RNI No.: MPENG01246/12/1/2014-TC
Regd. No. : 429/68-69
ISSN-2395-6127 (Online)
ISSN-0972-1479 (Print)

Journal of
Indian Accounting Association

Global Impact Factor .785

Vol. XLVII (2) Dec 2015

Indian Journal of Accounting

www.indianaccounting.org
(Indexed in COSMOS Foundation & Electronic Journal Library EZB, Germany)

शुभ लाभ – शुभ संकल्प

विवेक शर्मा
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पूर्व अधिष्ठाता वाणिज्य – म. ज्यो. फु. रुहेलखंड विश्वविद्यालय, बरेली; एवं पूर्व विभागाध्यक्ष, बरेली कॉलेज, बरेली, भारत

भारत श्री का उपासक है और भारतीय समाज मूलतः मातृसत्तात्मक हैं। मनुष्य की मौलिक शक्तियों (बुद्धि,बल और धन संपत्ति) की अधिष्ठात्री क्रमशः सरस्वती, दुर्गा और लक्ष्मी जी मानी गयी है। ब्रह्मा जी सृष्टि के रचयिता कहे जाते है। उन्ह विचार का देवता माना गया है। 'एकोहम् बहुस्याम' के भाव से सृष्टि की रचना करने का लेख मिलता है। विष्णु जी सृष्टि के पालनकर्ता और शंकर जी को संहारक और मुक्तिदाता माना गया है। सृष्टि के पालन पोषण का कार्य सबसे अधिक कठिन और व्यय साध्य है क्योंकि सृष्टि की आवश्यकताओं की पूर्ति हेतु धन संपदा की आवश्यकता होती है। भगवान विष्णु लक्ष्मीपति या श्रीपति कहे जाते है। लक्ष्मी जी उनकी पत्नी के रुप में उनकी सहायक हैं और सृष्टि लक्ष्मी जी की कृपा से अनवरत् चल रही है।

शास्त्रों में लक्ष्मी को चंचला कहा गया है। वह एक स्थान पर बंधकर नही बैठती, चलायमान् रहती है तथापि उनके आवास के बारे में कुछ सूक्तियाँ है। 'व्यापारे बसते लक्ष्मी' इसलिये लक्ष्मी को प्राप्त करने की इच्छा रखने वाले व्यापार का मार्ग अपना लेते हैं।

भारतीय संस्कृति आस्था प्रधान है। श्रद्धा एवं विश्वास इसके आधार स्तंभ है। 'भवानी शंकरौ वन्दे श्रद्धा विश्वास रुपणौ' महादेव शंकर एवं महादेवी भवानी विश्वास व श्रद्धा के प्रतीक है। शंकर जी मूर्तिमंत विश्वास तथा पार्वती जी मूर्तिमंत श्रद्धा हैं और श्रद्धा विश्वास के इस युगल की संतान है प्रथम पूज्य आदि देव विघ्नहर्ता विनायक गणेश जो रिद्धि – सिद्धि के स्वामी हैं।

भारतीय संस्कृति की मान्यता है 'विश्वास फल दायकम्' विश्वास ही फल प्रदान करता है। यहाँ तक कहा गया है ''**मंत्र तीर्थे द्विजे देवे देवज्ञे भेषजे गुरो यादृशी भावना यस्य सिर्द्धि भवति 'तादृशी''** अर्थात् मंत्र तीर्थ द्विज, देवता ,ज्योतिषी, औषध एवं गुरु में व्यक्ति की जैसी श्रद्धा होती है उसे वैसा ही फल प्राप्त होता है। पूर्ण श्रद्धा पूरा फल देती है। अधूरी अथवा कम विश्वास वाली श्रद्धा से पूरा फल प्राप्त नहीं होता है। व्यवसाय में लक्ष्मी का स्थायी निवास है अतः व्यवसायी धनपति होते हैं। व्यवसाय में लगे लोगों को अपार धन के आधार पर श्रेष्ठ मान कर उन्हें श्रेष्ठीजन अर्थात् सेठ जी कहकर संबोधित किया जाता है।

वैश्य वर्ण का कार्य धनोत्पार्जन नही धनोत्पादन है। उपलब्ध धन को कई गुना बढाने से संबंधित है इसलिये उन्हे वैल्थ इंजीनियर और वैल्थ मल्टीप्लायर कहा जाता है। आर्थिक क्रियाओं के चक्र को गतिशील बनाकर वे धन द्वारा धन के लिये धन का खेल खेलते हैं। धन व्यवसाय का आदि और

अंत है इसलिये धन को व्यवसाय का जीवन रक्त कहा जाता है पर इस खेल के अपने कुछ सुनिश्चित नियम और अनुशासन हैं जिनके आलोक मे धनोत्पादन का यह चक्र अनवरत् चलता कहा गया है। लक्ष्मी उसी के लिए वरदान है, जो उसे दूसरों के लिए वरदान बना देता है। लक्ष्मी शुभ कार्य से उत्पन्न होती है, चतुराई से बढती है, अत्यंत निपुणता से जड़ प्राप्त करती है तथा संयम से स्थिर रहती है।

व्यवसाय के स्वामी लाला कहलाते हैं और उनके इस संबोधन के दोनों अक्षर व्यवसाय के दर्शन की सम्पूर्ण व्याख्या करते हैं। पहले ला का अर्थ है लागत और दूसरे ला का अर्थ है लाभ। व्यापार की सफलता लागत–लाभ विश्लेषण (कॉस्ट बेनेफिट एनालिसिस) से ही सुनिश्चित होती है। व्यापारी लाभ की आशा में ही लागत लगाते हैं। लाभ ही व्यापार की प्रेरणा शक्ति है और सम्पूर्ण व्यापारिक गतिविधियों का प्रमुख आकषर्ण भी।

व्यवसाय एक सामाजिक उपक्रम कहा जाता है अतः उधोग, व्यापार, विपणन, बैंकिग, बीमा, परिवहन, लेखांकन आदि-आदि क्रियाओं में नीति के साथ नैतिकता, रणनीति के साथ धर्म, तथा क्रिया के साथ लोक मंगल का भाव समाहित किया गया है। लोक सर्वोपरि है। जनहित व्यवसाय का सर्वोत्तम परिचय है। जन कल्याण व्यवसाय का मूल अर्थ है और सेवा व्यवसाय का पर्याय है। यघपि लाभ व्यवसाय का महत्वपूर्ण प्रेरक तत्व है पर यह व्यवसाय का प्रथम और अन्तिम उद्दे" य नहीं कहा जा सकता। लाभ व्यवसाय की स्वाभाविक परिणति है पर लाभ व्यवसाय के केन्द्र में नहीं परिधि पर स्थित होना चाहिये। लाभ शब्द की वर्तनी में ही लाभ का आनंद मूलक भाव निहित है। लाभ को उलट कर पढ़ें तो भला बनता है और भला भाव ही लाभ का जन्मदाता है। व्यवसाय लोगों का जितना भला करेगा उतना ही लाभ अर्जित करता जायेगा।

चित्र क्रमांक 1

भला होने और भला करने के भाव ने भारतीय विद्वानों, शास्त्रज्ञों को और व्यवसाइयों को अनंतकाल से प्रेरित किया है जिसकी परिणति शुभ- लाभ के रुप मे हुई है। अनादि काल से भारतीय व्यवसायी हिन्दी भाषी क्षेत्र में अपने व्यावसायिक संस्थान में शुभ लाभ के अक्षर अंकित करते रहे हैं। काफी अध्ययन के बाद भी यह ज्ञात करना तो संभव न हो सका कि कब से शुभ लाभ लिखने की प्रथा प्रचलित है। पर यह तो सिद्ध है कि बहुत पुराने समय से यह शब्द भारतीय व्यावसायिक प्रतिष्ठानों का सूत्र वाक्य और प्रेरक मंत्र रहा है। जिस प्रकार दिये गये चित्र क्रमांक 1 में यह कथन दर्शाया गया है। प्रायः सभी व्यावसायिक संस्थानों में स्वास्तिक चिन्ह के साथ शुभ लाभ का लिखा जाना हमारी संस्कृति का परिचायक है। स्वास्तिक प्रथम पूज्य आदि देव गणेश जी के होने की सांकेतिक अभिव्यक्ति है। स्वास्तिक के दायें तथा बायें बनी दो रेखायें गणे" ा जी की पत्नि रिद्धि व सिद्धि का भान कराती हैं। शुभ और लाभ गणेश जी के पुत्रों के नाम हैं। अतः यह चिन्ह विघ्न विनाशक के प्रत्यक्ष उपस्थित होने का प्रतीक है। गणेश जी से सभी कार्यों के निर्विघ्न रुप से संपन्न कराने की प्रार्थना निम्न श्लोक से की जाती है –

"निर्विघ्नं कुरु में देव सर्व कार्येषु सर्वदा।"

शुभ, सौभाग्य का संवाहक है, और लाभ, गुणकारिता का। शुभ लाभ का अर्थ है कि व्यवसाय केवल उन लाभों को अर्जित करने के लिये संकल्पित है, जो शुभ है अर्थात् शुभ कार्यो से उत्पन्न हुए हैं। अशुभ लाभों की कल्पना मात्र से व्यवसायी का मानस भयभीत हो उठता है। उत्पाद की गुणवत्ता की सुनिश्चित धारणा, तौल और परिमाण के पूरे पन का भाव, उचित मूल्य पर विक्रय, वस्तु विक्रय

और विवरण में सत्य और केवल सत्य का प्रयोग किया जाता है। यहाँ तक कि विज्ञापन को आकर्षक बनाने के लिये झूठ और कृत्रिमता का सहारा नहीं लिया जाता है। यदि निर्माणी उद्योग है, तो निर्माण प्रक्रिया से पर्यावरण और जैव विविधता को कोई संकट नही होना चाहिये। निर्माण प्रक्रिया के अवशिष्ट और अपशिष्ट के निपटाने की विधि सम्मत प्रक्रिया जिससे जल, वायु, जीव, वन और जन पर कोइ विपरीत प्रभाव न हो। लाइसेन्स लेने, सरकारी आदेश प्राप्त करने, निविदा आदि की प्राप्ति में कोई ओछी हरकत नही, यह सब व्यवसाय के शुभ तत्वों के लक्षण है। इस प्रकिया से उत्पन्न होने वाले लाभ शुभ लाभ है। गणना की दृष्टि से लाभ विक्रय मूल्य का लागत मूल्य पर आधिक्य है। लाभ = विक्रय मूल्य–लागत मूल्य। लाभों को अधिकतम करने का एक मात्र सूत्र है विक्रय को बढाना और लागत को कम करना। यदि विक्रय को बढ़ाने और लागत को कम करने के लिये कुछ अनैतिक कदम उठाये जाते हैं तो यह न्याय-सम्मत नहीं है और इसलिये शुभ नहीं है और इसके द्वारा उत्पन्न लाभ शुभ लाभ नहीं कहा जा सकता। व्यवसाय है तो लाभ कमाना ही चाहिये और इसके लिये विक्रय बढ़ाने और लागत कम करने के जितने न्यायोचित कदम उठाने है वे न्यायसंगत भी है और शुभ भी। परन्तु नीति से हटकर अनीति और अन्याय का सहारा लेकर लाभ बढ़ाने की सोचना भी पाप है, अतः यह स्वीकार्य नहीं है।

भारतीय संस्कृति की मान्यता के अनुसार गणेश जी शुभ के प्रतीक हैं।वह विघ्न विनाशक, ,बुद्धिदायक ,शुभकर्ता मंगलकारी हैं। गणेशजी की वंदना करते समय कहा जाता है ''**वकतुण्ड महाकायसूर्यकोटि समप्रभः निर्विघ्नं कुरुमें देव, सर्व कार्येशु सर्वदा।।**'' व्यवसाय सर्वथा और सर्वदा निर्विघ्न चले इसलिये प्रथम गणेश जी का आवाहन किया जाता है। लक्ष्मी जी की वंदना की जाती है, तथा अपने अपने आराध्यों से सहायता की प्रार्थना की जाती है। अतः विभिन्न व्यावसायिक संस्थानों में व्यवसाय के मुख्यालय और शिखर पुरुषों के कार्यालय में गणेश जी और लक्ष्मी जी की मूर्ति के साथ शुभ लाभ अंकित किया जाता है। गणेशजी के साथ शुभ तथा लक्ष्मी जी के साथ लाभ शब्द लिखते हैं और उसी के नीचे निम्न पंक्तियाँ लिखी जाती हैं। इनसे सीधा मंतव्य है कि प्रभु अपनी सभी शक्तियों के साथ सत्कार्य की ओर प्रेरित करें और अपेक्षित परिणाम के रुप में लाभों का उद्घाटन हो।

श्री शारदा सदा सहाय
श्री गौरी जी सदा सहाय
श्री शंकर जी सदा सहाय
श्री कुबेर जी सदा सहाय

दीपावली, लक्ष्मी पूजन का महापर्व है पर दीपावली की पूजा में अकेले लक्ष्मी जी की पूजा नहीं की जाती। लक्ष्मी जी के साथ शुभ के प्रतीक गणेश जी एवं ज्ञान तथा विवेक की अधिष्ठाता सरस्वती जी की भी पूजा की जाती है।

निम्न समीकरणों से इसकी समीचीनता सिद्ध होती है –

गणेश + रिद्धि = शुभ
गणेश + सिद्धि = लाभ
प्रज्ञा विवेक + ज्ञान = शुभ
प्रज्ञा विवेक + आध्यात्मिक दृष्टिकोण = लाभ

लम्बे समय से व्यवसायी वर्ग शुभ लाभ के दर्शन के आलोक में अपनी व्यावसायिक क्रियाओं का संचालन करता आया है, पर स्वंतत्रता के प" चात् राष्ट्र के विभिन्न अवयवों में स्वतंत्रता के नाम

पर स्वच्छंदता का भाव आया है और सभी लोग नियम अनुशासन तोड़ कर धन कमाने की अंधी दौड में सम्मिलित होने लगे हैं। आर्थिक क्रियाओं में भ्रष्टाचार आया हैं और व्यवसाय में भी येन – केन प्रकारेण लाभ कमाने की भावना बलवती हुई है। शुभ लाभ की सूक्ति लाभ शुभ में परिवर्तित हो गयी है। अब व्यावसायिक प्रतिष्ठानों में धड़ल्ले से लाभ शुभ लिखा जाने लगा हैं। लाभ शुभ का लिखा जाना मात्र शब्दों का परिवर्तन ही नहीं है, बल्कि यह लाभों के प्रति सनातन भाव का परित्याग भी है। इस लाभ शुभ के चिंतन में लाभ प्राथमिकता पा गए हैं। कहा जाने लगा है कि, लाभ है तो सब कुछ ठीक है। लाभों के प्रति यह आसक्ति व्यवसाय में, उनके नीतियों- कुरीतियों और मानकहीन मान्यताओं के प्रवेश का माध्यम बन गयी हैं। लाभ कमाने की इस अंधी दौड में व्यवसायी हो नहीं, डॉक्टर, इंजीनियर, आर्किटेक्टचर, चार्टर्ड एकाउन्टेन्ट आदि प्रोफेशनल्स भी सम्मिलित हो गये हैं। बहुत विचित्र लगता है कि डॉक्टर या चार्टर्ड एकाउन्टेन्ट के चैम्बर में लक्ष्मी गणेश की मर्तियाँ और लाभ शुभ का लेख। प्रोफेशनल अपने-अपने प्रोफेशन के मानकों को भुलाकर जैसे भी हो ''अर्थ कमाओ'' की चूहा दौड़ में सम्मिलित हो गय हैं। यह मानसिकता और व्यवहार बहुत दुर्भाग्यपूर्ण और दुःखद है। शुभ लाभ से लाभ शुभ की यह यात्रा भारतीय व्यावसायिक चेतना, मानसिकता और व्यवहार में सतत् ह्रास का परिचायक है। व्यावसायिक इकाइयों और प्रोफेशनल के अलावा स्ववित्त पोषित अकादमीय तकनीकी प्रशिक्षण और प्रबंध संस्थानों के अध्यक्ष, प्रबंध संचालक और अन्य शिखर पुरुषों के चैम्बर में भी लाभ शुभ का या फिर शुभ लाभ का लिखा जाना एक भयावह संकेत है। शुद्ध शिक्षा या सेवा प्रदान करने वाली संस्थाओं से न लाभ न हानि (नो प्रोफिट नो लॉस) सिद्धांत का पालन कर संस्था को संचालित करने की अपेक्षा की जाती थी पर इनमें भी लाभ के लोभ का प्रादुर्भाव कितना अनर्थकारी सिद्ध होगा इसकी कल्पना मात्र से ही जी सिहर उठता है। शुद्ध सेवा का भाव लोगा के मन से गायब हो गया है। शिक्षा, चिकित्सा, यात्री निवास जैसी सुविधाओं को बाजार का डंक डस गया है। निःशुल्क या नाम मात्र के शुल्क के आधार पर मिलने वाली शिक्षा, चिकित्सा, धर्मशाला, सराय और यात्री निवास पर पंचतारा सुविधाओं से आपूरित बड़े बड़े शिक्षण संस्थान, भव्य नर्सिंग होम और होटल निरंतर उदित हो रहे है। सामाजिक और मानवीय मूल्यों का सतत अवमूल्यन हो रहा है और कीमतें आसमान छू रही हैं । मिल–बाँट कर खाने का शेयरिंग विज़न गायब हो गया है। शेयर एवं पूँजी बाजार का उठता– गिरता संसेक्स मनुष्य की धड़कन, नब्ज और ब्लड प्रेशर ऊपर नीचे कर रहा है। एक कृत्रिम दुनिया बन गयी है, जहाँ मानवीय संबंधों का कोई मूल्य नहीं रह गया है। कितनी बड़ी त्रासदी है कि बेचारा मनुष्य प्राणी न रह कर अब मात्र संसाधन बन कर रह गया हैं। छोटा बच्चा क्रेच मे पल रहा है, युवा हॉस्टल में रह रहे हैं, काम काजी स्त्री पुरुष पी.जी. में जी रहे है और बेचारे वृद्ध– वृद्धा वृद्धाश्रम की ओर जा रहे है।

व्यवसाय करने वाले पूर्ण श्रद्धा और सत्य निष्ठा के साथ अपने अपने इष्ट के प्रति श्रद्धावान् रह कर व्यवसाय में लाभ प्राप्त करें, इसमें कोई दोष नहीं है। व्यवसाय का उद्देश्य, लाभ तथा श्री समृद्धि प्राप्त करना ही है। यह भी देखने में आया है कि व्यवसायी अपने इष्ट देव को लाभ में भागीदार बना लेते है और वर्षिक लाभ में से उनका भाग ईमानदारी से उनके दरबार में भेंट करते हैं। बड़े – बड़े पूजा स्थलों में गुप्त दान में आने वाले करोड़ों रुपये इसी लाभ का हिस्सा होते हैं। लाभों में अपने इष्ट देव को सम्मिलित कर वे लाभों में शुभ तत्व का समावेश कर लेते है। शुभ कार्यो से देवकृपा से उत्पन्न धन देव कार्यो में ही प्रयोग करने का वेद का निर्देश ऋग्वेद संहिता भाग 1के सूत्र 15 के 8 वे मन्त्र में वर्णित हैः

द्रविणोदा ददात् नो वसूनि यानि भृणर्वरे देवेशु ता वनामहे

पाश्चात्य दर्शन में धन माल और संपत्ति को केन्द्र माना गया है जबकि भारतीय दर्शन मानव और मानवता पर आधारित है। यहाँ वास्तविक सम्पदा सोना और चाँदी नहीं वरन् मानवीय, सामाजिक और आध्यात्मिक मूल्यों से अनुप्राणित मानव है, जो व्यवसाय में आय अर्जित करते समय नैतिक मानदंडों का पालन करता है। यहाँ लाभ लोभ प्रेरित नहीं होता। वस्तु और सेवाओं के प्रति उपयोग की भावना होती है उपभोग की नही। यहाँ धन साधन है साध्य नहीं। यहाँ लाभ व्यावयायिक क्रियाओं की सहज परिणति है, आदिष्ट व्यवस्था नहीं। यहाँ तीन पांच करके नंबर दो का धन कमाने की इच्छा का कोई स्थान नहीं। धन का एक ही नंबर है और वो है नंबर एक अर्थात साफसुथरी, न्याय सम्मत कानून सम्मत, प्रतिष्ठामूलक, सच्चाई सद्भाव से उत्पन्न धन और इसे ही शुभ लाभ की संज्ञा दी जाती है। चाणक्य का कथन है : **'अन्यायोपर्जितम द्रव्यम् दश वर्षाणि तिष्ठतिप्राप्ते चैकादशे वर्षे समूलं तद विनष्यति'** अर्थात अन्यायपूर्वक अर्जित धन केवल दस वर्ष तक ही ठहरता है और ग्यारहवां वर्ष आते ही वह समूल नष्ट हो जाता है। अतः अन्यायपूर्वक धनोपार्जन नही करना चाहिये। शास्त्रों में यह भी उल्लेख है :

उद्यमः साहसं धैर्य बुद्धिः शक्तिः पराक्रमः
षेडेते यत्र वर्तन्ते तत्र देवः सहायक्रत

अर्थात उद्यम, साहस, धैर्य, बुद्धि, शक्ति और पराक्रम ये छः अवयव जहाँ होते है, वहाँ देवता कृपापूर्वक सहायता करते हैं तथा लक्ष्मी जी स्थायी रुप से निवास करती है। शिव संकल्प ही शुभ लाभ का प्रदाता है। यह सुखद संयोग है कि शुभ लाभ के विचार को अब भारतीय कॉर्पोरेट जगत ने भी स्वीकार कर लिया है। अब यह भारतीय दकियानूसी परम्परा मात्र न रह कर वर्तमान व्यावसायिक संस्कृति का संस्कार बन गयी है। ज्ञात हुआ है कि रिलायंस इंडस्ट्रीज लिमिटेड के स्वामी श्री मुकेश अम्बानी ने अपने संस्थान में शुभ और लाभ नाम के दो आभासी अधिकारियों को नामित किया है जो संस्था के एक लाख से अधिक कर्मचारियों के सतत् संपर्क में रहेंगे और उन्हें सभी गतिविधियों के साथ वेतन के अतिरिक्त मिलने वाले मौद्रिक एवं अमौद्रिक लाभों की सूचना देते रहेंगे।

अंत में एक भारतीय मनीषी का ये कथन उल्लेखनीय है– यदि व्यवसाय में शुभ लाभ उदित हो रहे है तो राष्ट्र की आर्थिक, सामाजिक और राजनीतिक संरचना में सभी कुछ शुभ है।

SPIRITUAL ASPECT OF BUSINESS: A CONCEPT OF SHUBH-LAABH

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ABSTRACT

The purpose of the study is to investigate the spiritual aspect of shubh Laabh in shopkeeper's life. It is well known fact that Shubh is incripted first and then Laabh. This indicates that whatever the profits (Laabh) are, those should be auspicious (shubh). The present study is an attempt to identify the role of this concept in business world. This study helped in indentifying the factors which derive the 'Shubh-Laabh' and help in knowing its implications for the organizations.

