Interests of controlling Shareholder in SOEs are not aligned with minority Shareholders.
  - Significant gap in the awareness of CG and ESG principles.

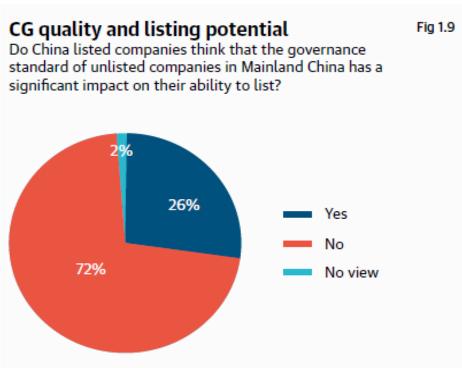
c) ***Impact of CG as revealed in the survey***

i) Only 27% see a high CG & Performance link while 46% think of the two as somewhat related as per the following chart:.



Source: ACGA China Listed Company Perceptions Survey 2017

ii) More concerning is the largely negative view on whether better governance helps a company to list as reflected below



Source: ACGA China Listed Company Perceptions Survey 2017

d) Perception on risk levels in China

i) **Entrepreneur risk (people risk)** including RPT risks, operational and execution risks.

ii) **Regulatory risk**- Changes in regulations on PoEs ***especially the recent return of Party Committee noted with concern.***

<u>4) Summary of ACGA Ranking Report of December 2018 (page 116) (Ref#1)</u>:

i) Party Committee leadership role is reinforced and anti-corruption campaign maintains momentum.

ii) Regulatory enforcement continues to strengthen.

iii) Companies disclose more about investor engagement activities, but mixed ownership plan for SOEs receives mixed assessment

iv) Retail investors still dominate share trading; show no inclination towards activism; but some quasi-class actions have occurred since 2015.

While the overall score of just 41% was below India and Japan (@ 54% each) what is more discerning for China is that in 7 of 8 ranking parameters it was lower than Asian averages including a) Govt. & Public governance; (b) CG Rules; (c) Regulator's capacity & reforms; (d) Auditor & Audit regulators.

My Conclusion: In view of the finding from the latest survey, as well as the latest ranking report it is felt that China

has still a lot to improve to boost the confidence of the FIIs as well as to gain from the true potential of CG in China.

C) CG Status In Japan

1) Key Points APO Report 2007(Ref #2):

a) CG was somewhat ***curtailed up to 1990s due to banks*** being major lender & shareholders having oversight on Board.
b) However due to the ***economic debacle and increased FDI the western concepts of CG was adopted in a mixed way*** though the Board power is still not restrained.
c) In 2003 there was a new Commercial code in Japan which gave ***two choices – the Auditor system or the Committee system***.
d) **Auditor system** to have 2 Boards- the conventional Board and another ***Board of Auditors, responsible to monitor CG issues***.
e) **Committee system-**Executive Board to be ***overseen by a committee of IDs***.
f) However in ***either of the two structures***, the ***Board of Auditor/AC was considered inferior to really supervise the executive Board*** since the majority of the Board ***members were promoted professionals*** of the company

2) CG Code 2018(Ref#5) covers:

1) Securing the r***ights & equal treatment*** of all shareholders;
2) Ensuring ***appropriate cooperation with the other stakeholders***;
3) Ensuring ***appropriate information, disclosure and transparency***;
4) Enumerating the ***clear responsibilities of the Board.***
5) Ensuring ***adequate communication*** with all the shareholders.

3) Critical review of CG in Japan (Ref#6):

Mr. Nicholas Benes of "Board of Director Training Institute" points following:

a) Detailed ***regulation missing for ensuring majority of IDs*** on the Board/oversight committees to ***ensure neutral oversight***.
b) ***Roles & responsibilities*** of the CEO and the Chairman ***not fully codified***.
c) Overlapping and ***plethora of disclosure reports key reason for ACGA 2018 rank***.
d) Better ***protection and the rights of the minority shareholders required***.
e) Required to ***enhance transparency by reducing the entrenchment of directors*** and promoting inclusiveness & diversity.

4) ACGA Report 2018 (page 207) Ref#1:

a) ***Unbalanced focus on soft law compared to hard law; CG rules and shareholder rights remain weak in many areas.***
b) ***Regulatory enforcement outcomes limited; statistical trends not well explained.***
c) ***Growth of IDs and ACs strong on paper, but board culture and practices remain largely the same in many firms.***
d) ***Depth and quality of corporate reporting has significant gaps.***

My Conclusions: Despite the dominance of private sector and a high market capitalization to GDP ratio, the overall low score and drop from 4th rank in 2017 to 7th in 2018 is a matter of concern from the overall perspective of CG in Japan.

<u>D) CG in India- Latest Development:</u>

1) CII Code 2020-on Integrity, Transparency in Governance and Responsible Code of Conduct (Ref#7).

Abstracts from Preface to the Code:

"*Much of best in class CG is voluntary, as companies taking conscious decision of going beyond mere letter of law on a conviction that a good CG generates significantly greater stakeholder value* " (CII ex. President Mr Vikram Kirloskar)

"*For encouraging* risk *capital and capital formation of the country, there is a heightened responsibility of the society, regulators & fiduciaries to ensure that their money is well taken care of."* (Uday Kotak, CII President)

"*Given the constant evolution of the global practices, business and corporate action & behaviors, a code of CG cannot be static*." (Chandrajit Bannerjee, DG, CII)

<u>Most relevant 3 sections of the Code are</u>:

Chapter 5- Independent Directors

a) Ensure that at least 1 or 2 IDs ***compulsorily have industry expertise*** for positive contribution.
b) IDs should be ***fully cognizant on their role and responsibilities***, allocate sufficient time to the organization's Board and spend it productively challenging management and significant owners.
c) Organizations to ***facilitate interactions of IDs with auditors***, employees below the Top Management level etc, in the course of their assignment.

Chapter 7 - Role of the Audit Committee

a) Should ***devote sufficient time on key focus areas such as*** financial statements, Internal Controls, RPTs, appointments of auditors & CFO, Audit process and findings, whistle blower mechanism etc.

b) ***Fraud detections & follow up*** issues.

c) ***Oversight beyond the Board room.***

Chapter 10- 3rd Party Fiduciaries

a) Mgt. & AC to work closely with the EA to understand audit process & impact

b) AC to ensure that IA plans and IA reports are made available to the EA.

c) AC to periodically interact with the EA to understand their audit findings.

d) Management should closely interact with auditors on the action plan on deficient ICs .

Section III- Appraisal of CG in India

1) ACGA Report (page163) Ref#1:

a) While "Digital India" is good 'no Ombudsman' is bad, noting delay in implementation of Lok Pal despite legislations on the same as inadequate measure.

b) Banking regulator suffers a fall from grace as non-performing assets (NPAs) continue to rise and bank scandals surface.

c) Independent audit regulator introduced, but in diluted form: ICAI, an industry body, still retains influence.

Conclusion: Hence ACGA report highlights the deficiencies in the current system while giving a 54% marks and joint 7th rank with Japan although India has come up from the 8th rank in the previous report of 2016 and managed to score above Asian average score in 6 of the 8 criterion.

2) CII & Grant Thronton Survey Report 2019 (Ref# 8)

The survey report published in February 2020 mentions that "*Culture of good governance is the courage to do what is right and the courage to do that consistently*"

The report also opines that the long term viability and success of the enterprise is significantly attributable to being fair to key stakeholders-customers, employees, investors, suppliers, community, society etc.

Key highlights of the survey

a) ***75% of respondents favored extension of CG norms to unlisted organization*** for improving their performance.

b) 74% felt that the ***liability of the ID should be further rationalized***.

c) 78% ***believed that technology has played a pivotal role in bettering CG practices***.

d) 75% feel that there is ***significant improvement in CG practices over the last 3 years***.

e) ***55% feel the lack of quantifiable indicators*** for actually ***measuring the impact of CG in their organization***.

However the Challenges remains:

a) Majority of company ***adopting gender diversity for mere compliance***.
b) Lack of ***proper training and awareness of the IDs suitable*** to their slated role;
c) Lack of ***key indicators to quantify*** the CG progress;
d) ***Plethora of laws & high cost*** of compliance.
e) ***Personal liability of IDs*** for failures though has toned up their vigil but also ***induced their resignations in big numbers.***

3) Specific Review of CG in PSU

A) **IIM Kozhikode 2016 study (Ref#9)** compared the ***CG 5 PSUs in different sectors with their peers in the private sector*** (e.g. SAIL vs. TATA STEEL). The major finding of this study is as under:

a) Government, ***the controlling shareholder as well as the regulator*** of the CG code, often has to ***take decision in national interest which impeaches the interest of the minority shareholder***.
b) IDs are mostly ***retired bureaucrats/ex. PSU officials and hence their independence (of majority shareholder) is highly compromised***. *Though of late big PSU like NTPC, ONGC, GAIL, IOC etc have started putting truly professional IDs with no link to government.*
c) Appointment, review and termination of statutory auditors, ***one of the key function of the AC, is done by the CAG in PSU*** and hence a technical violation of the CG code.
d) The study also recommended the desirable CG code for PSU for:
   i) Avoidance of conflict of interest.
   ii) Responsiveness to employees & other stakeholders.
   iii) ***Concern for the value of the pubic assets & resources***.
   iv) ***Non- abuse of the official powers***.
   v) Improvement of ***professional capacity***.

B)* BHEL vs. L&T- CG Status *(Ref#10)

Similar review was made to see the latest position of CG in the 2 major companies in construction sector. Important to note that:

a) BHEL has 10 Board committees but it was noted that ***some executive committees like Risk Management Committee****, Project Review Committee, Committee for Arbitration and Major legal Disputes etc*. ***have some IDs who are part of the AC***. This may be seen as a ***major conflict of interest as IDs participation in Executive committees of Board may have serious repercussion on their independence and hence dilute their oversight quality*.**

b) Also the disclosure on the familiarization program for new IDs reveals that the same is **rudimentary in nature and may not be adequate for effective discharge** of their statutory role and responsibility.

c) L&T's CG Disclosures include, apart from clear CG philosophy, ***a pointed code of conduct for Board members and Senior Management*** personnel and each of them has to give a ***declaration that they have read and fully understood*** the same and pledge to fully abide by them.

d) D*uties of* the IDs including:

1) ***Ensure that any concern of theirs*** are addressed by the Board and if not resolved, are clearly recorded the Board minutes.
2) Pay sufficient attention to and ***deliberations on RPTs before approving***.
3) Ascertain and ensure ***adequate and functional vigil mechanism*** and to ensure that the informer is not victimized.
4) report any ***unethical behavior, actual or suspected fraud or violation of the company's code of conduct or ethics policy***.

Conclusion: In view of above key observations it is felt that the compliance of CG norms is not improved much from the IIM report of 2016 as in-spite of being a leading PSU with the latest position of SHP showing 37% shares with the general public group indicating substantial dilution of governmental shareholding, the spirited compliance is still missing.

On the other hand specific and clear cut guidelines and practices in a company like L&T makes it compliance of the CG truly in the spirit of the law. The CG compliances may be one of the key reasons for its impeccable achievements in the same sector.

Section IV- CG in Singapore & Canada

A) Evolution of Best Practices

1) As no single practice can suit all the countries with diverse social and business challenges, ***the process to set good governance benchmarks have evolved around the following fundamentals***:

a) Identify user (country specific/ company specific) requirements based on the challenges or distortions;
b) Discover similar country /organization to benchmark;
c) Document good practices- profile, context, resource, impacts, measures;

d) Validate best practice for fit in current context;
e) Apply the innovation (i.e. implementation)
f) Develop a supporting infrastructure for the practices.

B) Approaches to International practices

If we can broadly see the CG codes of various countries it can be basically grouped under the following two broad categories:

Western code of CG	**Broader code CG**
Promoting/protecting the rights & net-worth of shareholders.	Corp. socially embedded organ. for stakeholders
Based on regulations for controlling misuse of power and trust.	Addl. regulations to align with economic needs.
Major tools- Disclosure & transparency, Audit and Accountability.	Also company's social responsibility for dif. stakeholders.
Define relation between Mgt., Board, Auditors & Shareholders.	Linkage of all stakeholders for long term growth.

C) CG Code of Singapore-

1) APO Report 2007 (Ref#2)

1) Its first code of 2001 was based on many internationally accepted codes like:
a) Cadbury Committee Report 1992.
b) Toranto SE Report 1994.
c) Bosch Committee (Australia) 1995.
d) Commonwealth Guidelines 1998
e) OECD Principles of CG 1999.

2) Key Features of old CG Code (Ref#11)

Apart from the qualitative, complete and timely disclosures norms, ***specific role and quality of members of the Audit Committee***:
1) ***Authority, requisite skill and experience*** for dealing with complex operational and financial issues
2) ***Soundness of judgment, independence of mind and healthy degree of skepticism***;
3) have sufficient understanding of accounting or law;
4) Clear understanding of the ***company's business, organization, management controls & reporting systems***.

3) Singapore Code 2018 (Ref#12)

Main provisions are as under:
a) Code is mandatory for all listed companies on ***"comply or explain" basis*** but annexed 'Practice Guide' is optional for adoption.
b) Board composition -appropriate levels of IDs and ***diversity of thoughts & background***.

c) Chairman and CEO- ***clear demarcation of roles and responsibilities*** between them.
d) Board - ***Formal & transparent process*** of appointment and reappointments.
e) Remuneration of Board members- formal and transparent procedures to fix. *The l**evel & mix of remuneration should be commensurate with their sustained performance and value creation***.
f) ID Quality- ***IDs should be independent in conduct, character and judgment***. No relationship with the company, its related corporations, its substantive shareholders or its officers ***that could impede their independent business judgment***.
g) Risk Management & Internal Controls- ***Board responsible for risk and to ensure that the Management maintains a sound system of RM and IC to safeguard*** the interest of the company and its shareholders.
h) AC- to ensure that the Board has an AC which ***discharges it duty objectively***.
i) Shareholder right and engagement- full, balance, understandable, assessment of ***performance, position and prospect disclosed to all shareholders.***
j) Engagement with Shareholders- ***communicate regularly facilitate their participation*** in the General meetings and ***adequate opportunity to submit their views***.
k) Engagement with Stakeholders- Board adopts an ***inclusive approach by considering and balancing the needs and interest of all material stakeholders*** for best interest of the company.

4) ACGA 2018 Report (Ref#1)-Page 303

Main Observations of the Report:

a) Introduction of dual-class shares (DCS) damages regulatory credibility and contradicts investor stewardship.
b) CG policy contradictions apparent in revised CG Code, enforcement strategy and some listing-rule changes.
c) Mixed results from regulatory enforcement: penalties for insider trading mostly low.
d) Ambition of independent audit regulator appears diminished.

D) **Canada's CG Key Features**

1) **CG practices on 4Ps (Ref#13):**

People - people exist on every side of the CG - the ***founders, the board, the stakeholder and consumer and the impartial observer***.

Purpose - Every piece of governance exists *for* a purpose and **to** *achieve* a purpose.

Process - Governance is the process by which people achieve their company's purpose refined over time by analyzing performance.

Performance review to determine whether it was successful (or successful *enough*), and then refine the governance process.

The cycle of CG begins and ends with PEOPLE as: People are the organizers who determine a purpose to work towards, develop a consistent process to achieve it, evaluate their performance outcomes, and use those outcomes to grow their-selves and other people.

The concept is effectively and dynamically applied in a close loop for continuous process of bettering the CG regulations and practices which makes Canada one of the best CG implementer of the world.

2) Canada's practice of annual survey (Ref # 14) abstracts from the executive summary of the referred report reflects quality of progress made in Canada. The major part of the same is as under:

a) **CG overview** - most significant CG issue is ***risk management and oversight***.
b) **Sustainability governance** - 44% respondents have a fully implemented formal policy while 34% link sustainability ***with incentive packages of management***.
c) **Compensation communication** - Approximately ***81% discuss executive compensation in their disclosure material available*** to the Board, executive management team and general public mostly ***through company website***.
d) **Enterprise risk management oversight**: 65% reported that they have a fully ***implemented formal risk policy*** in place ***including risk-related accountabilities and identification of risk barriers***.
e) Engagement by a governance team
Only 40% of publicly traded respondents ***schedule a structured meeting or call with shareholders at least once per year***. Respondents tend to ***interact most frequently with customers, regulators, suppliers and the media.***
f) **Boardroom diversity** Nearly half of the respondents have fully implemented a formal board diversity policy covering gender, age and ethnicity.
g) Subsidiary governance
76% of respondents have a separate board of directors for the organization's significant subsidiaries. 64% have directors who serve on the boards of both the parent company and its subsidiaries, indicating an increasing degree of separation for subsidiary boards where they exist.

h) **Effective board & committee operations**
Audit, governance and compensation / human resources ***remain the top three board subcommittees since 2015***. Also CEO evaluation and succession planning process is becoming an increasing trend.

There is a significant preference evaluating board performance on an individual basis, as opposed to evaluating the full board all at once. The top three methodologies used by respondents to educate their board directors are ***in-house education by management, outside education by a third-party director education program and in-house education by a third party***. 53% of respondents have had over 75% of their directors attend education programs over the past year

Conclusion: In view of the above key features of the 4 P based CG architecture which is a always under an improvement flux as well as for credible modality of annual survey Canada has become a world leader in CG practices.

E) **Some vital learning Emerging from Benchmark Practices:**

1) **Singapore disclosure based regulation** enforced consistently through market regulators and based on 'comply or explain' mode is simple & easy for compliance.
2) Also its clear-cut and objective definition on ***Independence of the IDs i.e. independence in conduct, character and judgment*** is a very crucial for spirited implementation of the concurrent oversight on the Board powers.
3) **Canada's** simple but effective enforcement 4 Ps makes the ***dynamic nature of the CG code and practices for constant improvement of better CG***.
4) **Canada disclosure** on ***company website*** is the most potent disclosure for transparent communication with all stakeholders.
5) Its ***coverage in the annual survey both in the width of the evaluation criterion as well as the breadth of the diverse respondents*** reflects a high degree of maturity of the whole gamut of CG architecture.
6) ***Treadway commission report (Ref#15)*** "Mere existence of the AC is not enough. ***The AC must be vigilant, informed, diligent and probing in fulfilling its oversight responsibilities***"
7) **European Commission's Green Pape**r on Auditing (Ref#15) "***Companies without a strong IA function will be unable to provide their AC with sufficient information to fulfill its responsibilities***"

<u>Section V- Conclusive Inferences of this Research Study</u>

1) The debate on CG is ***not so much on its utility but more on finding a***

balanced code suited to the local risk and challenges for voluntary compliance at a ***minimum cost & burden while ensuring there is adequate safeguards*** for all the stakeholders (financial as well as non-financial).

2) The crucial ***institution of IDs as a concurrent oversight mechanism*** to ensure minimum delay and damage to the company by any adverse actions of the executive management is universally accepted. ***However till date their actual efficacy is truly debatable*** with the ***challenge being to determine their true independence and or their true quality and professionalism to rein in the Board***.
3) The existence of vibrant IA function and the way they are ***directed and mandated by the AC for working in the best interest of the organization is also vital both for*** assurance roles as well as a ***change & improvement agent*** is also crucial. The preemptive manner in which the advices of IA are accommodated during any BPR determines agility of the organization to design better ICs.
4) **For PSUs it is suggested** that instead of expecting them to mindlessly comply with the common CG code, ***a specific code of conduct may ensure better accountability & professionalism of its Board and Top Management so as to improve their performance and competitive edge***. Though their cardinal motive may not be profit making but for long term growth their competitiveness depends on better CG implementation.
5) Also very important to have ***appropriate balance*** between roles & responsibilities and liabilities ***with enhanced statutory and regulatory power and incentives for promoting better performance of IDs***.
6) Also more and more ***non price sensitive disclosures can be shared on company's web*** so that voluntary disclosures enable all the ***existing and potential stakeholders to arrive at prudent decisions*** on their dealings with the organization.

Conclusion

As corporate governance is a dynamic process of improvement, to keep ahead of the emerging risk and challenges, India has still a lot to learn from the international benchmarks.

It should sincerely aim and strive to attain a better and broader level of overall corporate governance for not only the listed companies but also for other entities through voluntary adoption so as to reach an ideal level of overall Business Enterprise Governance so that sustenance and long term growth percolates across all entities. This kind of effective governance can lead to ANB and greater prosperity for all.

References for the Research Study

Ref #1- ACGA Report Dec 2018 on Asian CG rankings titled "CG Watch2018"
Ref#2- APO Report of 2007named "Best Practices in Asian Corporate Governance" pdf file named IS_20_BP_AsianCorpGov
Ref#3- China Code 2018- pdf file for the English version of the bare act.
Ref#4- ACGA Survey Report on CG in China 2018 titled "Awakening Governance-AGCA's CG Report on China" dated 25th August 2018 from ACGA web.
Ref#5- Japan CG Code 2018-"Japan CG Code – JPX-1/6/2028"
Ref#6-Japan CG Review 2019-"Japan's Unfinished Reforms" from web of Ethical boardroom
Ref#7- CII Code 2020- "Guidelines on Integrity and Transparency in Governance and Responsible Code of Conduct" The CII Code 2020 published in February 2020
Ref #8-CII- Grant Thronton "Corporate governance practices review 2019"
Ref#9-IIM Kozhikode Society & Management Review Research article of 2016 titled "A comparison of CG Practices in SoEs and their Private Sector Peers In India" by S Subramanian- pdf. file named 200-2016.pdf
Ref#10- BHEL & L&T websites and Annual Report 19-20
Ref#11- CG Code of Singapore Stock Exchange prior to the 2018 code.
Ref#12-Singapore Code on CG 2018-"Code of Corporate Governance dt.6/8/18"
Ref#13- Process PA Article titled "The Four Ps of CG" dated 11th March 20
Ref#14-Annual Survey 2018 of CG in Canada by Korn Ferry & Governance Professional of Canada (GPC)
Ref#15-PwC May 1999 Publication Titled "Audit Committee- Best Practices"

Abbreviation Used in this Document

CG - Corporate Governance; ID-Independent Director; FDI- Foreign Direct Investment;
AC - Audit Committee; IA- Internal Audit; EA- External Auditors
EODB- Ease of Doing Business; IC-Internal Controls
AoA - Aricles of Association of the Company
PSU- Public Sector Undertakings; MNC-Multi National Corporation;
ACGA - Asian Corporate Governance Association; APO- Asian Productivity Organization;
ANB- Aatma-Nirbhar Bharat (Self Reliant India); T.o.R.- Terms of Reference
RPTs- Related Party Transactions; Board-Board of Directors
CEO- Chief Executive Officer; CFO-Chief Finance Officer;
CAG- Comptroller and Auditor General (of India)
SoE- State Owned Enterprises; PoE-Privately owned Enterprises (in China)
SHP- Share Holding Pattern; ESG-Environmental, Social and Corporate Governance
BPR- Business Process Re-engineering
SMEs- Small & Medium Enterprises

CROSS-BORDER ACQUISITIONS: ASSESSMENT OF FINANCIAL EFFICIENCY USING DATA ENVELOPMENT ANALYSIS

Samta Jain, P. K. Jain

Abstract:

The objective of the paper is to assess the financial efficiency of Indian acquiring companies engaged in cross-border acquisitions. A model based on DEA has been developed to assess the corporate performance. Financial evaluation, being the most widely used approach to assess the performance of companies, are based on financial statements. Hence, the measures of financial performance (based on financial ratios) for a period of one year pre and post-acquisition including: liquidity ratios, activity ratios and leverage ratios are employed as inputs and profitability ratios as output indices of Data Envelopment Analysis (DEA) model. There has been a significant deterioration in the financial performance of the majority of the acquirers post-acquisition. On an average the financial efficiency of acquirers declined to 80%.The model so developed can be used in comparing the efficiency of different multinational companies to provide some suggestions for future. Such analyses can further provide insights to managers to guide their future endeavours. Major advantage of using DEA is that it indicates how much the inefficient firm deviates from the efficient firm; thus allowing for possible efficiency improvement. To the best knowledge of the authors, no cross-border acquisition study has evaluated the financial performance of acquirers across different industries using DEA. Hitherto, the focus of researches have been only on one industry, say banking industry, insurance industry, health industry.