Keywords: Shubh- Laabh, Positive Attitude, Faith, Trust.

INTRODUCTION

It is a belief in Hindu mythology that Lord Ganesha is extended prayers before starting a new work for goodness. According to the belief, Lord Ganesha married two Godesses namely Riddhi and Siddhi. The birth of two sons was fortunate from the mothers, who were named Shubh and Laabh. Also, Lord Ganesha is known as the God of Wisdom, whereas Godess Ridhi signifies Knowledge and Godess Sidhi denotes spiritual power or rightness.

Everyone writes shubh Laabh for good beginnings and upliftment. It is observed to be engraved on the cash box/account books of all business shops and houses in India. The shubh Laabh is a symbol of good beginnings. It is outcome of 'Devnagari' script. The meaning of shubh is wisdom and that of Laabh is profit, in other words shubh means auspicious and Laabh means benefit. Basically profit can be of two types, first is profit which is earned at any cost and second is profit which is earned by keeping all the costs including the societal costs to be minimum and overall benefits to be maximum, that profit is Shubh Laabh. Here also, the cost benefit analysis takes the explanation. The benefits which have minimum costs will be termed as auspicious benefits.

Furthermore, usually, it is observed that Shubh comes first than Laabh. This can be understood by understanding the meaning of profit in terms of benefits. This means that the profits earned by entrepreneur should not have sacrificed the benefits of others. In other words, the profits earned should be auspicious i.e. Shubh. This can also be understood in the way that profit earned by way of cheating others, stealing, black marketing etc., are peripheral, and hence can't give peace of mind for a longer time period.

Concept of Shubh-Laabh

In Hindu mythology, Lord Shiva and Parvati have a son named Ganesha, who have two wives Riddhi and Siddhi and further have two sons Shubh and Laabh. Ganesha is the god of Wisdom and is represented by the Swatik. The two lines on each side represent his wives Riddhi and Siddhi.

Ganesha: Wisdom
Riddhi: Method and intelligence
Shubh: Auspiciousness, which is its Hindi meaning.
Siddhi: Spiritual power and perfection and
Laabh: profit.

Furthermore, it can be said that wisdom when used with knowledge leads to Goodness, and further when wisdom is accompanied with spiritual freedom leads to profit in the organization. Also it must be noted that Lord Ganesha will not stay in your home for long if his family is not given a place. Since Ganesha is the first God to be worshipped before any puja hence you see the swatik and Shubh Laabh mentioned on walls to make him reside in our home with knowledge, spirit, auspiciousness and profit and his wisdom of course.

Shubh Laabh and Corporate World

Mukesh Ambani is the owner of Reliance Industries (RIL) and started internet service on email shubh.laabh@ril.com. RIL aims to every employee to share and explain their experiences related to monetary reward given by organization. This is best idea of Hital Meswani, who is cousin of Mukesh Ambani and HR head. It is informative email for all employees and communication to each other. Most of the shopkeepers used Shubh Laabh Yantra for success and prosperity in their business. This Yantra used in working place, in cash box.

Mahindra & Mahindra Shubh Laabh: This is the rural initiative taken by Mahindra & Mahindra group to provide complete package of products and services related to firm productivity. One of the basic objectives is to establish market linkage and optimize farm produce supply chain. There are about 36 franchised Shub Laabh store established in ten states in India.

Amazon seems to apply the concept of Ahimsa to optimise Shubh Laabh, where they kept the safety as top priority, where the rate of accidents is minimised. The profits by this rule are known as Shubh Laabh.

REVIEW OF LITERATURE

There have enough discussion on the meaning of this phrase. It has been defined as the 'sign of a good beginning'. The relevance of the phrase has been explained by Bansal (2014). He explains that as Lord Ganesha is worshipped foremost, his family with two wives Ridhi and Sidhi denoting knowledge and spiritual freedom respectively, and two sons Subh and Laabh indicating 'Goodness' and 'Profit' respectively, will live with him. This makes clear if Lord Ganesha is worshipped, i.e. wisdom will be followed by knowledge and intelligence and in return will bring profit with goodness. Shiva (2013) posted that sustainable decisions should be supported with well care of human and environmental issues. He explained that the optimization decisions can be given a new insight from Indian mythology and bringing it to be a sustainable business optimization with a model including people and environment. Neelakandan (2013) explains the concept by linking it with Godess Lakshmi, who denotes wealth, which is itself a wholesome concept. Further, it is being defined as the wealth which puts welfare (Shub) prior to profit (Laabh).

Also the blog of Malhotra explained the presence of 'mutual respect' between various groups of people, both internally and externally. This shows the presence of Shubh Laabh, indicating the balanced approach of working.

Instead of vast literature in Hindu mythology about this phrase, there is no evidence which helps in understanding the role of Shubh-Laabh in accounting. This feature has been enumerated as a qualitative feature which enhances the wealth of the organization, but nowhere, it has been brought forward, how to improve this feature. The present study is an attempt to elucidate the importance of this concept empirically. It tries to answer the question that Why do business man write Shubh Laabh on their books of accounts etc. Also, it helps in determining the factors which motivate an entrepreneur to use this phrase. The scope of this study can be enhanced by including this concept in the books of accounts, in order to ensure that the profits (Laabh) are really with Goodness (Shubh).

OBJECTIVES OF THE STUDY

- To design, develop and standardize a measure to evaluate the understanding of the concept of Shubh Laabh in shopkeepers' life.
- To identify the factors those determine the role of Shubh Laabh in shopkeepers' life.

RESEARCH METHODOLOGY

About the Study

The study was exploratory and empirical in nature. It was exploratory because, the endeavours of the authors were directed towards the indentification of the factors which drove the shopkeepers towards this concept, also to analyse the role of this concept in entrepreneurs' life. The data was collected from the shopkeepers in Gwalior region, where sample size was kept to be 100. Data was collected on the basis of purposive and convenient sampling methods. During this research, we followed the interview survey method for the collecting the data. This included the interview done with the shopkeepers regarding the concept, which further helped in designing the questionnaire. The questionnaire so developed helped in collecting the data in measurable terms.

This self designed questionnaire on 5 point Likert Scale was tested with Cronbach Alpha and face validity statistics. Further, Factor Analysis was applied, using PASW 18 software, which helped in achieving second objective.

RESULTS AND DISCUSSIONS

1. Reliability Test

Reliability test for the variables were carried out by using SPSS software and the reliability test measures are given below:

Table 1: Reliability Statistics

Variables	Cronbach's Alpha	No. of Items
All Variables	.792	20

The Cronbach's Alpha value is .792 this value is more than to standard value of Cronbach's Alpha value .7, it mean my questionnaire has been reliable and provide us exact information as we want from data.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.654
Bartlett's Test of Sphericity	Approx. Chi-Square	944.686
	Df	190
	Sig.	.000

The KMO and Bartlett test of Sphericity indicates that the data is suitable for factor analysis. The KMO measures the sampling adequacy should be greater than 0.5 for a satisfactory factor analysis to precede. Looking at the table above, the KMO measure is 0.654. From the same table, we can see that the Bartlett's test of sphericity is significant at 5% level of significance. That is, its associated probability is less than 0.05. In fact, it is actually .000. This means that the correlation matrix is not an identity matrix. The above facts indicate that the data collected on role of Shubh Laabh is suitable for factor analysis.

2. Factor Analysis

Factor analysis was carried on after the reliability test. The factor analysis resulted is seven factors. The details about factors the factor name, variable number and convergence and their Eigen value is given in the table:

Table 3: Factor Analysis Statistics

Factor Name	Initial Eigen Value		Variables / Convergence	Loading
	Total	% of Variance		
Positive Energy	5.32	26.63	(17) Positive Environment (12) Spiritual Peace (14) Positive Thought (20) Satisfaction (18)Less Bad Feeling (15)Right way of earning	.879 .868 .849 .738 .717 .557
Myth	2.00	10.03	(9)Depend on past deeds (8) Legend (13)Compulsion	.828 .792 .606
Ritual	1.81	9.05	(16) Good Beginning (19) Habit (2)Follow (10)Tradition	.801 .666 .519 .434
Mentality	1.68	8.43	(7) Luck (3) Inscribe to special word (11)Ethical Work	.804 .592 .508
Faith	1.32	6.60	(6) Good Work (5) Trust	.844 .676
Trend	1.17	5.86	(4) Style	.850
Profit	1.03	5.187	(1) Good Performance	.850

Description of factor

1. **Positive Energy -** This factor has emerged as the most important determinant of research with a total variance of 26.637. Major elements of this factor include Positive Environment (.879), Spiritual Peace (.868), Positive Thought (.849), Satisfaction (.738), Less Bad Feeling (.717) and Right way of earning (.557). Most of the shopkeepers agree that Shubh Laabh provide positive energy in their life. Positive energy is very brings positive attitude. It is helpful for dealing with negativity and creates harmonious relationship between shopkeeper and customers. Positive energy improves their performance and prevent negative

attitude and also create healthy competitive environment. It was deduced from the results that shopkeepers get these valuable positive feelings from Shubh Laabh.

2. **Myth**- This factor has emerged as the second most important determinant of research with a total variance of 10.038. Major factor consisting this factor are Depend on past work (.828), Legend (.792), Compulsion (.606). It was found that Myth was also one of the factors which determined the Shubh Laabh encryption. But only a few people agreed to it that it was a compulsion to them or because of ancestors, they are following a tradition. These people did not have valid logics for being spiritual in writing or using Shubh Laabh in their businesses.
3. **Ritual** - This factor has a total variance of 9.059 major element of this factor include Good Beginning (.801), Habit (.666), Follow (.519), Tradition (.434). Rituals are the processes which help in increasing spiritual aura in the business. Ritual helps to increase morality among team in the workplace. Ritual plays crucial role in business and enhances social interaction to each other. Ritual is one of the factors for success and good beginning of business.
4. **Mentality** -This factor has a total variance 8.438 major element of this factor include Luck (.804), Inscribe to special word (.592) and Ethical Work (.508). Some persons believe profit depend on luck and inscribe the special word (Shubh Laabh).Mentality is another factor of Shubh Laabh. It explains that Shubh Laabh also reflects the mentality of the person. It helps in knowing that entrepreneur is really a capitalist or has a bend towards the society too along with the business.
5. **Faith -**This factor has a total variance 6.604 major element of this factor include Good Work (.844) and Trust (.676). Faith is the most important factor of Shubh Laabh. Everybody has faith towards Shubh Laabh so they write it. Shubh Laabh is the symbol of auspicious profit. It helps the entrepreneurs to have faith in God, and hence drives towards the Good Karma.
6. **Trend-** This factor has a total variance 5.865 major element of this factor include Style (.850). Some entrepreneurs recommended it as trend which is accompanied with the spiritual well being. Also, the views came out that nowadays it is trend of writing this phrase, but actually the meaning behind it explains that writing the shubh Laabh is not fashion and it is part of traditional value.
7. **Profit-** This factor has a total variance 5.187 major element of this factor include Good Performance. Profit is depends on only good performance. It explained that Profit was enhanced by including Shubh Laabh in their ventures.

The factors which are explained above helped in knowing the importance of Shubh Laabh in the life of shopkeepers. The results explain that, uptill now, everyone feels that Shubh Laabh, is used as it brings positive energy in the environment. It also helps in increasing the spiritual aura in the environment. As it is a ritual which is carried forward from the ancestors and has a srong foundation behind it. It is believed to be the welcome of Lord Ganesha with all his powers in the business. It affects the mentality of people involved in business. Further, it increases the faith in the God and also in Good Karma. In the end, it helps in increasing the profits in the business.

SUGGESTIONS FOR FURTHER STUDY

1. The research had included only 100 respondents as the sample size. Further the research can provide different result with increased number of respondents.
2. Further study can provide different results if different factors are considered.
3. The scope of the study is limited to Gwalior region. Other regions can also be included.

CONCLUSION

The study was carried out in order to give a new insight to the businesses and their transactions. The Shubh Laabh aspect of the Hindu Mythology was analysed empirically. The concept of Shubh Laabh existed since the inception of Lord Ganesha, where he is known as Lord of Wisdom. Shubh and Laabh are known to be sons of Lord Ganesha from his two wives, namely, Ridhi and Sidhi. The beliefs towards the phrase Shubh Laabh, has been the attachment with the roots and path which leads to the ultimate power and his blessings. It is being observed from the study that concept of Shubh Laabh is taken as the ritual and is regarded with utmost faith. It helps the businessmen to face the negative energy in the businesses, helps in developing the positive mentality among the mob. Overall, it seems that Shubh Laabh are not only sons of God, but also helps in driving the endeavours of businessmen towards the Goodness of humanity and environment.

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ACKNOWLEDGEMENT

We would like to extend our sincere gratitude towards **Prof. Umesh Holani,** for throwing light on this concept, and directing, guiding and motivating us towards this endeavor.

RITUALS IN ACCOUNTING AND OTHER RELATED BUSINESS PRACTICES IN SMALL TRADING CONCERNS: A SURVEY OF KOLKATA CITY AND ADJOINING AREAS

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ABSTRACT

The present study attempts to examine the impact of Indian ethos and culture on the modern day small businesses and also examine how these traditions and practices shape up the conduct and profit making (or, service) motive of the sole proprietorship business. For which, the study is conducted in Jadavpur-Baghajatin area in the southern part of Kolkata city and Sonarpur-Rajpur municipality in the district of South 24 Parganas, an adjoining area of the city, considering 80 shop establishments from the new-age, electronic goods and old-age, jewellery segments. It is finally observed that religious beliefs and practices still occupy a prominent place in small shop establishments even in modern times. The traders believe that pleasing their gods in traditional way is more important than any form of CSR activities for bringing good luck, fortune and profitability of their concerns.

Keywords: Shubh-Laabh, Indian Ethos, religious beliefs

INTRODUCTION

Every human being is a product of his religious and cultural ethos. Indian ethoses are derived particularly from the Indian cultural values of the Vedas and Upanishads, which focus on ethics, morality and self-submission for fulfilment of higher objectives towards the path of renunciation of the spirit. According to Indian ethos, every human activity is ultimately aimed at improving the quality of life of the self and the society at large.

Occupational division of labour and their immobility had been a reality in the Indian tradition and culture for ages. The commercial activities thus became a monopoly of the

Vaishya section of the society. In ancient and medieval India and even in modern times this occupational division of labour sanctified by the Hindu caste system remained intact. The businessmen usually cling on to their religious rituals, culture and traditions in their personal lives and in turn choose to bring those rituals as a part of their business practice.

Business ethos is the outcome of a way of life and living. It is the application of wisdom received over the generations in managing the proceedings of business. The spiritual orientation helps the businessmen to keep focus towards fulfilment of a larger goal besides performing the other basic objectives of serving the society along with profit making. From time immemorial, business establishments in India have blended the spiritual element in daily business activities thereby making their business a virtual reflection of their ethical, cultural and religious values. Some of the important religious practices and symbols became identical business policies and have been followed with full faith and dedication by generations through centuries. The most important among those followed in eastern India are the symbol of 'Swastika', the inscriptions of 'Om' and 'Shubh Labh', the concept of 'Halkhata' (opening of yearly ledger), worship of Goddess Laxmi and Lord Ganesh, etc. Some of these are discussed in the following section.

In Bengali, a vintage custom is followed, where a new ledger book 'Halkhata' is used. Furthermore, the color of this book is kept tobe red, which symbolizes a new beginning with all rituals, and can help in facing the uncertanities in the course of the business. The time or period chosen for opening of the halkhata reflects the heritage, values, traditions and modes of doing the business. All old debts are cleared on the day of opening the new halkhata, thereby establishing a strong bondage between the owners and the customers.

The Halkhata is usually opened on the 'Pohela Boishakh' or on 'Akshay Tritiya'. The Pohela Boishakh is the first day of the Bengali calendar. It is tied to Indian Solar Calendar which is based on Surya Siddanta and commences mid-April of the Gregorian year. Akshay Tritiya is another holy day followed by Hindus to perform many rites and rituals.

Among the important symbols, Om and the Swastika hold a prominent position. The Om or Aum is a mystic symbol composed of the three syllables combined into one. Om is one of the most important symbols in Hinduism, and is often found at the beginning and end of the chapters in the Vedas, the Upanishads and other Hindu texts. It is a sacred spiritual incantation inscribed and chanted before and during the recitation of spiritual texts, during pujas, prayers and other religious ceremonies. The symbol of Swastika is also considered sacred in Hinduism, Buddhism and Jainism. It explains the human birth-death-reborn cycle. It explains the four facets of God's Blessings, namely, fortune, good luck, happiness and prosperity.

The mythological view explains that Goddess Lakhsmi is worshipped and considered to be wealth creator and Lord Ganesha symbolizes wisdom. They are often worshipped at the place of business for bringing good fortune, money and fame. Lord Ganesh is also considered as the remover of obstacles and troubles on righteous path, and hence worshipped at the beginning of any auspicious work. A popular symbol used in business is the symbol of Swastika, the symbol of Lord Ganesh with two lines representing his two wives, namely Riddhi and Siddhi (Riddhi meaning intelligence and Siddhi meaning spiritual power or perfection), on either side with the inscription of the names of his sons 'Shubh Labh' (Shubh means good luck and Labh means benefit) in Devnagari script above. It is popularly believed that worshipping Lord Ganesh along with his family would bring permanent success, good fortune and prosperity for the business.

IMPORTANCE OF SPIRITUALITY AND RITUALS IN BUSINESS: A REVIEW OF LITERATURE

Businesses are an extension of the social and natural environment and never operate in isolation to the society. Charis (2007) opines that outcomes of changes in values and beliefs of individuals and societies are constantly smeared into business firms and corporations. Ethics at the workplace is simply an extension of the individual's daily moral or norm. The sacred practices and texts have often guided people's actions in all realms since centuries and they still do. Velentzas and Broni (2010) stated that most people are strongly influenced by their religious and spiritual beliefs. Business norms are often developed from these notions and are carried in daily activities including the workplace.

Business is guided by moral philosophies of the owners which are principles or rules that individuals use to determine what is right and what is wrong. Forsyth (1980) has identified two perspectives of personal moral philosophy as idealism and relativism. Idealism is the degree to which individuals assume that desirable consequences can be obtained with the right action. Relativism, on the other hand, is defined as the extent to which an individual rejects universal moral rules when making ethical judgments. Idealism and relativism are independent constructs and individuals can be high or low in both dimensions. In commerce and business, the purpose of ethics is to direct business men and women to abide by a code of conduct that facilitates public confidence in their products or services.

Spitiritual values influence one's view of a circumstance, his connection with others and go about as an aide of his decisions and activities. Spiritual individuals yearning to incorporate their lives and in doing as such interface with themselves and with others in their working environment group is complete. They want to address their inner life needs and seek more meaningful work (Dehler and Welsh, 1994). Agbim et al (2013) state that spiritual people display a host of behavioural characteristics at the workplace namely honesty, compassion, avoiding harm, respect, peace, justice, forgiveness, service, trustworthiness, thankfulness, optimism, hope, humility, gratitude, love, altruism, empathy, toughness, meaningfulness, integrity, responsibility, awareness, humanism, inner peace, truth, sense of community, kindness, patience, courage, benevolence, mutuality, receptivity and thus the characteristics of being a good citizen. The qualities are really the indication of the attributes of a spiritual individual. These ethical Excellencies are in charge of building up a man's ability for self-administration or discretion thus offering them to overcome self some assistance with interesting in their choice making.

Extensive research has been conducted on Indian firms by Pawar (2009) to test employees’ commitment, satisfaction and retention due to practice of spirituality at the workplace. His results show that there is a positive relationship between workplace spirituality and employee commitment, satisfaction and retention at the organization. The research of Pandey et al (2009) also shows that spiritual climate at the workplace and regular practice of rituals positively enhance customer satisfaction and is positively related to customers' experience of employee service.

Mc Laughlin (2003) states that soul in business development is a pragmatic showing of the spiritual laws and standards which are directing the following stride in human advancement, right human relations, goodwill, gathering attempt, unanimity, spiritual methodology, and key divinity. Bringing soul into business means growing more cognizant and minding connections in the working environment taking into account a soul of goodwill. Laborers endeavor together to make a typical reason, solidarity of soul (which is the thing that unanimity implies) instead of solidarity of structure (consistency). They work with a spiritual approach that distinctions the key divinity in every individual, and may utilize request to God and/or contemplation to control their choices. Spirituality at the work environment is more bland and comprehensive than religion. Rather than accentuating on conviction as religion does, the word spirituality underlines how values are connected and epitomized. The key spiritual qualities grasped in a business setting may incorporate integrity, genuineness, responsibility, quality, collaboration, administration, instinct, dependability, appreciation, equity and administration.

In this backdrop, the present paper attempts to examine the impact of Indian ethos and culture on the modern-day small businesses and also examine how these traditions and practices shape up the conduct and profit making (or, service) motive of the sole proprietorship business.

DATA AND METHODOLOGY

For the purpose of the study, retail shops of electronic goods and jewellery are selected. The reason of selecting such business establishments is that the former representing the new age business and the later representing a traditional business. The survey is conducted in the Jadavpur-Baghajatin area of the southern part of the Kolkata city and Sonarpur-Rajpur municipality area in the district of South 24 Parganas, which is also an adjoining area of the Kolkata city. A total of 80 shops located in this area is selected which includes 40 shops selling electronic goods (20 from Jadavpur-Baghajatin area and 20 from Sonarpur-Rajpur) and 40 retail jewellery shops (20 from Jadavpur-Baghajatin area and 20 from Sonarpur-Rajpur). The shops are selected on the basis of their size and availability (willingness to give information or time). The research instrument (questionnaire) is prepared keeping in mind the research objectives. Close-ended questions with multiple options are presented to the respondents and they are asked to choose the best alternative among those provided. The questionnaires have been filled up by the researcher on the basis of personal interviewing out of the responses obtained from the respondents, *viz*., owners / employees from each institution.

QUESTIONNAIRE AND DATA ANALYSIS

Q1. When do you usually open your books of accounts (halkhata)?

Table 1: Responses to Q1

	English New Year	Bengali New Year	Akshay Trithiya	No Such Ritual	**Total**
Electronic Jadavpur	0	11	5	4	**20**
Electronic Sonarpur	0	12	6	2	**20**
Jewellery Jadavpur	0	14	6	0	**20**
Jewellery Sonarpur	0	12	8	0	**20**
Total	**0**	**49**	**25**	**6**	**80**

Q2. What are the symbols/ inscriptions used by you, as a businessman, for good luck/ prosperity of business? (More than one alternative was allowed to be selected by the respondents)

Table 2: Responses to Q2

	Swastika	Ganesh Laxmi	Inscription of Shubh Labh	Inscription of Ohm	No Symbol	Others	**Total**
Electronic Jadavpur	1	11	0	5	2	2Viswakarma	**21**
Electronic Sonarpur	1	14	0	4	0	5	**24**
Jewellery Jadavpur	1	15	2	4	0	0	**22**
Jewellery Sonarpur	3	17	1	3	0	0	**24**
Total	**6**	**57**	**3**	**16**	**2**	**7**	**91**

Q3. What is the significance of symbols/ inscriptions in your business?

Table 3: Responses to Q3

	Brings good luck (more profits)	Keeps business out of danger	Traditions being followed	Others	**Total**
Electronic Jadavpur	7	3	10	0	**20**
Electronic Sonarpur	8	1	10	1	**20**

Jewellery Jadavpur	7	1	12	0	**20**
Jewellery Sonarpur	7	0	13	0	**20**
Total	**29**	**5**	**45**	**1**	**80**

Q4. Do you feel that use of these rituals/ traditional beliefs give your business any competitive advantage as most of the others using them too?

Table 4: Responses to Q4

	Yes	No	Can not say	**Total**
Electronic Jadavpur	13	2	5	**20**
Electronic Sonarpur	11	2	7	**20**
Jewellery Jadavpur	16	0	4	**20**
Jewellery Sonarpur	9	3	8	**20**
Total	**49**	**7**	**24**	**80**

Q5. What rituals do you perform everyday for the wellbeing of your business? (More than one alternative was allowed to be selected by the respondents)

Table 5: Responses to Q5

	Morning &evening prayer	chanting of mantras	Morning prayer	CSR activities	No Prayer	Others	**Total**
Electronic Jadavpur	9	1	10	0	1	0	**21**
Electronic Sonarpur	10	2	7	0	0	2	**21**
Jewellery Jadavpur	11	2	9	0	0	0	**22**
Jewellery Sonarpur	9	1	10	0	1	0	**21**
Total	**39**	**6**	**36**	**0**	**2**	**2**	**85**

Q6. Do the rituals that you perform improve your involvement in your business?

Table 6: Responses to Q6

	Yes	No	Can not say	Total
Electronic Jadavpur	15	0	5	20
Electronic Sonarpur	14	2	4	20
Jewellery Jadavpur	13	1	6	20
Jewellery Sonarpur	10	3	7	20
Total	52	6	22	80

Q7. What do you feel about your customers' perception regarding the traditions that you follow for your business?

Table 7: Responses to Q7

	Has positive impact	Has negative impact	No impact on customers	Can not say	**Total**
Electronic Jadavpur	13	0	2	5	**20**
Electronic Sonarpur	12	0	5	3	**20**
Jewellery Jadavpur	12	0	4	4	**20**

Jewellery Sonarpur	10	0	5	5	**20**
Total	**47**	**0**	**16**	**17**	**80**

Q8. Do you think that the rituals have any direct or indirect impact on your employees' morale and productivity?

Table 8: Responses to Q8

	Yes	No	Can not say	**Total**
Electronic Jadavpur	15	1	4	**20**
Electronic Sonarpur	14	2	4	**20**
Jewellery Jadavpur	18	0	2	**20**
Jewellery Sonarpur	17	0	3	**20**
Total	**64**	**3**	**13**	**80**

INTERPRETATION OF FINDINGS

The tradition of halkhata, maintained through centuries, is still a distinct feature of modern day traders and is followed religiously. Barring 6 businessmen (7.5% of the sample surveyed) the traditional books are maintained with equal dedication by new age businesses (electronic shops) as well as traditional businesses (jewellery shops). The English calendar, which dictates human life today, has failed to make any impact on this traditional practice which, even today, is observed on the auspicious day of Akshay Trithiya (31.25% of the sample) or on Pohela Boishakh (61.25% of the sample).

The tradition of using symbols or inscriptions for bringing good fortune is followed since the beginning of business establishments and is still practised by modern businessmen (barring 2 shops as surveyed and that too because of the religion factor). The idols of Lord Ganesh and Goddess Laxmi are found to occupy the most prominent place in small business houses in Bengal followed by the inscription of Om, Swastika and Subha Labh. 29 traders strongly feel that symbols bring good luck for their business but more than half of the sample (56.25%) feels that they are simply following the tradition of centuries in the context of using these symbols or inscriptions. 61.25% of the sample is of the view that these symbols give their business a competitive advantage, whereas 30% is clueless on this issue.

The sample surveyed across businesses and localities has an atheistic viewpoint towards their business as 'prayers' and 'chanting of mantras' form a regular ritual at their workplaces and a negligible few (2 traders only) declines from any such practice. 65% of the sample feels that these activities increase their involvement in the business both psychologically and spiritually. However, any CSR activity is found missing from the daily routine followed by them which imply that the same people lack social outlook and are solely concerned about their personal benefit from business.

Most businessmen believe that the spiritual rituals performed by them at the shops have a positive impact on their customers (58.75%) and the spiritual practices also increase their employees' morale and productivity to a substantial extent (80%). Hence, practice of rituals or spirituality may also deemed to performed to avoid any probable tangible harm to the business and justified as ‘traditions of yesteryears still being followed’.

CONCLUSION

Thus, the local traders in Kolkata City and Sonarpur Rajpur Municipality, an adjoining area of the city, although having been visibly influenced by modern trends and culture of the west like other parts of the country, seem to believe in the traditions of the centuries. They have expressed a positive impact of the same on the functioning and profitability of their establishments because of which they too practise these rituals without much question. The opening of holy books of accounts on an auspicious day with holy symbols inscribed in it is also believed to bring blessings and good fortune for all forms of business. The businessmen also believe that practice of daily prayers and worship of deities at their shops, use of symbols and inscriptions in such places of the shops are essential for their personal well being along with that of their employees, customers and the society at large.

In conclusion, it can be said that religious beliefs and practices still occupy a prominent place in small shop establishments even in modern times. The traders believe that pleasing their gods in traditional way is more important than any form of CSR activities for bringing good luck, fortune and profitability of their concerns.

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ACKNOWLEDGEMENT

The authors gratefully acknowledge the contribution in introducing such a beautiful concept for business research by the Chief Editor of Indian Journal of Accounting, **Prof. Umesh Holani.**

SIGNIFICANCE OF SHUBH LABH IN BOOKS OF ACCOUNTS: A CASE STUDY

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ABSTRACT

India is country where ritual and tradition played an important role in human life, they follows ritual & tradition according to their culture and religion, keeping in the mind, the importance of these ritual & tradition this study has been taken place in this regard the ultimate object of this study is to find out the significance of Shubh and Labh in Books of Accounts, for this purpose researchers used survey method followed by non-probability convenience sampling and found that there is a relevance of Shubh & Labh in Books of Accounts in the modern business as well.

Keywords: Shubh Laabh, Books of Accounts, Cultural, Business

INTRODUCTION

In our Indian culture there are many good Oman symbols are used like Swastika, OM, Shubh Labh etc, these terms are generally used at worshiping places or used occasionally like on marriage invitations cards or on deepawali greetings etc. Now the question arises that these terms have also found an important place in business? The answer is “Shubh & Labh”, these term have been written with swastika, especially at the time of maintaining accounts in red book.

BACKGROUND

The origin of Shubh Labh and Swastika

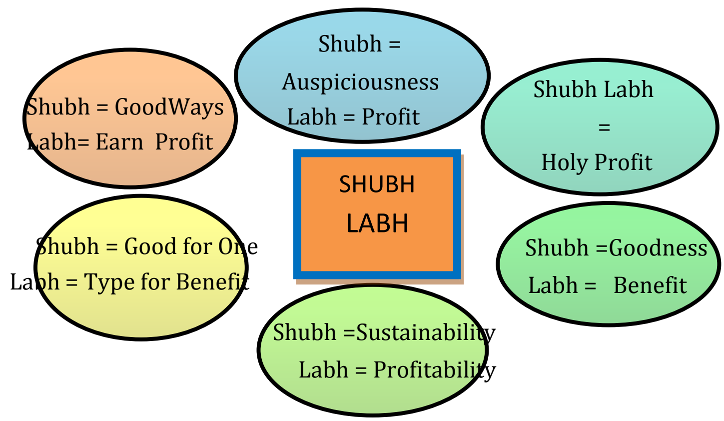
The word Swastika originates from the Sanskrit words su, which means well, and asti, intending to be. "Swasti" implies propitious, altruistic, a great deed or great wishes. The Swastika is viewed as promising and is painted on the entryways of houses in India toward off insidiousness spirits, its root about-faces to the 'Vedic times (4500-2500 B. C.), may be considerably prior.

In the ‘Siddharta Saar’ the hub of the Swastika has been described as the navel of Vishnu and the four lines as the four faces and four arms of Brahma. The Swastika is considered as a tantric symbol and is drawn in various stylized forms. It is a tradition to pray to it during religious festivals and auspicious occasions. During Diwali, the celebration of lights, and the monetary year-end for the Hindu specialists, new record books are opened and finished with the Swastika image and the words 'Shubh-Labh' ('Propitious Profit') beside it. Supplications to God are likewise held so that the goddess of riches, Lakshmi, will be kind.

Deeper Meanings of Shubh- Labh and Its Implications

In recent times there were many theories, which have tried to adjust the world/humans according to them. In reality, it should have been other way round, we need to rethink in terms of integrated human beings and design the system and world order in accordance, Dharma, Artha, Karma and Moksha are the four kind of human efforts. Purushartha implies endeavors which benefit a man. The aching for Dharma, Artha Kama and Mokshaare inborn in man of these four perspectives we have thought in an incorporated way. For advancement of society and humankind we need to imagine man as coordination of Body, Intelligence, Mind (or heart) and Soul. We have to comprehend the genuine way of people and make biological community than foster endeavors in every one of the four perspectives. Figure 1 shows various views which are interpretated as Shubh-Labh.

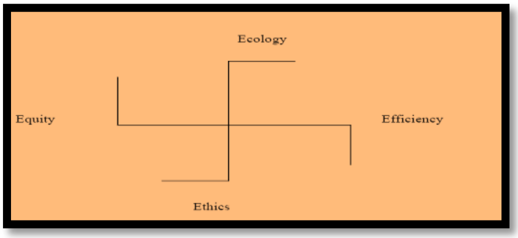
Figure 1: Different People have different thoughts regarding “Shubh & Labh”



REVIEW OF LITERATURE

Sharma (2002) explained the corporate model of Swastik. He explained the importance of CSR and Corporate Governance. He combined the 3 Ps and 4 Es in a noval form, where regards to People, Profit and Planet along with Equity, Ecology, Efficiency and Ethics is being presented.

Figure 2: 4E Model



Sharma (2005) explained the meaning of wealth generation where he has linked Dharma with the conduct of the business. The most important principle he has pointed is the ethical principle of Artha for any kind of Dharma, and thus resulted in the application of Shubh Laabh concept in the business activities. Furthermore, Sharma (2008) has also presented a view of management combining it with Vedic science. Sharma and Taneja (2013) explained that combination of Indian culture and management theories.

RESEARCH DESIGN

This study is based on descriptive research. Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does answer questions about how/when/why the characteristics occurred. The focus of this study was on significance of Shubh Labh in the books of Accounts.

SAMPLING DESIGN

Population: The population for this study is businessmen of Sanjay Place, Dayalbagh, New-Agra, and Raja Ki Mandi of Agra City because these are the prominent areas of modern & tradition business.

Sampling Technique: This study based on Survey Method followed by non-probability convenience sampling.

Sample Size: The sample size of this study is 57 Businessmen of Sanjay Place, Dayalbagh, New-Agra, and Raja Ki Mandi of Agra City out of entire population 127 which consists of 45% of the population.

Sources of Data: This study is based on primary source of data that was collected through interview.

ANALYSIS AND INTERPRETATION

This part is divided in to two phase, first phase is related to personal information of respondents and second phase is related to ultimate object of this study that is significance of Shubh Labh in Books of Accounts.

FIRST PHASE

Table 1: Gender Distribution of Businessmen

S.NO	GENDER	NO OF RESPONDENTS	PERCENTAGE
1	Male	48	84.21%
2	Female	9	15.79%
Total		**57**	**100**

The table1 indicates that out of the total respondents, 84.21% were male and 15.79% were female. Majority of the Businessmen are male.

Table 2: Educational Qualifications of Businessmen

S.NO	QUALIFICATION	NO OF RESPONDENTS	PERCENTAGE
1	School level	9	15.79%
2	Under Graduate	26	45.61%
3	Post Graduate	18	31.58%
4	Others	4	7.02%
Total		**57**	**100**

As we could see in table 2 that there are 15.79% businessmen who have school level education whereas 45.61% are graduates, 31.58% are postgraduates and 7.02% of them have completed other level of education like diploma.

Table 3: Age of Business

S.NO	AGE OF BUSINESS (In Yrs)	NO OF RESPONDENTS	PERCENTAGE
1	10-15	6	10.53%
2	15-30	19	33.33%
3	30-45	8	14.04%
4	45-60	22	38.60%
5	ABOVE 60	2	3.50%
Total		**57**	**100**

Table 3 indicates that there are 10.53% businessmen who lies in first category (10-15) where as 33.33% lies in second category (15-30), 14.04% in third category (30-45), 38.60% lies in forth category and 3.50% in fifth category (above 60). Majority of businessmen lies in forth category that is 45-60.

Table 4: Sales Turnover

S.NO	SALES TURNOVER (Financial Year 2014-2015)	NO OF RESPONDENTS	PERCENTAGE
1	Up to Rs. 25lakhs	7	12.28%
2	Rs. 25lakhs–Rs. 50 lakhs	28	49.12%
3	Above – Rs. 50 lakhs	22	38.60%
Total		**57**	**100**

According to table 4 we could see that there are 12.28% businessmen who lies in first category where as 49.12% lies in second (Rs. 25 lakhs - Rs. 50lakhs) and rest of them lies in last category. Majority of businessmen lies in second category.

SECOND PHASE: Significance of Shubh and Labh

Q1 Do you believe in ritual and traditions?

Table 5: Responses to Q1

Yes	No	Total Respondents
57	0	57

As we could see in table 5 that all respondents believed in ritual and tradition because as researchers earlier stated that this study is based on Convenience sampling, it is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher.

Q2 Do you believe to worship Deity, when you something new is done in business?

Table 6: Responses to Q2

Yes	No	Total Respondents
57	**0**	**57**

Table 6 indicates that there are 57 (100%) respondents who believe to do worship of deity when they do something new in business.

Q3 Do these rituals, tradition and worship played any role when you prepare Books of accounts? If yes, then how?

Yes, these ritual, tradition and worship played an important role when we prepare Books of accounts. Regarding this there are many views given by respondents, are as follows.

- Some respondents says that, Hindus on the day of Deepawali, when they worship goddess Lakshmi, they trace Swastika on their books of account and worship it when it is imagined in the form of Ganesha, One has to draw two lines on both sides, symbolic of Riddhi- Siddhi.
- Some persons write Shubh- labh instead of two lines along with Swastika.

Q4 Is there any relevance of writing Shubh & Labh in Books of Accounts? Or you just following these traditions just because of your forefathers were following.

Yes, there is a relevance of writing Shubh Labh in books of accounts in this regard there are following views.

- The word Shubh & Labh has a strong meaning that is, Shubh stands for auspicious/ good and Labh stands gain/ profit. Shubh Labh can thus termed as profit attained in a righteous manner e.g. profits accrued through the sale of appropriate goods to customers at appropriate prices (Sankar, 2010).
- Businessmen who trace Swatika on their books of accounts, draw two lines on both sides and also write Shubh & Labh as well, According to them two lines are the sign of Riddhi – Siddhi, Riddhi means Method & Intelligence. Siddhi means Spiritual Power & perfection. Where the meaning of Shubh Labh is Holy profit.

CONCLUSION

By above mentioned discussion, we can say that Ganesha and Riddhi lead to Shubh i.e. wisdom and knowledge will lead to auspiciousness. Ganesha and Siddhi leads to labh i.e. wisdom and spiritual power will lead to a profit. This is because for use of any knowledge or spiritual power, wisdom is needed otherwise destruction is imminent.

- Ganesha + Riddhi = Shubh
- Ganesha + Siddhi = Labh
- Wisdom + Knowledge = Auspiciousness
- Wisdom + Spiritual freedom = profit

Also it must be noted that lord Ganesha will not stay in your business for long time if a business man is not given a place.

Some businessmen write Shubh Labh in the expectation of making big profits. They simply pray to God for showering His blessings so that they may earn profits in their respect businesses. Some Indian business groups start their money related year on Dhanteras and do love of Laxmi and Ganesha. Individuals trust that LaxmiPooja is useful for riches and Ganesha love is for keeping the business free from hindrances and shades of malice consistently. Agents and businessperson closes old record books and open new record books on the Deepawali day. It can be concluded that term \`Shubh' is used with \`Labh' by the different Indian business communities from ancient age which is depicted from our \`Puran' or \`Grantha'. The thing which is \`Shubh' must be derived from the good belongings. It means if we use the Shubh Labh in business, it is always concerned with the profits that are to be earned from ethical business activities. Indian business community follows the old concept of carrying business that is Honesty is the best policy.

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ACKNOWLEDGEMENT

This research was supported by many respondents, some namely **Rajendra Bartan Store, Rajesh Bartan Store, Manish Paradise, Tushar Mangal- Shri Bhagwan & Co**. We are thankful for them who provided insight and expertise that greatly assisted the study.

Indian Journal of Accounting, Vol XLVII (2), December 2015, ISSN-0972-1479

CULTURAL AND SPIRITUAL CONVICTIONS OF ACCOUNTING

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ABSTRACT

Accounting historians has emerged as a new specialization in recent times. This branch of accounting endeavors to document origin of accounting and various traditions as well as values emerged with the development of business over a period of time. The broader objective of this branch is to keep a record of development of accounting tools and techniques and further keep the new generation abreast of accountancy about various conduct, customs and behavior developed over generation. People may have notions of that accounting was being spaced alongside industry revolution, but achieves of accounting are as old as civilization itself. The present study has attempted to throw some light on cultural and spiritual convictions of accounting.

Keywords: Cultural, Accountancy, Shubh-Laabh

INTRODUCTION

Western Stance

The seeds of accounting were mostly first sown in Babylonia and Egypt around 4000 BC that recorded transactions of payment of wages and taxes on clay tables. Historical evidences reveal that Egyptians used some form of accounting for their treasuries where gold and other valuables were kept. The in-charge of treasuries had to send day wise reports to their supervisors known as Wazirs and from their month wise reports were sent to the Kings. Babylonia was known as city of commerce and used accounting for trade. In Greece, accounting was used for apportioning the revenues received among treasuries maintaining total receipts, total payments and balance of financial transactions of various regions. Romans used memorandum or day book where in receipts and payments were recorded (700 BC to 400 AD).

Double entry book keeping was first published by Franciscan monk, Br. Luca Pacioli in 1494 CE. Luca Pacioli described the system in his book, 'The Collected Knowledge of Arithmetic, Geometry, Proportion and Proportionality'. This book is considered as the first book on double entry bookkeeping. However Pacioli did not claim that he was the inventor of double entry book-keeping but his book spread the knowledge of it. Mr Cotrugli had written about double entry system in 1456 in his book, 'Of Trading and the Perfect Trader' (Original title: Delia Mercature et del Mercante Perfetto). It was also believed that traders and bankers in Venice were using some concept of double entry book keeping a hundred years before Cotrugli wrote this book.