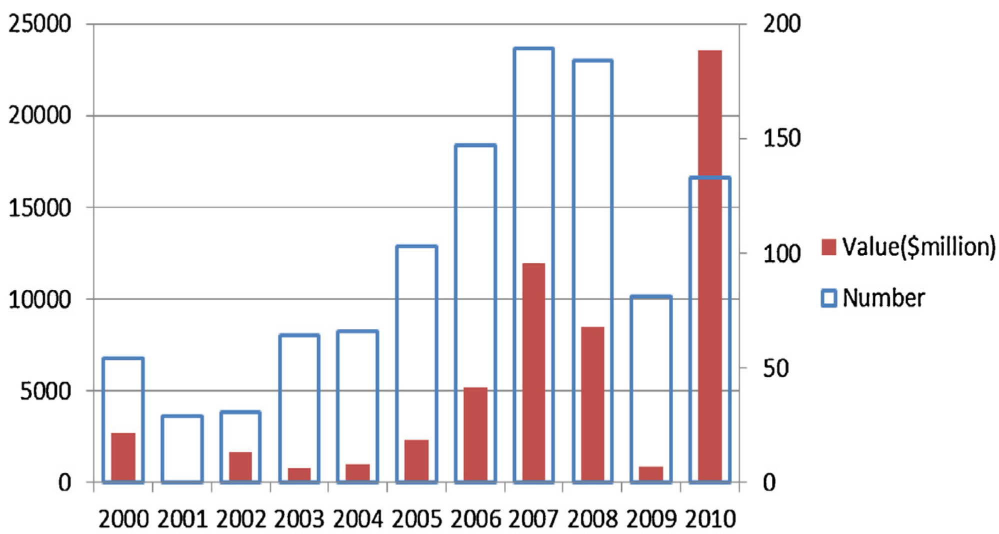
Key Words:

Cross-Border Acquisitions, DEA, Variable Returns to Scale Model, Malmquist Productivity Index

1. Introduction

In the recent past, firms from emerging markets have been rigorously involved in establishing their foothold in the global economy. As a result, there have been a sharp increase in outflow of foreign direct investment (FDI) from developing economies. According to the recent World Investment Report, FDI from emerging economies surged to a highest level of US$454 billion, accounting for 39 per cent of global FDI outflows, 15 years ago, it was only 7 percent (UNCTAD, 2014). Also, there has been increase of cross-border acquisitions (CBAs) from emerging markets, rising from US$63 billion to US$109 billion in one year (UNCTAD, 2014).

As such CBAs have become an inevitable component of corporate strategy for Indian corporates seeking growth and expansion at the international level. Since 1990s with the liberalization and privatization of Indian economy, Indian companies have been making huge investments in foreign markets to expand their operations geographically. It is evident from Fig. 1 that the number of cross-border acquisitions completed by Indian firms is more or less increasing during 2000-2010. The global financial crisis in 2008 caused a sudden plunge in the number of overseas transactions that regained its momentum in 2010.



Source: Thomson One

Fig. 1. Completed Cross-border deals by Indian firms 2000-2010

There are numerous studies focused on assessing synergy gains resulting from CBAs undertaken by companies from emerging economies. But majority of such studies are based either on abnormal stock market returns on (Duppati and Rao, 2015; Gubbi et al.,2010; Rani et al., 2014a, 2014b, 2015) in the short-run or analysis based on financial ratios (Narayan and Thenmozhi ,2014) in the long-run.

The method of assessing and evaluating acquisition gains which is based on abnormal returns provides a very concise view of synergy gains as such gains cannot be further classified into various types. Rather, accounting variables, as a measure, to assess the impact of an economic event (e.g., CBAs) on the performance of an organization have been advised (Junior et al., 2013).

On the other hand, financial ratio analysis as a tool to predict the efficiency of firms cannot be satisfactorily relied upon by the managers; ratios only permit partial evaluation of the financial performance of a company; single ratio cannot fulfill the requirements of all stakeholders (Ho and Zhu, 2004). Such an analysis is best suited for firms engaged in transforming single input into single output (Mousa, 2015). Judgment about the overall corporate performance depends on processing of information coming from various sources besides financial ratios (Zhu, 2000).

It is because of the above mentioned limitations, the present study has employed DEA as an alternate measure to assess the financial performance of Indian acquirers overtaking foreign companies. It is an effective tool to evaluate the relative efficiencies by considering multiple inputs and multiple outputs. This method does not have any pre-requisite of any functional relationship between inputs and outputs.

The present study is likely to be an original contribution to the mergers and acquisitions (M&A) literature since a new technique (DEA) has been employed to ascertain synergy gains. In this research work, data envelopment analysis approach has been used to assess the efficiency of acquiring firms. Even though DEA has been used in the context of CBAs, but its application is limited to only a single industry viz. banking, construction etc. As an industry wide study, this work is a modest attempt to help the managers of inefficient companies to revamp the resource allocation strategy by providing a yardstick in the form of the most efficient or competent business entity.

For better and complete understanding, the paper has been structured as follows: Section 1 gives a brief introduction about CBAs. Section 2 analyses the existing literature followed by section 3 wherein the data, methods, and sample have been discussed. Section 4 presents the empirical results. Lastly, Section 5 concludes the study.

2. Literature Review

Rahman et al. (2016) applied DEA to evaluate the marketing efficiency of mergers and acquisition deals. The author evaluated 20 domestic acquisitions in the US banking industry; observed positive though insignificant impact of M&A transactions on marketing efficiency, an after-acquisition performance measure, of the transacting entities.

Silambarsan and Azhagaiah (2016) investigates the cost efficiency of banking sector over the period of 2010-2015 using DEA. Based on the results, the study observes significant difference in the cost efficiency of sample banks. The study has recommended for acceptable level of efficiency to be ranging from 0.94 -1 and from 0.75 - 1 for CRS and VRS respectively.

Junior et al. (2013) analyzed the efficiency of mergers and acquisitions in Brazilian publicly traded companies. They have employed models with several objectives from Goal Programming and Data Envelopment Analysis (GPDEA), using accounting indicators as output and input variables, and thereby measured synergy gains. As hypothesized, the GPDEA model *vis-à-vis* the DEA and other conventional models has proven to be superior in analyzing the efficiency and gains.

Avkiran (1999) employed DEA to assess the employee productivity, profit performance operational efficiency of Australian banks during 1986 -1995. Acquiring banks have been observed to be more efficient than target banks. Further, a positive correlation has been noted in change in market share and change in overall operating efficiency.

Ayadi et al. (2011) examined if there is an improvement in technical and cost efficiency of the European banks involved in mergers and acquisitions (M&A) between 1996 and 2003. The empirical findings indicate improved productivity and efficiency.

Fazlan (2004) conducted data envelopment analysis, a non-parametric frontier approach, to assess the technical and scale efficiency before and after merger period of domestic acquisitions by Malaysian banking sector. The results indicated an overall efficiency of 95.9% with minimal input waste of 4.1% over the period 1998-2003.

Liu and Tripe (2001) explore the efficiency cost and benefit effect of six bank merger in New Zealand during 1989-1998. Using DEA and accounting ratios, acquiring banks, in general, have been found to larger than their target; yet, these banks have not been able to maintain efficiency consistently. Post the acquisition event, the authors have reported increased efficiency.

Ralston et al. (2001) employed DEA to examine the post-merger gains in scale and technical efficiency attained by 31 Australian credit union mergers. They reported that mergers as compared to internal growth alternatives do not cause any improvement in efficiency.

Mousa (2015) employed DEA and financial ratio analysis (FRA) to determine the technical efficiency of banking industry in Bahrain. He finds DEA to be a better tool, in comparison to FRA, to evaluate the efficiency of banks. Further, DEA classifies business units into best performing and worst performing based on the technical efficiency score obtained; allowing the manager of the inefficient firm to improve its performance either by contracting the volume of input or increasing the level of output.

3. Research Methodology

DEA was proposed by Charnes, Cooper and Rhodes (CCR) (Charnes et al., 1978) in 1978; it is a non-parametric linear programming technique and CCR model indicates the Technical Efficiency (TE). It does not count for random errors, thus assuming all deviations from the estimated frontier represent inefficiencies (Fried et al., 1993; Brown et al., 1997). This method might much approach to reality. Therefore, the DEA is chosen for our frontier acquiring method. In this paper, the proposed DEA model comes from Banker, Charnes and Cooper (BCC) (Banker et al., 1994); BCC model can present the Pure Technical Efficiency (PTE) and the indicator of Return to Scale (RTS). DEA is a non-parametric methodology and it use linear programming method for determining the relatively efficient production frontier, based on the empirical data on chosen inputs and outputs of a number of organizations, called Decision Making Unit (DMU). People can use DEA for analyzing the relative efficiency and managerial performance of productive DMU which includes the same multiple input and output items. This characteristic of DEA allows us to evaluate the relative efficiency of CBAs by determining the efficient DMU as the benchmarks.

It is evident from literature review that DEA has been employed as a tool to assess the efficiency in the area of mergers & acquisitions. But it has largely been confined to services sector emphasizing cost efficiency, technical efficiency. The present paper has employed BCC model using output orientation allowing VRS (variable Returns to Scale). Further, to gauge the change in efficiency from pre-acquisition period to post-acquisition, Malmquist Productivity Index (MPI) has been employed.

3.1 Data and sample size

According to Mohd Jamarudi et al. (2013), recent or latest data are more pertinent for statistical analysis than the data that dates back too far in history. Hence, CBAs executed from 2012-13 to 2014-15 constitute the relevant sample for the study. The acquiring firms have similarity in the nature of their assets and are subject to same reporting regulations; financial companies, therefore, are beyond the scope of the study, complying with one of the assumptions of DEA regarding homogeneity of DMUs. Applying all these filters (including non-availability of data), final sample being studied is composed of 47 CBAs carried out by Indian companies. As previously quoted by Chen et al. (2008) data contained in financial statements divulge a great amount of information about the competency and efficiency of corporate entities. Hence, the measures of financial performance (based on financial ratios) for a period of one year pre and post-acquisition including: liquidity ratios, activity ratios and leverage ratios are employed as inputs and profitability ratios as output indices (Junior et al., 2013; Feroz et al., 2003). Table 1 provides the details of inputs and outputs used in data envelopment analysis approach. As such, information required by the researcher for computing efficiency can be obtained from acquiring company's balance sheet and income statement which have been sourced from Bloomberg database.

Table1: Details of Inputs and Outputs

INPUT	OUTPUT
Current ratio	Net Margin
Debt/equity ratio	Return on equity (ROE)
Fixed assets turnover ratio	

4. Findings and Conclusion

Table2: Performance of acquiring firms using Malmquist Productivity Index (MPI)

DMUs (Acquiring firms)	Change in efficiency (MPI)
1	0.869
2	*1.127*
3	0.726
4	0.521
5	0.861
6	0.828
7	*2.038*
8	*1.57*
9	0.637
10	0.804
11	0.701
12	0.919
13	0.61
14	0.605

DMUs (Acquiring firms)	Change in efficiency (MPI)
25	*2.901*
26	0.783
27	0.777
28	0.801
29	0.746
30	*1.246*
31	0.107
32	*1.052*
33	0.706
34	0.854
35	0.464
36	0.961
37	0.158
38	*1.146*

15	0.499
16	*1.182*
17	0.723
18	*1.183*
19	0.81
20	*2.354*
21	0.526
22	*1.018*
23	*1.205*
24	0.635

39	0.709
40	0.769
41	0.733
42	0.451
43	0.972
44	*1.48*
45	0.407
46	0.894
47	0.822
Mean	0.797

The results of the present study has been generated using a software namely DEAP 2.1 version. This work attempts to compute the relative efficiency of Indian bidders involved in overseas acquisitions. Malmquist index has been computed for pre and post-acquisition period to assess the impact of acquisition on financial efficiency of acquiring firms. Efficiency is measured on a scale of zero to one; wherein score of one indicates the most efficient DMU and zero implies the worst performing unit. As such, this technique allows for a yardstick (in terms efficient DMU) against which the poor performing units can be analyzed.

Table 2 indicates that out of total 47 CBAs deals, only thirteen acquisitions brought financial gains to the acquiring firm, while thirty-four deals proved to be distressing in financial terms. Overall CBAs failed to improve the financial efficiency of acquirers as anticipated. On an average, the efficiency of Indian bidders declined to approximately 80%.

CBAs have been garnering the attention of analysts, academicians & researchers and policy makers for last few decades especially in the post-liberalization regime. Many research articles on the financial performance of acquiring firms have been published in all disciplines of management including finance & accounting, strategy and international business. There have been a huge number of studies focusing on analyzing the synergy gains realized from international acquisitions; even then the puzzle remains to be solved as to whether CBAs are efficiency enhancing propositions. Further, most of the existing studies use either stock market response on CBAs announcement or financial ratios to assess the financial performance of bidding entities, which are fraught with many limitations. Overcoming the shortcomings of these methods, this work has used data envelopment analysis approach to measure efficiency.

The major objective of the study is to contribute to the M&A literature by examining the pre and post- acquisition

efficiency of Indian acquiring firms using a different technique. No study, to the best of the authors' knowledge, have applied DEA in the context of an inter-industry study in the area of CBAs. DEA is a measure of relative efficiency and, therefore, has the advantage over other techniques of assessing performance. Moreover, DEA brings out the volume of inputs that needs to be reduced and outputs to be increased to improve the efficiency of firms with the efficiency score of less than one. In this manner, it enables the managers of the inefficient firms to move up the ladder of efficiency.
With a substantial increase in the number and value of cross-border acquisitions, it becomes a compulsion to evaluate the financial efficacy of such an evolving corporate strategy. Whether a paradigm shift in corporate strategy of expanding operations abroad via overseas acquisitions actually increase the value of the acquiring firm, needs to be evaluated and estimated.

This research work has analyzed the financial efficiency and performance of Indian companies engaged in CBAs during 2012-2015. Malmquist productivity index has been computed to judge the effectiveness of such transactions from pre-acquisition period (one year before) to post-acquisition (one year after). The applied DEA model involves three inputs and two outputs allowing for variable returns to scale. The empirical results indicate that CBAs negatively affect the performance of acquiring firms and their efficiency gets reduced to 80%.

Above results further provide evidence, in support of a widely held opinion, that CBAs have a negative impact on the performance of acquirers. Defying the empirical results, firms from emerging economies, like India, are heavily engaged in overseas acquisitions. The findings of the paper support that CBAs by emerging economies are not guided by monetary benefits in the near future. They, rather, seek strategic and intangible resources as well as natural resources (Gubbi et al., 2010) which are rare, inimitable and difficult to trade to support organizational and strategic transformation of the firms. In order to acquire such resources, firms from emerging markets are willing to pay higher acquisition premium (Hope et al, 2011). These might be some of the factors causing contraction in the efficiency of acquiring firms. Future research can focus on identifying the possible reasons behind failure of CBAs. Further, the study is limited to the study of Indian acquiring firms only. To make generalizations in the context of emerging countries, this work can be further extended to include more number of countries. In fact, including more countries can give deeper insights into the causes of inefficiency.

5. References

1. *Banker, R. D., Charnes, A. and Cooper, W. W. (1984). Some Models for Estimating Technical and Scale Inefficiency in Data*

Envelopment Analysis. Management Science, 30(9), 1078-1092.

2. *B. Liu and D. Tripe. (2001). New Zealand Bank Merger and Efficiency Gains. 14th Annual Australasian Finance and Banking Conference, 1-23. Australia, Sydney.*
3. *Charnes, A., W. W. Cooper and E. Rhodes. (1978). Measuring the Efficiency of Decision Making Units. European Journal of Operational Research, 2(6), 429-444.*
4. *Chen, G. M., Firth, M. and Zhang, W.W. (2008). The efficiency and profitability effects of China's modern enterprise restructuring programme. Asian Review of Accounting, 16(1), 74-91.*
5. *D. Ralston, A. Wright, K. A. Garden. (2001).Can Mergers Ensure the Survival of Credit Unions in the Third Millennium. Journal of Banking and Finance, 25, 2277-2304.*
6. *Duppati, G. R., & Rao, N. V. (2015). Cross-border mergers and acquisitions: Mature. Cogent Business & Management, 2(1).*
7. *Feroz, E. H., Kim, S., & Raab, R. L. (2003). Financial statement analysis: A data envelopment analysis approach. Journal of the operational Research Society, 54(1), 48-58.*
8. *Gubbi, S. R., Aulakh, P. S., Ray, S., Sarkar, M., & Chittoor, R. (2010, April). Do international acquisitions by emerging-economy firms create shareholder value? The case of Indian firms. Journal of International Business Studies, 41(3), 397-418.*
9. *H.O. Fried, C.A. Lovell, P.V. Eeckaut. (1993). Evaluating the Performance of US Credit Unions. Journal of Banking and Finance, 17, 251–265.*
10. *Hope, O., Thomas, W., Vyas, D. (2011). The cost of pride: why do firms from developing countries bid higher? Journal of International Business Studies 42 (1), 128–151.*
11. *Ho, C.T. and Zhu, D.S. (2004). Performance measurement of Taiwan's commercial banks. International Journal of Productivity and Performance Management, 53(5/6), 425-434.*
12. *Jamarudi, E. M. M., Adzmi, P. S. A. M., & Salleh, W. A. (2013). Exploratory investigation on the role of legal to the growth of mergers in Malaysia. International Journal of Business, Economics and Law, 2(3), 17-23.*
13. *Junior, P. R., Junior, P. R., de Oliveira Pamplona, E., & da Silva, A. F. (2013). Mergers and Acquisitions: An Efficiency Evaluation. Applied Mathematics, 4(11), 1583.*
14. *Mousa, G. A. (2015). Financial Ratios versus Data Envelopment Analysis: The Efficiency Assessment of Banking Sector in Bahrain Bourse. International Journal of Business and Statistical*

Analysis ISSN (2384-4663) Int. J. Bus. Stat. Ana, 2.

15. *N. K. Avkiran. (1999).The evidence on efficiency gains: The role of mergers and the benefits to the public. Journal of Banking & Finance, 23, 991-1013.*
16. *R. Brown, I. O'Connor, R. Brown. (1997). Measurement of Efficiency in not for- profit Financial*
17. *Intermediaries: Australian Evidence. Proceeding of 10th Australasian Banking and Finance Conference. Australia, Melbourne.*
18. *R. Ayadi, J. P. Boussemart, H. Leleu and D. Saidane. (2011). Mergers & Acquisitions in European Banking Higher productivity or better synergy among business lines? Document de travail du, 4, 1-16. LEM.*
19. *Rani, N., Yadav, S. S., & Jain, P.K. (2014). Impact of Domestic and Cross-Border Acquisitions on Acquirer. International Journal of Business and Management, 9(3), 88.*
20. *Rani, N., Yadav, S. S., & Jain, P. (2015). Market response to internationalization. IIMB Management Review, 27(2), 80-91.*
21. *Rani, N., Yadav, S. S., & Jain, P.K. (2014). Impact of domestic and cross-border acquisitions on acquirer shareholders' wealth: empirical evidence from Indian corporate. International Journal of Business and Management, 9(3), 88.*
22. *Rahman, M., Lambkin, M. and Hussain, D. (2016). Value creation and appropriation following M&A: A data envelopment analysis. Journal of Business Research, 69(12), 5628-5635.*
23. *S. Fazlan. (2004).The efficiency effects of Bank Mergers and Acquisitions in a Developing Economy: Evidence of Malaysia. International Journal of Applied Econometrics and Quantitative*
24. *Studies, 1(4), 53-74.*
25. *Swaminathan, V., Groening, C., Mittal, V., and Thomaz, F. (2014). How achieving the dual goal of customer satisfaction and efficiency in mergers affects a firm's long-term financial performance. Journal of Service Research, 17(2), 182–194.*
26. *Zhu, J. (2000). Multi-factor performance measure model with an application to Fortune 500 companies. European Journal of Operational Research, 123(1), 105-124.*

ENVIRONMENTAL ACCOUNTING AND REPORTING IN INDIA

Sukamal Datta

Abstract:

The increasing consciousness about environmental protection has encouraged the development of environmental accounting and reporting. Within the globalized economy environmental accounting and reporting has been recognised as an essential mean for the management of environmental performance. Still there exists a limitation in adopting environmental accounting practices by the corporate due to non-existence of standard environmental accounting procedure. Therefore, it is not mandatory for the corporate of India to disclose the environmental related costs and benefits except certain industries. In this paper we have made an attempt to discuss mainly the theoretical foundation of environmental accounting and reporting practices in India and also taking some practical examples. Our study is based on secondary data. We have observed that there is wide scope for the development of environmental accounting and reporting.