The advanced, formal bookkeeping calling developed in Scotland in 1854 when Queen Victoria allowed a Royal Charter to the Institute of Accountants in Glasgow, making the Profession of Chartered Accountant. The bookkeeping calling in twentieth century grew firstly around state prerequisites for money related articulation review and after that around Federal necessities made by Securities Acts went in 1933 and 1934.

Indian Chronicles

Some scholars believe that Indian merchants might have taken this knowledge of accounting and finance from their economic development and trade across the border. For instance, Alexander Hamilton F R S wrote 200 years ago; "We would remark that the Banias of India have been, from time immemorial, in possession of the method of book keeping by double entry and that Venice was the emporium of Indian commerce at the time at which (Pacioli, 2005) treatise appeared." It was known that the Bahi-khata system a precursor to Pacioli's double entry accounting (Kapadia, 1973). Bahi-khata system is wrongly referred as singly entry system in modern test books. Some states like Gujarat and Rajasthan in India are teaching this system at class XII level. This is also known as mahajani system or deshi-nama system. Under this accounting method; transactions are first entered the rokad-bahi and then posted into khata-bahi. A kaccha ankada (trial balance) is also prepared. This system also uses the concept of Jama (credit) and Udhar (debit) for maintaining the books of accounts.

No definite traces of date were found for development of the system of accounting in India yet it is commonly believed that Indian traders have been using this system since thousands of years. Accounting practices in India could be traced back to a period when twenty three centuries ago, Kautaliya (c. 350-275 BCE), a minister in Chandragupta's kingdom wrote a book, 'Arthashastra', described method of recording and maintain accounting records. Extensively, Kautilya's Arthshastra spreads bookkeeping standards and measures, part and obligations of bookkeepers and reviewers, the strategy of bookkeeping, examining and misrepresentation hazard administration, and the part of morals in overseeing money related exercises. He considered bookkeeping as a basic piece of financial aspects. Different kingdoms in India utilized his work until the fifteenth century AD i.e. prior to the pilgrim standard. The analyst found that the base of bookkeeping and monetary administration and financial improvement for social upliftment was started by Kautaliya in India.

OBJECTIVES

It was found that accounting in India enjoys a significant heritage. Indian accounting system differs from region to region, community to community and from business to business. To perceive various traditions and values that were considered as customs and habits of accounts, the researcher tried to document such behaviour for the future generation to get insights.

RESEARCH METHODOLOGY

For the purpose of this research, the researcher contacted 96 respondents through telephonic interview from Gujarat (46), Maharashtra (24) and Rajasthan (26) to accumulate information regarding their belief about accounting books and various poojas that they perform for their wellbeing. Looking further into the sample; 12 respondents were female and 84 were male. So far as the academic credentials of the respondents is concerned, 26 holds UG degree, 18 possesses PG, 24 carry professional degree and the rest 28 have mere high school level education. The sample encompasses 10 proprietary firms, 32 partnership firms, 44 private limited companies and 04 closely held public limited companies and 06 professional firms.

While conversating with senior business owners; the researcher got insight regarding maintaining their books of account and religious traditions.

RESULTS AND DISCUSSIONS

The interview helped in knowing that books of accounts are written in regional languages. Books are called Bahis. Bahis are hand stitched books of account. Traditionally books are bound with heavy red cloth; even the glue used is the old fashioned reddish glue, which has long lasting adhesive. Books have good quality white and light yellow colour papers (yellow colour represents colour of Laxmiji) that are folded. Some books have four folds and some have eight folds on papers. By tradition, the books of accounts are written with black ink only, which is permanent indelible and non washable, ever shining.

Also, it was found that it is considered to be sanctified too. It is believed that the accounts, being written with black colour ink, evils don’t dare to be around their business. Business transactions are recorded on one side of the paper. The handmade books were made to order to serve the customer’s individual needs. They were made taking into consideration the cultural practices of the merchants and had three special pages. The first page was left blank, while the second page was used for the pooja and the third page was for entering the ‘miti’ or the first entry on the New Year Day after the Laxmi pooja had taken place on the Diwali day.

Till now, the accounting year was calculated according to the Vikram Sawant era (Vikaram Samvat was established by King Vikramaditya of Ujjain, following his victory over the Sakas in 56 BC) and the New Year began with new book, which had been sanctified at the Diwali pooja / Chopda pujan / Sharda Pujan / Muharat. This pooja is a ritual when performed ledgers are opened by the business owner following a special prayer and worship before the idols of Lord Ganesha to remove all the obstacles from their way and Goddess Lakshmi, the goddess of wealth, to get their blessings. All the customary Vedic ceremonies are performed and every one of the lovers have a prosperous new year and there be a peace performing so as to during the time Chopda pujan. To start with, entrepreneur composes Subha (auspicious) and Labh (profit) inside their books of record. They draw Swastik and Shree Sava and Kumbh to invoke the two deities on the first page with red ink. Amrit, Shubh, Labh and Chal are considered to be auspicious Choghadia / muharat to start pooja. For sustainable growth, stable Lagnas like Vrashab and Sinh are selected for Diwali pooja.

Furthermore, it was added that Diwali has its own significance in Indian culture and in business commune. It is not all about new clothes, delicious sweets, bursting crackers and pooja at homes or temples. The worship of goddess Lakshmi is one occasions that is inseparable as part of the festivity on Diwali the last day of the year. This event is performed in all its earnestness by the conventional commercial establishments. People have their books of accounts worshiped as a part of the pooja. For the books of account used by the establishments are sacred and symbolise fair trade practices.

Moreover, the books of accounts are ordered in the month of Shravan and are procured during an auspicious time on Dhanteras day at the Labh muharat along with new kalam and ink. The books are formally handed over together with flowers, rice and kumkum and bounded in a red cloth. Even today, those who follow the standardised accounting year (1st April to 31st March), still, order their books to have them sanctified during the Diwali Laxmi pooja. Lakshmi Pooja consists of a combined pooja of five deities; Ganesha along with Riddhi and Siddhi (Wisdom) is worshiped at the beginning of every auspicious act as Vighnaharta (removed all obstacles); Goddess Lakshmi is worshiped in her three forms - Mahalakshmi (the goddess of wealth and money), Mahasaraswati (the goddess of books and learning), and Mahakali; Kuber (the treasurer of the gods) is also worshiped. Together they bless the business to earn wealth by fair means. The first business entry is miti that coincide with the Vikram Sawant year, the next day of Diwali.

It was added by one of the respondent that an exceptional sacrament for businesses known as Maha Pooja, was performed on Diwali time and new books of account are unwrapped and consecrated. Furthermore, business owners use this time to ponder over the past while looking ahead to new prospects for prosperity. It is believed that the goddess of wealth, visits the homes of devotees on this day, and devotees offer their devotions in welcoming goddess Laxmiji.

In addition to this, financial instruments' trading was associated with cultural beliefs. In fact, Mahurat trading and stock market trading activity for an hour on the auspicious occasion of Diwali is being observed since long time. This has step in from Gujarati culture (dominant people in Dalal Street).

On the contrary, the traditional conviction of maintaining books of accounts has transcended to books through computers and moreover business is required to keep their financial year starting from 1st April. Though traditional business houses come and buy a small book of account for the purpose of Pooja and write first transaction on New Year day. The downward slide in the sale of the account books has posed a threat to Munim. Old traditional Munim (accountants) are required to learn computer, accounting software and various other tools to maintain their livelihood. New generation patterns of beliefs have changed, and they now perform pooja of their computer on Dhanteras and Diwali. Business commune have accepted the changes in order to keep their business afloat.

Another point of view, marked by the interviewee that Lakshmi Pooja is performed, which is also known by the name of Chopda Poojan, as on this particular day, the sun enters his second course and passes by Libra, which is represented by the sign of balance. Thus the design of Libra has been suggested to be the sign for the balancing of the account books at the end of financial year.

CONCLUSION

Innovations in technology have influenced the way things are done in diverse domains where accounting is no exclusion. The conventional books are being swapped by computers. This has enforced the traditional accounting staff to get them acquainted with computing operations required in accounting. This is because information and communications technology fetches plenty of benefits to accounting. Indian corporate annual reports assure the needs of the global stakeholders. But on the other side Indian business personnel are still allied with its cultural pedigree as Indian Business set up is still linked with religious conviction. Business community acknowledges the changes; yet aspire to preserve the traditions and one of them is pooja for wellbeing of business and family during Diwali. It is considered as investing in next generation, a way to shift Indian values and culture as pooja is related with values conveyed by different symbols. For example, Swastik's fourfold dimension of performance of business from four different angels like economic, ethical, environmental and social contribution of busienss. Shree Sava represents the expansion pace of business. According to that affluence of the business will augment by twenty five percent in a year. Kalas is symbol of Kubar, the god of wealth. Laxmi along with Ganesha, Labh-Subh and Riddhi-Siddhi expresses the significance of doing business ethically and wisely. Dipak is an emblem that eliminates ignorance, and enlightens business, spreads knowledge, instils innovation and boosts creativity in business. Sugarcane and Gud implies sweetness in communication and relationship with all stakeholders so as to fulfil the expectations of various stakeholders. Though these icons have indispensable cultural value although now-a-days Diwali pooja is performed more as a ritual and its symbolic values spread the message for sustainable growth of business however regrettably its quintessence has been left behind.

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AN EMPIRICAL EVIDENCE OF HEDGING PERFORMANCE IN INDIAN COMMODITY DERIVATIVES MARKET

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ABSTRACT

Risk management and price discovery are the two main functions of futures market. The prime objective behind establishment of Futures markets was to enable companies and individuals to insure against the possible adverse effects of changes in interest and exchange rates. Futures were established to enable portfolio managers and other investors to insure against the possible adverse effects of changes in stock prices. Thus the main role of financial futures markets is the reduction of risk or 'hedging'. 'Hedging' has the significant role in stabilizing the market, realizing market efficiency and enabling minimization of risk and thus maximizing utility. This paper tries to evaluate the long term and short term co-integration in spot and future prices & estimate the hedge ratio and hedging effectiveness for select actively traded Indian commodity futures using selected models.

Keywords: Futures Market, Commodity Futures, Hedge Ratio, Hedging Effectiveness.

INTRODUCTION

The volatile financial market today has taken financial risk as centre point in every sphere of economic activity. Therefore, hedging of risk has become a very important concern worldwide. However, hedging is still an underutilized tool. International practices for hedging against commodity price risk involve both static and dynamic hedging techniques. In a static hedge, the physical commodity price is locked in by hedging in Futures market. This is irrespective of whether the commodity price increases or decreases, the underlying objective being protection against market risk.

In a dynamic hedge, judgmental positions are taken in Futures markets, taking into account particular assumptions on conceivable value developments in the physical business sector. This may rely on upon crucial variables of interest and supply that effect commodity costs. Dynamic hedge includes more serious danger as contrasted and a static support.

Supporting utilizing Futures Contracts includes distinguishing proof and evaluation of the hedge proportion (the proportion of the quantity of Futures gets, each on one unit of the underlying asset to be supported, as contrasted and one unit of the money asset that should be supported). The degree of unpredictability in Futures contract costs as contrasted and the instability in real money business sector costs should be learned alongside the connection between's the money cost and Futures cost. The count of the support proportion is all the more imperative in light of the danger of being under-supported or over-supported. A critical info in the supporting of danger is the ideal hedge proportion.

Numerous studies point out that the expected relationship between economic or financial variables may be better captured by a time varying parameter model rather than a fixed coefficient model. So the optimal hedge ratio can be a time varying rather than constant.

Thus, the role of hedging while using multiple risky assets, using Futures market for minimizing the risk of Spot market fluctuation has attracted considerable attention. The focus of current empirical financial research is on effective use of Futures contract in making hedging decisions and there is considerable amount of research being carried out to find optimal hedge ratio and improve the hedging effectiveness.

LITERATURE REVIEW

The relationship between the Futures and Spot costs is of awesome centrality to the individuals who wish to fence the value danger utilizing Futures contracts (Kumar and Shollapur, 2015). There is long haul equilibrium relationship between the Futures and Spot costs of all Commodities. The long-run causality flows from Futures market to the Spot market and not in the opposite direction in all Commodities. The Futures markets are able to meet their intended objectives of price discovery and hence aid in price risk hedging. As the price discovery process becomes more efficient, the hedgers in agricultural Commodities would start deriving greater benefits while managing the price risk.

The Optimal hedge ratio and hedging effectiveness provided by Futures contract has been researched extensively. Various estimation techniques have been developed for estimation of constant as well as dynamic hedge ratio, which is based on conditional distribution of covariance of Spot and Futures returns and conditional variances. Traditionally, the hedge ratio was considered to be ‘-1’, i.e., taking a position in Futures market which is equal in magnitude and opposite in sign to Spot market. If the movement of changes in Spot prices and Futures prices is same, then such a strategy eliminates the price risk. Such a perfect correlation between Spot and Futures prices is rarely observed in markets and hence there was a need felt for a better approach. Johnson (1960) came up with an approach called 'minimum variance hedge ratio (MVHR)'. The primary target of minimizing the danger was kept in place yet the idea of utility expansion (mean) was likewise brought. Danger was characterized as the change of profit for a two-asset supported position. Hedging effectiveness of Futures markets is one of the critical determinants of achievement of Futures contracts (Silber, 1985; Pennings and Meulenberg, 1997).

The Minimum-Variance Hedge Ratio (Benninga et al, 1983) has been suggested as slope coefficient of the OLS regression, for changes in Spot prices on changes in Futures prices. Many authors defined hedging effectiveness as the reduction in variances and considered utility function as risk minimization problem (Johnson, 1960, Ederington, 1979). However, Rolfo (1980) and Anderson and Danthine (1981) calculated optimal hedge ratio by maximizing traders' expected utility, which is determined by both expected return and variance of portfolio.

The use of regression for calculating the hedge ratio and hedging effectiveness has been criticized on mainly two grounds (Kumar et al, 2008). First, it is based on unconditional second moments, whereas the covariance and variance should be conditional because hedging decision made by any trader is based on all the information available at that time. Second, the estimates based on OLS regression is time invariant but the joint distribution of Spot and Futures prices may be time variant. In most of the markets, Spot and Futures prices are co-integrated in long-run (which is a necessary condition of market efficiency) application of vector autoregressive model (VAR) is also not appropriate. Estimation of constant hedge ratio through Vector Error Correction (VECM) Model, which considers the long run co-integration between Spot and Futures, is therefore widely used.

OBJECTIVES

- To identify long term and short term Co-integration in Spot and Future prices of selected Commodities.
- To estimate the hedge ratio and hedging effectiveness for select actively traded Indian commodity Futures using selected models.

RESEARCH METHODOLOGY

This paper investigates optimal hedge ratio and hedging effectiveness of 4 Non-agricultural (Crude Oil, Natural Gas, Gold, Nickel) Futures Contracts traded on Multi Commodity Exchange (MCX) in India using VECM Model. The data period considered in the analysis is from January 2010 to December 2014.

Data Sources

The study is based on secondary data i.e. Spot and Future prices of Crude oil, Natural gas, Copper, Nickel, Gold and Silver and has been collected from **www.mcx.com** and using Bloomberg database and for a period of 5 years from January 2010 to December 2014. The Commodities are selected based on most actively traded Commodities in terms of Volume. One month, two month and three months contract where trading volume is high are analysed.

Tools for Analysis

Model for Estimating Hedging Effectiveness and Hedge Ratio

Several models are used to estimate constant hedge ratio. The OLS, VAR and VECM models estimate constant hedge ratio. In this study, only VECM is used to estimate hedge ratio as many critics contradict the efficiency of OLS and VAR.

Test of Unit Root and Co Integration

Augmented Dickey Fuller model is used to test the presence of unit root. A unit root test helps in determining whether a time series data variable is stationary. The Augmented Dickey Fuller test is a well – known test that is used to check if the data points are stationary and as such has been used on the Spot and Future prices of Commodities. The data points were found to be stationary at first difference. In order to test the co-integration between Spot and Future prices, we used the Johansen's co-integration test. Johansen Co–integration is a statistical tool used to analyse time – series variables. Co-integration signifies when time series data points exhibit a similar or common stochastic drift. The study has tried to analyse the long term co integration in movement of Spot prices and Future prices of selected Commodities.

Vector Error Correction Model (VECM)

When Futures and Spot prices are co-integrated, return dynamics of the both prices can be modeled through vector error correction model. Vector error correction model specifications allow a long-run equilibrium error correction in prices in the conditional mean equations (Engle and Granger, 1987). Similar approach has been used to model short run relationship of co-integrated variables (Harris et al, 1995; Cheung and Fung, 1997; Ghosh, Saidi and Johnson, 1999).

RESULTS AND INTERPRETATION

Descriptive Statistics

Summary statistics of contract wise Spot and Future prices of four Commodities are provided in table numbers' 1 to 3. The rate of return as given by the mean is greater for the Spot markets than compared with Futures market under each category of contract except in the case of gold for three month Future contract.

Table 1: Descriptive Statistics for Spot and one month Future Contracts

	Crude Oil		Natural Gas		Gold		Nickel	
	Spot	**Future**	**Spot**	**Future**	**Spot**	**Future**	**Spot**	**Future**
Mean	0.003	0.003	0.002	0.002	0.005	0.00	0.02	0.02
Median	0.00	0.00	0.00	4.46E	0.04	0.00	0.01	0.01
Maximum	0.26	0.25	0.38	0.39	0.03	0.03	23.01	22.16
Minimum	-0.09	-0.09	-0.33	-0.28	-0.03	-0.04	-16.36	-14.93
Std. Dev.	0.035	0.03	0.058	0.05	0.09	0.01	3.25	3.05
Skewness	4.30	4.32	1.01	2.34	-0.13	-0.84	1.60	2.10
Kurtosis	35.37	37.13	30.86	34.82	6.06	11.09	35.23	36.63
Jarque-Bera	6502.37	7164.48	5298.74	6405.70	85.82	1000.67	6675.66	7129.46
Probability	0	0	0	0	0.04	0.16	0	0

Source: Author Compilation.

Table 2: Descriptive Statistics for Spot and two month Future Contracts

	Crude Oil		Natural Gas		Gold		Nickel	
	Spot	**Future**	**Spot**	**Future**	**Spot**	**Future**	**Spot**	**Future**
Mean	0.17	0.15	0.00	0.00	0.00	0.00	0.04	0.04
Median	0.02	0.021	0.00	-0.00	0.00	0.00	0.02	0.04
Maximum	26.05	26.13	0.33	0.34	0.04	0.03	12.17	13.28
Minimum	-7.58	-7.47	-0.29	-0.22	-0.05	-0.05	-8.37	-6.38
Std. Dev.	2.64	2.57	0.04	0.03	0.01	0.01	2.33	2.24
Skewness	4.92	5.80	1.02	2.96	-0.74	-0.67	0.86	1.72
Kurtosis	50.59	61.76	38.82	48.74	12.61	9.61	15.34	18.20
Jarque-Bera	29628.07	41780	19053.09	29483.75	2393.32	935.88	1226.76	1769.57
Probability	0	0	0	0.00	0.00	0	0.00	0.00

Source: Author Compilation.

Table 3: Descriptive Statistics for Spot and three month Future Contracts

	Crude Oil		Natural Gas		Gold		Nickel	
	Spot	**Future**	**Spot**	**Future**	**Spot**	**Future**	**Spot**	**Future**
Mean	0.11	0.10	0.05	0.02	0.12	0.12	0.01	0.02
Median	0.02	0.02	0.00	-0.03	0.08	0.04	0.03	0.00
Maximum	27.31	29.37	29.52	34.14	12.29	12.36	22.01	22.56
Minimum	-7.60	-6.34	-29.51	-20.58	-7.68	-6.79	-12.70	-10.02
Std. Dev.	2.36	2.35	3.56	3.13	1.34	1.32	2.22	2.09
Skewness	5.15	7.27	0.17	3.37	2.32	2.48	2.45	3.62
Kurtosis	59.89	90.17	49.99	60.43	41.97	42.79	44.77	52.70
Jarque-Bera	57552.8	13625.2	49088.18	63270.79	36809.23	41746.96	34159.47	45618.06
Probability	0	0	0	0	0.16	0.07	0	0

Source: Author Compilation.

The volatility as given by the standard deviation is higher for far away contracts as compared to near month contracts. Natural gas and Crude oil have a highly volatile Future and Spot market as compared to other commodity. The measure of Skewness indicates that none of the data points are symmetric with the exception of Natural Gas one month and two month Spot where in the data points lie within +/- 1 and are moderately skewed. The kurtosis data points for all data series lies above three which indicates leptokurtic behavior of the data series featuring sharper peaks longer and fatter tails on both the ends.

The Jarque - Bera test is used to test the normality of the data series. The null hypothesis for the test is given as H_0 all the data series are normally distributed. As it can be observed from the above tables and it reject the null hypothesis. Hence, indicating that the data series aren't normally distributed.

Unit root test

A unit root test helps in determining whether a time series data variable is stationary. The Augmented Dickey Fuller test is a well – known test that is used to check if the data points are stationary and as such has been used on the closing prices of all the indexes. It is found that for all the Commodities, Spot prices, one month Future prices, two month Future prices and three month Future price series have unit root and return series are stationary. That means the data points were found to be stationary at first difference.

Johansen test for co-integration

The Johansen test for co-integration tries to establish the presence of co integrating relationship between contract wise Spot and Future prices. The contract wise results of the test are summarized in table 4, 5 and 6. This tries to find the number of co integrating equations. Here the test is try to determine the long term association and causal relationship between the Spot and Future markets.

Table 4: Johansen test for Co integration (Spot and Futures), One month contract

Commodity	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value	Probability*
Crude Oil	None	0.33	78.04	15.49	0
	At most 1	0.19	26.99	3.08	0
Natural Gas	None	0.35	76.48	15.49	0
	At most 1	0.17	23.46	3.84	0
Nickel	None	0.31	67.76	15.49	0
	At most 1	0.16	21.77	3.84	0
Gold	None	0.31	51.92	15.49	0
	At most 1	0.13	14.92	3.84	0.01

Source: Author Compilation, Note: * denotes rejection of hypothesis at 5 percent significance

The presence of co integrating equations also supports the fact that there exists a causal relationship between both the markets throughout different contract durations. A strong association and causal relationship between Spot and Future market also facilitates better and efficient hedging opportunities.

Table 5: Johansen test for Co integration (Spot and Futures), Two month contract

Commodity	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value	Prob.*
Crude Oil	None	0.32	141.32	15.49	0.00
	At most 1	0.16	44.83	3.84	0
Natural Gas	None	0.27	119.81	15.49	0.00
	At most 1	0.14	39.20	3.84	0
Nickel	None	0.38	64.71	15.49	0
	At most 1	0.17	18.58	3.84	0.00
Gold	None	0.29	107.40	15.49	0.00
	At most 1	0.12	29.29	3.84	0.00

Source: Author Compilation, Note: * denotes rejection of hypothesis at 5 percent significance

Table 6: Johansen test for co integration (Spot and Futures), Three month contract

Commodity	Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value	Prob.*
Crude Oil	None	0.32	212.46	15.49	0.00
	At most 1	0.16	66.84	3.84	0
Natural Gas	None	0.29	183.16	15.49	0.00
	At most 1	0.16	62.18	3.84	0
Nickel	None	0.32	210.46	15.49	0.00
	At most 1	0.16	65.41	3.84	0
Gold	None	0.34	148.07	15.49	6.25E
	At most 1	0.15	44.32	3.84	0.00

Source: Author Compilation, Note: * denotes rejection of hypothesis at 5 percent significance

The above tables' highlight that the prices of Spot and Future for one month contract, two month contract and three month contract for all the four Commodities are co-integrated and hence exhibit a long term equilibrium and causal relationship. It is a very important characteristic that when prices are trending either upward or downward they exhibit a co related movement in their prices. It can also be noted that irrespective of the duration of the contract the prices move in a co integrated and manner. If such a relationship isn't observed among both the data series, the efficiency of Futures market in providing a hedging platform decreases.

Vector Error Correction Model

The Johansen test helps us in understanding the association and long term trends in movement among both the markets. The Vector error correction model helps in analyzing the short run causality between both the markets. It explains the direction and significance of long run and short run causality that each market can have on one another. The error correction mechanism between both the markets helps in maintaining the prices of both the markets at equilibrium. The results are shown below in Tables 7, 8, and 9.

Table 7: Estimates of Vector Correction Model- One month contract

Commodity	Crude Oil	Natural Gas	Gold	Nickel
Cs	-0.77072*	-1.49003*	-1.70665*	-1.10137*
$s_{,t-1}$	-0.04265	0.032577	0.228172	-0.2154
$S_{,t-2}$	-0.04796	-0.08225	-0.03294	-0.18839
$f_{,t-1}$	0.170745*	-0.76845*	-0.70411*	-0.47897*
$f_{,t-2}$	-0.00526*	-0.26785*	-0.22496*	-0.12961*
constant	-2.3218	-0.00046	-0.000005	0.008362

Source: Author Compilation, Note: * indicates rejection of null hypothesis at 5 percent.

Table 8: Estimates of Vector Correction Model - Two Month Contract

Commodity	Crude Oil	Natural Gas	Gold	Nickel
Cs	-0.98052*	-1.14382*	-1.73951*	-1.75144*
$s_{,t-1}$	-0.07245	-0.15046	0.221629	0.240022
$S_{,t-2}$	-0.04154	-0.16519	-0.03149	0.003672
$f_{,t-1}$	0.1778*	-0.50856*	-0.74357*	-0.81562*
$f_{,t-2}$	-0.0153*	-0.17103*	-0.23314*	-0.25992
constant	-2.711	0.0176	-0.00034	0.028782

Source: Author Compilation, Note: * indicates rejection of null hypothesis at 5 percent.

Table 9: Estimates of Vector Correction Model - Three Month Contract

Commodity	Crude Oil	Natural Gas	Gold	Nickel
Cs	-0.77072*	-0.164898*	-1.71334*	-1.51355*
$S_{,t-1}$	-0.04265	0.120651	0.222702	0.078529
$S_{,t-2}$	-0.04796	0.063554	-0.08265	-0.09386
$f_{,t-1}$	0.170745*	0.143312*	-0.78534*	-0.73547*
$f_{,t-2}$	-0.00526*	0.084349*	-0.23269*	-0.20762
constant	-2.3218	0.180127	0.003224	0.005095

Source: Author Compilation, Note: * indicates rejection of null hypothesis at 5 percent.

The above tables explain the co-efficient of VECM model with the Future market as dependant variable and the Spot market as explanatory variable. Hedging always takes place in the Futures market with perspective from the Spot market hence we are trying to understand the causality between both the markets.

It can be observed from the table 7, 8 and 9 that the error co-efficient is negatively significant for all the Commodities across all contracts. This shows that is long term error correction flowing from the Spot market to the Futures market. This finding further substantiates our findings from the co-integration test that there must be at least one long term causal relationship in one direction. Here the long term causal relationship is flowing from the Spot markets to the Futures market.

The tables shows that S_{t-1} and S_{t-2} is not significant for any of the Commodities across all the contracts, which signifies that there exist no short run causal relationship between the Spot and Future prices. It implies that Future prices in the short run move independently of Spot prices. In such cases the hedging of risks and volatilities from Spot market to Future market is very difficult as it is not possible to establish any short run causal relationship between both the markets and hence the hedging won't be effective or provide for optimal risk coverage. It can be observed that F_{t-1} is significant across all the Commodities for all the contracts which explain that Future one lag returns influence the present day Future prices. Similarly it can also be observed that F_{t-2} is significant for all the Commodities except for nickel in two month and three month contract.

The following error correction variables are explained as:

$S_{,t-1}$	: Spot one day lag
$S_{,t-2}$	: Spot two day lag
$f_{,t-1}$	: Future one day lag
$f_{,t-2}$	: Future two day lag

Table 10: Hedge ratio and hedging effectiveness – Two month contract

	Covar (Spot, Future)	Variance (Spot)	Variance (Future)	Hedge Ratio	Variance (Hedged)	Variance (Unhedged)	Hedging Effectiveness
Crude oil	0.33	2.77	1.76	0.17	2.65	2.77	0.03
Natural Gas	0.30	7.54	4.12	0.14	7.78	7.54	-0.00
Gold	0.37	0.98	1.05	0.31	0.88	0.98	0.09
Nickel	1.20	2.61	2.12	0.78	2.46	2.61	0.15

Source: Author Compilation.

In can be summarized that exist a strong unidirectional causality flowing from the Spot markets to the Future markets in the long run. However there exists no causality between Spot and Futures in the short run. It can also be inferred that Spot markets factor in new information and pass on the same to the Futures market in the long, however Futures market in the short run are affected by its own previous movements. It can also be observed that the long run causality as captured by Crude oil contracts gets stronger in the near month and then weakens in the far away month.

The optimal hedge ratio and hedge effectiveness for all Commodities for next to near month contract are presented in table 10. Two month contracts have optimal hedge ratios in the range of 0.14 to 0.78, the lowest being of Natural gas and the highest being of Nickel. It can be observed that Natural Gas doesn't provide an optimal hedging opportunity in the short run given the volatility in global crude oil prices. Nickel however provides a hedging effectiveness of 15 percent followed by gold at 9 percent.

The optimal hedge ratio and hedge effectiveness for all Commodities for far away contract are presented in table 10 and 11. Three month contracts have an optimal hedge ratio in the range of 0.14 to 0.78, the lowest being of Natural gas and the highest being of Nickel. It can be observed that Natural Gas doesn't provide an optimal hedging opportunity in the short run given the volatility in global crude oil prices. Nickel however provides a hedging effectiveness of 14 percent followed by gold at 10 percent.

Table 10: Hedge ratio and hedging effectiveness – Three month contract

	Covariance (Spot, Future)	Variance (Spot)	Variance (Future)	Hedge Ratio	Variance (Hedged)	Variance (Unhedged)	Hedging Effectiveness
Crude oil	0.23	2.72	1.72	0.17	2.63	2.72	0.03
Natural Gas	0.30	6.75	4.02	0.14	6.85	6.75	-0.00
Gold	0.38	1.04	1.07	0.33	0.93	1.04	0.10
Nickel	1.22	2.69	2.21	0.78	2.46	2.69	0.14

Source: Author Compilation.

CONCLUSIONS

The inherent purpose of structured products aims in mitigating risk, transferring risk, efficient price discovery among others. This paper has tried to study the linkages and co-integrated movement in commodity prices and its implications on the hedge ratio and hedging efficiency comprising of four Commodities. The findings indicate a strong co-integration in the movement of Spot and Future prices indicating a long run synchronized movement in prices. The paper also identifies a long term equilibrium relationship between Future and Spot prices. In the short run there exists unidirectional causality among different Commodities. It is also found that Indian commodity derivatives market serves the purpose of risk transfer by aiding in efficient hedging opportunities. The efficient hedge ratio is found to be in the range of 0.14 to 0.78. It was also found that crude oil could provide an efficient hedging ratio which can be attributed to the volatility in global crude oil prices. Nickel provided a hedging efficiency of 14 percent across different contracts.India has witnessed a tremendous growth path in organized Commodities market; however still a lot more needs to be done.

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SOCIAL DISCLOSURE PRACTICES: A STUDY OF INDIAN CORPORATES

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ABSTRACT

Corporate social responsibility can be defined as continuous commitment of corporations towards social and economic well being of society in which it operates. The concept has gained a lot of importance due to immense growth witnessed in corporate sector in last few decades. The basic aim of the paper is to examine social disclosure practices of 22 Indian manufacturing units belonging to different industries. The data has been collected from secondary sources. The study is based on 18 voluntary items of Corporate Social Disclosure Index. The social disclosure practices have been examined corresponding to years 2008-09 and 2013-14 which represent negative and positive sentiments of market respectively. It has been empirically tested whether there is any significant difference in social disclosure scores of companies with regard to market sentiments.

Keywords: CSR, industry, manufacturing units, CSDI

INTRODUCTION

Corporate Social Responsibility, in simpler terms, refers to responsibility of company towards the society in which it is operating. It has become an integral part of corporate sector as a result of increasing awareness among people about environmental, social and ethical issues. Business concerns should think beyond their profit motive and towards welfare of society as a whole for their long term survival. The operations of companies have impact on society so it becomes necessary that companies must perform and report on social activities.

The concept of Corporate Social Responsibility has gained momentum with the advent of new rules and regulations. From philanthrophic activity, it has become mandatory activity. Companies Act, 2013 made it compulsory for certain companies to spend two per cent of their average net profits of preceding three years in social activities defined in Schedule VII of the Act. The following companies are covered under the Act-

(i) Companies having net worth of INR 500 crore or more

OR

(ii) Companies having turnover of INR 1000 crore or more

OR

(iii) Companies having net profit of INR 5 crore or more

Companies (Corporate Social Responsibility policy) Rules, 2014 notified on 27th Feb, 2014 made certain amendments in Schedule VII of the Act and defined a new list of social activities. It has issued format on CSR activities to be included in annual reports as part of Board's report.

REVIEW OF LITERATURE

The present study reviewed the work of Gelb and Strawser (2001), whose study explained positive association between disclosure level and corporate social responsibility. This relationship was tested by taking AIMR reports and CSR ratings provided by CEP. Furthermore, Kuasirikun and Sherer (2004) evaluated social and environmental disclosure practices of 54 and 65 companies for the year 1993 and 1999 respectively listed on Stock Exchange of Thailand (SET) based on annual reports. The study found reduction in volume and type of CSR disclosures in 1999 compared to 1993. The disclosures were in narrative form in both the years. The study of Mirfazli (2008) evaluated corporate social disclosures practices of 16 listed companies (5 high profile and 11 low profile) based on the annual reports for the year 2004. The study found maximum disclosures in case of labour category in both groups of companies. However, there was significant difference in disclosure practices of high profile and low profile companies.

The economic responsibility is an important indegrient in consumers' retention (Ramasamy and Yeung, 2009). Burcea and Marinescu (2011) examined perception of 400 students of Faculty of Administration and Business of Romanian University at the academic level. Based on questionnaire, it was found that most of the students gave importance to CSR at the academic level. Furthermore, the study of Masud and Hossain (2012) found that the disclosure of CSR activities are not according to Finance Act, 2010, also only financial aspects were disclosed in MD's message in the report. Same results were revealed by the study of Chek et al (2013) examined the annual reports of 154 listed Malaysian companies belonging to consumer products and plantation industries to study corporate disclosure practices for the year 2009. The study found low level of social disclosures in most of the companies.

Most of the studies on CSR relate to foreign countries and that too for a particular year only. There is dearth of studies relating to CSR in India. Morever, researchers have made little attempt in analyzing whether disclosure practices differ with regard to market sentiments. To fill the gap, present study titled "Social Disclosure Practices: A Study of Indian corporates" has been conducted.

OBJECTIVES OF THE STUDY

- To examine item wise, company wise and industry wise corporate social disclosure practices of selected companies.
- To examine whether there is any significant difference in mean social disclosure scores of companies in 2008-09 and 2013-14 corresponding to market sentiments.

RESEARCH METHODOLOGY

The study examines the social disclosure practices of 22 manufacturing companies belonging to four industries namely consumer goods, pharmaceuticals, industrial manufacturing and energy. The companies have been selected from CNX 100 index of NSE. The study relates to year 2008-09 that represents negative sentiments of the market due to recession and 2013-14 that represents positive sentiments of the market. Corporate social disclosure index (CSDI) consisting of 18 voluntary items has been constructed for the purpose of study. The data has been collected from secondary sources such as annual reports, CSR reports, web sites, journals etc. The data has been analyzed using content analysis, graphs and paired t-test. If an item is disclosed, '1' has been assigned and if an item is not disclosed, '0' has been assigned.

$$\text{Percent of disclosure of an item} = \frac{\text{Number of companies disclosing a particular item}}{\text{Total number of companies in sample}} \times 100$$

Item Wise Disclosure by Selected Companies

Table 1 reveals that disclosure scores of 17 out of 18 items increased in year 2013-14 as compared to 2008-09. 'Training and development programs (95.45 per cent)' was highest disclosed item in 2008-09 while in 2013-14, the highest disclosure was found for items namely 'Support for public health (95.45 per cent)', 'Health and safety at work place (95.45 per cent)' and 'Training and development programs (95.45 per cent)'. On the other hand, 'Meeting customer complaints and redressal cells (4.55 per cent) and 'Adherence to GRI sustainability reporting guidelines' (4.55 per cent) were least disclosed items in 2008-09. In 2013-14, 'Adherence to GRI sustainability reporting guidelines' (9.09 per cent)' remained least disclosed item. Moreover, disclosure relating to 'Infrastructure Development' remained constant in both years. Further, the highest variation was found in items namely 'Meeting customer complaints and redressal cells (CV=70.71)' followed by 'Diversity in Workforce (CV=64.28) and 'Water Management (CV=50.51).

Company Wise Disclosure Scores

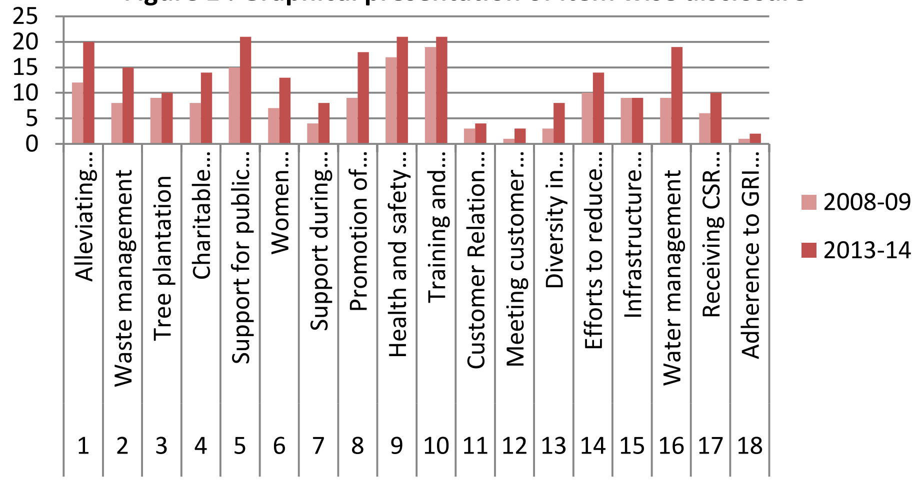
Disclosure Scores of companies were categorized as low (less than 6), medium (6 to 12) and high (more than 6). It has been observed that disclosure scores of 20 out of 22 companies improved in 2013-14 as compared to 2008-09.

Table 1: Item wise disclosure by selected companies

	Items	2008-09	2013-14	Standard Deviation	Mean	CV
1	Alleviating Environment Pollution	12 (54.55)	20 (90.91)	5.66	16	35.36
2	Waste Management	8 (36.36)	15 (68.18)	4.95	11.5	43.04
3	Tree Plantation	9 (40.91)	10 (45.45)	0.71	9.5	7.443
4	Charitable Donation & Activities	8 (36.36)	14 (63.64)	4.24	11	38.57
5	Support for Public Health	15 (68.18)	21 (95.45)	4.24	18	23.57
6	Women Empowerment	7 (31.82)	13 (59.09)	4.24	10	42.43
7	Support during Natural Calamty	4 (18.18)	8 (36.36)	2.83	6	47.14
8	Promotion of Education	9 (40.91)	18 (81.82)	6.36	13.5	47.14
9	Health & Safety at Work Place	17 (77.27)	21 (95.45)	2.83	19	14.89
10	Training & Develop. Programs	19 (86.36)	21 (95.45)	1.41	20	7.071
11	Customer Relation & Feedback Mechanism	3 (13.64)	4 (18.18)	0.71	3.5	20.2
12	Meeting Customer Complaints and Redressal Cells	1(4.55)	3 (13.64)	1.41	2	70.71
13	Diversity in Workforce	3 (13.64)	8 (36.36)	3.54	5.5	64.28
14	Efforts to Reduce CO Emission	10 (45.45)	14 (63.64)	2.83	12	23.57
15	Infrastructure Development	9 (40.91)	9 (40.91)	0.00	9	0
16	Water Management	9 (40.91)	19 (86.36)	7.07	14	50.51
17	Receiving CSR Awards	6 (27.27)	10 (45.45)	2.83	8	35.36
18	Adherence to GRI Sustainability Reporting Guidelines	1 (4.55)	2 (9.09)	0.71	1.5	47.14

Note: Figures in parenthesis shows percentage of disclosure scores

Figure 1 : Graphical presentation of item wise disclosure

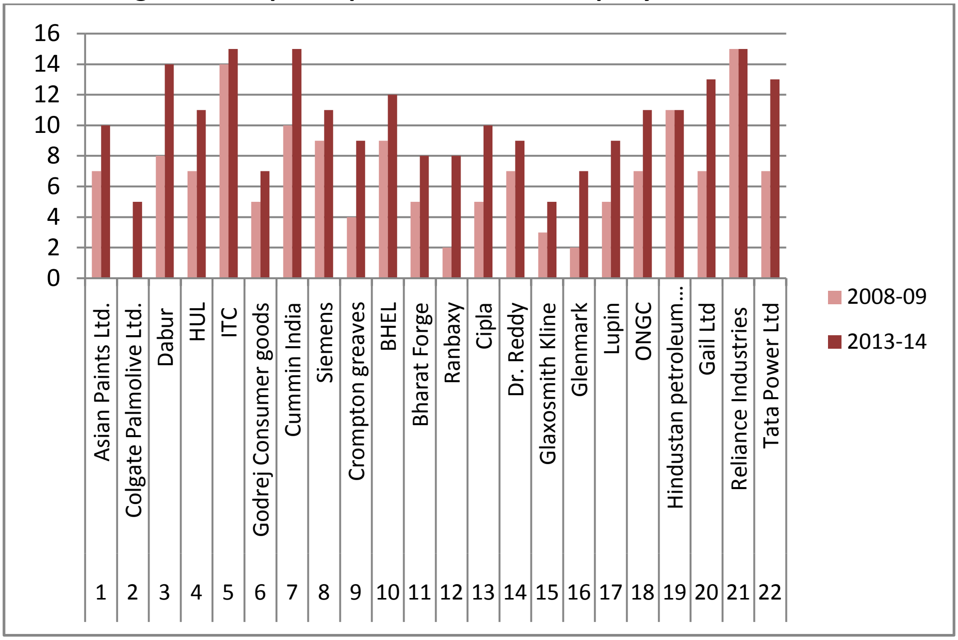


The number of companies having high disclosures scores increased from 2 to 6. On the contrary, number of companies with low disclosures declined sharply from 9 in 2008-09 to 2 in 2013-14. Figure 2 reveals that in 2008-09, Reliance Industries Ltd. had highest disclosure scores followed by ITC Ltd., while the highest disclosures were found for three companies namely Reliance Industries Ltd., ITC Ltd. and Cummin India Ltd. in 2013-14. Colgate Palmotive Ltd. had no disclosures in 2008-09. In 2013-14, lowest disclosure scores were found for 'Colgate Palmolive Ltd.' and 'Glaxosmith Kline Ltd., though disclosure scores of both the companies increased in 2013-14 as compared to 2008-09.