Key Words:

Environmental Accounting and Reporting, Environmental Policy, Environmental Costs and Benefits

Introduction

We are celebrating International Earth day on 22nd April every year as an annual event around the world to demonstrate support for environmental protection. In 1969 at a UNESCO Conference in San Francisco, peace activist John McConnell proposed a day to honour the Earth and the concept of peach. This day was first celebrated in 1970, now includes events coordinated globally by the Earth Day Network in more than 193 countries. On the Earth Day 2016, Paris Agreement was signed by more than 120 countries. This signing satisfied the requirement of the historic draft climate protection treaty adopted by consensus of 195 nations present in the 2015 United Nations Climate Change Conference in Paris. Earth Week is being celebrating in numerous countries to focus on environmental issue that the world is facing. In 2017, the March for Science occupied on Earth Day (22nd April, 2017) and was followed by the People's Climate Mobilization (29th April, 2017). The founder of the International Earth Day John McConnell said, "Let every individual and institution now think and act as a responsible trustee of Earth, seeking choices in ecology, economics and ethics that will provide a sustainable future, eliminate pollution, poverty and violence, awaken the wonder of life and foster peaceful progress in the human adventure." Rapid industrialisation, unplanned urbanization and changing consumption pattern are interrupting the ecological balance of the small beautiful planet. Any sustainable development has to be environment-friendly and consistent with eco-system[1]. Each and every corporate has to stabilize the natural environmental climate through giving more importance on the pollution free environment. While establishing an industry in a developing country like India, it has to take into account the ecological consequences.

Environmental tragedy like Bhopal Gas Disaster (1984) has to an extent forfeited the significance of environmental assurance in the brains of individuals. Climate changes, global warming and melting of glaciers, soil erosion, deforestation, pollution etc. significantly warn us about environmental degradation and ultimately aware us to protect the environment. Today everyone is concerned about environmental issue as they influence all human activities. Regulatory bodies and pollution control agencies alone cannot restore the environment to its previous position. So, pro-active and promotional roles should also be geared in harmony with the overall environmental protection strategy[2]. Environmental management system is now recognised as a pre-requisite for sustainable development and eco-friendly environmental management in an organisation. Environmental accounting is the identification, measurement and allocation of environmental costs, the integration of these environmental costs into business decisions, and the subsequent communication of those information to a company's stakeholders[3].

Concept of Environmental Accounting

Sustainable development is the today's need to achieve the targets of economic growth with environmental preservation for years to come. Resources are limited on Earth. But the business undertakings don't generally utilize ideally of such limited resources, which forces a weight on the earth and act as an impediment to the conversation of the environmental resources and ecosystem. Correction of the excessive ecological brutality and minimisation of the degree of environmental degradation might be possible with the help of modern technology and maintain proper environmental accounts. For this purpose a proper accounting and disclosure of environmental affairs have been rapidly emerging as a considerable dimension of "Environmental Accounting and Reporting of Disclosure Practices" which can direct to sound environmental management[4].

The issue of environmental responsibility along with sustainable development has brought forth an emerging and dynamic branch of accounting – Environmental Accounting. The Conventional accounting system takes into consideration only non-living things and their relevant transactions, but environmental accounting being "Language of Social Concerns" successful attempts identify measure and properly communicate the resources consumed and cost imposed there on the environment by the business organisations with specific emphasis on environmental preservation5. Environmental accounting is such type of accounting that tries to introduce environmental costs into economic results of activities of an organisation. This accounting records and summarises the value of environmental goods and services in monetary terms and also tries to evaluate the impact of such organisational activities on environment which are widely responsible for survival and development of that organisation. In simple words, environmental accounting includes identification, estimation and allocation of ecological costs, streamlining those expenses into business, distinguishing any environmental liabilities and conveying the same to the stakeholders as a part of financial statement. Fundamentally, an organisation is accountable to satisfy some environmental obligations. Environmental accounting helps to know whether an enterprise has been discharging its duties towards the environment or not.

Objective and Methodology

The objective of the study is to discuss certain fundamental and theoretical aspects of the concept of "Environmental Accounting and Reporting". Being bases on conceptual study, the opinion expressed in this article reflects the author's own opinion and also opinions of some other reputed authors. Our study also tries to examine the importance of environment accounting and corporate reporting in present days. We make an attempt also to determine how environmental accounting has influenced the sustainable development in India.

We think that scientific research is a must to seek and find solutions of present problems and to achieve responsible issues to the environmental accounting, the cost of such environment and reporting. This approach is based on information gathered from available literature and specialised national and international practices regarding environmental accounting and treatment of environmental specific costs. We have used documentation analysis, comparison in order to achieve the proposed objective of our study.

Developments in Environmental Accounting

The environmental accounts were firstly prepared in several European countries working independently. One such first introducer was Norway. Norway officials were concerned about their natural resources. Therefore, they developed accounts to track use of their forests, fisheries, energy and land. For air pollution emissions they developed accounts in the 1980s, which were closely tied to the energy accounts. Another lead country was the Netherlands in the development and adoption of environmental accounting. Roefie Hueting developed and sought to implement a measure of sustainable national income that would take into account the degradation and depletion of environmental asset resulting from economic activity. The third early adopter of environmental accounting was France.

In the late 1980's US Environmental Protection Agency (EPA) undertook the development of a set of pilot accounts in the eastern United States (Grambsch et al.1989). Interestingly, this work has led by an economist, Henry Peskin, who realised that the account should include full value of non-marketed goods and services and all changes in the value of Capital must be deducted from gross indicators to calculate net amount, in exchange of adjusting only for changes attributable to economic activity. He also brought this approach to United States Agency for International Development (USAID) - funded work in the Philippines.

Mathews (1997)[6] described the development in environmental accounting in four phases:

1970s – descriptive, with normative models of conduct;

1981-1990 – debate on the role of accounting in disclosing environmental activities;

1991-1995 – maturing of environmental accounting, in making environmental disclosures and in launching environmental auditing;

Then – the role of environmental accounting is viewed as measuring environmental performance exceeding regulatory standards. This role was initiated in about 1996. During this period a large number of activities were undertaken in numerous developing countries. To focus on the role of environmental accounting, under consideration those environmental issues are fundamental to human survival accounting professionals come into the field. Environmental reporting, environmental management accounting and environmental auditing are also areas of interest for researches.

Environment Accounting at Corporate Level

Environmental accounting envisaged cost benefit analysing from the point of view of both corporate citizen and the environment. Environmental accounting is a rational attempt to evaluate national resources before incorporation for ascertaining the profitability of the corporate citizen. It helps to know whether the corporation has been performing its duties and responsibilities towards environmental protection or not. A corporate citizen is expected to fulfil the following environmental duties and responsibilities:

- To meet the regulatory requirements or exceeding that expectation.
- To disclose before the investors both the current and potential, the amount and nature of preventive measures have been taken by the management.
- To clean up the existing pollution and properly disposing of the hazardous materials.
- To control over increase in cost for raw materials, waste management and potential liabilities.
- To control over operational and material efficiency gain from competition of global market.
- To operate the function in such a way that the environmental damages do not occur.

Fulfilling the environmental responsibilities, a corporate citizen is able to achieve cost savings through energy conservation and waste minimization. Those savings generated by production and engineering disciplines increase profitability.

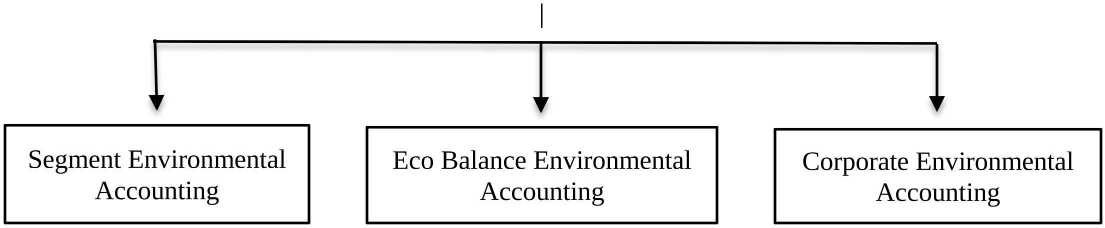
Forms of Environmental Accounting

Organisations use environmental accounting for several reasons –

- To help the managers to make decisions that will reduce or eliminate their environmental costs.
- To reckon environmental costs that have been previously shown in overhead accounts or otherwise overlooked;
- To better understand the environmental costs.
- To support the development and operation of overall environmental management system.

To fulfil the requirement of different stakeholders environmental accounts are prepared in the following forms:

1. Environmental National Accounting (ENA)
2. Environmental Financial Accounting (EFA)
3. Environmental Management Accounting (EMA)



Environmental National Accounting

This account is prepared with a particular focus on natural resources stocks and flows, environmental costs, externality costs etc.

Environmental Financial Accounting

This account deals with a particular focus on reporting environmental liability costs and other relevant environmental costs.

Environmental Management Accounting

This accounting is the process of identifying, collecting and analysing information principally for internal purpose of a corporate body. This type of accounting can again be classified as follows:

i) Segment Environmental Accounting
This is an internal environmental accounting tool to select an investment activity or a project related to environmental conservation from among all process of operations and to evaluate environmental effects for a certain period.

ii) Eco Balance Environmental Accounting
This is a system that involves the listing of environmental impact of input and output data to identify, quantitatively measure and report the environmental impact of an organisation.

iii) Corporate Environmental Accounting
This is a tool that informs the public the significant information compiled in accordance with the environmental accounting.
Environment accounting at corporate level helps to know whether the corporation has been fulfilling its responsibilities towards environment or not.

Approaches of Environmental Accounting

According to guidelines, environmental accounting comprise three key elements, viz., environmental conservation cost (monetary value), environmental benefit (physical units) and the economic benefits associated with environmental conservation activities (monetary value) changed in the current year. Though there are three elements of environment accounting yet it has adopted two approaches: 1. Physical Approach and 2. Monetary Approach.

Physical Approach

The United Nations Organisation has suggested the physical approach. Environmental operations are presented in physical terms and no monetary value is assigned. Here environmental operations are presented in a physical term. No monetary value is assigned. It is an important approach because physical information about the resources are collected through this approach and helps to prepare the environmental statistics and is the first step in monetary approach.

Monetary Approach

Physical approach of environmental accounting possesses a lot of complications due to different nature of environmental components. These limitations constitute genesis of the monetary approach. With the use of such monetary approach the profit or loss associated with environmental operations can be assessed.

Table1: Detailed Description of Environmental Accounts

Internal Factors	External Factors
• Monetary Environmental Management Accounting (MEMA) • Physical Environmental Management Accounting (PEMA) • Monetary Environmental Regulatory Accounting and Reporting (MERA)	• External Environmental Accounting and Reporting (EMEA) • External Physical Environmental Accounting and Reporting (EPEA) • Physical Environmental Regulatory Accounting and Reporting (PERA)

Table1 shows the internal factors and external factors as well as their effects on monetary and physical approaches of environmental accounting.

Environmental Management System (EMS)

An Environmental Management System is a set of processes and practices that enable an organisation to reduce its environmental impact and increase its operating efficiency. It provides information and resources relating to EMS for small business and private industries, as well as local, state and federal agencies. An EMS is an integral part of the overall management system that includes organizational structure, planning, objectives, activities, responsibilities, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining environmental policy (definition in ISO14001:1996 standard; clause 3.5). In managing the environmental aspect of the business an EMS serves as a systematic approach. In EMS, the system is able to improve the environmental performance in many ways like compliance with environmental legislation, stressing on pollution prevention, reduction in cost and improving corporate image[7]. Different countries and regions may adopt different standards for EMS such as ISO 9000, QS 9000, SA 8000, BS 7750 but the performance system adopted by international communities in relation to environmental management in ISO 14000 series[8]. Reduction in costs from customers audits, better market impression, increase efficiency of resources, ability to adopt changing circumstances, self-regulatory compliance to legal and regulatory requirement are the benefits of EMS. **Figure 1** shows the environmental accounting model in a manufacturing industry.

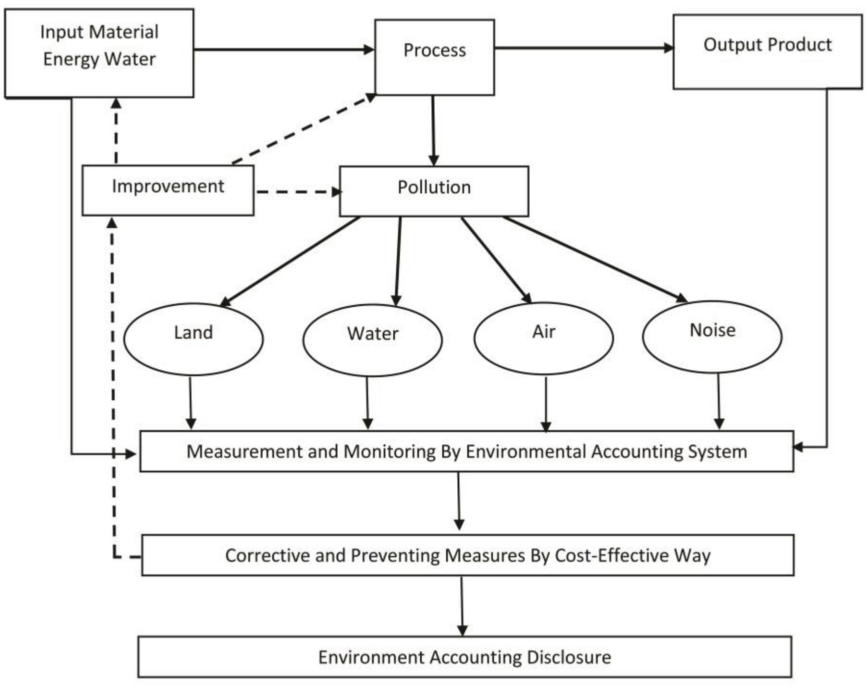


Figure 1: Environmental Accounting Research Model in Manufacturing Industry (Source: "Environmental Accounting as a tool for Environmental Management System", by Seetharaman A; Mohamed Ismail; Saravananan, AS; JASEM ISSN 1119-8362, J. Appl. Sci. Environ. Manage. June, 2007, Vol. II (2) P.142)

It is observed from **Figure 1**, how material, energy, water put into production process and come out as output. The figure also shows how pollution like land, water, air, voice again come back to input and process through corrective and preventive measures by cost effective way. Finally it discloses environmental accounting.

The Legal and Regulatory Framework for Environmental Accounting in India

Today's focus on environmental account throughout the world is not new in India – Environmental considerations have been an integral part of the Indian culture. Conservation and sustainable use of natural resources has been mentioned in Indian scriptures, more than three thousand years ago and also reflected in constitutional, legislative and policy framework as well as in the international commitments of our country. In the twentieth century, together with the spreading of environmental consciousness, a change has been observed in the traditionally held perception that there must be a trade-off between environmental quality and economic growth as people have come to believe that these two are complementary. Though there exist some environmental legislations, the real impetus for bringing about a well-developed framework came only after UN Conference on the Human Environment (Stockholm, 1972). In that year the National Council for Environmental Policy and planning within the Department of Science and Technology was set up. That Council later converted into full-fledged Ministry of Environment and Forest (MoEF) in 1985. This ministry is now the apex administrative body in our country for regulating and ensuing environmental protection. Article 51A of the Indian constitution express that it is the basic obligation of each citizen of India, to secure and enhance the natural environment including forests, lakes, water ways and wildlife.

The various laws relevant to environmental protection are as follows:

I. Directly related to the Environmental Protection:
   - i) Water (Prevention and Control of Pollution) Act, 1974.
   - ii) Water (Prevention and Control of Pollution) Cess Act, 1977
   - iii) The Air (Prevention and Control of Pollution) Act, 1981
   - iv) The Forest (Conversation) Act, 1980
   - v) The Environment (Protection) Act, 1986

II. Indirectly related to Environmental Protection:
    i) Constitutional Provision (Article 51A)
    ii) The Factories Act, 1948
    iii) Hazardous Waste (Management & Handling) Rules, 1989
    iv) Public Liability Insurance Act, 1991
    v) Motor Vehicle Act, 1991
    vi) Indian Fisheries Act, 1987
    vii) Merchant of Shipping Act, 1958
    viii) Indian Port Act
    ix) Indian Penal Code
    x) The National Environment Tribunal Act, 1995

In addition to the above mentioned laws, the union government and the state governments have passed various statutes to control the problem of environmental pollution and ecological imbalance. To control the pollution, The Central Pollution Control Board (CPCB) was also set up. The function of this board is to look after whether violation of standards of water or air pollution have occurred then show cause notices to be served to that industrial units and all such units are being kept under constant surveillance. As per Gazette Notification on Environmental Audit issued by the Ministry of Environment and Forest in 1992 (amended vide notification GSR 386(E) dt.22-04-1993), under the Environmental (Protection) Act, 1986 it is mandatory for all industrial units to submit an environmental statement to the concerned State Pollution Control Boards, while seeking permission to operate under the relevant environmental norms. As the Union Government issued Cost Accounting Record Rules for various industries those also need to disclose monetary and quantitative values in Cost Accounting. Corporate bodies should report their environmental execution, including the appraisal of potential environmental dangers related with their operations, to the stakeholders in a reasonable and straight forward way.

Practice of Environmental Accounting and Reporting in India

Like financial annual report, environmental reporting can also be prepared and published by the listed companies. But the environmental reporting practice of Indian Companies has been very dismal. Only a few companies give space for environmental issues in their annual reports. Very few Companies have only some mention about environmental liabilities or losses in their annual reports. Globally, the environment effect on economic development has become a matter of great public concern. Companies in the different countries have started the practice voluntarily to disclose the environmental matter in their annual reports to sustain their image in the eyes of the society. Environmental accounting and reporting require incorporation of environmental issues into the corporate annual reports. It may be done through the Directors' report or in the financial statements section of annual reports. Environmental reporting encompasses both recognition and disclosure but environmental accounting encompasses only recognition in the main body of the financial statements, measurements of the amounts and display[9]. The Ministry of Environment and Forests has proposed that "Every Company shall, in the Report of its Board of Directors, disclose briefly the particulars of the steps taken or proposed to be taken towards the adoption of clean technologies for prevention of pollution, waste minimization, waste recycling and utilization, pollution control measures on waste reduction, waste and other resources conservation."

The Companies Act, 2013 emphasized on Corporate Social Responsibilities (CSR) that makes it mandatory to spend money for social welfare activities of certain class of profitable companies. Companies with net worth of more than Rs.500 crore or turnover of Rs.1,000 crore adoption of CSR policy is mandatory. In addition to that, companies are expected to provide more disclosures besides company's general state of affairs and financial performance regarding conservation of energy and protection of environment. Most of the Companies do not prepare environment accounts for external reporting mainly because it is not mandatory as per existing law. Another reason for non-preparation of environmental accounting is that there is no specific standard on this issue. As a result, a significant gap exists in this area. The uses of financial statements and annual reports want that companies should prepare environment accounts but the companies do not prepare it as this is not mandatory by law. At present, as per instruction of the Union Ministry of Environment and Forests, it is mandatory to get an environmental clearance for all new projects from Union Ministry of Environment and Forests and the corresponding State Government's Department of Environment.

Now we may mention ten practical examples, five from public sector undertakings and five from private sector undertakings, of their environmental reporting in India made by those companies.

(i) **SAIL**[10], in its Annual Report 2019-2020, as a leading steel manufacturer and responsible corporate entity, has reaffirmed its commitment towards mitigation of climate change in its well laid down Corporate Environment Policy which includes the commitment that SAIL would "Contribute towards mitigation of climate change through the adoption of cleaner and energy efficient technology". SAIL has reported in the annual report about Carbon Footprint, Conserving Water, Waste Management, Material Management, Efforts for Ecological Restoration. It adopted Environmental Management System (EMS) linked with ISO-14001. It has promoted non-conventional energy sources. It also provided environment-friendly disposal facility for Poly Chlorinated By-Phenyls (PCBs) at BSP. Since inception SAIL already planted more than 20.9 million saplings. During April to December, 2019 more than 30.05 lakh saplings have been planted.

(ii) **ONGC**[11], in its annual report 2019-20 mentioned that ONGC Group has always remained committed to protection of environment and continued to work towards initiatives and contributes positively to environmental conservation. ONGC also mentioned that it has started Alternates Energy & Clean Development Mechanism (CDM) in 2005, Carbon Management. Group (CMG) in 2007 and Carbon Management and Sustainability Group (CM & SG) in 2012. The company has also mentioned in the annual report that it has proper arrangement for water and waste water conservation through rain-water harvesting, waste water management, biodiversity etc.

(iii) **Indian Oil Corporation**[12] in its annual report 2019 reported that it has taken adequate steps for health, safety and environment, the three pillars to ensure safe communities and happy stakeholders. Indian Oil accords topmost priority to conducting its business with a strong environment conscience, ensuing sustainable development, safe workplace and enrichment of quality of life of its employees, customers and community at large. Indian Oil's refineries continuously strive to minimise adverse environmental impact from refinery activities, products and services by using processes, practices, materials that avoid, reduce and control pollution.

(iv) **BHEL**[13] has a well-established Environmental Management System (EMS) accredited to ISO 14001: 2004/2015. BHEL in its annual report 2019-20 kept Environmental Report under Board's Report. It is rightly mentioned that as a global citizen this corporate keeps relation between Green House Gas (GHG) emission and climate change. It has been putting efforts in reducing Carbon Footprint on its products and services. This organization is putting a major thrust in energy efficiency and use of renewable energy sources. In 2018-19 BHEL generated total energy 27.60 million units through various renewable energy based system. The company has also taken projects relating to water and energy conservation, tree plantation, waste management, resource conservation etc. It is working on development of technology for the conversion of high ash Indian coal to methanol. BHEL has given utmost importance to ensure safe working environment and safety awareness among employees and all stakeholders.

(v) In the message from the Chairman of **Maruti Suzuki India Ltd.**[14] he mentioned that the company recognises the importance of sustaining its performance. Considering the national priorities rain water harvesting has been given priority in 26 villages. Water Conservation being the national importance the company recycled water in its plant and about 60% of the daily consumption of water is met from the recycled water. In Gurugram and Manesar plants water harvesting activities are in vogue and the capacity is being increased.

(vi) **Asian Paints Ltd**[15] in its annual report 2019-20 mentioned under the head – 'Business Review' and sub-heading 'Environment, Health and Safety' that it has released its fourth Sustainability Report for 2017-18 in which disclosure the environmental performance for that year were in detail. In 2018-19 its six paint factories have continued to perform on some important areas of environmental sustainability: investing in community rainwater harvesting structures, reducing non-process water consumption, reducing electricity consumption, increasing the investment on renewable sources in electricity usage and reducing hazardous waste generation. Mysuru and Vishakhapatnam have been designed as Green Factories. It focused on investing in rainwater harvesting structures in the communities. It has been able to replenish 544 million litres of rainwater near factory location. In 2018-19 ~ 3MW of roof top power and ~ 6.3MW of wind power was commissioned. The company has also contributed towards improving different aspects of biodiversity at Sriperumbudur factory. The CII acknowledged this effort through the CII-CESD Commendation Award in the Biodiversity Domain Excellence Category.

(vii) **Kansai Nerolac Paints Ltd**. (KNPL)[16] in its 100th Annual Report 2020 mentioned under the head Board's Report and subheading 'Environment, Health & Safety' highlighted on recycling of whole treated water into its process and minimize fresh water consumption. Such conservation of water reduces its water footprint. Solid waste management is its another key focus area. It also invested in solar projects across all plant locations and in wind and biomass energy projects. At the same time bio-composting machine has been installed in one of the manufacturing sites to recycle the bio-degradable wastes as manure for gardening. KNPL has adopted a two-way approach for water and waste management: Reduction at source and Recycle and reuse. All of its sites are equipped with rain water harvesting facility. KNPL has achieved ZERO LIQUID DISCHARGE across all plants through installation of Ultra filtration (UF), Reverse Osmosis (RO) and Multi-effect Evaporator (MEE) treatment system. As a part of energy security it continued its investment in green energy across all locations during the year.

(viii) **Tata Consultancy Service Ltd.** (TCS)[17] in its annual report 2019-20 disclosed the environmental report under the head Directors' Report and sub-head corporate Social Responsibility (CSR) Activities (Annexure II). It is observed from the annual report that TCS ensured environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agro forestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the Clean Ganga Fund set-up by the Government of India for rejuvenation of river Ganga. The company made budget of Rs.18 crore for the project and amount spent on the project or programme as direct expenditure and overheads Rs.6 crore. Cumulative expenditure upto the reporting period on environment was Rs.11 crore. These projects included water conservation through desilting, repair and maintenance of lakes, watershed restoration for sustainability and flood protection.

(ix) **Wipro Limited**[18] has published its environmental report in its annual report 2019-20 under the head Directors' Report and sub-head Corporate Social Responsibilities (CSR). In Annexure V Corporate Social Responsibility Report for the financial year 2019-2020 the company has shown the CSR project or activity identified for ensuing environmental sustainability and ecological balance. Annexure V includes the environmental reports in the Summary of Corporate Social Responsibility (CSR) spent for the financial year 2019-20 as follow:

(Rs. in million)

Sl. No.	CSR project activity identified	Sector in which the project is covered	Projects or programs 1) Local area or other 2) Specify the state and district where the project or programme are taken	Amount out lay (Budget)project or program wise	Amount spent on the Projects or programs	Cumulative expenditure upto previous reporting period	Cumulative expenditure upto reporting period	Amount spent: direct or through implementing agency
....	....	....	....	....	....	....	....	....
3.	Ensuing environ-mental sustainability, ecological balance	Water	Bangalore (Karnataka) Pune (Maharastra)	7	5	25	30	5
		Biodiversity	Bangalore (Karnataka) Pune (Maharastra)	2	1	30	32	1
		Energy	Bangalore (Karnataka) Pune (Maharastra) Hyderabad (Telegana) Chennai(Tamilnadu)	500	444	2,342	2,786	444
		Waste Management	Bangalore, Mysore (Karnataka)	2	2	9	12	2
		Sustainability Advocacy and Research	Bangalore, Balasore (Odisha), Bhubanehwar (Odisha), Chennai, New Delhi (NCR),Hyderabad, Pune, Chikmagalur (Karnataka) Guahati (Assam),Kurnool (Kerala),Korapur (Odisha)	20	17	89	105	17

Wipro limited has shown item wise detail information about environmental issues.

(x) **Hindustan Petroleum Corporation Limited** (HPCL)[19] has shown the environmental protection measures in Annexure II of Directors' Report for the year 2019-20 . It has shown the pollution control measures initiated and other environmental initiatives undertaken by the Mumbai Refinery and Vikash Refinery separately. It is observed that in Mumbai Refinery followed the full scale compliance in pollution parameters on stack emissions, hazardous waste disposal and statutory filings. Revamp of Integrated Effluent Treatment Plant Volatile Oil Component System (IETP VOC system) for enhanced capacity and efficiency completed and commissioned. The VOC absorption capacity was doubled and absorption efficiency has increased to about 94 per cent. 7,96,324 KL of water recycled in 2019-20 thereby savings equivalent quantity of 2500 m^3 is undertaken for bioremediation by ONGC-TERI Biotech Ltd. (OTBL).

In Vikash refinery, pollution control measure initiated to ensure all the measures to meet 100 per cent compliance levels of effluent. 14723 m^3 of oily sludge was processed during the year by the company. It also disposed around 803 MT of various hazardous waste materials. Fresh water generated from Reserve Osmosis plant was 6,98,703 KL and was recycled during the financial year 2019-20. Observing the World Environment Day on 5th June, 2019 conducted free Pollution Under Control (PUC) check camp for creating awareness in public. Competitions for employees and their children on environmental awareness and distribution of saplings to employees were also undertaken by the HPCL.

It is observed from the published annual reports of the above sample 10 companies that none of them, neither the public sector nor private sector companies, practiced environmental accounting in their annual report but all of them have produced detail report in their annual reports about environmental upgradation.

Limitations of Environmental Accounting

Environment Accounting has been suffering from various limitations; the major ones are as follows:

- Till date, there is no standard accounting method.
- Since there is no standard accounting method then comparison about different business houses or different countries is not possible.
- Environmental accounting mainly considers the organisation's internal cost and do not consider the environmental cost of the society.
- Environmental accounting is a long-term process so to draw a conclusion for an accounting period is not so easy.
- It requires help of financial accounting and should be integrated with that. But it is not so easy.

- Since costs and benefits related to the environment depends upon the results of the financial accounting, management accounting, cost accounting, national accounting etc, therefore, it is imperative that environment accounting must be analysed along with the other aspects of accounting.
- Since costs and benefits relating to the environment are not easily measurable, inputs are not easily available for environmental accounting.
- Since the environmental accounting is the new concept in accounting the uses of information in the environmental accounting generally have not adequate knowledge of the process of environmental accounting as well as rules and regulations prevailing in the respective country relating to environment.
- It involves inapplicable assumptions.
- It lacks reliable industry data.
- Environmental accounting lacks economic value.

Environmental Accounting and Role of Management Accountants

Whereas the analysis of different aspects of environment and its proper accounting need skills of multiple disciplines, like environmental manager, engineer, scientist, economist, planner, lawyer, operation manager and management accountant, being expert in management related accounting the management accountant has to play an important role in the corporate environmental team regarding better environmental analysis using appropriate tools and techniques. He may serve the organisation in the following ways:

1. To incorporate environmental costs and benefits more effectively he may develop capital investment and appraisal tools.
2. For new and modified management information and financial system, he may help for assessing the need for it.
3. He may help for improving methods of reallocation of internal environmental costs to specific products and activities.
4. He may assess the financial costs and risks relating to investment in product or process design which may cause or increase pollution.
5. He may offer expertise knowledge in the financial evaluation of environmental litigation etc.
6. He may work with other professionals of the organisation to assess the potential costs of environment..
7. He may compute individual environmental cost for resolving conflicts between environmental management and traditional financial management system.

Conclusion

Today environmental accounting plays an important role for measuring and understanding the natural environment and its effect on the development of an economy. Such environmental accounting provides data relating to contribution of natural resources to economic development as well as cost imposed by environmental pollution and resource degradation. In India, the environmental accounting and reporting is in initial stage and its disclosure in the corporate annual report is poor. Neither the Companies Act nor the accounting standard set up body like The Institute of Chartered Accountants of India or The International Accounting Standards Committee (IASC) has set up any detail standards for environmental accounting and reporting in corporate annual report. In few industries environmental accounting is mandatory such as oil and petroleum, natural gas, cement, steel etc. In other industries environmental disclosures are voluntary that is why the companies hesitate to implement the practice in their books of accounts. Their poor environmental performance may also bind to non-disclosure of environmental pollution and resource degradation and the steps taken by the concerned companies. Lack of awareness and commitment of the company management about the social responsibility of the company also keep the firms away from reporting on environment costs and benefits.

In our study we have observed that sample companies – SAIL, ONGC, Indian Oil Corporation, BHEL, Maruti Suzuki India Ltd., Asian Paints Ltd., KNPL, TCS, Wipro and HPCL have disclosed their environmental activities taken up by them in their respective annual report 2019-20. Since there is no standardised environmental accounting a practice and disclosure norm at national as well as international levels the disclosures of Indian companies are not same and depends upon the decision of the management of such companies. But time has come when corporate have to prepare a positive environmental policy, take proper steps for pollution control, comply with the related rules and regulations, focus on details of environmental aspects in their annual report. At the same time a well-defined environmental policy and proper accounting practice and disclosure must be advocated in the Indian and global outlook for the sustainable development of a country otherwise the eyes of the corporate management will remain shut towards the deterioration of the environment.

References

1. *Das, Pradip Kumar, - "An Introduction to the Concept of Environmental Accounting and Reporting – Indian Scenario, Imperial Journal of Interdisciplinary*
2. *Research (IJIR) Vol-3, Issue-4, 2017 (Special Issue), ISSN: 2454-1362 Pp.13-22*

Singh A P, Raman N S, Waghe U P – Ecomark Scheme in Indi. Int J Pharma Med and Bio Sc. 1(2); 2012 pp.1-12.

3. *Hecht J E, - "National Environmental Accounting: A Practical Introduction", International Review of Environmental and Resource Economics 1(1), 2016, pp.3-66.*
4. *Pramanik A K – "Environmental Accounting and Reporting: An Emerging Issue", Environmental Accounting and Reporting, Deep & Deep Publications Pvt. Ltd, New Delhi, 2002, p.1.*
5. *Oza H S – "Corporate Environmental Responsibility – Legal Aspects, Accounting and Auditing". Environmental Accounting and Reporting, Deep & Deep Publications Pvt. Ltd., New Delhi, 2002, p.89.*
6. *Mathews M R – "Twenty-Five Years of Social and Environmental Accounting Research", Accounting, Auditing, and Accountability Journal 10(4); 1997, pp.481-531.*
7. *Theyel G – "Management Practices for Environmental Innovation and Performance", International Journal of Operations and Production Management, Vol.20 No.2, 2020, pp. 249-266.*
8. *Pun K.F, Hui I K, Lau H C W, Law H W and Lewis W G – "Development of and EMS Planning Framework or Environmental Management Practices", International Journal of Quality and Reliability Management, Vol.19, No. 6, 2002, pp. 688-709.*
9. *Das Pradeep Kumar – op cit p.16*
10. *https://sail.co.in>investors>*
11. *https://www.ongcindia.com>*
12. *https://www.iocl.com>*
13. *https://www.bhel.com>*
14. *https://marutistoragernew.blob.core.windows.....*
15. *https://www.asianpaints.com>*
16. *https://www.nerolac.com>*
17. *https://www.on.tcs.com>Annual Report*
18. *https://www.wipro.com>*
19. *https://www.hindustanpetroleam.com>*

FINANCIAL PERFORMANCE ANALYSIS OF POWER GRID CORPORATION OF INDIA LIMITED (PGCIL) DURING THE POST - LIBERALIZATION ERA: A STUDY

Rupesh Yadav

Abstract:

India is the third largest producer of electricity in the world after China and USA. In India more than 20 companies engaged in power generation out of these NTPC Ltd. holds 15 per cent of market share. Due to lack of proper transmission network previously, distribution of energy resources were extremely unbalanced. To minimize the uneven distribution of electricity, on October 23, 1989 with the mandate to operate Regional, National power grids and to facilitate transfer of power within and across the regions with reliability, security and economy, PGCIL was established. The present study seeks to measure the overall financial performance of PGCIL for the period 2004-05 to 2018-19. The issue has been tackled using relevant ratios relating to financial performance and various statistical tools and technique at appropriate places. The outcome of the study revealed that PGCIL reached the top in respect of financial performance in the year 2018-19.

Key Words:

Electricity, Maharatna, Power, PGCIL, Transmission

I. Introduction:

The growth story of India has deep roots in the form of contribution made by CPSEs over the years (Sur and Chakraborty, 2015). The CPSEs account for over 23 per cent of the country's GDP and approx 7 per cent to the total employment in the organized sector. There are 339 CPSEs in India, of these, 82 enterprises are yet to commence commercial operations and 257 serve the different sectors of the country, such as Infrastructure, Power, Oil and Gas, Atomic Energy, Space and Defense, Steel, Mining, Chemicals and Fertilizers and Pharmaceuticals. During the financial year 2018-19 the CPSEs contributed around Rs 3,68,803 crore to the Government exchequer (Source: SCOPE). Out of the total CPSEs the contribution made by power sector is inevitable for development of the nation. In the present study the financial performance analysis of PGCIL (Power Distribution and Transmission Company), a newly accorded "Maharatana" CPSE has been made. *Financial performance* indicates how well an organization may leverage its financial resources and other assets to generate value in monetary terms. On the other hand, financial performance analysis is a process of evaluating the relationship between component parts of financial statements to obtain better understanding of a firm's financial position and performance. The most significant contribution of financial performance analysis is to find answer to a variety of question such as earning capability, debt paying capacity, efficiency and effectiveness of managerial policies, degree of financial risk associated with the firm etc. internally for management and externally for host of users such as creditors, bankers and investors etc. A number of studies relating to different issues associated with financial health and profitability of the CPSEs including PGCIL were conducted in the last few years. However, no significant study on the financial performance of PGCIL was carried out in the recent past. So, in order to bridge the gap, the present study was conducted.

The remainder of the paper is structured as follows. Section II deals with the brief profile of PGCIL, Section III shows review of the related literatures. Section IV is concerned with the objective of the study. Section V narrates the methodology adopted in the study. Section VI is concerned with a brief profile of PGCIL. Section VII discusses the empirical results obtained from the study. Section VIII presents the concluding observations.

II. Brief Profile of PGCIL:

Power Grid Corporation of India Limited (PGCIL) is a state owned 'Maharatna' company which was formerly known as ''National Power Transmission Corporation Limited'' incorporated on 23rd October 1989 and started its business operation on 8th November 1990, head office located at Gurgaon, Haryana. The former name of the company replace with PGCIL as because its former name resemblance to another existing company NTPC Ltd. so, the Government of India (GOI) changed its name by issue a fresh certificate of incorporation on 23rd October 1992. The Government of India accorded the status of 'Maharatna' to PGCIL on its 30th years of completion of the service to the nation i.e. on 23rd October 2019. PGCIL transmits 50 per cent of total power generated in India through its transmission network. The GOI transfer all the transmission assets hold by NTPC, NHPC, and NEEPCO to PGCIL by passing 'Power Transmission System Act' as on 1st January 1993. Presently, 57.90 per cent of PGCIL's equity share capital is owned by GOI. PGCIL has one subsidiary company 'Power System Operation Corporation Limited' (POSOCO) which mainly deals in power management for National Grid and all state transmission utilities. PGCIL is also operating an telecom company named as 'POWERTEL'.

III. Review of related literature:

Mandiratta and Bhalla (2017) attempted to make analysis of the financial and operating performance of the fifteen CPSEs disinvested in India through public share offering mode during the period 2003–2012. The firms used in the study were taken from four cognate i.e. manufacturing, mining, and electricity and service sectors. For dealing the issues related to financial and operating performance of selected CPSEs ratio analysis techniques was used. The study found that only the operating performance of the company was sound during the period under study.

Chaudhary et.al. (2016) analysed the profitability of PGCIL for the period 2002-03 to 2013-14. The data of the selected company were analysed using ratios related to profitability as well as DU-Pont analysis for computing the rate of return of the company whereas the statistical technique were used in the study for computing mean, median and regression analysis at appropriate places. The result of the study showed that the profitability of the company increased significantly during the period under study.

Sur and Chakraborty (2015) conducted a study considering all major dimensions of financial performance of BHEL. The secondary data collected from the Capitaline Corporate Database for the period 2004-05 to 2013-14 were analysed by using ratio analysis and relevant statistical tools at appropriate places. The study revealed that no specific trend in most of the selected dimensions of financial performance of BHEL was established during the study period while a strong evidence of upward trend only in earning capability of the company from the point of view of its owners during the study period was noticed. Another notable outcome derived from both the partial correlation analysis and multiple correlation analysis made in this study reflected that the working capital management of BHEL made a noticeable contribution towards enhancing its value generating capability during the study period while the company's fixed asset management failed to establish itself as a significant contributors of its wealth generation in the same period.

The study made by **Pardeshi and Thorat (2015)** examine the financial health of five selected CPSEs for the period 2010-11 to 2012-13 by using Altman Z-Score Model. The study revealed that ONGC, BHEL and RCF are in gray zone whereas SAIL and NTPC are in distress zone during the period under study.

Gupta and Gupta (2014) in their study examined the financial health of PGCIL during Pre-Recession and Post-Recession period. The period of study started from 2002-03 to 2011-12. The author used ratio analysis technique and different statistical tools at appropriate places for analyzing the data. The study revealed that the financial health of the company was found to be alarming during the study period and the recession of 2007-08 had no effect on the overall performance of the company.

Nandi (2010) carried out a study to analyse the performance of selected CPSEs in India during the study period 1999-2000 to 2007-08 by applying ratio analysis technique and statistical measures at appropriate places. The study showed that the profitability of the selected CPSEs followed increasing trend during the period under study.

Based on the review of the studies mentioned above, it was found that various studies relating to various financial issues on CPSEs including PGCIL were conducted associated with financial health and profitability in the recent past but no significant study was made on the financial performance of PGCIL. So, in order to bridge the gap, the present study was made.

IV. Objectives of the study:

The present study makes an analysis of financial performance of PGCIL, for the period 2004-05 to 2018-19. More specifically, the objectives are:

i) To measure the financial performance of the company on the basis of selected financial indicators.
ii) To investigate whether there was any uniformity among the measures indicating the selected dimensions of financial performance indicators of the company.
iii) To identify the factors made significant contribution towards enhancing the value generating capability of the company.

V. Methodology of the study:

Period of Study: The period 2003-04 to 2018-19 was taken as the period under study. Though the liberalization process started in India during the financial year 1991-92, several reform measures relating to the Indian power sector were initiated by the Central Government during the period 1991 to 2003. The notable events of Indian power sector reforms which took place during the period 1991 to 2003 are opening up of private investment in power generation (1991), introduction of mega power policy and competitive bidding process (1992-95), issue of guidelines for establishment of Regulatory Commission (1996), introduction of Electricity Regulatory Commission Act and Electricity Law (Amendment) Act to allow private participation in transmission (1998-99), Electricity Act, 2003 etc. Thus, in this study the financial year 2003-04 was considered as the initial year of the study period.

Collection of Data: The data of the selected companies for the period 2004-05 to 2018-19 used in this study were collected from secondary sources, i.e. 'Capitaline Corporate Database' published by Capital Market Publishers India Pvt. Ltd., Mumbai.

Analysis of Data: While analyzing financial performance, such as liquidity, profitability, efficiency of assets management and value generating capability were taken into consideration. The current ratio (CR) was used in this study in measuring liquidity of the company, working capital turnover ratio and fixed assets turnover ratio (FATR) were used in assessing the efficiency of company in terms of its working capital management and fixed asset management respectively. In this study five profitability measures, such as gross profit ratio (GPR), net profit ratio (NPR), return on total assets (ROTA), return on net worth (RONW) and earnings per share (EPS) were used. When the profitability of a business firm is analysed using any one of these conventional yardsticks, the implied premise is that it exits, operates and grows only for its owners. But this concept mismatches with the philosophy of the CPSEs. The achievement of social objectives, which is one of the major goals of the CPSEs, is not reflected in the said accounting profit based measures. Thus in present study 'value added to capital employed ratio (VACE)' was also analysed in evaluating the financial performance of PGCIL. As public sector units are established not with the motive of earning profit but for the welfare of the society, therefore VACE which represented profitability from the view point of all the stakeholders was considered in the study as an overall profitability measure. Generally a firm utilizes its funds in two ways: (i) by making investment in fixed assets and (ii) by making investment in working capital. So, the value generating capability of the firm largely depends on the efficiency with which fixed assets as well as working capital are managed. Thus, in this study FATR and WCTR were considered as the determinants of value generating capability. For analyzing the data used in this , simple statistical tool like arithmetic mean (AM); statistical techniques, such as correlation coefficient analysis, analysis of Kendall's Coefficient of Concordance and statistical test like t-test, F test and Chi-square test were applied at appropriate places.