Table 2: Disclosure Scores of Companies

Disclosure scores	2008-09		2013-14	
	Number of companies disclosing	Percentage of companies disclosing	Number of companies disclosing	Percentage of companies disclosing
Low (Less than 6)	9	40.91	2	9.09
Medium (6 to 12)	11	50.00	16	72.73
High (More than 12)	2	9.09	4	18.18

Figure 2: Graphical presentation of company wise disclosure



Industry Wise Disclosure

Table 3 depicts that mean disclosure scores of all industries improved in 2013-14 as compared to 2008-09. The highest disclosures were found in case of Energy industry and lowest in case of Pharmaceutical industry in both the years. Further, results of paired t-test reveal that there was significant difference in mean disclosure scores of all industries in 2013-14 as compared to 2008-09 except Energy industry where no significant difference was found.

Table 3: Industry wise disclosure

Industry	Number of companies	Mean Scores		Paired t-test		
		2008-09	2013-14	t value	df	p value
Consumer Goods	6	6.83	10.33	-4.58	5	0.006*
Industrial Manufacturing	5	7.4	11	-6	4	0.004*
Pharmaceuticals	6	4	8	-5.85	5	0.002*
Energy	5	9.4	12.6	-2.35	4	0.078

*Significant at 1 per cent level of significance

Social disclosure scores of companies in 2008-09 and 2013-14

It has been empirically tested whether there is any significant difference in mean disclosure scores of companies in 2008-09 and 2013-14 using paired t-test. Normality of data has been checked by applying Shapiro-Wilk Test.

H_0= Data is normally distributed in both the years i.e. 2008-09 and 2013-14.

Table 4: Normality Statistics

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	p	Statistic	df	p
2008-09	.15	22	.16	.96	22	.53
2013-14	.09	22	.20*	.95	22	.41

The results of normality test are not significant at 1 per cent level of significance, so H_0 stands not rejected. Thus, it can be concluded that data is normally distributed in both the years i.e. 2008-09 and 2013-14.

Paired t-test

H_0= There is no significant difference in mean disclosure scores of companies in year 2008-09 and 2013-14. (*Significant at 1 per cent level of significance)

Table 5: Paired Differences Statistics

	Mean	Std. Dev	Std. Erro	95% Conf. Interval of the Diff.		t	df	p-value
				Lower	Upper			
Pair1 2008-09 - 2013-14	-3.59	1.91	.40	-4.44	-2.74	-8.77	21	.00*

The results of paired t-test reveal that there is significant difference in mean social disclosure scores of companies corresponding to years 2008-09 and 2013-14 respectively. So, H_0 stands rejected. The mean social disclosure scores of companies in year 2013-14 (m=10.36) are significantly higher as compared to year 2008-09 (m=6.77).

CONCLUSION

It is concluded that social disclosure scores of most of the companies have improved in the year 2013-14 as compared to 2008-09. Training and development program was highest disclosed item in both the years which showed concern of companies for their human resources. 'Health and safety at work place' and 'Support for public health' also gained considerable attention of companies in 2013-14. 'Adherence to GRI sustainability reporting guidelines' had low disclosure in both the years. The disclosure scores of Reliance Industries Ltd. remained constant in both the years which highlighted the fact that market sentiments didn't influence its social disclosures. Energy industry showed highest disclosures while Pharmaceutical industry showed low disclosures in both the years. Further, it was found that social disclosures were narrative for most of the companies and were part of annual report. However, ITC Ltd. (Consumer Goods company) had separate sustainability report and made monetary disclosures of its social responsibility expenditure. Further, disclosure scores in 2013-14 (positive market sentiments) were significantly higher as compared to disclosure scores in 2008-09 (negative market sentiments).

Limitations of the study

The study involves analysis of social disclosure practices of large manufacturing companies only. Small and medium size companies were not included. The study was limited to two years only. Further, the findings of the study were based on disclosure of 18 items of corporate social disclosure index.

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AN EMPIRICAL STUDY OF RELATIONSHIP BETWEEN SPOT PRICE AND FUTURE PRICE OF SILVER IN MCX

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ABSTRACT

As the review of literature suggests that Indian Commodity markets carry a great potential for future research, thus the study was specifically aimed at understanding the relationship between spot price and future price of Silver. The relationship between Spot price and Future price, besides carrying its own intricacies, further becomes more complicated so far as a commodity like Silver is considered as it has also its charisma to have impact upon the relationship, which is different from Gold and Diamond.The data from MCX Year Books have been used, which is pertaining to period from April 2004 to December 2010. While MCX has stopped publishing Year Books now, Year Book 2011 being the last publication carrying data for the aforesaid period, the idea is here to use the same data, polished and smoothened by MCX only. Approach to this study was towards the understanding of the relationship using Non-stationary data initially and next to that, the data would be converted to Stationary and relationship would further examined. Models used in this analysis are Correlation and Regression only. It was found that though initially the relationship between Spot price and Future price for Silver was close and direct Correlation with the Non-stationary data but the closeness was lesser when the data changed to Stationary.

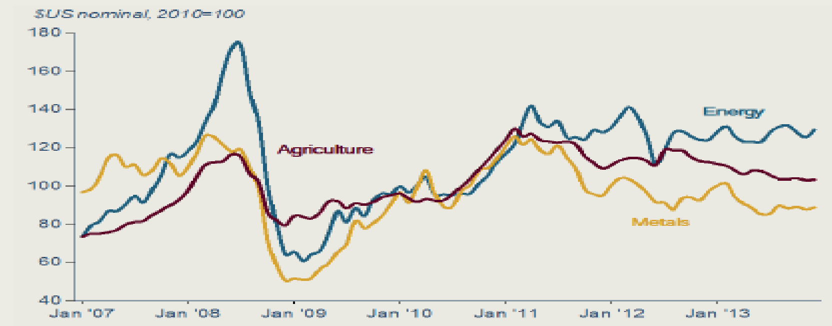
Keywords: Metals, Industry Metals, Silver, Spot Price, Future Price, MCX

INTRODUCTION

World Commodity Market

As per the Commodity Markets Outlook (January 2014 Edition from World Bank), with the exception of energy, all the key commodity price indices declined significantly in 2013. Fertilizer prices led the decline, down 17.4 percent from 2012, followed by precious metals (down almost 17%), agriculture (-7.2%), and metals (-5.5%). Crude oil prices (World Bank Average), which have been remarkably stable during the past three years averaged $104/barrel (bbl) during 2013, marginally lower than $105/barrel average of 2012. Most non-energy commodity prices, notably grains, followed a downward path during 2013.

Figure 1: Key Price Indices



Source: World Bank.

Table 1: Key Nominal Price Indices

	ACTUAL					FORECAST		CHANGE (%)		
	2009	2010	2011	2012	2013	2014	2015	2012/13	2013/14	2014/15
Energy	80	100	129	128	127	127	124	-0.1	-0.1	-2.6
Non-Energy	83	100	120	110	102	99	99	-7.2	-2.6	-0.2
Metals	68	100	113	96	91	89	90	-5.5	-1.7	1.1
Agriculture	89	100	122	114	106	104	103	-7.2	-2.5	-0.6
Food	93	100	123	124	116	111	110	-7.1	-3.7	-1.4
Grains	99	100	138	141	128	116	117	-9.3	-9.8	0.8
Fats and oils	90	100	121	126	116	116	113	-8.1	0.5	-3.2
Other food	90	100	111	107	104	101	100	-3.0	-3.1	-0.8
Beverages	86	100	116	93	83	82	82	-10.1	-2.0	0.4
Raw Materials	83	100	122	101	95	96	97	-5.9	0.9	1.1
Fertilizers	105	100	143	138	114	100	99	-17.4	-11.7	-1.4
Precious metals	78	100	136	138	115	100	98	-16.9	-13.1	-1.8
Memorandum items										
Crude oil ($/bbl)	62	79	104	105	104	103	100	-0.9	-0.6	-3.5
Gold ($/toz)	973	1225	1,569	1,670	1,412	1,220	1,200	-15.4	-13.6	-1.6

Source: World Bank.

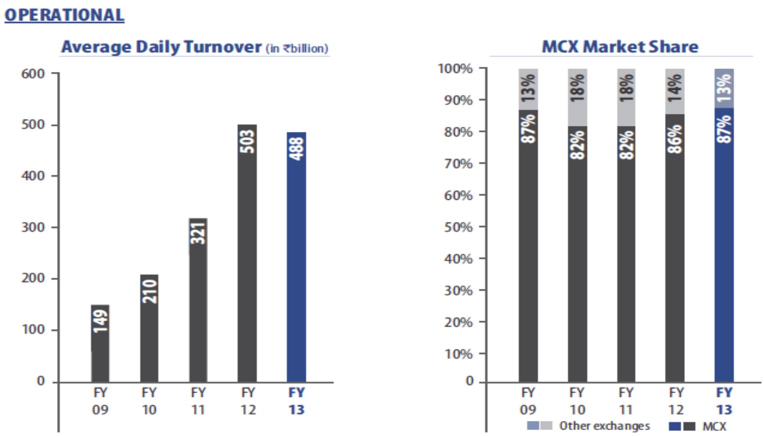
The report says further that in the baseline scenario, which assumes no macroeconomic shocks or supply disruptions, oil prices are expected to average $103/bbl in 2014, just 1% lower than the 2013 (refer table above). Natural gas prices in the US are expected to increase due to stronger demand from energy intensive industries that are moving to the US to take advantage of the "energy dividend". Metal prices have declined by almost 2% in 2013-14, but are expected to increase by close to 1% in 2014-15.

Indian Commodity Market

Indian commodity market has been divided into two segments i.e. regional and country wide. Regional Exchanges have limited contracts with local membership. On the other hand, Country Wide exchanges include large commodities which can be traded and be dealt with. The transactions are in deal form. Currently, there are three such exchanges, viz., MCX (Multi Commodity Exchange), NMCE (National Multi Commodity Exchange) and NCDEX (National Commodities and Derivatives Exchange).

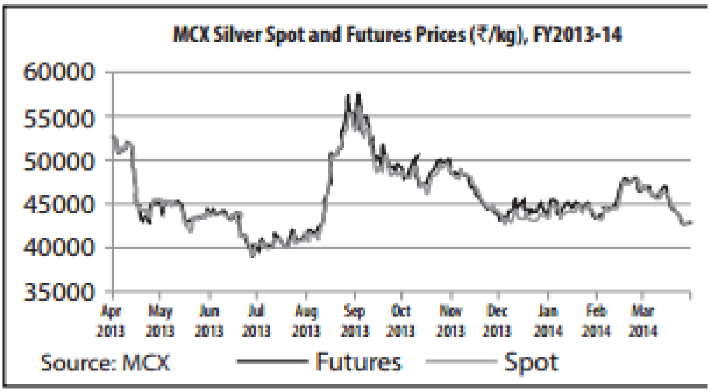
MCX has come up as the largest exchange in the country. MCX started its operations on November 10, 2003 and today it holds a market share of over 80 per cent of the Indian commodity futures market and has more than 2000 registered members operating through over 100,000 trader work stations across India.

Figure 2: Average Daily Turnover (In Rs.) And Market Share of MCX (Taken From Annual Report)



Prices of Silver Spot and Future Market

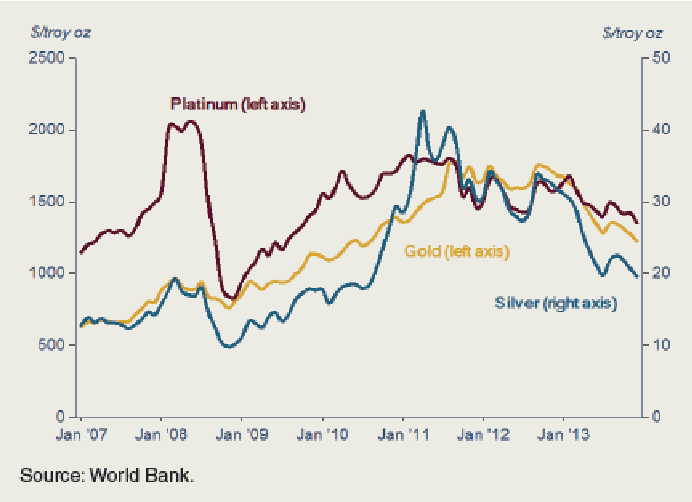
Figure 3: The diagram from MCX Annual Report 2013-14 is given as follows:



As given in the Annual Report 2013-14, the prices of MCX silver futures initially declined in the first half of 2013-14 like gold, thereafter it witnessed range-bound movement and finally closed at Rs. 42,805 per kg., down by 19.35% on Y-O-Y basis. It had an average daily volatility of 1.9% and there were silver futures volumes of around 3.91 lakh tonnes, valued at Rs. 17.80 lakh crore, were traded on MCX in 2013-14. While the spot price of silver has gone down to Rs. 38,783 per kg on 30th Sept 2014, from Rs.42,570 on 1st April 2014, the future price further reduced to Rs. 39,354 per kg., on 30th Sept 2014, a decrease by 15%.

From the World Bank report (Jan 2014 edition) on Commodity Market Outlook, Figure 4 shows the price of Silver vis-à-vis Gold, Platinum.

Figure 4: Prices of Silver, w.r.t. to Gold and Platinum



The report says that the decline in prices of precious metals marked reversal of 11 straight years of increasing trend and reflects changing perceptions of global risk and inflation. While silver prices averaged 23% lower while gold and platinum prices declined 15% and 4% respectively for the year 2013. The report also had the outlook that gold, silver and platinum would be down by 14, 12 and 6 percent respectively as institutional investors will continue to consider them less attractive. Prices are expected to be stabilized in 2015 and decline 1.8% for the year.

REVIEW OF LITERATURE

Before striking very straight on the prices such as spot and future prices, it is quite imperative that there should be a good understanding of the market as a whole. Xidan and Zhang (2008) emphasized that there existed a time varying relationships between the Chinese Copper market & its London counterparts. There is a long run relationship between Shanghai Future Market (SHFE) and London Metals exchanges (LME) copper futures prices. The influence of LME on SHFE is greater than that of SHFE on LME. The report of PWC (2014) explained that a few commodities in the mining sector have escaped the downturn caused by global economic uncertainty and volatile markets. Gold, silver and copper are among the closely watched metals. They have also been some of the hardest hit in 2013. The factors which affected the spot and future prices were also identified by Frankel and Ross (2009). They found that global output and inflation have positive effects on real commodity prices. Also, the microeconomic variables namely, volatility, inventories and spot-forward spread were found to affect the spot and future prices. The band wagon effect was also found. The study of Gospodinov & Ng (2013) found that aggregate convenience yields affect economic conditions and hence future markets. Also, it was found that the convenience yields of cocoa, orange juice, and copper positively affected the inflation, whereas soyabeans, oats and silver affected negatively. The relationship between spot and future prices was explained by Hernandez & Torrero (2010) where changes in either were affected by the changes in other. Winkoop (2012) stated that to obtain long-term equilibrium, the consumer price index has the biggest impact on the silver price of silver. The relationship of oil with both industrial use and inflation probably explains the positive co-integration with silver. Both silver and gold seems to share comparable properties, although the market for gold is less volatile and has a stronger relation with consumer price index.

Kumar and Pandey (2008) provided the evidence of such relationship between these markets. They found that London Metal Exchange (LME) affects India's MCX strongly, but either side it was found to be weak association. Further after going through one of working papers of Ghosh (2009), it was understood that there has been not so good development in our country in the establishment of proper relationship between spot and futures market to understand the various issues concerning the commodities derivative market. As per his own wordings in the article, he has emphasized the need for doing research in the aforesaid area. Behera (2012) found that gold market is not efficient while silver, copper, crude oil and natural gas markets are efficient. Singhal (2014) explained that the price discovery is much faster in futures market than in the spot market.

OBJECTIVE

The key research objective proposed is:

- To analyze the nature of relationship between future and spot prices in India for Silver.

MAJOR HYPOTHESES

Various approaches towards null and alternative hypotheses can be understood by looking at the following:

- For checking the stationarity of the data of Spot and Future price of Silver the following are the hypotheses:

  H_0 (Null Hypotheses) = Data is Stationary.
  H_1 (Alternate Hypotheses) = Data is non stationary.

- For checking on Regression Analysis, the following are the hypotheses:

  (i) H_0 (Null Hypotheses) = Coefficient would be zero.
  H_1 (Alternate Hypotheses) =Coefficient would not be zero.

  (ii) H_0 (Null Hypotheses) = Intercept would be zero.
  H_1 (Alternate Hypotheses) =Intercept would not be zero

RESEARCH METHODOLOGY

The research methodology defines the process and methods, the researcher shall undertake to accomplish the objectives. The research methodology chosen are appropriate as there has been a detailed study undertaken through review of literature and the null hypotheses and alternative hypotheses have been different depending on the tools used. As MCX has stopped publishing Annual Insight Book, there, data has been collected from the websites of the companies. It was further smoothened by statistical tool. While Spot Price of Silver (monthly) is given straight in the Yearly Insight Book of MCX, the Future Price of same is calculated at our end by taking the average of opening and closing price given in the aforesaid Book.

The following models have been used: Correlation and Regression analysis on Stationary and Non-stationary data of Silver.

SOURCES OF DATA

The data are collected from secondary sources. Data for last 8 years from 2004 to 2010 have been taken. Secondary data have been gathered from reports, surveys, published material from library and internet resources like web sites of commodity exchanges, more specifically from Commodity Insight Books from MCX web site. A separate study shall be undertaken later extracting the latest raw data from the MCX site, further the data shall be smoothened through some statistical tool and then the models as given below shall be applied again to see the result whether remains same or changes.

ANALYSIS OF DATA

Data collected for the study was tested with the stationarity tests, although Appendix A showed the graphs which explain the non stationarity of the data (Appendix E). But in order to confirm the assertion, Ljung-Box statistics were computed. Further, we have used Correlogram and the same is extracted from Eviews software and given in Appendix B.

Since there were 81 items, Correlogram has considered 36 lags (33-45% generally). As can be seen that spikes have exceeded the two parallel lines from Lag no.1 to 16, this corroborates the fact that data in the series is non-stationary. Further we have considered the hypotheses as follows:

H_0 (Null Hypotheses) = Data is Stationary.
H_1 (Alternate Hypotheses) = Data is Non-Stationary.

But the Probability of the Q-statistic (last 36 lag) is having zero probability, being less than 5%, we will conclude that we can reject the null hypotheses and accept alternative hypotheses. Thus the data is non-stationary. Similarly, we can also check for Silver Spot Prices as to whether the data is non-stationary as given in Appendix C & D. So based on the above representations for all the Silver data, for future and spot prices, it is proved that all the data are non-stationary.

Converting Non-stationary Data into Stationary Data

In order to apply regression and other analysis, the data series preferably needed to be stationary. So to get the stationary data, we need to further decide how many differences to be taken as to arrive at the right quality data for applying aforesaid model. So to arrive exactly how many differences to be undertaken, we have randomly taken the 1st difference, 2nd difference and 3rd difference of original data. In the case of silver future, we will be taking 2nd differenced data of silver future, as the in the Correlogram, the probability of 32 lags is better than probability in case of 2nd differenced data. That means in the case of 2nd differenced data, the probability of 1.1%, which is more than 0.3% for 3rd differenced data or 0.7% for 1st differenced data of silver future. Further, the probability of 10th lag is more than 5% in the case of 2nd differenced data of silver future where as the probability of 10th lag is less than 5% for 1st differenced or 3rd differenced or even original data. Similarly for silver spot, we have obtained stationary series for silver spot in the 1st difference itself; there is no further requirement of going for 2nd differenced data. However the data, graph and the Correlogram for the data series of 2nd difference is given for just making comparison purpose. In this case also the data series are probed to be stationary since final probability of few lags is more than 5%.

It is to be noted that while making comparison between 1st differenced data and 2nd differenced data of Silver Spot, it is found that 1st differenced data is better stationary, but considering the Silver Future which is carrying 2nd differenced data as better stationary and when it will be compared to Silver Spot which if we would take its 1st differenced data for comparison, then many tools like Regression and other causality test would give no appropriate result.

Thus for right comparison and result purpose between Silver Future and Silver Spot, it is the 2nd difference data of Silver Future and Silver Spot both, have been taken.

Regression Analysis of Silver Future and Silver Spot Data

Regression Analysis with Non-Stationary data:

From the summary output and diagram (Refer Appendix F & G) and further looking at the non-stationary data of Silver Future (Y) and Silver Spot (X), the following are the major findings;

- Multiple R which represents Correlation is very close to 1 i.e., 0.9979745. This means that there is close relation between Silver Future and Silver Spot data but not to forget that the data series are non-stationary.
- Further the inference can also be drawn that a significant portion of change in the Y variable (Silver Future) is explained by the role played by X variable (Silver Spot).
- Mathematically the equation can be explained as Y = 0.969647541 *X + 340.7732428, where 0.969647541 is the coefficient of b and 340.7732428 is the intercept. (* is the multiplication sign)
- Probability value of intercept is 2.197%, which is less than 5%. So the null hypotheses which said that Intercept would be zero, is rejected and we accept the alternative hypotheses, which said that it would be not equal to zero.
- Similarly Probability value of Coefficient of b is less than 0%, which is less than 5%. So the null hypotheses which said that Coefficient would be zero, is rejected and we accept the alternative hypotheses, which said that it would be not equal to zero.
- The probability of having intercept between 50.5403 to 631.0061 is with 95% confidence level. Also the probability of Coefficient of b between 0.95580 and 0.983488 is with 95% confidence level.