VI. Empirical result discussion:

Table 1

	Financial Performance Indicators									Ranks of Financial Performance Indicators										
	A	B	C	D	E	F	G	H	I											
YEAR	CR (Times)	WCTR (Times)	FATR (Times)	GPR (%)	NPR (%)	ROTA (%)	RONW (%)	EPS (Rs)	VACE (%)	AR	BR	CR	DR	ER	FR	GR	HR	IR	Sum of Rank	Final Rank
2004-05	0.78	-12.37	0.11	55.35	31.25	0.56	8.76	248.10	0.10	1.5	15.0	15.0	14.0	7.0	15.0	15.0	2.0	14.0	98.5	**15.0**
2005-06	0.51	-1.53	0.13	61.86	32.07	0.52	10.14	281.40	0.13	13.0	4.0	12.5	3.0	4.0	11.5	14.0	1.0	5.5	68.5	**6.0**
2006-07	0.49	-1.22	0.12	60.17	34.24	0.57	11.26	3.25	0.12	14.0	2.0	14.0	4.0	1.0	14.0	12.0	15.0	10.0	86.0	**14.0**
2007-08	0.68	-2.51	0.13	71.13	31.38	0.44	10.53	3.44	0.15	6.0	10.0	12.5	2.0	6.0	7.5	13.0	14.0	1.0	72.0	**7.5**
2008-09	0.60	-1.64	0.16	76.04	25.69	0.34	12.49	4.02	-0.93	10.0	6.0	7.5	1.0	15.0	1.0	11.0	13.0	15.0	79.5	**13.0**
2009-10	0.65	-1.91	0.17	53.57	28.63	0.53	12.92	4.85	0.13	7.5	7.0	3.0	15.0	13.0	7.5	9.0	12.0	5.5	79.5	**11.5**
2010-11	0.78	-3.64	0.17	56.55	32.14	0.57	12.62	6.19	0.13	1.5	12.0	3.0	11.0	3.0	7.5	10.0	11.0	5.5	64.5	**5.0**
2011-12	0.74	-3.54	0.16	58.42	32.02	0.55	13.85	7.03	0.12	5.0	11.0	7.5	7.0	5.0	11.5	6.0	10.0	10.0	73.0	**9.0**
2012-13	0.63	-2.11	0.16	59.44	33.19	0.56	16.13	9.15	0.12	9.0	8.0	7.5	5.0	2.0	7.5	2.0	9.0	10.0	60.0	**4.0**
2013-14	0.56	-1.57	0.16	58.83	29.52	0.50	13.05	9.36	0.12	11.0	5.0	7.5	6.0	8.0	11.5	7.0	8.0	10.0	74.0	**10.0**
2014-15	0.48	-1.16	0.15	56.54	28.98	0.51	13.04	9.52	0.11	15.0	1.0	10.0	12.0	11.0	11.5	8.0	7.0	13.0	88.5	**11.5**
2015-16	0.53	-1.41	0.14	58.15	28.97	0.50	14.10	11.52	0.12	12.0	3.0	11.0	8.0	12.0	5.0	5.0	6.0	10.0	72.0	**7.5**
2016-17	0.65	-2.46	0.17	58.09	29.24	0.50	15.09	14.37	0.13	7.5	9.0	3.0	9.0	9.0	4.0	4.0	5.0	5.5	56.0	**3.0**
2017-18	0.76	-3.87	0.17	56.62	27.69	0.49	15.14	15.75	0.14	3.5	13.0	3.0	10.0	14.0	2.5	3.0	4.0	2.5	55.5	**2.0**
2018-19	0.76	-5.84	0.17	55.92	29.12	0.52	16.84	19.00	0.14	3.5	14.0	3.0	13.0	10.0	2.5	1.0	3.0	2.5	52.5	**1.0**
Minimum	**0.48**	**-12.37**	**0.11**	**53.57**	**25.69**	**0.34**	**8.76**	**3.25**	**-0.93**	**Kendall's coefficiecnt of concordance among the selected financial indicators (W) is 0.3444 and Chi-square value is 43.3944** (Significant at 1 per cent level)**										
Maximum	**0.78**	**-1.16**	**0.17**	**76.04**	**34.24**	**0.57**	**16.84**	**281.40**	**0.15**											
Average	**0.64**	**-3.12**	**0.15**	**59.78**	**30.28**	**0.51**	**13.06**	**43.13**	**0.06**											
SD	**0.11**	**2.86**	**0.02**	**6.04**	**2.28**	**0.06**	**2.25**	**90.32**	**0.27**											
CC	**5.90**	**-1.09**	**7.45**	**9.90**	**13.27**	**8.59**	**5.80**	**0.48**	**0.20**	****Significant at 5 per cent level. *Significant at 10 per cent level.**										
Slope	**0.003**	**0.120**	**0.003**	**-0.482**	**-0.225**	**-0.001**	**0.448**	**-11.004**	**0.012**											
t-value	**0.465**	**0.686**	**3.534****	**1.377**	**1.776**	**0.374**	**7.002**	**2.343***	**0.723**											

Source: Compiled and computed from the published Financial Report of PGCIL

Current Ratio (CR): This ratio is a basic measure of liquidity of a company. The higher the CR, the greater is the company's ability to meet its short term liabilities. In Table I an attempt was made to make an analysis of CR of the selected companies. Table 1 shows that CR of PGCIL was minimum 0.48 in the year 2014-15 and it was maximum 0.78 in the year 2004-05 and 2010-11. On an average, it was 0.64. The linear trend equation fitted to CR series depicts an upward trend, which was not found to be statistically significant during the period under study.

Working Capital Turnover Ratio (WCTR): This ratio measures the efficiency of working capital management of the company. The higher the value of WCTR, the higher is the efficiency of managing WC of the company. Table 1 discloses that the WCTR of PGCIL ranged between (-12.37) in 2004-05 to (-1.16) in 2014-15. The mean WCTR of the company for the period under study was (-3.12). The linear trend equation fitted to the WCTR series reveals an upward trend, but the trend in WCTR was not found to be statistically significant during the period under study.

Fixed Assets Turnover Ratio (FATR): This ratio indicates the efficiency of fixed assets management of the company. The higher the FATR, the higher is the efficiency of the company in terms of fixed assets management. Table 1 shows that the FATR of PGCIL fluctuated between 0.11 in 2004-05 to 0.17 in 2009-10 (shows same value in years 2010-11, 2016-17, 2017-18 and 2018-19) . On an average, it was 0.15. The trend line fitted to the FATR series was positive and it was found to be statistically significant at 5 per cent level during the period under study.

Gross Profit Ratio (GPR): This ratio expresses the relation of gross profit to net sales in terms of percentage. It is used as a measure of the efficiency of basic business. A higher GPR is a sign of effective management of basic business operation. In contrast a relatively low ratio reveals inefficiency in managing the business and warrants a detailed analysis of the factors responsible for it. Table 1 discloses that the GPR of PGCIL ranged between 53.57 per cent in 2009-10 to 76.04 per cent in 2008-09 and on an average it was 59.78 per cent during the period under study. The linear trend line fitted to the GPR series showed a negative slope indicating a downward trend in the gross profit earning capability of PGCIL during the period under study but it was not found to be statistically significant.

Net Profit Ratio (NPR): This ratio shows the earnings left for both equity and preference shareholders as a percentage of net sales. It measures the overall efficiency of production, administration, selling and distribution, pricing, financing, etc. A higher NPR is desirable as it usually ensures a higher return to the owners. On the other hand relatively a lower NPR is danger signal for the firm. Table 1 reveals that on an average, PGCIL maintained NPR at 30.28 per cent with a range of 25.69 per cent in 2008-09 to 34.24 per cent in 2006-07 during the period under study. But the straight line fitted to the NPR series for the entire period identify declining trend in the net earning capability of the company which was not found to be statistically significant during the study period.

Return on Total Assets (ROTA): This ratio measures the overall profitability of the company. The higher the ROTA, the larger is the overall earning capability of the company. Table 1 depicts that the ROTA of PGCIL fluctuates between 0.34 per cent in 2008-09 to 0.57 per cent in 2006-07 and 2010-11.On an average, it was 0.51 per cent. The linear trend line fitted to the ROTA series indicates that a declining trend in the ROTA of the company was noticed, which was not found to be statistically significant during the period under study.

Return on Net Worth (RONW): This ratio explains the relationship between profit after tax and fund invested by the owners in the business. It indicates how profitably the owners' funds have been utilised by the company. A higher RONW ratio is a sign of efficient utilisation of the owner's fund whereas a low ratio has an opposite implication. In table 1 it varied from 8.76 per cent in 2004-05 to 16.84 per cent in 2018-19 and on an average it was 13.06 per cent during the period under study. The RONW series of the company followed an upward trend which was not found to be statistically significant during the period under study.

Earnings per Share (EPS): This ratio shows the earnings available to equity shareholders on a per share basis. Generally, a high EPS is desirable as it usually ensures a higher return to the equity shareholders. Table 1 demonstrates that the EPS of PGCIL fluctuated between. Rs 3.25 in 2006-07 to Rs 281.40 in 2005-06 while its mean value for the study period was Rs. 43.13. The linear trend equation fitted to the EPS series reveals a declining trend which was found to be statistically significant at 10 per cent level.

Value Added to Capital Employed (VACE): This ratio measures the wealth generating capability of the company. The higher the VACE, the greater is the company's capability to generate its wealth. Table 1 discloses that the VACE of PGCIL varied between (-0.93) per cent in 2008-09 to 0.15 per cent in 2007-08. On an average, it was 0.06 per cent. The linear trend equation fitted to the VACE series indicates an upward trend which was not found to be statistically significant.

In Table 1, for the purpose of ascertaining the financial performance of PGCIL more precisely in the different years under study, a comprehensive rank test was also carried out. In this test, a process of ranking was used in order to arrive at a more comprehensive measure of financial performance in which the values of all the selected financial performance indicators were combined in a composite score. The ultimate financial performance rankings, based on the sum of scores of each year's separate individual rankings under the selected financial performance ratios, was made on the principle that the lower the composite score, the higher the financial performance and vice versa (Sur,2012). This table shows that the company captured the top most position in respect of the financial performance in 2018-19 and it was followed by the years 2017-18, 2016-17, 2012-13, 2010-11, 2005-06, 2007-08, 2015-16, 2011-12, 2013-14, 2014-15, 2009-10, 2008-09, 2006-07 and 2004-05 respectively in that order.

In table 1, it was also attempted to investigate whether there was any uniformity among the selected financial performance indicators of PGCIL during the study period using Kendall's coefficient of concordance (W). For testing the computed value of W, Chi-square test was applied. Table 1 discloses that the computed value of W was 0.3444 which was found to be statistically significant at 1 per cent level. It reveals that there was strong uniformity among the selected dimension of performance indicators of the company during the period under study.

Table 2

Analysis of Correlation between VACE with WCTR and FATR		
Correlation coefficient (CC)	**Between VACE and WCTR**	**Between VACE and FATR**
Pearson's CC	-0.129	-0.101
Kendall's CC	-0.333	0.364
Spearman's CC	-0.380	0.428

Source: Compiled and computed from the published Financial Report of PGCIL

In **Table 2** an attempt was made to analyse the degree of relationship between VACE with WCTR and FATR. Although a positive relationship between VACE and WCTR and between VACE and FATR is theoretically desirable, the result of the correlation coefficient analysis depicts an adverse view, which indicates that the efficiency of working capital management and efficiency of fixed assets management of the PGCIL did not make any significant contribution towards the value generating capability of the PGCIL during the period under study.

VIII. Concluding Observations:

The present study observed that out of the nine selected performance indicators of PGCIL, only FATR and EPS showed significant upward trends which were found to be statistically significant during the period under study. The analysis of composite score based on the selected performance parameters as made in the study revealed that PGCIL reached the top in respect of financial performance in the year 2018-19 while the company was placed in the worst position in the year 2004-05 during the study period. Another significant outcome of the study was that a considerable degree of uniformity among the liquidity, profitability, efficiency of working capital management and value generating capability of the company was noticed during the period under study. The study also revealed that he correlation coefficients between VACE and WCTR and between VACE and FATR did not reflect any significant positive or negative correlation during the period under study. It implies that the company's working capital management and fixed asset management failed to establish themselves as notable contributor in its wealth generation during the study period.

References:

Journals

1. *Mandiratta, P., & Bhalla, G. S. (2017). Pre and Post Disinvestment Performance Evaluation of Indian CPSEs. Management and Labour Studies, 42(2), 120-134.*
2. *Chaudhary, K., Gupta, S., Sethi, P. K., & Gupta, M. (2016, March). A study on the Profitability Analysis of Power Grid Corporation of India Ltd. In International Conference on Industrial Engineering and Operations Management, Kuala Lumpur, Malaysia (pp. 1818-1825).*
3. *Sur, D., & Chakraborty, K. (2015). Financial performance of Maharatna central public sector enterprises in India: a case study of BHEL. AshEse Journal of Business Management, 1(2), 1016.*
4. *Pardeshi, B., & Thorat, H. (2015). Evaluating the Financial Health of Central Public Sector Enterprises in India through Z Score Model. In Twelfth AIMS International Conference on Management,(2015.*
5. *Gupta, S., & Gupta, M. (2014). A Case Study of Efficiency Analysis on Power Grid Corporation of India Ltd. International Journal of Science and Research (IJSR), 3(12), 1950 1953.*
6. *Nandi, K. C. (2010). Performance Analysis of Central Public Sector Enterprises (CPSEs) in India.*

Reports/Official Publications

1. *Annual reports of PGCIL for the selected period.*

Books

1. *Sur, d.: financial statement analysis – a comprehensive approach, excel books.*
2. *Sur, d. & Sarkhel.S.: an introduction to financial management, book syndicate private limited.*

Websites

1. *www.powergridindia.com*
2. *www.cii.in*
3. *www.bsepsu.in*
4. *www.pib.gov.in*
5. *www.scopeonline.in*
6. *www.moneycontrol.com*
7. *www.powertoday.in*
8. *www. wikipedia.org*
9. *www.ibef.org*
10. *www.ntpc.co.in*

PRINCIPAL COMPONENT ANALYSIS (PCA): A STUDY WITH REFERENCE TO FINANCIAL PROBLEMS OF MICRO, SMALL AND MEDIUM ENTERPRISES (MSME) IN WEST BENGAL

Susanta Kanrar
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Abstract:

Principal Component Analysis (PCA) is a method of extracting important variables from a large set of variables available in a data set. In layman's language, PCA is a technique to bring to the fore the major factors that explain the variance of the dependent variable most effectively. This Paper is mainly based on primary data and data mainly collected by using a pretested and precoded schedule of questionaries by personal interview with the MSME entrepreneurs. Mainly principal component analysis has been used to measure the magnitude of financial problems of MSME sectors and to identify the factors which are mostly responsible for financial problems of MSME. By applying PCA it was found that complex formalities, taking too much time to sanction loan and loan limit are the major factors for financial problems of MSME sector.

Key Words:

PCA, Variable, MSME, Financial Problems, Complex Formalities

In simple words, principal component analysis is a method of extracting important variables (in the form of components) from a large set of variables available in a data set. It extracts low dimensional set of features from a high dimensional data set with a motive to capture as much information as possible. With fewer variables, visualization also becomes much more meaningful. It (PCA, in short) is a variable-reduction technique. Its aim is to reduce a larger set of variables into a smaller set of 'artificial' variables, called 'Principal Components', which account for most of the variance in the original variables.

PCA should be used mainly for variables which are strongly correlated. If the relationship is weak between variables, PCA does not work well. PCA can be used to pinpoint the variables explaining mostly the specific issue.

PCA helps us to identify correlated variables and clubs the common variables into single one which helps us to identify which variables are most important. In a situation where a dependent variable depends on a number of factors -- some minor, some major, in layman's language, PCA is a technique to bring to the fore the major factors that explain the variance of the dependent variable most effectively.

II. Objectives of Study:

The objectives of study are:

- To give an idea about principal component analysis
- To give an idea about how the principal component analysis operates with reference to financial problems of MSME.

III. Database:

The study is exploratory as well as emperical in nature. Mainly primary data were used for the study. Primary data from MSME units were collected by using a pretested and precoded schedule questionaries by personal interview with the MSME entrepreneurs by the researchers. At the time of selection of units, we have tried to select approximately 70 percent units from micro enterprises, 20 percent from small enterprises and 10 percent from medium enterprises; which had availed financial assistance from Commercial Banks, West Bengal Financial Corporation (WBFC) and other financial institutions in West Bengal. For the selection of districts and collection of data from the various enterprises, we have divided the nineteen districts of the state into four parts as done by the West Bengal Financial Corporation itself for easy management so that all enterprises who are taking loan or are willing to take loan from them can be dealt with properly. One district have been selected from each part. Districts selection are shown in Table -01.

Table - 01
List of Districts Selected for Intensive Study

Categories of Districts	Districts in Each Category	Districts Selected at Random for Intensive Study
A	Kolkata Municipal Corporation (KMDA area)	Kolkata
B	North and South 24 PGS, Howrah, Hooghly, Bardhaman, Nadia & Purba Medinipur	Howrah
C	Murshidabad, Birbhum, Malda, Jalpaiguri and Darjeeling	Birbhum
D	Purulia, Bankura, Pashchim Medinipur, Uttar and Dakshin Dinajpur, Coochbehar and Sunderban Areas	Pashchim Medinipur
Total	**19**	**4 (21 Percent of total)**

At present (up to 31.03.19), after the enactment of Micro , Small and Medium Enterprises Development Act 2006 (MSMED ACT 2006) and with the beginning of the new online registration procedure, the total number of MSME in West Bengal is 88.67 lakhs.. But we have been able to collect the contact details and other details of only 874 Registered MSME units. This 874 Registered MSME units forms our total population. These units cover the various districts of the state. Out of these 874 units, 110 units (around 12.5 %) are randomly selected to collect the primary data. At the time of selection of enterprises by applying random number if any organistion falls out of these four districts then next random nubmer is generated to get the enterprises within these four districts. But out of this 110 units ultimately 87 units (i,e 79.09 %) have responded to our queries. Thus we have arrived at the primary database for our study. The draft interview schedule designed for the purpose was first tested by conducting a pilot survey among a sample of 12 (6:4:2) units, which had availed financial assistance from Commercial Banks, West Bengal Financial Corporation (WBFC) and other financial institutions in West Bengal. The questionnaire was restructured and finalised after making necessary alterations on the basis of the experiences and feedback obtained from the pilot survey. The Likert third scale have been used to collect the primary data from the MSME sector.

Survey Period

The survery was conducted between January, 2017 to June, 2019.

III. How principal component analysis operate:

In our study PCA was applied on various problems of Micro, Small and Medium Enterprises (MSME), mainly various finance related matters to find out relative importance or magnitude of each of the problems and problems which are correlated with each other.

Total nineteen variables (nineteen finance related problems/matters of MSME, shown in Table No - 04) are considered for PCA to identify whether they are correlated or not. Of these nineteen variables we have tried to find out which one or more variable are mostly responsible for various financial problems of MSME and their dependency on Institutional Finance. One method which has been put forth is to exclude factors with eigenvalues smaller than one, since the factors retained in this way account for variance which is higher than the average for the variables.

Before applying the Principal Component Analysis it is mandatory to apply **KMO and Bartlett's** test to verify whether data set/ variables are suitable for PCA. KMO and Bartlett's test are shown below (Table- 02).

Table – 02
KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	1057.579
	df	171
	Sig.	.000

Interpretation: KMO and Bartlett's Test is a measure of sampling adequacy. It varies from 0 to 1. The calculated KMO value will be satisfactory if it is more than 0.5. The value of KMO measure of sampling adequacy being 0.736 in our case, indicates that PCA can be undertaken. The main purpose of Using Principal Component Analysis in this context is that, from many observable variables, it will enable one to create synthetic indicator for each dimension considered. This involves choosing the appropriate number of latent factors. We have relied on some standard statistical and visual tools, commonly used in PCA, although one has to be aware that most of these are somehow ad hoc and cannot avoid value judgments.

Table – 03
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.703	35.280	35.280	6.703	35.280	35.280	4.305	22.660	22.660
2	2.705	14.237	49.517	2.705	14.237	49.517	3.332	17.535	40.195
3	1.731	9.109	58.626	1.731	9.109	58.626	3.101	16.319	56.514
4	1.524	8.021	66.647	1.524	8.021	66.647	1.443	7.595	64.109
5	1.158	6.093	72.740	1.158	6.093	72.740	1.383	7.276	71.385
6	1.011	5.321	78.061	1.011	5.321	78.061	1.268	6.676	78.061
7	.772	4.061	82.122						
8	.634	3.336	85.458						
9	.455	2.397	87.855						
10	.424	2.231	90.086						
11	.354	1.861	91.947						
12	.309	1.627	93.574						
13	.300	1.580	95.154						
14	.232	1.221	96.375						
15	.209	1.102	97.477						
16	.152	.799	98.276						
17	.134	.704	98.980						
18	.123	.646	99.626						
19	.071	.374	100.000						

Extraction Method: Principal Component Analysis,
Source: Worked out by Researcher.

Table-03 contains the eigenvalues as well as the associated proportion of variable explained by each latent factor. It is now possible to choose six factors where eigenvalues are higher than one and the proportion of variance explains 78.061 %, which is fairly high.

Eigenvalue is the measure of the amount of total variance in the data explained by a component. An eigenvalue of less than 1 essentially means that the component's explanatory power is less and therefore should not be considered to be a meaningful component. "Total" column contains the eigenvalues. The first component will always account for the highest variance (and hence have the highest eigenvalue), and the next component will account for second highest variance and so on. Hence, each successive component will account for less and less variance. "% of Variance" column contains the total variance accounted for by each component expressed in percentage. "Cumulative %" column contains the summation of the variance accounted for by the current and all preceding components expressed in percentage. In this case, the sixth row shows a value of 78.061. This means that the first six components together account for 78.061% of the total variance. This indicates that these six components are having the maximum explanatory power to explain the financial problems and the causality of dependency of the MSME on Institutional Finance.

Next a rotation of these factors is applied to provide a more meaningful and easily interpretable solution loading matrix (Table- 04). As previously stated, it makes sense to allow the different dimensions of financial problems and dependencies on institutional finance are to be correlated. Therefore an oblique rotation has been applied that involves the introduction of correlation between factors. The resulting loadings are presented in Table-04.

Table No- 04
Rotated Component Matrix

Rotated Component Matrix						
	Component					
	1	2	3	4	5	6
01.Whether Institutions are taking more time in sanctioning the Loan	.886	.177	.175	-.027	.099	-.078
02.Behavior pattern of Financial Institution's personnel is good/acceptable	.124	.487	.714	-.034	.079	-.188
03. Arrangement of collateral security is a problem	.828	.142	.034	-.212	-.038	.049
04. Cost of loan or interest charges by financial institution is acceptable/commensurate	.215	.075	-.057	-.125	.908	.078

05. Present loan limits by the Financial Institution should increase	.544	.261	.379	.254	-.290	-.039
06. There are any personnel influence to sanction the loans	-.175	.200	-.494	.547	-.170	-.049
07. There are any lack of proper guidance by Financial Institution	.329	.607	.399	-.146	-.042	-.109
08. There is too much formalities and procedure	.721	-.180	.182	.141	.406	-.005
09. Financial institutions are placing more importance on their own security than Customers Needs	.203	.801	.345	-.049	.074	-.111
10. Loan Application is rejected due to lack of Collateral Security	.885	.097	-.043	-.073	.192	.007
11. Loan Application is rejected as Project Report is not as per requirement of Financial Institution	.508	.501	.281	-.033	-.348	.093
12. Production and other activities are hampered due to shortage of fund.	.800	.201	.334	.126	-.046	-.086
13. Profitability of the organization reduced due to high financial charges	-.004	.084	-.026	.004	.066	.939
14. Financial Institutions are not bothered about the real need of the customers	.114	.894	.110	-.047	-.013	.053
15. Overall, did you think that financial institutions are playing an important role in the Development of MSME	.114	.288	.841	-.007	.020	-.031
16. Are you interested in taking Loan from Financial Institutions In Future?	.133	.111	.726	.031	-.296	.241
17. Whether commercial banks are more convenient than other Financial Institutions	-.007	.039	.814	.314	.006	.192
18. Have You any account with commercial banks to take the various financial facilities from the commercial bank	.020	-.038	.114	.906	-.044	-.006

19. Do you Think that Commercial Banks are playing most active role among all Financial Institutions to provide various types of financial facilities to MSME	.226	.143	.634	.165	.028	-.441
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. (assumed absolute value below 0.40)						
a. Rotation converged in 7 iterations.						

Source: Worked out by Researcher.

Table 04 reveals that a)Whether Institutions are taking more time in sanctioning the Loan, b)Arrangement of collateral security is a problem, c) Present loan limits by the Financial Institution should be increased, d) There is too much formalities and procedure, e) Loan Application is rejected due to lack of Collateral Security, f) Loan Application is rejected as Project Report is not as per requirement of Financial Institution and g) Production and other activities are hampered due to shortage of fund, load positively and quite high on the first component, indicating that a higher value of these variables lead to a higher score on component one. On the contrary, there are any personnel/political influence to sanction the loans loads negatively, meaning that, this variable has less impact on first component but has more impact on fourth component. Higher values in any cell indicate that the variable has more impact on that component.

For component two, a) There is lack of proper guidance by Financial Institution; b) Financial institutions are placing more importance on their own security than Customer's Needs, and c) Financial Institutions are not bothered about the real need of the customers, load high and positive.

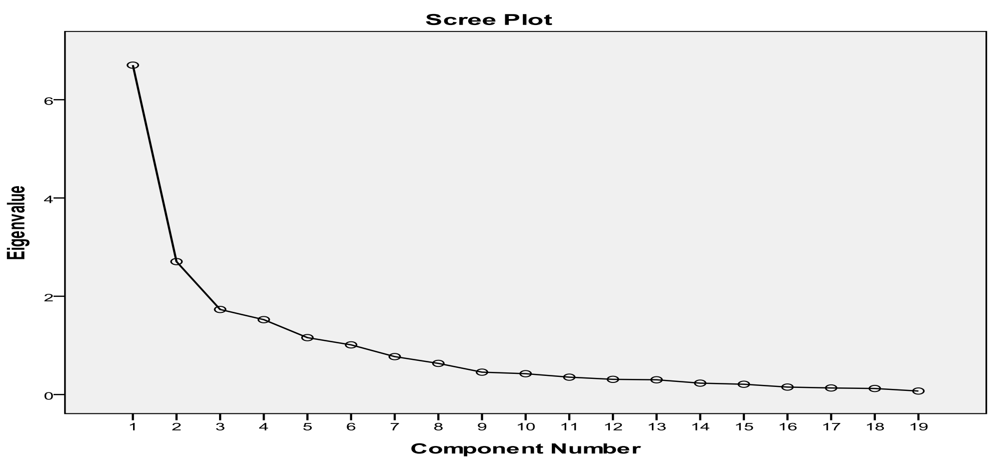
Component one and two clearly reflect the various financial and their associated problems of MSME and can be termed as **"Financial and Associated Problems of MSME."** Alternatively it can also be said that above mentioned factors are playing an important role in successful loaning of state MSME, particularly in component one, Collateral security and Proper preparation of project report are playing an important role in successful loaning.

In case of third component, a) Behavior pattern of Financial Institution's personnel is good/ acceptable, b) Overall, did you think that financial institutions are playing an important role in the Development of MSME, c) Are you interested in taking loan from Financial Institutions in Future, d) Whether commercial banks are more convenient than other Financial Institutions, e) Do you think that Commercial Banks are playing most active role among all Financial Institutions to provide various types of financial facilities to MSME load high and positive. For fourth opponent, a) There are any personnel/political influence to sanction the loans, b) Have you any account with commercial banks to take the various financial facilities from the commercial bank, load also positive.

Component third and fourth clearly replicate the various financial services provided by the financial institutions, including commercial banks and can be termed as **"Role of Institutional Finance to MSME".**

Fifth and sixth components contain, a) Cost of loan or interest charges by financial institution is commensurate and b) Profitability of the organization is reduced due to high financial charges also load positive. It is already noticed that these two variables have no negative impact on Development of MSME and can be termed as **"Acceptability of Financial Institutions by MSME"**

Chart – 01
Scree plot Chart



Interpretation: The scree plot graphs a line diagram of the eigenvalue against the component number. After the sixth component on, the line has become almost flat. This implies that the first six components are having the most explanatory power regarding various financial problems of MSME. Each successive component is accounting for smaller and smaller amounts of the total variance.

Finally , we can conclude that the nineteen variables are grouped under six components, first component has seven variables, second component has three variables, third component has five variables, fourth component has two variable, fifth and sixth component has one variable each.

IV. Conclusion:

From the above analysis and discussion it is clear that Principal Component Analysis is a valuable statistical technique which helps us to group common types of factors among a number of factors. It creates few groups and common types of factors kept in each group which obviously helps us to understand the problem more clearly. PCA is closely related to factor analysis. At present PCA has been widely used to solve signal processing issues, most notably ECG data compression, as well as clinically oriented issues. The Principal Component Analysis is mainly used when a number of variables are clubbed to form the same construct. It is also noticed that most important steps in performing PCA consist in testing the data suitability for this method and in selection of the best factors that describe the total variance produced by the initial variables. In conclusion it can be said that Principal Component Analysis could be considered as a powerful tool in grouping the various factors which explain the variability of the problem.

V. References:

1. *Jolliffe . I.T (2002), "Principal Component Analysis, Second Edition", Springer.*
2. *Gray. V (2017), "Principal Component Analysis: Methods, Applications and Technology", Nova Science Publishers.*
3. *Naik &. Naik (2017), "dvances in Principal Component Analysis: Research and Development", Springer.*
4. *Karamizadeh , Abdullah , Manaf , Zamani & Hooman(2013), An Overview of Principal Component Analysis, "Journal of Signal and Information Processing"*
5. *Ashok & Rajan (2010), Principal Component Analysis Based Image Recognition, "International Journal of Computer Science and Information Technologies".*
6. *Yeung & Ruzzo (2000), An empirical study on Principal Component Analysis for clustering gene expression, "Department of Computer Science & Engineering , University of Washington".*
7. *Pawar.V.A (2016), Principal Components Analysis of Teachers Employee Engagement using SPSS, "IOSR Journal of Business and Management (IOSR-JBM)".*

STUDY ON PERFORMANCE EVALUATION OF INDIAN BANKS USING BALANCED SCORECARD WITH SPECIAL REFERENCE TO PUBLIC AND PRIVATE SECTOR BANKS

Jeelan Basha.V

Abstract:

Concept of Balanced Scorecard devised by Kaplan and Norton is used under study. The performance of three banks each from public and private sector namely of Canara Bank, IDBI Bank, Bank of India, ICICI Bank, Axis Bank, and Yes Bank are empirically evaluated using BSC. Moreover, profitability of the banks is measured by Return on Assets (ROA) and Return on Equity (ROE) during the study period of 2012-2017. The study also highlights the association between ROA and ROE and their variables in BSC framework using multiple correlations and multiple regressions. Axis bank has done excellent in all perspectives except internal processes where it has to strive for effective utilization of resources. Yes bank has improved marginally in all perspectives of BSC except Learning and growth perspective in which it has to increase its resources. BOI and Canara outshined in customer satisfaction and internal processes but failed in financial and Learning and growth perspectives. IDBI bank has to provide due care in devising strategic plan in all perspectives albeit it used its internal available resources effectively and efficiently. ICICI bank outperformed in all perspectives but not in customer satisfaction which should be taken care of.

On analyzing multiple regressions through residual diagnostic tests, it has been observed that ROA is influenced by CIR, NIM, RPSTA, and RWBTA, and ROE by CIR, NIM, and PPE.

Key Words:

Balanced Scorecard, ROA, ROE, CIR, NIM, RPSTA, PPE, and RWBTA

Introduction:

Hire and fire is the buzz word in working places around the world. Commercial banks have been striving to improve their bottom lines due to stringent regulation and decline in the economy, performance management of commercial banks is of crucial significance owing to the opening of Indian economy post performance in the year 1991. The banking sector in India especially the public sector banks, are facing cut-throat competition in terms of capital adequacy, assets quality, management ability, and cutting edge technology from private sector competitors. With the new entrants recently, the competitive challenge is set to increase dramatically. Unquestionably, the public sector banks desperately need to minimize costs, develop customers relationships, enhance the market share and product mix, and take suitable pricing decisions to increase profitability and to sustain in the market circle.

In knowledge driven banking sector, turning out every employee into efficient and effective helps the banks to stand against the competition. Performance management system is a means to measure and improve the performance of employees and the organization. As only measured performance can be managed better, performance measurement of the banks plays a vital role in managing the performance. Having lack of warning signals from traditional financial measures as to inadequate viewpoint over the future alignment with a continuously changing business environment, banks have to take forward looking windshield based approach to performance management rather than a backward looking rearview mirror based one.

According to Kaplan and Norton, balanced scorecard (BSC) is a strategic performance management tool to view the holistic performance of an organization from different perspectives. A balanced scorecard is a set of measures that gives top managers a fast yet comprehensive view of a business (Irala, Reddy& Reddy, 2008). It provides managers a framework of viewing business from four different perspectives - financial, customer satisfaction, internal business process, and learning and growth.

Review of Literature:

Kaplan and Norton (1992) pointed out from their study that there is no single measure that can provide an insight on key areas of the business with a clear performance goal and devised a ‘balanced scorecard’ as a means to measures performance by looking at the business’s strategic vision from four different perspectives- financial, customer, internal process and learning and growth.

Kaplan and klien (1996) observed that application of BSC led to cost savings resulted in increased profits after Chemical banks merger with Manufacturers Hanover Corporation.

Aston (1998) revealed improvement of quality and service, speed of transactions, and also assistance to overcome the traditional bias towards financial reporting in the banking sector by incorporating learning and innovation in the new system taking a long-term view consequent to the application of BSC in National Westminster Bank (Nat West Bank)

Banker, Chang, & Pizzini (2004) have opined that BSC is proposed to display a strategic reason in terms of cause and effect relations among the prevailing activities of an organization and its long-term success

Kochhar and Anand (2004) highlighted as to how ICICI Bank achieved rapid growth, strategic steadiness in spite of scale and diversity, and meticulous and objective performance evaluation through/ with the help of balanced scorecard and emphasized the role of BSC in facing various challenges by the Indian banking industry.

Davis & Albright (2004) stated banks implementing BSC outperformed the banks not implementing BSC in a quasi-experiment design study of the performance of two American banks.

Harold (2006) remarked technology efficient commercial banks in India using balance score boards resulting in enhanced performance management

Chiang and Lin (2009) noted that the combined effects of the BSC and data envelopment analysis (DEA) explained the apt performance measures into management proposition and developed an integrated framework.

Having studied about existing and new performance measurement system prevalent in India, Kumar (2010) revealed that public sector banks have undergone transformation both in financial perspectives of the BSC and non-financial perspectives due to liberalization in the banking sector.

Dave and Dave (2010) studied significance of intangible aspects as a tool for performance measurement in the commercial banking sector of India with a special focus on the State Bank of India.

Panicker and Seshadari (2013) concluded that the performance of the SCB looked average during the study period after having developed BSC for evaluating the performance of Standard Chartered Bank (SCB) in India during 2009-2012.

Asa, Prasad and Htay (2013) attempted to determine whether the implementation of Balanced Scorecard tool contributed towards the improvement and collaboration of business strategy and firm performance. BSC contributed to the combined effects of strategy and firm performance in the study. Depending on financial measures alone may mislead the banks and do not provide holistic view. Though PSB’s management is not conscious of it, some of the new generation Private Banks like ICICI Bank and Axis Bank (2015-2016) are in process of taking the benefits of implementation of BSC, which is clearly visible in their performance.

Krishnan, Ramasamy and Joshi (2014) explored performance measures in relation to the reward system among different categories of Malaysian firms' strategic orientation, and concluded BSC had an impact on measures in relation to the compensation schemes.

Amir Hossein Amirkhani1, Mohamad Ali Nazeryani1 , Maryam Faraz (2016) show their findings that succession directly affects the performance and the succession has also a positive and significant effect on the performance through the mediating variable of organizational commitment. This study considers that the succession is not effective on the fourth dimension of the balanced scorecard, i.e., customers' satisfaction.

Youchao Tan, Yang Zhang & Roohollah Khodaverdi (2017) identified based on the study carried out on ten automobile dealers from various areas that dealers are inefficient in learning about customer's growth, which help the dealers to transform from inefficient into efficient. In addition, this study also focused on various insights related to performance evaluation and provides some useful recommendations which can be practiced in future.

Abhay Juvekar & Dr. Uma Shankar Pandey (2017) outlined how the IT industry has adopted and adapted the BSC concepts and structures to their own control and management systems.

Gladys W. Njehu (2017) recommends that CIC Group enhance employees' skills to ensure high quality products and services. This will improve the customer satisfaction and increase the market share as a performance measure perspective of BSC. In addition, CIC Group should enhance its financial reports to help its management reduce costs, increase profits and maximize the use of the organization's assets.

Prof. D. Suryachandra Rao and G. Sreelakshmi (2017) noted activities are in the appropriate buckets with stated measures, targets, and objectives for data collection and analyzing. The activities then can be evaluated and assessed properly, while there is great need to understand how tangible and intangible assets interact to drive the business model and to achieve its performance.

Though presence of BSC is prevalent in the international banking arena, its performance measurement tool, has not found much of its way to the banking sector in India as revealed by the literature. The current research contributes to the literature on banking studies written in the context of India. Further, this study shall address the problem of developing a BSC model to understand the holistic performance of PSBs. The performance results can benefit the banks under study, financial sector analysts and the stakeholders.

Significance of study:

This research paper attempts to address issues from the prospective of bank performance management, and tries to evaluate the performance of the banks using different variables under the four perspectives of balanced scorecard. The use of BSC is limited to the banks under study. In the light of literature, it is understood that certain major international banks have effectively used balanced scorecard, which has enhanced their performance greatly.

Objectives of the study:

Keeping in view the importance of study, the following objectives are formulated:

- To evaluate the performance of selected public and private sector banks using balanced scorecard model.
- To analyze the profitability of selected public and private sector banks in respect of ROA & ROE.
- To study the relationship between the profitability of selected banks and the variables in the balanced scorecard frame work.

Scope of study:

Scope of the study "Balanced Scorecard" Evaluation of the performance of Indian banks is confined to public and private sector banks. Out of public sector banks, three public sector banks viz, Canara Bank, IDBI bank, Bank of India and three private sector banks, namely ICICI Bank, Yes Bank, Axis Bank have been chosen randomly to represent equal proportion between public sector and private sector banks. The period of study covers six years from 2012-2017 of all the selected banks under the study. This period coincides well with the major programs of reforms and liberalization touching real and financial sectors.

Research methodology:

The present study consists of three banks each from the public and private sector banks in India using random sampling and the BSC framework designed by Kaplan and Norton (1992) for performance evaluation of organizations. The sample consists of Canara Bank, IDBI Bank, Bank of India, ICICI Bank, Axis Bank, and Yes Bank**.** Variables for performance evaluation are studied under the four perspectives of the balanced scorecard. Secondary data related to Canara bank, IDBI bank, Bank of India, Axis bank, ICICI bank and Yes bank were collected from the annual reports of the respective banks. Moreover, profitability of selected banks is measured in terms of ROA and ROE. Mean, standard deviation, Variance and ANOVA are used for measuring relative performance.

Pearson's correlation coefficient is used to examine the relationship between dependent variables (ROA and ROE) and the independent variables. Their significance is reported through the result of correlation and t-test**.** How far ROA and ROE relied on the explanatory variables are analysed by multiple regression. Significance of beta coefficient and coefficient of determination (R square) are examined using t-test and ANOVA**.** The line of best fit in regression equation is understood with the help of 'F' value and residual diagnostic tests namely serial correlation, normal distribution and heteroskedastysity. Microsoft Excel and E-views have been the bases for computation.

BSC frame work developed to be used in the study is shown in table

Table-1: Balanced scorecard framework for selected banks

BSC perspectives	Measures	Formula
Financial Perspective	Credit deposit ratio (CDR)	(Total advances/Total deposits)*100
	Net interest margin (NIM)	(Net interest income/Average earning assets)*100
	Capital Adequacy Ratio (CAR)	(Tier1+tier2/Risk weighted assets)*100
	Net non-performing assets to total advance ratio(NNPAR)	(Net non-performing assets/loans given)*100
Customer Satisfaction Perspective	Market Share in Deposits (MSD)	(Amount of deposits/total deposits of scheduled commercial banks(SCB)*100
	Ratio of Marketing Expenses to volume of business (RMEVB)	(Advertising & publicity expenses/volume of business(deposits & advances)*100
	Ratio of priority sector advance to total advances (RPSATA)	(Priority sector advances given by the bank/total advances of the bank)*100
Internal Business Process Perspective	Cost to Income Ratio (CIR)	(Operating expenses/NII +non-interest income)*100
	Business per Employee(BPE)	(Total business/total number of employees)
	Profit per Employee (PPE)	**(Net profit/total number of employees)**
Learning & Growth perspective	ATMs (no. of ATMs)	Natural logarithm of number of ATMs(LNATMs)
	Skilled Employees (SKE)	(Natural logarithm of number of skilled employees(LNSKE)
	Ratio of wages bills to total income (RWBTI)	(Payments and provisions to employees/total income)*100

IV. Data analysis and interpretation

A. Financial Perspective:

Financial perspective is concerned with a summary of financial transactions of the business reflecting profitability and financial position. The higher the soundness of the financial performance, the higher the intrinsic value of the firm and vice versa. The quantitative measurement of financial performance of the business is using:

- Credit deposit ratio (CDR).
- Net interest margin (NIM).
- Capital adequacy ratio (CAR)
- Net non-performing assets to total advance ratio (NNPAR)

Table-2: Performance of selected banks with reference to financial perspective of BSC framework

					Credit Deposit Ratio					***Net interest Margin***					***Capital adequacy ratio***					***Non-Performing Assets***				
Year	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES	CANARA	BOI	ICICI	AXIS	IDBI	YES
2012	71.09	78.19	99.31	77.13	85.78	77.22	2.05	1.99	2.26	2.80	1.56	2.19	13.76	12.00	19.00	14.00	15.00	18.00	1.00	1.00	1.00	0.00	13.00	0.00
2013	68.05	75.78	99.19	77.97	86.43	70.19	1.91	2.16	2.58	2.83	1.66	2.23	12.00	11.00	19.00	17.00	13.00	18.00	2.00	2.00	1.00	0.00	7.00	0.00
2014	72.00	77.73	102.05	81.89	83.84	94.98	1.81	1.88	2.77	3.11	1.83	2.49	11.37	10.00	18.00	16.00	12.00	14.00	1.98	2.00	1.00	0.00	3.00	0.00
2015	69.00	75.58	107.18	87.17	80.19	82.86	1.76	1.83	2.99	3.07	1.61	2.56	11.02	11.00	17.00	15.00	12.00	16.00	2.65	3.00	2.00	0.00	2.00	0.00
2016	68.00	70.02	103.28	108.60	81.25	87.91	1.79	1.92	2.94	3.20	1.62	2.76	11.00	12.00	17.00	15.00	12.00	17.00	6.00	8.00	3.00	1.00	2.00	0.00
2017	69.00	67.86	94.73	90.03	71.06	92.57	1.69	1.88	2.81	3.00	1.58	2.69	13.00	12.00	17.00	15.00	11.00	17.00	6.00	7.00	5.00	2.00	2.00	1.00
Mean	**69.52**	**74.19**	**100.96**	**87.13**	**81.43**	**84.29**	**1.84**	**1.94**	**2.73**	**3.00**	**1.64**	**2.49**	**12.03**	**11.33**	**17.83**	**15.33**	**12.50**	**16.67**	**3.27**	**3.83**	**2.17**	**0.50**	**4.83**	**0.17**
Std. Dev.	1.65	4.25	4.24	11.67	5.64	9.45	0.13	0.12	0.27	0.16	0.10	0.23	1.14	0.82	0.98	1.03	1.38	1.51	2.18	2.93	1.60	0.84	4.45	0.41

Source: Annual Reports

Credit deposit ratio of ICICI bank outperformed the other selected banks. It is followed by other banks ranging from 69.52% of Canara bank to 87.13%, of Yes bank. Net interest margin of Axis bank maintains the lowest cost of deposits having 3%. Capital Adequacy ratio maintained by banks under study to defend the risk of loss with minimum of 11.33% to maximum of17.83%. Average net non-performing assets of the banks under study are not more than 4.83%.

Table Results of ANOVA							
		SS	*Df.*	*MS*	*F*	*P-value*	*F crit.*
CDR	Between Groups	3172.60	5.00	634.52	0.66	0.65	2.48
	Within Groups	34380.54	36.00	955.02			
	Total	37553.14	41.00				
NIM	Between Groups	8.87	5.00	1.77	55.22	0.00	2.53
	Within Groups	0.96	30.00	0.03			
	Total	9.83	35.00				
CAR	Between Groups	3172.60	5.00	634.52	**0.66**	0.65	2.48
	Within Groups	34380.54	36.00	955.02			
NNPAR	Between Groups	104.19	5.00	20.84	3.42	0.01	2.53
	Within Groups	182.55	30.00	6.09			
	Total	286.74	35.00				

It is evident from the ANOVA statistics that the prob. value of F- statistics of CDR and CAR are 0.65; hence there is no significant difference among the selected banks. But there is significant difference among them with respect to NIM and NNPAR since their prob. value of F statistic are 0.00 and 0.01 respectively.

B. Customer Satisfaction:

It is a quantification of how products and services supplied by a company or banks to meet or surpass customers' expectations. Customer satisfaction is defined as "the number of customers or percentage of total customers, whose reported experience with firm, its products, or its services exceeds specified satisfaction goals. There are many parameters in measuring them. Selection of few of them is:

- Market share in deposits (MSD).
- Ratio of marketing expenses to volume of business (RMEVB).
- Ratio of priority sector advances to total advances (RPSATA).