From the summary output and further looking at the Non-stationary data of Silver Future (X) and Silver Spot (Y) (Refer Appendix – G), the following are the major findings;

- Multiple R which represents Correlation is 0.9976108. This means that there is very close relation between Silver Future and Silver Spot data but not to forget that the data series are Non-stationary.
- Mathematically the equation can be explained as Y = 1.0277943 *X – 282.1059, where 1.0277943 is the coefficient of b and -282.1059 is the intercept. (* is the multiplication sign)
- Probability value of intercept is 8.67%%, which is more than 5%. So the null hypotheses which said that Intercept would be zero will not be rejected and we will accept that intercept will be equal to zero.
- Similarly Probability value of Coefficient of b is less than 0%, which is less than 5%. So the null hypotheses which said that Coefficient would be zero, is

rejected and we accept the alternative hypotheses, which said that it would be not equal to zero.

- The probability of having Coefficient of b in between 1.011750033 and 1.043838524 is with 95% confidence level. Similarly the probability of having intercept in between -605.888675 and 41.67692773 is with 95% confidence level.

Regression Analysis with Stationary data

From the summary output and diagram given (Refer Appendix – H, I, J) and further looking at the stationary data of Silver Future(Y) and Silver Spot (X), the following are the major findings;

- Multiple R which represents Correlation is 0.718913919. This means that there is not so close relation between Silver Future and Silver Spot data but not to forget that the data series are stationary. Here stationary data of Silver Future and Silver Spot both have been obtained after 2nd Difference.
- Further the inference can also be drawn that a significant portion of change in the Y variable (Silver Future) is not explained by the role played by X variable (Silver Spot). So there are also other factors beyond Silver Spot (X), which have got a significant impact on Silver Future (Y).
- Mathematically the equation can be explained as Y = 0.530406465 *X + 36.67381723, where 0.530406465 is the coefficient of b and 36.67381723 is the intercept. (* is the multiplication sign)
- Probability value of intercept is 68.12756%, which is more than 5%. So the null hypotheses which said that Intercept would be zero cannot be rejected.
- Similarly Probability value of Coefficient of b is less than 0%, which is less than 5%. So the null hypotheses which said that Coefficient would be zero, is rejected and we accept the alternative hypotheses, which said that it would not be equal to zero.
- The probability of having Coefficient of b in between 0.0.41403137 and 0.646781557 is with 95% confidence level.

From the summary output and further looking at the stationary data of Silver Future (X) and Silver Spot (Y) (Refer Appendix – I), the following are the major findings;

- Multiple R which represents Correlation is 0.718913919. This means that there is no such close relation between Silver Future and Silver Spot data but not to forget that the data series are stationary. Here stationary data of Silver Future and Silver Spot both have been obtained after 2nd Difference.
- Further the inference can also be drawn that a significant portion of change in the Y variable (Silver Spot) is not explained by the role played by X variable (Silver Future). So there are also other factors beyond Silver Future (X), which have got a significant impact on Silver Spot (Y).

- Mathematically the equation can be explained as Y = 0.974417275 *X – 7.320736986, where 0.974417275 is the coefficient of b and -7.320736986 is the intercept. (* is the multiplication sign)
- Probability value of intercept is 95.179%, which is more than 5%. So the null hypotheses which said that Intercept would be zero will not be rejected and we will accept that intercept will be equal to zero.
- Similarly Probability value of Coefficient of b is less than 0%, which is less than 5%. So the null hypotheses which said that Coefficient would be zero, is rejected and we accept the alternative hypotheses, which said that it would not be equal to zero.
- The probability of having Coefficient of b in between 0.76062294 and 1.188211615 is with 95% confidence level. Similarly the probability of having intercept in between -247.65796 and 233.0164827 is with 95% confidence level.

SUMMARY

Silver Spot and Future prices (data) taken from MCX Annual Insights Book were found to be non-stationary. The Regression Analysis showed that the non-stationary data of Silver Spot and Silver Future had close relationship between them where as stationary data of both showed that there was significant but not so close relationship. Further it was noticed there are other factors affecting the relationship between Silver Spot and Silver Future (Stationary data).

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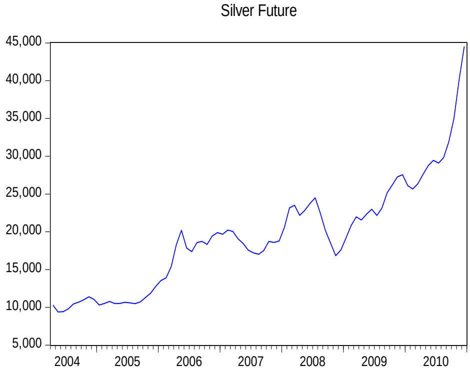
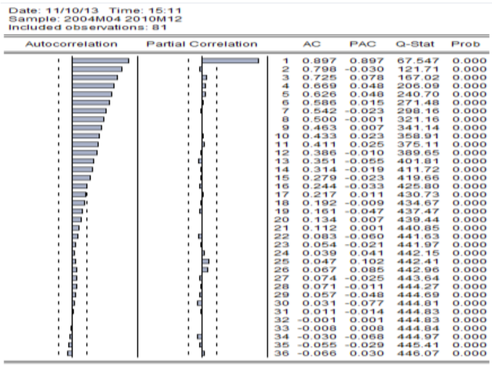
APPENDIX

A. Diagram of Silver Future



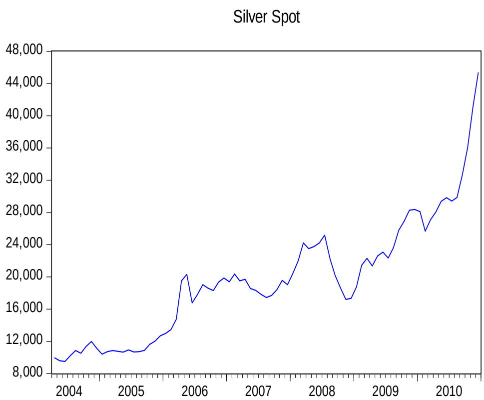
B. Correlogram of Silver future



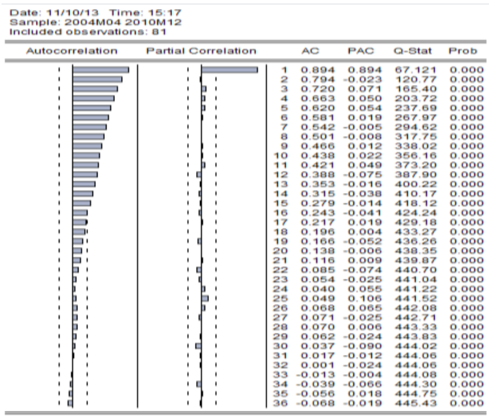
Date: 11/10/13 Time: 15:11
Sample: 2004M04 2010M12
Included observations: 81

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.897	0.897	67.547	0.000
		2	0.798	-0.030	121.71	0.000
		3	0.725	0.078	167.02	0.000
		4	0.669	0.048	206.09	0.000
		5	0.626	0.048	240.70	0.000
		6	0.586	0.015	271.48	0.000
		7	0.542	-0.023	298.16	0.000
		8	0.500	-0.001	321.16	0.000
		9	0.463	0.007	341.14	0.000
		10	0.433	0.023	358.91	0.000
		11	0.411	0.025	375.11	0.000
		12	0.386	-0.010	389.65	0.000
		13	0.351	-0.055	401.81	0.000
		14	0.314	-0.019	411.72	0.000
		15	0.279	-0.023	419.66	0.000
		16	0.244	-0.033	425.80	0.000
		17	0.217	0.011	430.73	0.000
		18	0.192	-0.009	434.67	0.000
		19	0.161	-0.047	437.47	0.000
		20	0.134	0.007	439.44	0.000
		21	0.112	0.001	440.85	0.000
		22	0.083	-0.060	441.63	0.000
		23	0.054	-0.021	441.97	0.000
		24	0.039	0.041	442.15	0.000
		25	0.047	0.102	442.41	0.000
		26	0.067	0.085	442.96	0.000
		27	0.074	-0.025	443.64	0.000
		28	0.071	-0.011	444.27	0.000
		29	0.057	-0.048	444.69	0.000
		30	0.031	-0.077	444.81	0.000
		31	0.011	-0.014	444.83	0.000
		32	-0.001	0.001	444.83	0.000
		33	-0.008	0.008	444.84	0.000
		34	-0.030	-0.068	444.97	0.000
		35	-0.055	-0.029	445.41	0.000
		36	-0.066	0.030	446.07	0.000

C. Diagram of Silver Spot



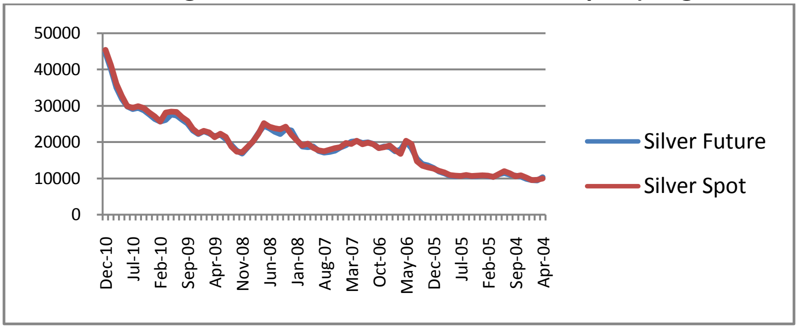
D. Correlogram of Silver Spot



Date: 11/10/13 Time: 15:17
Sample: 2004M04 2010M12
Included observations: 81

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.894	0.894	67.121	0.000
		2	0.794	-0.023	120.77	0.000
		3	0.720	0.071	165.40	0.000
		4	0.663	0.050	203.72	0.000
		5	0.620	0.054	237.69	0.000
		6	0.581	0.019	267.97	0.000
		7	0.542	-0.005	294.62	0.000
		8	0.501	-0.008	317.75	0.000
		9	0.466	0.012	338.02	0.000
		10	0.438	0.022	356.16	0.000
		11	0.421	0.049	373.20	0.000
		12	0.388	-0.075	387.90	0.000
		13	0.353	-0.016	400.22	0.000
		14	0.315	-0.038	410.17	0.000
		15	0.279	-0.014	418.12	0.000
		16	0.243	-0.041	424.24	0.000
		17	0.217	0.019	429.18	0.000
		18	0.196	0.004	433.27	0.000
		19	0.166	-0.052	436.26	0.000
		20	0.138	-0.006	438.35	0.000
		21	0.116	0.009	439.87	0.000
		22	0.085	-0.074	440.70	0.000
		23	0.054	-0.025	441.04	0.000
		24	0.040	0.055	441.22	0.000
		25	0.049	0.106	441.52	0.000
		26	0.068	0.065	442.08	0.000
		27	0.071	-0.025	442.71	0.000
		28	0.070	0.006	443.33	0.000
		29	0.062	-0.024	443.83	0.000
		30	0.037	-0.090	444.02	0.000
		31	0.017	-0.012	444.06	0.000
		32	0.001	-0.024	444.06	0.000
		33	-0.013	-0.004	444.08	0.000
		34	-0.039	-0.066	444.30	0.000
		35	-0.056	0.018	444.75	0.000
		36	-0.068	-0.019	445.43	0.000

E. Combined Diagram of Silver Future and Silver Spot (Original Data)



F. Regression Analysis of Silver Future (Y) and Silver Spot (X) for Non-Stationary Data

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.99797475
R Square	0.995953601
Adjusted R Square	0.995902381
Standard Error	461.0907166
Observations	81

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	4133997785	4.13E+09	19444.5315	2.70287E-96
Residual	79	16795767.27	212604.6		
Total	80	4150793552			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	340.7732428	145.8126924	2.337062	0.02196963	50.54033856	631.006147	50.54033856	631.006147
X Variable	0.969647541	0.006953687	139.4436	2.7029E-96	0.955806572	0.983488509	0.955806572	0.983488509

G. Regression Analysis of Silver Spot (Y) and Silver Future (X) for Non-Stationary Data

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9976108
R Square	0.9952273
Adjusted R Square	0.9951661
Standard Error	477.45847
Observations	80

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	3.71E+09	3.71E+09	16264.83	2.676E-92
Residual	78	17781394	227966.6		
Total	79	3.73E+09			

	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-282.1059	162.6357	-1.73459	0.086764	-605.88868	41.67692773	-605.8886752	41.67692773
X variable	1.0277943	0.008059	127.5337	2.68E-92	1.01175	1.043838524	1.011750033	1.043838524

H. Regression Analysis of Silver Future (Y) and Silver Spot (X) for Stationary Data

Regression Statistics	
Multiple R	0.718913919
R Square	0.516837223
Adjusted R Sq	0.510562382
Standard Erro	790.0359483
Observations	79

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	51409661.78	51409662	82.366581	8.5745E-14
Residual	77	48060073.57	624156.8		
Total	78	99469735.35			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	36.67381723	88.95241577	0.4122858	0.6812756	-140.45307	213.8007061	-140.4530716	213.8007061
X Variable	0.530406465	0.058443106	9.0756036	8.574E-14	0.41403137	0.646781557	0.414031374	0.646781557

I. Regression Analysis of Silver Spot (Y) and Silver Future (X) for Stationary Data

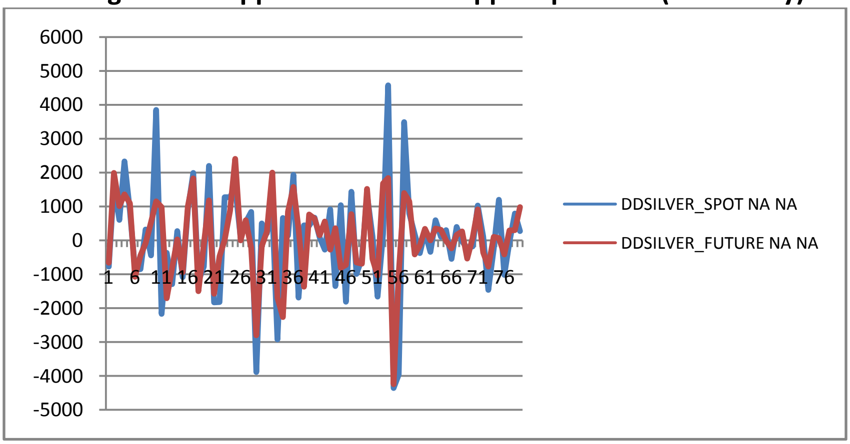
Regression Statistics	
Multiple R	0.718913919
R Square	0.516837223
Adjusted R Sq	0.510562382
Standard Erro	1070.816207
Observations	79

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	94445422.19	94445422	82.366581	8.5745E-14
Residual	77	88291845.96	1146647.4		
Total	78	182737268.2			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7.320736986	120.6963913	-0.0606541	0.9517918	-247.65796	233.0164827	-247.6579567	233.0164827
X Variable	0.974417275	0.107366663	9.0756036	8.574E-14	0.76062294	1.188211615	0.760622936	1.188211615

J. Diagram of Copper Future and Copper Spot data (Stationary)



IMPACT OF FIIs INVESTMENT ON THE MOVEMENT OF INDIAN STOCK MARKET UNDER DIFFERENT MARKET CONDITIONS

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ABSTRACT

Indian stock market is one of the developing markets in the world with high return compared to other developed and most of the developing countries. Hence Foreign Institutional investors are investing large amount into the market. As a big investor in stock market, FIIs investment has a significant role in driving the market. Previous studies found that there was impact of FII investment on the movement of Indian stock market. The present study aimed at analyzing the impact of FIIs investment on the movement of Indian stock market under different market conditions. The study considered the return on SENSEX and Nifty as market proxy and FII investment was considered as market driver and these data were collected on daily basis for 2994 days for the period of ten years spanning from 2004-05 to 2013-14. The study used simple percentage, mean, standard deviation, co-efficient of variation and CAGR, correlation and regression analysis as statistical tools. The study found that FII investment in Indian stock market was increasing rapidly. FIIs net investment had significant impact on stock market movement in India. It was also found that during crisis period the impact of FIIs net investment on stock market movement was found to be higher than pre-crisis and post-crisis period.

Keywords: FII, stock market, SENSEX, Nifty, return and impact.

INTRODUCTION

Indian stock market is one of the growing stock markets in the world. National Stock Exchange (NSE) is becoming top third stock exchange in the world. Indian stock markets are progressing even more than some developed stock exchanges. Indian stock market attracts more investment from investors from host country and foreign countries because of its higher return. The growth rates of developed markets are lower than the growth rate of emerging developing markets, especially India and China. Hence Indian stock market gives more return on investment than developed markets and most of the developing markets. This feature attracts more foreign investors especially Foreign Institutional Investors (FIIs). FIIs are the financial institutions that are functioning in foreign countries and registered with SEBI as FIIs in order to make investment in Indian stock market. Before 90s the Government of India did not allow foreign investment into the country directly or indirectly. During 90s the Government of India brought major change in its economic policies. It was popularly known as LPG (Liberalization, Privatization and Globalization), among them globalization was considered important in order to bring capital from foreign countries because of insufficient capital formation in the country at that time. It attracted foreign investors to invest in India. Foreign investments are being made in two ways such as Foreign Direct Investment (FDI) and through stock markets of India. Foreign Direct Investment is the method of investment made by foreign investors directly in the country; they establish new organizations in India directly. According to later method, foreign individual and institutional investors invest their money through stock market. Foreign institutions who register themselves with Securities Exchange Board of India (SEBI) are called Foreign Institutional Investors (FIIs). They invest in securities of various corporate, Government and so on. FIIs started to invest in India since second half of 1992. Since then the amount of their investment are increasing every year rapidly with slight fluctuations on account of market conditions prevailing in various period. As major investors in Indian stock market, FIIs may have its impact on movement of Indian stock market. The study has made an attempt to analyze the impact of FII investment on the movement of Indian stock market under different market conditions.

REVIEW OF LITERATURE

Sahu (2009) evidenced that there was a cause-effect relationship between Indian stock market with FII investment during the study period. Jayaraj, Murale and Christy (2009) found that FII inflows and performance of SENSEX were significantly linked. It was also evidenced that FII investment led the market rise or fall and the movement of market follows suit and vice versa. Majumdar and Nag (2013) found that higher stock market returns amplified the volume and volatility of the FII without any evidence on the other direction. Sethi (2013) evidenced that private for capital inflows had a positive and direct impact on economic growth and there was short and long relationship between variables during the study period. Babu and Venkateshwarlu (2013) evidenced that there were been a positive correlation between the FII net investment and Indian stock market movement.

OBJECTIVES

The study has been done with the following objectives.

- To study the impact of FIIs investment on the movement of Indian stock market during 2004-05 to 2013-14 and
- To analyse the impact of FIIs investment on the movement of Indian stock market under different market conditions.

METHODOLOGY

This study has been made with secondary data. It required FII net investment, indices of SENSEX and Nifty for the study period of ten years from 2004-05 to 2013-14. The data were collected on daily basis, which came 2994 days. FIIs investment was collected from various reports of SEBI and its official website and daily indices of SENSEX and Nifty were collected from official websites of BSE and NSE. The study also used data related to number of FIIs registered with SEBI and amount of their investment on yearly basis, they were collected from official website of SEBI and various reports of SEBI. The study used simple percentage, mean, standard deviation, co-efficient of variation, compounded annual growth rate (CAGR), correlation and regression analysis as statistical tools.

The study calculated return on SENSEX and Nifty as proxy for market movement. They were calculated as under, FIIs Net Investment was calculated as gross sales minus gross purchase of FII.

Return on SENSEX

$$RS = \frac{s_t - s_{t-1}}{s_{t-1}} \times 100 \quad \text{--} \quad [I]$$

Here s – SENSEX; t – current day; t -1 – previous day and RS – Return on SENSEX

Return on Nifty

$$RS = \frac{n_t - n_{t-1}}{n_{t-1}} \times 100 \quad \text{--} \quad [II]$$

Here, n – Nifty; t – current day; t -1 – previous day and RN – Return on Nifty.

In the view of knowing the nature of impact of FII investment on Stock Market movement the correlation analysis was applied. It was calculated as:

$$Correl(X,Y) = \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}} \quad \text{----------------------} \quad [III]$$

Here X refers to FII net Investment and Y refers to Return on Index.

Regression Analysis also is applied to know the quantum of impact of FII investment on stock market movement and adjusted R^2 is also calculated to know the explanatory power of FII investment on stock market movement. The regression models used for the study are presented below:

1. RS = α + β CI -- [IV]

2. RN = α + β CI --- [V]

Here; RS – return on SENSEX; RN – return on Nifty; CI – change in FII investment.

Study Period

The study has been made for a period of 10 years from 2004-05 to 2013-14. For the purpose of analyzing the impact of FIIs investment on the movement of Indian stock market under different market conditions, the study period was divided into three sub-periods. During the year 2008-09, financial crisis affected the market; hence the year was taken as crisis period. The period of four years from 2004-05 to 2007-08 has been considered as pre-crisis period and the period of five years from 2009-10 to 2013-14 has been taken as post-crisis period.

RESULTS AND DISCUSSION

Number of FIIs Registered in India

India is the country where stock market gives more return than developed countries hence investors from foreign countries are willing to invest in Indian stock markets; especially FIIs have more interest to invest in Indian stock markets. If they want to invest they should have been registered with the SEBI as Foreign Institutional Investors.