Table-3: Performance of selected banks with reference to customer satisfaction of BSC framework

	Market share in deposits						*Ratio of marketing expenses to volume of business*						*Ratio of priority sector advances to total advances*					
Year	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES
2012	9.43	9.18	6.07	6.35	1.41	7.37	0.27	0.3	0.75	0.92	0.34	0.48	29.8	22.6	23.4	28.6	26.7	25.91
2013	10.4	11.2	6.63	7.38	1.95	8.54	0.28	0.3	0.79	0.93	0.35	0.55	33.9	22.5	20.6	24.6	18.6	22.38
2014	11.1	12.5	6.19	7.38	1.94	8.72	0.3	0.3	0.82	0.96	0.39	0.69	32.1	20.9	19.1	27.3	20.8	26.18
2015	12.2	14.9	7.27	9.02	2.55	10.12	0.32	0.3	0.81	0.94	0.42	0.73	32.4	21.2	19.7	24.8	24.5	25.08
2016	12.3	13.1	6.8	9.16	2.86	10.79	0.36	0.4	1.05	0.84	0.46	0.74	38.5	25.6	21.2	24.1	25.6	27.42
2017	9.73	10.6	5.28	8.14	2.81	9.63	0.39	0.4	0.86	0.99	0.56	0.78	40	26.1	23	25.2	31.7	23.11
Mean	**10.8**	**11.**	**6.37**	**7.91**	**2.25**	**9.20**	**0.32**	**0.3**	**0.85**	**0.93**	**0.42**	**0.66**	**34.4**	**23.1**	**21.1**	**25.8**	**24.7**	**25.01**
Std. Dev.	1.22	2.02	0.688	1.081	0.58	1.231	0.05	0.1	0.11	0.05	0.08	0.119	3.96	2.2	1.73	1.76	4.61	1.924

Source: Annual Reports

Market share of deposits of BOI, Can and yes banks occupy about 10% each of total market share as compared to other selected banks. Marketing expenses of all banks under study is about less than 1% of volume of business. The priority sector advances to total advances of Can bank is about 1/3 of total advances but other banks are about ¼ of total advances.

Table Results of ANOVA							
		SS	*Df.*	*MS*	*F*	*P-value*	*F crit.*
MSD	Between Groups	363.00	5.00	72.60	48.01	0.00	2.53
	Within Groups	45.37	30.00	1.51			
	Total	408.37	35.00				
RMEVB	Between Groups	2.13	5.00	0.43	64.12	0.00	2.53
	Within Groups	0.20	30.00	0.01			
	Total	2.33	35.00				
RPSATA	Between Groups	631.78	5.00	126.36	14.71	0.00	2.53
	Within Groups	257.74	30.00	8.59			
	Total	889.52	35.00				

Because of rejection of null hypothesis, there are significant differences among the selected banks in relation to MSD, RMEVB and RPSATA (priority sector advances to total advances).

C. Internal business process:

Internal processes create and deliver the value proposition for customers. The internal processes perspective reports on the efficiency of internal processes and procedures. The premise behind this perceptive is that customer-based measures are important, but they must be translated into measures of what the organization must do internally to meet its customers' expectations (Kaplan & Norton, 1992). Al-Najjar and Kalaf (2012) were of the view that internal business processes provide the organization with the means by which performance expectations may be accomplished. It includes

- Cost to income ratio (CIR)
- Business per employee (BPE)
- **Profit per employee (PPE)**

Table-4: Performance of selected banks with reference to internal business process of BSC framework

	Cost to income ratio						***Business per employee (Rs. in Crs)***					
Year	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES
2012	21.7	28.2	28.67	33.54	18.2	20.87	13.2	19	25.3	12.3	15.4	8.73
2013	21.9	28.1	28.67	32.72	23.7	22.77	14	16	27.4	11.9	16.2	9.39
2014	24	29.4	31.3	34.53	26.6	24.09	14.8	46	26.4	12.1	14.8	9.28
2015	23.8	29.1	32.7	34.74	27.6	25.91	14.9	21	28.3	14.3	15.4	11.29
2016	35.7	47.2	39.4	35.7	41.9	29.17	14.9	0	27.4	13.9	14	11.87
2017	33.3	43.8	42.68	46.42	46.8	32.18	15	19	25.3	13.9	13.7	11.76
Mean	**26.73**	**34.30**	**33.90**	**36.28**	**30.80**	**25.83**	**14.47**	**20.17**	**26.68**	**13.07**	**14.92**	**10.39**
Std. Dev.	6.14	8.76	5.84	5.07	11.10	4.21	0.72	14.80	1.23	1.08	0.94	1.40

Source: Annual Reports

The cost of the Yes and Can banks are about ¼ of the total income better than those of about 1/3 of other banks

The highest business per employee is achieved by ICICI bank followed by BOI (20.04), IDBI bank (14.92), Canara bank (14.47), Axis bank (13.047) and Yes bank (10.387). The selected banks are not same in relation to business per employee.

Table Results of ANOVA							
		SS	*Df.*	*MS*	*F*	*P-value*	*F crit.*
CIR	Between Groups	548.42	5.00	109.69	2.09	0.09	2.53
	Within Groups	1575.96	30.00	52.53			
	Total	2124.39	35.00				
BPE	Between Groups	1031.27	5.00	206.25	5.56	0.00	2.53
	Within Groups	1112.21	30.00	37.07			
	Total	2143.48	35.00				
PPE	Between Groups	14095.81	5.00	2819.16	15.65	0.00	2.53
	Within Groups	5404.75	30.00	180.16			
	Total	19500.56	35.00				

The selected banks have no difference significantly under this parameter of CIR but not BPE and PPE under 95% of confidence level.

D. Learning and growth: This perspective looks at how an employee of an organization learns and grow in his/her career to improve the performance of the organization. According to Kairu et al. (2013) the learning and growth perspective examines the ability of employees (skills, talents, knowledge and training), the quality of information systems (systems, databases and networks) and the effects of organizational alignment (culture, leadership, alignment and teamwork), in supporting the accomplishment of organizational objectives'.

Table-5: Performance of selected banks with reference to learning and growth of BSC framework

	ATMs (000)						**Skill *employees***						***Ratio of wage bill to total income***					
Year	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES
2012	7.96	7.52	9.11	9.2	7.34	6.39	10.8	11	11	10.4	9.64	8.64	8.8	9.65	8.56	7.59	4.55	6.63
2013	8.17	7.71	7.3	9.33	7.44	6.86	10.7	11	11	10.5	9.65	8.86	8.74	8.77	8.56	7.05	5.44	6.86
2014	8.75	8.82	9.33	9.45	7.74	7.04	11	9.8	11.2	10.7	9.71	9.08	8.45	9.46	8.56	6.84	5.04	6.7
2015	9.05	8.96	9.43	9.42	8	7.08	11	10	11.1	10.7	9.71	9.14	8.85	10.5	8.56	7.1	5.99	7.19
2016	9.13	8.96	9.53	9.47	8.1	7.38	11	10	11.2	10.8	9.77	9.62	9.09	11.8	4.43	6.7	5.32	7.89
2017	9.26	8.95	9.54	9.56	8.17	7.49	11.1	11	11.3	10.9	9.81	9.91	10.2	11.7	7.78	6.92	6.94	8.77
Mean	8.72	8.49	9.04	9.405	7.8	7.04	10.9	10	11.1	10.7	9.72	9.20	9.02	10.31	7.74	7.03	5.55	7.34
Std. Dev.	0.54	0.68	0.867	0.125	0.35	0.393	0.13	0.4	0.12	0.2	0.07	0.475	38.1	1.24	1.65	0.31	0.83	0.838

Source: Annual Reports

All the banks under study have ATMs in the size range of 7000 -9000 during the study period. Natural log of skilled employees of selected banks are in the range of 11.13% ICICI bank to 9.208% of Yes bank. The wage bill of IDBI, Axis, ICICI and BOI banks are marginally less than 10% of total income, but other banks have far higher than 20% of total income.

Table Results of ANOVA							
		SS	*Df.*	*MS*	*F*	*P-value*	*F crit.*
LNATMs	Between Groups	22.44	5.00	4.49	14.99	0.00	2.53
	Within Groups	8.98	30.00	0.30			
	Total	31.42	35.00				
LNSKE	Between Groups	16.48	5.00	3.30	40.56	0.00	2.53
	Within Groups	2.44	30.00	0.08			
	Total	18.92	35.00				
RWBTI	Between Groups	1473.07	5.00	294.61	1.21	0.33	2.53
	Within Groups	7282.14	30.00	242.74			
	Total	8755.21	35				

LNATMs and LNSKE of the banks under study are not same since F-statistics of prob. value is 0.00. Prob. under 5% level of significance, but there is no significance difference in case of RWBTI.

Profitability Analysis of selected banks:

Return on Assets (ROA) measures how efficient a company's management is in generating earnings from their economic resources or assets on their balance sheet. It is commonly used by analysts performing financial analysis of a company's performance. It is equal to net earnings or net income divided by total assets. ROE measures a corporation's profitability by revealing how much profit a company generates with the money equity shareholders have invested.

Table-6: Profitability Analysis of selected banks

	Return on Assets						Return on Equity					
Year	CAN	BOI	ICICI	AXIS	IDBI	YES	CAN	BOI	ICICI	AXIS	IDBI	YES
2012	0.9	0.7	0.6	1.5	1.3	1.4	15.9	13.6	11.6	18.6	20.9	10.7
2013	0.7	0.6	0.6	1.5	1.3	1.6	12.6	11.5	9.7	15.6	22.4	12.5
2014	0.5	0.5	0.3	1.6	1.5	1.6	10.1	9.1	5.1	16.3	22.7	13.4

2015	0.5	0.3	0.2	1.6	1.5	1.7	10.2	5.4	3.9	16.5	17.2	13.9
2016	-0.5	-1.0	-1.0	1.6	1.5	1.3	-10.8	-19.6	-16.6	15.5	18.4	11.2
2017	0.2	-0.2	-1.4	0.6	1.5	1.3	4.0	-5.1	-30.1	6.6	15.1	10.1
Mean	0.38	0.15	-0.12	1.40	1.43	1.48	7.00	2.48	-2.73	14.85	19.45	11.97
Std. Dev.	0.5	0.6	0.9	0.4	0.1	0.2	9.5	12.7	16.7	4.2	3.1	1.5

IDBI Axis and Yes banks are far better in using assets than those of Canara BOI and ICICI banks. IDBI bank secures the first rank in earning 19.44% of equity capital. It is followed by Axis bank (14.83%), Yes bank (11.96%), Canara bank (7%), (2.48%) and ICICI (-2.74%).

Table Results of ANOVA

		SS	*Df.*	*MS*	*F*	*P-value*	*F crit.*
ROA	Between Groups	16.12	5.00	3.22	11.62	0.00	2.62
	Within Groups	6.66	24.00	0.28			
	Total	22.78	29.00				
ROE	Between Groups	1183.95	5.00	236.79	6.01	**0.00**	2.38
	Within Groups	2165.92	55.00	39.38			
	Total	6009.96	71.00				

Prob. value of F-statistics of both ROA and ROS are 0.00 and hence, there is no significant difference among the banks.

Multiple Regression Analysis.

ROA:

$Y= x+bx_1+bx_2+bx_3+bx_4+bx_5$.

Y=ROA, x_1=CAR, x_2=CIR, x_3=NIM, x_4=RPSATA, x_5=RWBTA

ROA=-0.307+ 0.0398 (CAR) - 0.061 (CIR) +1.259 (NIM) - 0.01(RPSATA) +0.006 (RWBTA).

Table-8: **Summary of multiple regression analysis**

A. Dependent variable: ROA

Model 1	Beta (standardized coefficient)		t-test	Sig
Balanced scorecard framework	Constant	-0.307	-1.070	0.29
Financial perspective	CAR	0.0398	2.732	0.0104
	NIM	1.259	16.585	0
Internal business perspective	CIR	-0.061	-16.428	0
Customer satisfaction	RPSATA	-0.018	-2.782	0.0092
Learning & growth	RWBIT	0.006	3.251	0.0028
F stat	0.00			

Table- 8: **summary**

odel	R	R-square	Adjusted R-square	Std. error	Sig. f change	Jarque-Bera Prob.	Breusch-Godfrey Serial Correlation LM Test:	Heteroskedasticity Test: Breusch-Pagan-Godfrey
ROA	0.9844	0.96911	0.96396	0.2873	0	0.7437	Obs*R-squared Prob. Chi-Square (2)0.0747	Obs*R-squaredProb. Chi-Square(7) 0.8628

Return on Asset is significantly influenced by CAR, NIM, and RWBTI positively but CIR and RPSTA negatively since their Prob. values are individually lesser than significance value of 5%. Its F. statistics prob. value is 0.00 which discloses that these variables are significantly determining.

The external risk (R-square) of ROA is explained by 96.91%; hence, this model is the best fit. The difference between R-square and adjusted R-square is also the least. To test the best model fit, residual diagnostic tests namely residual normal distribution, serial correlation test (LM test), Heteroskedasticity test have been used. Null hypothesis has been accepted under these three tests. Therefore, it has been proved that the model is the best fit.

ROE

Y= X+bx_1+bx_2+bx_3+bx_4+bx_5.

Y= ROE, x_1= CIR, x_2= NIM, x_3= PPE

ROE= 14.271- 1.014 (CIR) +10.363 (NIM) +0.141(PPE)

Table- 9: **Summary of Regression Analysis**

B. Dependent variable ROE

Model 2	Beta (standardized coefficient)		t-test	Sig
Balanced scorecard framework	Constant	14.271	3.903	0.0005
Financial perspective	NIM	10.3632	3.770	0.0007
Internal business perspective	CIR	-1.01449	-8.402	0
	PPE	0.14193	2.284	0.0291

Table - 9: **summary**

Model	R	R-square	Adjusted R-square	Std. error	Sig. f change	Jarque-Bera Prob.	Breusch-Godfrey Serial Correlation LM Test:	Heteroskedasticity Test: Breusch-Pagan-Godfrey
ROE	0.95569	0.91335	0.90523	3.655	0	0.2774	Obs*R-squared Prob. Chi-Square(2)0.5341	Obs*R-squared Prob. Chi-Square (5) 0.0628

Similarly ROE is also significantly influenced by only three variables namely CIR, NIM & PPE. Among these three variables, CIR negatively but NIM & PPE are positively influencing the ROE. This model is the best fit since 91.33% of ROE is explained by R-square. These have been further tested using residual diagnostic tests like Residual Normal Distribution, Serial correlation test and Heteroskedasticity test to prove the best model fit.

C. Concluding Observations:

Axis bank has done excellent in all perspectives except internal processes where in it has to strive for effective utilization of resources. Yes bank has improved marginally in all perspectives of BSC except Learning and growth perspective in which it has to increase its resources. BOI and Canara outshined in customer satisfaction and internal processes but failed in financial and Learning and growth perspectives. IDBI bank has to provide due care in devising strategic plan in all perspectives despite it used its internal available resources effectively and efficiently. ICICI bank outperformed in all perspectives but not in customer satisfaction which should be taken care of.

It is evident from the residual diagnostic tests of normal distribution (Jarque-Bera Test), serial correlation (Breusch-Godfrey Serial Correlation LM Test) and Heteroskedasticity (Breusch-Pagan-Godfrey) that null hypotheses have been accepted both under ROA and ROE. Hence, the model is found to be the best fit to influence ROA by CAR, CIR, NIM, RPSATA and RWBTA and ROE by CIR, NIM and PPE.

Further research can also be undertaken to increase the scope of the study and other sectors of the economy.

Bibliography:

1. *Kaplan, R.S., & Norton, D. (1992), The Balanced scorecard: Measure that drive performance. Harvard Business Review, 70 (1), 71-79. (Reprint # 92105.)*
2. *Kaplan, R.S., & Norton, D. (1996a), the balanced scorecard: Translating Strategy into action. Massachusetts: Harvard Business school press.*
3. *Kaplan, R.S., & Norton, D. (1996b), Linking the balanced scorecard to strategy, California Management Review, 39 (1), 53-8.*
4. *Kaplan, R.S., & klie, N. (1996), Chemical bank: implemented balanced scorecard, case studies from Harvard Business School. Boston: Harvard Business School Publishing.*
5. *Ashton, C. (1998). Balanced score card benefits: Nat West Bank, International journal of Retail and Distribution Management, 26(10), 400-401.*
6. *Banker, R. D., Chang, H., & Pizzini, M. (2004), The balanced scorecard: Judgmental effects of performance measures linked to strategy, Accounting Review, 79(1), 1-23.*
7. *Davis, S., & Albright, T. (2004), an investigation of the effect of Balanced Scorecard implementation on financial performance. Manage Accounting Research, 15 (2), 135-153.*
8. *Kochhar, C., Anand, S. (2004), IBA- cedar consulting joint seminar on balanced scorecard (key note presentation). December 17, 2004, Mumbai. Retrieved from gtmhttp://www.iba,org.in/IBA-cedar%20Consulting-presentation%20by%20Ms.Chanda%20Kochhar.ppt*
9. *Harold, L. (2006), Performance measurement and management of technology in Indian banking: New approaches. Contributors I, Bank Net Indian, 5 (May), 6-18.*
10. *Irala, L.R., Reddy, R., & Reddy, S.P. (2008), How balanced is the performance measurement through the balanced score card, Indian journal of finance, 2 (1), 27-37.*

11. *Chiang, C.Y., & Lin, B. (2009), An integration of balanced scorecard and data envelopment analysis for firm's benchmarking management. Total Quality Management, & Business Excellence, 20 (11), 1153-1172.*
12. *Kumar, S. (2010), Performance measurement system in Indian banking sector (thesis). Submitted to faculty of Business studies, Department of Commerce, Punjabi University, Patiala, Punjab.*
13. *Dave, S. R., & Dave, S. R. (2010), Applying balanced scorecard in Indian banking sector: An empirical study of the State Bank of India (SBI). Pacific Business Review International, 5 (6), 108-120.*
14. *Dave, S.R. (2011). Balanced scorecard: Experimenting with Indian banks (1st ed.). New Delhi: Himalaya Publishing House.*
15. *Asa, A.R., Prasad, N.S., & Htay, M.M (2013). Balanced scorecard: A paradigm measure of business strategy and firm performance, International journal of scientific & Technology Research, 2(4), 121-125.*
16. *Panicker, S., & Seshadri, V. (2013), Devising a balanced scorecard to determine Standard Chartered Bank's performance: A case study, International Journal of Business Research and Development, 2 (2). 35-42.*
17. *Krishnan, A., Ramasamy, R., & Joshi, P. L (2014), An empirical study of non-financial measures' emphasis for the compensation scheme on different categories of strategic orientation in Malaysia. Indian Journal of Finance, 8 (12), 7-20.doi:10.17010/ijf/2014/v8il2/71688*
18. *Mundra, S.S (2015), Indian banking sector- Engineering challenges and way forward, Memorial Lecture Series by State Bank of Mysore, Bangalore. Retrieved from http://www.bis.org/review/r150511f.htm*
19. *Annapurna.V. & Manchala.G. (2017), Balance Score Card Evaluation of the performance of Indian Public Sector Banks, Indian Journal of Finance, Volume 11, Issue No. 9, Sept. 2017, Pp. 7-21.*
20. *Annual Report of concerned Banks.*
21. *Corporate Social Responsibility Report.*

Websites:

- www.moneycontrol.com
- www.RBI.Gov.in

TAXATION AND HUMAN RIGHTS – A CONCEPTUAL STUDY

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Abstract:

Taxes provide the most sustainable source of revenue to governments to help accomplish their basic duty of ensuring the progressive realization of human rights of citizens. Taxes levied on multinational corporations contribute much to nation. Despite this, issues concerning taxation and other fiscal policies rarely follow UN human rights declarations or policy discussions. Materiality is that fund missing through negative tax incentives magnified the deprivation by individual countries and fabricate the ground for transgression of human rights. Governments should necessarily increase their tax bases so that public services key to fulfilling basic rights and combating poverty are available to all. This paper is an attempt to study the linkages between taxation and human rights, looking specifically at economic, social and cultural rights.

Key Words:

Taxes, Human rights, Governments, Revenues, Resources

INTRODUCTION

Taxation remains a crucial instrument for the realization of human rights. Universal Declaration of Human Rights necessitates for every nation to have rational tax system for meeting its human rights obligations. The focus for governments should veer towards domestic resource mobilization as a sustainable strategy to keep its commitment to citizens and realize the most broadly dissatisfied human Economic, Social and Cultural(ESC)rights. Tax makes resources available whereas tax policy demonstrates perceptible accomplishment towards priority setting[1]**.** Human rights policies, on the other hand, have indispensable substance to redistribute societal resources and remain central to political accountability. The interrelationship between taxation and human rights is mutually dependent and strengthening. Hence, there is a need to elaborate through this paper the kinship between taxation and human rights, looking specifically at ESC rights.

SIGNIFICANCE OF THE STUDY

Fiscal policy and also, known as tax policy is one of the most important driving tool of governments. True priorities of policy are more transparent in budgets and tax legislations than declarations and action programmes. Governments regnant obligations constitute respecting, protecting and ensuring human rights, among them ESC rights. Therefore, it to examine the implication of tax policy on these rights.

OBJECTIVE

- To comprehend the kinship between taxation and human rights.
- To harmonize the reflection on the status of taxation and human rights.
- To make recommendations for improvement to ensure governments obligations for the realization of human rights.

METHODOLOGY & LIMITATION

The study is descriptive in nature. Descriptive research has been preferred for developing a better profundity of knowledge. Information required for the study has been collected from secondary sources viz. website, books, journals, reports, etc. The inherent limitation of the study is that as the study is based on published data and information, and this secondary source may be lacking in authenticity, the result inferred there from may not be completely dependable.

TAXES TO REALIZE HUMAN RIGHTS

Tax policy generally contributes to realizing human rights. Sufficient provision of public resources is vital in realizing ESC rights. Therefore, each state should take appropriate steps to achieve the full realization of rights. Problems in utilizing public finance to realize ESC rights arise in the country itself and in the international context in which the country is established.

Obstacles at the national level:

i) Regressive taxation systems. Revenue plays neutral role in human rights. Indian regressive taxation system creates considerable inequality in the distribution of tax burden and embarrasses more the low-income strata than the high-income. This affects the underprivileged more who take the basic responsibility of funding the nation's social activities.

ii) Tax incentive systems. Tax allowance/incentive contributes a small share of revenue in many countries. Generally, it helps a country compete in foreign direct investment by creating special economic zones where governments offer foreign investors tax benefits ranging up to full tax holidays.

iii) Weak tax authorities. Tax authorities influence the states revenue. In many countries, authorities suffer from financial crisis and staff shortages. There are corruptions and bribery problems. Developing cooperation can extend stupendous support.

iv) Tax evasion and tax avoidance. Criminal tax evasion and illicit practices of tax avoidance delineate significant amount of loss in many countries. Tax evasion and tax avoidance also go to tax havens and restricted domain that offer secure investment opportunities for illegitimate financial flows.

v) Informal sector. Informal sector in no way widens the tax base. Governments should not treat every problem as an excuse in raising resources to realize human rights. Many problems are governments self-established and can be overcome with policy reforms and strengthening tax authorities. Poor countries basically dependent on international support have no significant influence on international framework that complicates elevating state revenue.

Obstacles at the international level:

i) Deficits in corporate taxation. A major share of international trade, at present, takes place inside corporate groups. There are no reference market prices for every trading product or service. Conventional manipulation allows costs and profits to be recorded in the books. This happens to be the most lucrative in terms of taxation for the corporation. The Tax Justice Network proposes unitary taxation for corporate tax base rendering profit shifting and calamitous competition with tax rates futile[2].

ii) Tax havens and shadow finance centers. Several countries and territories under sovereign jurisdiction actively encourage mechanisms of tax fleeing and tax avoidance. Without global shadow finance system and its infrastructure, illicit financial flows would not have any safe havens.

iii) Deficit in communicating tax information. Agreements on double taxation and communication on tax matters provide information about rudimental qualm. In practice, obstructions are tremendous; evidence of offence is to be produced to access further information. Automatic information exchange mechanism and other solution option have not developed much so far.

iv) Lack of transparency in payment flows. Transparency in payment flows is basic precondition for corporate tax honesty. Corporations must disclose details in their annual reports and accounts for all subsidiaries and holdings of the countries they are functioning.

v) Deficit in international fiscal co-operation. As yet, there are no international bodies to support co-ordinate fiscal policy effectively. The UN Committee of Experts on International Cooperation on Tax Matters is weak. Developed countries and many secluded jurisdictions opt for the bodies of the Organization for Economic Cooperation and Development (OECD); but their resolutions do not, however, attract due interest.

NEW INSTRUMENTS IN THE HUMAN RIGHTS SYSTEM

A number of tools/instruments have been developed in the international treatise on human rights to promote activity of resources.

Guiding Principles on Business and Human Rights

The UN Council on Human Rights,2011 adopts the principles on Business and Human Rights[3] to instruct the states about their duty concerning misdemeanor of human rights, corporate responsibility towards human rights and so on. The guidelines are legal commitments to prevent harmful tax practices and human rights obligations. Transparency helps better apportionment of corporate responsibilities and, hence, prevention of human rights violations. Implementation of the guidelines is still controversial. Therefore, it remains imperceptible whether they really bloom resources.

The UN Guiding Principles on Extreme Poverty and Human Rights

The UN Council on Human Rights,2012 adopts the guidelines on Extreme Poverty and Human Rights[4] stating that states must take steps to fabricate an international atmosphere conducive to poverty decrement including resource mobilization for the fulfillment of human rights. The obligations can be achieved through exposition, regular review of multilateral and bilateral agreement as well as international standard for the fulfillment of ESC rights. Tax justice at global level can be appraised as struggle for the realization of human rights.

Tax as critical tool for realizing human rights and tackling inequality

Tax as the most important source of government revenue performs the critical functions to realize human rights and tackling inequality. Inequalities slow the pace of poverty decrement, create intergenerational poverty traps, and increase the susceptibility of societies to economic crises[5]. Improvement in income distribution is indispensable to minimize poverty[6]. Progressive taxation helps governments achieve sustainable growth and distribute the fruits of prosperity fairly. Many developing countries are found attaining significant economic growth without proportionate assuagement in poverty or inequality because the yields of growth are inadequately taxed and redistributed yielding concentration of wealth that have negative significance for human rights, social cohesion and future economic growth **prospects[7].**

BASIC AREAS FACILITATING ENJOYMENT OF HUMAN RIGHTS

i) Generating revenue for the realization of rights

Strengthening tax system is vital for human rights. Many countries furthest from achieving the omnipresent happiness of human rights do not percuss their tax bases abundantly[8]. Poor revenue collections constitute major obstacle to finance public services and social programmes. Particularly, persons facing difficulties are disabled who have more likely to come into regular contact with health and social services and women who have to be dependent on social protection and health systems for at least some period of their lives.

ii) Achieving equality and tackling discrimination

Taxation redresses systemic discrimination and spurs progress towards substantive equality[9]. An accepted tax threshold does not jeopardize the ability of hapless people to enjoy minimum ESC rights. Unfortunately, households are to pay tax before they earn to meet even basic needs. Policymakers should regard for the extent to which tax policies strengthen or weaken gender inequalities or discriminate against different types of domestic duties. States have obligation to maneuver inequality to satisfy rights.

iii) Strengthening governance and accountability

Fiscal policy strengthens the accountability of states. Conversely, unfair tax practices erode confidence in governments while states having no credence on tax contribution tend to exhibit lower levels of accountability in public affairs[10]. Income distribution and its taxation management have crucial relationship. Growing income disparity demoralizes society that ultimately leads to alienation and social unrest.

STRENGTHENING REVENUE THROUGH HUMAN RIGHTS-BASED APPROACH

i) Widening tax base and improving efficiency

Tax collection should be in human rights-compliance ways. In developing countries, widening tax base and improving collection efficiency raise considerable revenue[11]. Tax management increases revenue and avoids abuse. So, insubstantial outlay in tax authorities is adverse for the fulfillment of human rights. Tax authorities be perceived as being independent, transparent and accountable.

ii) Tackling tax abuse

Tax abuse restricts resources for poverty reduction and realizing human rights, and results in no positive human rights outcomes. This also debilitates the principles of equality and benefits wealthy individuals to the detriment of the most destitute segment. Wealthy individuals and profitable corporations pay tax advisers, lawyers and accountants, and open undeclared foreign bank accounts in low-tax jurisdictions to evade taxes. Revenue from regressive taxes embarrasses the poor. States policy using tax rules endangers compliance with international human rights to facilitate illicit financial flows. Therefore, monitoring, preventing and punishing abuse becomes urgent to comply with human rights principles and improve the distributive effects of tax systems. State should make coordinated efforts against tax evasion as a part of its human rights obligations.

iii) Reassessing corporate taxation contributions

States grant tax incentives to corporations to attract foreign **i**nvestment**[12&13]**. Less developed countries offer tax benefits to foreign investment to stand in the global competition. Negotiations in restrictive way among governments and corporations boost corruption and weaken governance. Uniform tax agreement with foreign investors can reduce resources; thus, affects human rights.

iv) Broadening the contributions of the financial sector

Financial sectors play crucial role to curb tax avoidance or evasion through structured finance instruments transfer pricing or profit shifting[14].Taxes on certain types of financial transactions in various jurisdictions help raising revenue from the financial sectors and deter speculative trading activities in the society. This measure helps states better comply with several human rights obligations, specifically, those regarding ESC rights[15].

v) Ensuring sustainable use of natural resources

Natural resources are vital source of revenue to comply with human rights obligations. Extractive industries do not disclose their project wise profits. Political policy directs distribution of revenue from natural resource exploitation for the progressive realization of ESC rights. Decision about natural resource extraction must consider environmental aspects and the rights of future generation while respecting rights of the entire population.

vi) Enhancing international cooperation

International cooperation ensures realization of ESC rights. Tax structures can erode national tax base and hamper progressive tax rates that ultimately threaten human rights. Unfeigned liaison on tax matters and fiscal policy is, therefore, essential. High-income states should bear responsibility in the task of struggling tax abuse and illicit financial flows for the fulfillment of human rights and economic equalities. Existing mechanisms like the Committee of Experts on International Cooperation on Tax Matters can portray starring role.

HUMAN RIGHTS OBLIGATIONS RELATED TO TAXATION

Every state has responsibility to collect and distribute taxes for the realization of human rights to development and equal opportunity for all in education, health, food, housing and employment. In a globalized economy, equitable taxation is not exclusively a matter of domestic concern. Competition for foreign investment constrains states to engrossed in contest to offer the lowest taxes and most fascinating tax incentives. International tax differences generate declension in domestic resources for the realization of human rights commitment. The UN Declaration on the Right to Development requires fulfillment of state's responsibility to boost international economic order based on absolute equality, interdependence, mutual interest and co-operation. Core human rights treaties obligate states to allocate resources for the realization of ESC rights as well as the furtherance of civil and political rights. The UN's Guiding Principles on Extreme Poverty also ensure states obligations for the realization of human rights. Fiscal policy must accept human rights standards and principles, especially, equality and fairness.

TAX SYSTEM FOR EQUITABLE DEVELOPMENT

Tax system must be progressive and transparent to achieve equitable and sociable development. Sustainable development entails international cooperation to stop tax loopholes, build collection efficiency, and ensure country's ability to obtain reasonable tax benefits. States in their domestic policy must confirm just and equitable taxation, and that resources collected thus is disbursed for the betterment of human rights. During the 30th anniversary of the UN Declaration on the Right to Development in 2016, the United Nations Human Rights Office enunciates to raise awareness, strengthen apprehension and espouse dialogue on the right to development[16].

CHALLENGING FISCAL INJUSTICE THROUGH HUMAN RIGHTS

Tax policy helps in requiting inequalities and forming the accountability of governments to its citizens. Governments collect revenue for the fulfillment of basic human rights. Improper tax systems often add fuel in rising inequality and widening disparity in human rights fulfillment, shifting the tax burden into society's least well-off and concentrating wealth in the hands of a affluent few. Center for Economic and Social Rights(CESR) has been continuously working to incorporate commitments against tax abuse towards sustainable development and is closely associated with feminist advocates to fight for progressive fiscal policies as an instrument in the realization of women's rights. It helps multiple human rights bodies remaining engrossed with tax and fiscal policy, investigating how governments use their resources, developing methodologies to assess sobriety, and produces evidence to regional bodies. At the same time, CESR also institutes human rights polemics at international extents like International Monetary Fund or the high level political platform. In a world ornamented with increasing inequalities and resource crisis, tax and budget uprightness is surely a burning issue.

STATE'S ROLE: TAXATION AND REALIZING HUMAN RIGHTS

Taxation is not just an economic subject of GDP and shortfalls but also about benevolences. Human rights perspective helps bringing the moral amplitude as part of internationally recognized framework. States have obligation under the Convention on Economic, Social and Cultural Rights to work towards more realization of human rights like adequate living standard, education, housing, food, healthcare and cultural activities. Article 2(1) empowers states to adopt steps for attaining the full realization of human rights with the aid of their maximum available resources. So the resources available to governments in the form of tax income sways how much this can be done. Corporations have also responsibility to respect human rights. The UN Guiding Principles on Business and Human Rights (UNGP) explicitize that corporations should respect human rights (Article 11).The UN Human Rights instructs corporations to comply with both the letter and spirit of the tax laws and pay fair share of tax to fulfill their human rights obligations.

FEW SOCIAL DEVELOPMENT ISSUES

Since social developments are contingent upon making available Government support for the primary necessities the source of revenue that forms the basis comes from one instilled by the Government through taxation. However what is most pertinent to contemporary world is the COVID-19 experience. The pandemic has had a deleterious effect on the economy, mobilizing significant part of the industry to an impasse. Due to various measures taken by Governments in the 'new normal' to arrest the spread of the virus, multiple areas such as supply chain, employee well-being and mobility, working capital and other financial commitments and challenges around cyber security and confidentiality due to working from home are some of the immediate challenges being faced by the businesses. In addition, various financial, regulatory and tax compliance are designated areas which have been impacted. The need to embrace new-age digital technology is a colossal lesson for business from the lockdown and a need is badly felt for improving investment in technology particularly in various aspects of business including supply chain and finance. However, there has direct impact on the consumer confidence index which is of prime necessity in kick-starting the economy. Dramatic reduction in GST collection is symptomatic of the precipitous fall in GDP by 24% in Q1 of the financial year 2020-21. The Government countered through posthumous application of few amendments proffered in Finance Act, 2020 along with supportive measures on various tax and filing of statutory compliance. The gesture to withhold tax on e-commerce operators and widening of collection at source provisions to 1stOctober, 2020 is expected to provide sufficient time for grooming internal systems to honor these provisions. Further remodeling helped to govern suppositious dividend taxation in REIT/InvIT structures and foreign pension funds within exemption provided for sovereign wealth funds is expected to contribute to infrastructural goal in the long run. At the same time, there is a bit of element of surprise in expansion of equalization levy provisions to include e-commerce supply and services and the industry may expect deferral of its application to fully gear up their systems to comply with this new levy. The lessons of the post 9/11 era demonstrate that illiberal populist attacks on human rights, the rule of law and constitutional democratic values get intensified. The threats are evident both in legal and constitutional frameworks and in political and constitutional cultures. Compounded by a global rise in despotic egalitarianism in which the foundations of human rights and liberal democracy are deliberately interrogated, Covid-19 emergency measures risk becoming keystone for worthier synthesis of executive power. What we have learned from the exercise of emergency measures is that legal frameworks considered to be phenomenal at the time can quickly become methodized in environments of fear and the political exploitation of fear. Keeping Covid-19 measures spiritedly in the 'exceptional category' within our political culture and fabrication is thus assertive. Moreover, persistent democratic and judicial inspection of rights limitations consequent on the development of these measures is crucial.

Fiscal policies play crucial role in amassing egalitarianism, addressing juxtaposition, and bolstering governance and accountability as well as combating poverty and backing development. Governments have obligation to guarantee human rights without favoritism of any type. This is a fundamental torchbearer of international human rights law. Any action or omission by the Government in this area must not distinguish either directly or indirectly against any individual or disseminate discrimination and inequality. Article 25 of the International Covenant on Civil and Political Rights includes the rights of all people to take part in the conduct of public affairs covering all aspects of public administration and formulation and implementation of policy at international, national, regional and local levels. Decision-making processes concerning tax and public revenues must therefore be apropos full limpidity and the widest feasible national dialogue with efficacious and worthwhile association of civil society including those living in poverty. Governments have a duty to support international assistance and cooperation commensurate with their capacities, resources and influence as envisaged in Articles 55 and 56 of the Charter of the United Nations and in several international human rights treaties. Governments also have responsibility to originate an international effectuating environment for the perpetration of human rights including in matters pertaining to taxation. The most perspicuous strategy in which Government revenues can precipitate congruence with human rights obligations is by conferring resources for public goods and services that eventually grace the extensive society. A decorous tax threshold confirms that the taxation system does not debilitate the dexterity of people living in poverty to meet the life-saving needs of human rights. The Government inefficacious to adopt simulate vigorous measures to block tax abuse cannot be said to be consecrating the maximum feasible resources to the realization of human rights. Cogitating, guarding and castigating abuse is, therefore, essential to honor the human rights principles. Political processes and policy choices guiding the capture and distribution of revenues from natural resource desecration often settle the criteria of allocation for the progressive realization of human rights, poverty reduction and social development. There is, therefore, a pressing need for Governments to cooperate presciently on matters of tax and fiscal policy. Globalization has been increasing economic inequalities and new social concerns in India. Public sector has had a decreasing trend due to moderating Government role in the economy. Substantial concatenation of global commodity market leads to constant fluctuation in prices that has escalated the pusillanimity of Indian farmers. Farmers are also bloomingly iffy on seeds and fertilizers sold by the MNCs. Globalization does not have any positive impact on agriculture. Corona-19 pandemic has made the job of presaging India’s economic growth an embarrassing approach. Prognostication for GDP in the quarter through June vary from a compaction of 15% to a diminution of 25.9% with a median estimate of 19.2% representing the worst performance since

India instituted divulging quarterly data in 1996. Even before the pandemic, India's GDP statistics have been a source of confrontation.

RECOMMENDATIONS

The Government should:

[1] *Conceive the full potency of tax collection as a strategy to generate revenue for the fulfillment of human rights obligations and to redress discrimination and inequality.*

[2] *Inculcate financial resources and political will in strengthening national tax authorities to ensure technical and budgetary autonomy.*

[3] *Ameliorate tax revenue in a manner consistent with human rights obligations and allocate revenues to the pleasure of human rights.*

[4] *Contemplate the income-tax climacteric to confirm that people below or near the poverty line are not driven deeper into poverty by tax policies.*

[5] *Administer human rights assessment of fiscal policy periodically with wide public participation and tax burden borne by different sectors and impoverished class.*

[6] *Review tax structures, codes and instruments for implicit gender bias and ensure that they do not strengthen existing gender inequalities.*

[7] *Ensure appropriate tax rates to extractive industries and protection of human rights in the exploitation of natural resources.*

[8] *Develop a system for more methodical negotiation of information among tax authorities based on automatic tax information exchange.*

[9] *Adopt meticulous measures to grab tax abuse, in particular, by corporations and high net-worth individuals.*

[10] *Initiate fully transparent public supervision over the granting and mentoring of tax incentives for developing impression on human rights.*

[11] *Execute financial transaction tax and consider the revenues towards the realization of human rights and scrutinize tax incentives as a policy option against cost-benefit analysis.*

[12] *Enact coherent legislation to safeguard human rights by corporate in their domain including in tax planning practices.*

[13] *Afford assistance to strengthen the tax authorities in less developed countries to collect tax and comply with international agreements.*

[14] *Stimulate tax cooperation through participation of developing countries and supporting the code of conduct to arrest international tax abuse.*

[15] *Purport human rights obligations, promote progressive taxation and ensure that all states are granted space to conduct countercyclical fiscal policies.*

[16] *Augment the tax mix and guarantee that various sectors of the economy contribute their fair share of tax without throwing the burden on a select few or building regressive tax regimes.*

[17] *Embrace explicit fiscal policy and laws to ensure catholic ingress to basic goods and services and bestow to the social transfers from the high-income to the low-income strata of society.*

[18] *Focus on exercising international agreements and cooperation between local tax administration to bespeak global tax abuses and absence of fiscal guilelessness; contrarily, human rights will remain malcontent.*

In human rights perspective, national tax policies can be further developed following the guidances like: invigorating participation and responsibility environing tax policy; ensuring progressivity to lower inequalities; widening tax base to subsidize public services; mending holes in the tax system; etc. Corporations fiscal policy might conceivably be devised encompassing the sustainable development goal through a salubrious approach focused on public tax revenues and spending priorities. Civil society has also fundamental duty to prescribe progressive tax that can safeguard ESC rights and monitor the progress of its realization by awakening tax justice and human rights.

CONCLUSION

Taxes are the backbone of human rights. A nation's worth postulation is distinguished by tax domain executed through realization of human rights. Governments grandiloquence about promoting human rights is frivolous without ample endeavors to collect requisite funds to meet the basic necessities of life for the poorest and most destitute echelons of society. Mutualistic relationship between economic policy and human rights policy can be exemplified by conjencture that economic policies are human rights policies and vice versa. Taxation and human rights have definite linkage. Taxation should be glimpsed through the lorgnette of human rights. Discussions, therefore, on taxation and human rights cannot be in solitude. A stoic tax domain not perceptive to the needs of its citizens is obsolete not exclusively in its constitution but rather in its very perception and animation. A reciprocatory relationship is envisioned to sail its pursuits from the human heart.

COMMENT

Researches can gaze at major segments of the economy concentrating on the discernment of ESC rights. There is peremptory longing to retrieve the inequalities sustained by existing tax structures and apostrophize basic concerns like unpaid work, penetrating to productive labor markets and social services. Future research necessitates succumbing the postulation of taxation and human rights discerning linkages with gender, illegitimate and legitimate financial movements. To metamorphose the spheroidicity of human rights, one should be conscientious about taxation and the causal association between tax collection and factual government expenditure to ensure that taxes are dissipated in a fashion that precipitates the public will to discharge society's obligation and nurtures human rights.

REFERENCES

1. *Alston, P.(2015).Tax Policy is Human Rights Policy: The Irish Debate."Conference on The Human Rights Impact of Tax and Fiscal Policy". Dublin: Christian Aid.*
2. *Picciotto,Sol.(2012).TowardsUnitaryTaxationofTransnationalCorporations.London:TaxJusticeNetwork.www.taxjustice.net/cms/upload/pdf/Towards_Unitary_Taxation_1-1.*
3. *UNDok.A/HRC/17/31.(March2011).www.businesshumanrights.org/media/documents/ruggie/ruggie-guiding-principles.*
4. *UN Human Rights Council.(2012). Final draft submitted by the Special Rapporteur on extreme poverty and human rights, Magdalena Sepúlveda Carmona. Geneva.(UN)Doc.A/HRC/21/39)http://dacessddsy.un.org/doc//UNDOC/GEN/G12/154/60/PDF/G1215460.pdf?OpenElement.*
5. *Department of Economic and Social Affairs.(January 2014). Inequality Matters: Report on the World Social Situation 2013, pp. 66-68, and Fiscal Policy and Income Inequality, IMF Policy Paper.*
6. *Abbas Grammy and Djeto Assane.(November2006)."The Poverty-Growth-Inequality Triangle Hypothesis: an Empirical Examination", Journal of Policy Modeling.*
7. *Tax Justice Network Africa and Christian Aid. (February2014)."Africa rising? Inequalities and the essential role of fair taxation".*
8. *UNESCO.(April2013).Education for All Global Monitoring Report,"Teaching and learning: achieving quality for all", p.116.*
9. *Ignacio, Saiz. (2013)."Resourcing Rights Combating Tax Injustice from a Human Rights Perspective", in Aoife Nolan, Rory O'Connell and Colin Harvey (eds.), Human Rights and Public Finance, Oxford, Hart Publishing.*
10. *African Development Bank, OECD.(2014).African Economic Outlook 2012, p.56; Ernesto Crivelli and Sanjeev Gupta, "Resource Blessing, Revenue Curse? Domestic Revenue Effort in Resource Rich Countries", IMF Working Paper,*
11. *IMF, Revenue Mobilization in Developing Countries.(March2011). p. 17; UNDP, What will it take to achieve the Millennium Development*

Goals? An International Assessment, June 2010, p.26.

12. *S.M. Ali Abbas and Alexander Klemm. (2012).“A Partial Race to the Bottom: Corporate Tax Developments in Emerging and Developing Economies”, IMF Working Paper.*
13. *Supporting the Development of More Effective Taxation Systems.(2011).A Report to the G-20 Development Working Group by the IMF, OECD, UN and World Bank.*
14. *OECD Forum on Tax Administration.(July 2009). Building Transparent Tax Compliance by Banks.*
15. *A global financial transaction tax, a human rights imperative now more than ever, and Righting Finance Initiative.(May2012).Financial Transaction Tax, A Human Rights Imperative, No.3.*
16. *OHCHRwebsite:http://www.ohchr.org/EN/Issues/Development/Pages/DevelopmentIndex.aspx.*

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