Table 1: Year wise Number of FIIs Registered with SEBI*

YEAR	NUMBER OF FIIs	NET ADDITIONS DURING THE YEAR
2004-05	685	
2005-06	682	-3
2006-07	997	315
2007-08	1319	322
2008-09	1635	316
2009-10	1713	78
2010-11	1722	9
2011-12	1765	43
2012-13	1757	-8
2013-14	1739	-18

*Source: Computed from data collected from SEBI Handbook of Statistics, 2014

Number of FIIs registered in India is growing, since they were allowed to invest in Indian stock market, there were 439 FIIs in India during 1996-97 but it was 1739 during 2013-14.

Table 1 shows that during the year 2004-05 the number of registered FIIs in India were 685. During the year 2005-06, three FIIs were unregistered and they left out from India and the total number of registered FIIs stood at 682. During the year 2006-07 there was a rapid increase in the number of FIIs, during this period a total of 315 new FIIs were registered and the total number of FIIs stood at 997. During the year 2007-08 the trend continues and 322 new FIIs were registered and the total number FIIs stood at 1319. During the year 2008-09, 316 new FIIs were registered and the total number of FIIs increased to 1635. During the year 2009-10, 78 new FIIs were registered which took the total number of registered to 1713. During the year 2010-11 only 9 FIIs were registered newly and the total number of FIIs stood at 1722. During the year 2011-12, 43 new FIIs were registered and the total number of FIIs reached to 1765. During the year 2012-13, 8 FIIs got unregistered and left out from India which took the total number of registered FIIs to 1757. During the year 2013-14, 18 FIIs got unregistered and the total number of FIIs went down to 1739.

The results of table 1 indicate that on account of development of Indian stock market, more number of new FIIs was registered with SEBI and investing in market. During the years from 2006-07 to 2008-09 more number of FIIs registered, during the period 953 new FIIs were registered. During 2012-13 and 2013-14, 8 and 18 FIIs respectively were unregistered and went off.

FII Net Investments – An Overview

Table 2: FII Investment in Indian Stock Market (Rs. in crore)*

Year	FII Investment	Change Over Previous Year	%Change Over Previous Year
2004-05	45,881		
2005-06	41,467	-4,414	-9.62
2006-07	30,840	-10,627	-25.63
2007-08	66,179	35,339	114.59
2008-09	-45,811	-1,11,990	-169.22
2009-10	1,42,658	1,88,449	411.36
2010-11	1,46,438	3,800	2.66
2011-12	93,726	-52,712	-36.00
2012-13	1,68,367	74,641	79.64
2013-14	51,649	-1,16,718	-69.32
MEAN	74,139.40		
ST.DEV	64,878.10		
C.V	87.51		
CAGR	15.54		

Foreign institutional investors are one of the major players in the Indian stock market in terms of amount of investments and number of transactions. After allowing FIIs into Indian stock market the growth of stock market was found progressing. Table 2 gives the amount of net investment of FIIs, change of investment over previous year and percentage change over previous year.

It can be seen from table 2 that the amount of FII investment had gown abundantly during the study period. FII net investment was Rs.45,881 crore during 2004-05, it was gradually increasing over the period of time and met a major downfall during 2008-09 by Rs.1,11,990 crore, which accounted 169 per cent decrease over the previous year due to global financial crisis. Robust increase during the following years indicates immediate recovery of Indian stock market from crisis. FII net investment met another downfall during 2011-12 by 36 per cent over the previous year, but it was not much severe as 2008-9. The amount of FII net investment was found high during 2012-13 (Rs.1,68,367 crore) than any other year during the study period. But during 2013-14 it met a fall by 69.32 per cent over the previous year. Mean value of net investments of FII for the period stood at Rs.74139.40 crore Standard deviation and coefficient of variation of the investment were Rs.64,878 crore and 87.51; it shows a major fluctuation in the FII investment during the period from its mean value. The CAGR of FII net investment was 15.54 per cent; it seems to be high and therefore there was a considerable growth in FII investments during the study period.

Impact of FIIs Investment on Indian Stock Market

Foreign Institutional Investors are one of the major investors in the market and they invest around 20 per cent, hence it is hypothesized that investment of FII drives the stock market movement. So the following Null hypothesis is framed.

H_0: There is no significant relationship between FII net investment and stock market movement in India.

For the purpose of testing the null hypothesis FIIs net investment, the stock market returns for the indices of SENSEX and Nifty were taken up for the period of 10 years from 2004-05 to 2013-14 on daily basis, which came 2494 day observations. The correlation analysis was applied to know the nature of relationship and significance and table 3 gives the results.

Table 3 depicts that FII net investment had positive relationship with return on SENSEX and Nifty. The coefficients of correlation stood were 0.335 each, it was considered lower but the result was statistically significant at 1 per cent level. So the null hypothesis was rejected and therefore there was significant relationship between FIIs net investment and stock market returns. The correlation between SENSEX and Nifty was 0.991, it was high and it showed that SENSEX and Nifty moved simultaneously.

Table 3: Correlation between FII investment and Stock Market Movement

		FII	SENSEX	Nifty
FII	Pearson Correlation	1	0.335*	0.335*
	Sig. (2-tailed)		0.000	0.000
	N	2494	2494	2494
SENSEX	Pearson Correlation	0.335*	1	0.991*
	Sig. (2-tailed)	.000		.000
	N	2494	2494	2494

Nifty	Pearson Correlation	0.335*	0.991*	1
	Sig. (2-tailed)	0.000	0.000	
	N	2494	2494	2494

Source: Computed from Secondary Data, * Significant at one percent level.

Regression analysis was used to know the quantum of impact and the explanatory power of the independent variable on dependent variable and the results of regression analysis when FII net investment was taken as independent variable and stock market returns were taken as dependent variable are presented in table 4.

Table 4: Regression results of FII Net Investment on Stock Market Returns

	Un-standardized Coefficients		**Standardised coefficients**	**t**	**Sig.**	**Adj.R^2**
	B	**Std. Error**	**Beta**			
SENSEX						
Constant FII_net	-14.579 0.087	4.338 0.005	0.335	-3.361 17.750	0.001 0.000	0.112
Nifty						
Constant FII_net	-4.478 0.026	1.314 0.001	0.335	-3.407 17.747	0.001 0.000	0.112

Source: Computed from Secondary Data

Table 4 shows that the coefficient of regression of FIIs net investment on return on SENSEX was 0.335, it indicated that change of one point in FII net investment had a positive impact on SENSEX with 0.335 point. The t-statistics and p-value stood at 17.750 and zero respectively. It shows that FII net investment had significant impact on SENSEX returns. The adjusted R^2 stood at 0.112, it showed that FII net investment explained stock market movement at 11.2 per cent. There are several factors which influence stock market movement, among them FII net investment alone explained it to the extent of 11 per cent. It shows its significance of the factor in determining market movement. The same results were found for the impact of FII investments return on Nifty also.

Analysis under different market conditions

It was observed from daily returns of SENSEX and Nifty, Indian stock market was affected severely by global financial crisis during 2008-09. So this year was categorized under crisis period, a period of four (4) years from 2004-05 to 2007-08 was categorized under pre-crisis period and a period of five years from 2009-10 to 2013-104 was categorized under post-crises period. Correlation analysis and Regression analysis were applied to know the impact of FIIs net investment on the movement of Indian stock market during different market conditions. For this purpose the following null hypothesis was framed and tested subsequently.

H_0: There is no significant relationship between FII net investment and stock market movement during different market conditions.

Table 5 gives the results of correlation coefficient and p-value of FII net investment on the returns on SENSEX and Nifty during different market conditions.

Table 5: Correlation between FII Investment and Stock Market Movements under Different Market Conditions

		Pre-crisis Period			Crisis Period			Post-crisis Period		
		FII	SENSEX	Nifty	FII	SENSEX	Nifty	FII	SENSEX	Nifty
FII	Pearson Cor.	1	0.36*	0.36*	1	0.51*	0.50*	1	0.31*	0.31*
	Sig.(2-tailed)		0.00	0.000		0.00	0.00		0.00	0.00
	N	1004	1004	1004	243	243	243	1247	1247	1247
SENSEX	Pearson Cor.	0.36*	1	0.98*	0.5*	1	0.99*	0.31*	1	0.99*
	Sig. (2-tailed)	0.00		0.00	.00		0.00	0.00		0.000
	N	1004	1004	1004	243	243	243	1247	1247	1247
Nifty	Pearson Cor.	0.36*	0.98*	1	0.5*	0.99*	1	0.31*	0.99*	1
	Sig. (2-tailed)	0.00	0.00		0.0	0.00		0.00	0.00	
	N	1004	1004	1004	243	243	243	1247	1247	1247

Source: Computed from Secondary Data, *Significant at one percent level

Pre Crisis Period

Table 5 reports that FII net investment had positive relationship with stock market movements during pre-crisis period. The correlation co-efficient was 0.368 on SENSEX and 0.363 for Nifty. These results were significant at 1 per cent level. Hence the null hypothesis was rejected and therefore there was significant relationship between FII net investment and stock market movement during pre-crisis period. It was observed from results that there was a low level of relationship between the variables.

Crisis period

Table 5 also reports that FII net investment had positive relationship with stock market movements. The correlation co-efficient was 0.514 on SENSEX and 0.500 on Nifty. These results were significant at 1 per cent level. Hence the null hypothesis was rejected and therefore there was significant relationship between FII net investment and stock market return during crisis period. It was observed that there was a moderate level of relationship between the variables. The impact was found higher during crisis period than pre-crisis period.

Post-crisis period

Table 5 also shows that FII net investment had positive relationship with stock market movements. The correlation co-efficient was 0.310 on SENSEX and 0.313 on Nifty. These results were significant at 1 per cent level. Hence the null hypothesis was rejected and therefore there was significant relationship between FII net investment and stock market movement during post crises period. It was observed that there was a low level of relationship between the variables during the post-crisis period.

Regression Results

Table 6 gives the regression results, t-statistics, p-value and adjusted R^2 when FII net investment was taken as independent variable and return on SENSEX and Nifty were considered as dependent variables during pre-crisis period in order to known the impact of FIIs net investment in stock market movement.

Pre-crisis Period

Table 6 shows that the coefficient of regression of FIIs net investment on return on SENSEX was 0.368 and it was 0.363 for Nifty, it indicated that change of one point in FII net investment had a positive impact on SENSEX with 0.368 point and 0.363 points on Nifty. The t-statistics and p-value stood at 12.518 and zero respectively for SENSEX and they were 12.344 and zero respectively for Nifty. It shows that FII net investment had significant impact on the movement of Indian stock market during pre-crisis period. The adjusted R^2 stood at 0.134 for SENSEX and 0.131 for Nifty, it showed that even though several factors influence the movement of Indian stock market, among the factors FII net investment alone explained it to the extent of 13 per cent.

Crisis-period

Table 6 also shows that the coefficient of regression of FIIs net investment on return on SENSEX was 0.514 and it was 0.500 on Nifty, it indicated that change of one point in FII net investment had a positive impact on SENSEX with 0.514 point and 0.500 points on Nifty. The t-statistics and p-value stood at 9.310 and zero respectively for SENSEX and they were 8.961 and zero respectively for Nifty. It shows that FII net investment had significant impact on stock market movement. The adjusted R^2 stood at 0.261 for SENSEX and 0.250 for Nifty, it showed that even though numbers of factors are affecting the movement of stock market of India, among them FII alone explains the movement of SENSEX to the extent of 26 percent and 25 per cent on Nifty and FIIs are considered as an important factor which influences the movement of Indian stock market.

Post-crisis period

The regression coefficient of FIIs net investment on return on SENSEX was 0.310 which was 0.313 for Nifty during post-crisis period; it indicated that change of one point in FII net investment had a positive impact on the movement of SENSEX with 0.310 point and 0.313 points on Nifty respectively. The t-statistics and p-value stood at 11.499 and zero respectively and 11.630 and zero respectively for Nifty. It shows that FII net investment had significant impact on movement of Indian stock market. The adjusted R^2 stood at 0.095 for SENSEX and 0.098 for Nifty, it showed that FII net investment explained the movement of Indian stock market to the extent of 10 per cent, where as it was 13 percent during pre-crisis period and 26 per cent during crisis period. It showed that the results were strong during crisis period and it was not so during pre and post-crisis period.

Table 6: Regression Results of FII Net Investment on Stock Market Returns under Different Market Conditions

	Un-standardized Coefficients		Standardised coefficients	t	Sig.	Adj. R^2
	B	Std. Error	Beta			
Pre-crisis Period						
SENSEX						
Constant	-7.37	6.05	0.37	-1.22	.22	0.13
FII_net	0.10	0.01		12.52	0.00	
Nifty						
Constant	-2.37	1.88	0.36	-1.26	.20	0.13
FII_net	0.03	0.00		12.34	0.00	
Crisis Period						
SENSEX						
(Constant)	34.39	18.76	0.51	1.83	0.06	0.26
FII	0.29	0.03		9.31	0.00	
Nifty						
(Constant)	9.23	5.39	0.50	1.71	0.08	0.25
FII	0.08	0.01		8.96	0.00	
Post-crisis Period						
SENSEX						
Constant	-16.94	6.18	.31	-2.74	.00	0.10
FII_net	.06	.01		11.50	.00	
Nifty						
Constant	-5.41	1.88	.31	-2.87	.00	0.10
FII_net	.02	.00		11.63	.00	

Source: Computed from secondary data

CONCLUSION

Indian stock market is one of the developing markets in the world. It gives more return on investments than developed countries and many developing countries. Hence investors from foreign countries are eager to invest in stock market in India. Among them Foreign Institutional investors are investing a large amount. As a big investor in stock market it has a significant role in driving the market. The results showed that FII investment in Indian stock market is increasing rapidly. The results of the study indicated that FIIs net investment had significant impact on stock market movement in India. When the analysis was made under different market conditions, it was found that during crisis period the impact of FIIs net investment on stock market movement was found to be high and also during the period its explanatory power was 26 per cent on return on SENSEX and 24.7 per cent on return on Nifty. During pre-crisis period and post-crisis period the impact was not higher than that of during crisis period, of which the impact was found to be lower during post-crisis period than pre-crisis period. The explanatory power of FIIs net investment on stock market movement during pre-crisis period stood 13 per cent and it was only around 10 per cent during post crisis period.

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PRODUCTIVITY OF STATE CO-OPERATIVE BANKS IN INDIA: REGION-WISE ANALYSIS

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ABSTRACT

In the light of financial inclusion and inclusive growth, though many radical changes have been made in banking sector in our nation, co-operative banks are far away from the benefits of this series of changes. It is already well recognized that co-operative credit institutions are integral part of Indian Financial System. Among these institutions, State Co-operative Banks (StCBs) have key position in formulating policies regarding co-operatives and coordinating the functions of District Central Co-operative Banks including Primary Agricultural Co-operative Societies in their respective states. So, it is essential to dwell on productivity indicators of these banks. Hence, this attempt is made to analyse the productivity performance of all StCBs by classifying them into six regions through ratio analysis.

Keywords: State Co-operative Banks, productivity, Friedman's Test

INTRODUCTION

In India, the co-operative sector has been found to be most suitable instrument for socio-economic development of the rural economy. Co-operatives have made significant progress in various important sectors of Indian economy (Bedi, 1970). Co-operative institutions, especially co-operative banks form an important segment of the Indian Financial System (Pathak, 2011). Co-operative banking in India has an extensive network as compared to other commercial banks.

Co-operative credit institutions in India may be broadly classified into urban credit co-operatives and rural credit co-operatives. Urban credit co-operatives include only urban co-operative Banks (UCBs). But, rural credit co-operatives do have a complex structure. Rural co-operative credit institutions comprise two structures i.e. Short Term Co-operative Credit Structure (STCCS) and Long Term Co-operative Credit Structure (LTCCS). Within the STCCS, Primary Agricultural Credit Societies (PACSs) at the grass root level establish the base level, and District Central Co-operative Banks (DCCBs) occupy the intermediate position at district level and the State Co-operative Banks (StCBs) work at the apex level. The institutions of STCCS generally provide crop and other working capital loans mainly for a short time to farmers and rural beneficiaries. The LTCCS includes State Co-operative Agriculture and Rural Development Banks (SCARDBs) at the apex level i.e. state level and Primary Co-operative Agriculture and Rural Development Banks (PCARDBs) either at district or block level.

State Co-operative Banks (StCBs) also known as Apex Banks finance, cooperate and control the working of district central co-operative banks in each state. There were thirty one state co-operative banks in India at the end of March 2010. In the light of financial inclusion and for increasing the share of co-operative banks in total agricultural credit, StCBs are expected to play an important role in future because they do two mains things – (i) they do banking business and (ii) act as parents of co-operative banks in their respective states. In the present sudy, an attempt is also made to analyse the performance of all 31 StCBs by classifying them into 6 different regions as classified by NAFSCOB. These six regions which include all 31 StCBs are Central, Eastern, North-eastern, Northern, Southern and Western regions. These regions include the following StCBs:

Table 1: List of StCBs

Regions	Name of StCBs
Central Region	Delhi, Madhya Pradesh, Uttar Pradesh, Uttarakhand, Chhattisgarh State Co-operative Banks
Eastern Region	Bihar, Orissa and west Bengal State Co-operative Banks
North-eastern	Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim State Co-operative Banks
Northern Region	Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab and Rajasthan State Co-operative Banks
Southern Region	Andhra Pradesh, Karnataka, Kerala, Pondicherry, Tamil Nadu, Andaman and Nicobar State Co-operative Banks
Western Region	Gujarat, Goa and Maharashtra State Co-operative Banks

Source: Shekhar and Shekhar (2005)

In the present global banking environment, it is recognized that the progress and success of co-operative banking institutions greatly depend on the productive employment of available resources (Tapiawala, 2010). Basically, there are two main resources of any financial institution viz. employees and buildings (offices). Here, it may truly be said that optimum use of available employees and infrastructure facilities leads to high efficiency and profitability (Subbiah, 2001). Against this backdrop, productivity of

State Co-operative Banks (StCBs) has been studied in this attempt. In general, productivity is taken as;

$$\textbf{Productivity} = \frac{\textbf{Performance Achieved}}{\textbf{Resources Consumed}} = \frac{\textbf{Effectiveness}}{\textbf{Efficiency}} = \frac{\textbf{Output}}{\textbf{Input}}$$

The entire exercise of financial sector reforms is focused on the profitability by improving productivity and efficiency. In manufacturing enterprises, productivity can be easily be calculated where outputs and inputs are clearly different to each other. But in service industries like banking, it is quite difficult to make a clear cut distinction between input and output variables. So, in this case, productivity of banks is generally measured in terms of outputs like deposits/advances per inputs like employee/branch.

REVIEW OF RELATED STUDIES

Some studies related to the assessment of productivity of Indian banks were reviewed and their important insights are being highlighted here.

Hooda (2014) evaluated the productivity of DCCBs in India. It was found that employees of DCCBs have worked efficiently for increasing the productivity of their concerned banks consistently and branch wise productivity of those banks also increased. But, employee wise productivity has been increased with higher than branch wise productivity during the study period 2002-2011. The study of Sequeira (2012) revealed that information technology has acted as a boon to cooperative banks progress, in Dakshin Kannada district of Karnataka, for the period of 1990-1998.

Kodan et al (2010) found that the productivity of public and private sector banks is better to foeign banks. Chahal and Hooda (2009) found that the productivity of Chandigarh State Co-operative Bank Ltd. was better than the other five StCBs followed by Haryana, Himachal Pradesh, Rajasthan and Punjab State Co-operative Bank Ltd respectively. Jammu and Kashmir State Co-operative Bank Ltd. had been performing poor in terms of selected productive parameters during 2003-2007. On the contrary, the results of the study of Pal and Goyal (2008) revealed that growth of public sector banks were consistent intra-group variations were less than other sectors, but that of private sector and foreign banks were growing strong as earning per employee and profits per employee were significantly related. The study of Cheema and Aggarwal (2002) analysed the productivity of commercial banks. They took the productivity as a measure to know whether the resources or inputs had been used efficiently or not. They found that commercial banks were operating below the level of efficiency.

OBJECTIVES OF THE STUDY

The main focus of the paper is to analyse the productivity performance of State Co-operative Banks in comparative manner by classifying all thirty one StCBs into six regions. Specifically, these are the sub-objectives:

- To measure employees productivity of StCBs under different regions;
- To study the productivity in terms of branch i.e. branch productivity of StCBs under different regions.

HYPOTHESES

For giving the validation to objectives, the following hypotheses are also formulated:

- $H0_1$ - There is no significant difference among the growth rates of business per employee of StCBs of different regions during the study period.
- $H0_2$ - There is no significant difference among the growth rates of business per branch of StCBs of different regions during the study period.

METHODOLOGY

About the Study

It is an analytical attempt by nature and all thirty one StCBs are considered under six different regions as mentioned in the foregoing section of the paper. Variables have been measured by taking their determinants which are as follows:

- For measuring employee productivity, deposits per employee, credit (loans outstanding) per employee, profits per employee have been considered.
- Branch wise productivity has been calculated by deposits per branch, credit per branch, profits per branch.

Additionally, to test hypotheses, business (deposits plus credit) per employee and per branch were taken. A period of ten years from 2003-04 to 2011-12 is taken to carry out the study.

Data Collection

This study is purely based on secondary sources and the required information has been gathered by accessing website of National Federation of State Co-operative Banks Ltd. (NAFSCOB). Some journals like Productivity, Indian Journal of Finance, Finance India, Bank Quest etc. have also been accessed to know the relevant variables and make the methodology stronger about the productivity of a bank.

Data Analysis Tools

With the application of simple statistics like average, standard deviation, minima and maxima, a non-parametric test – Freidman's test has also been applied. Further, the position of different regions is got by assigning them ranks on the basis of mean amount of the respective variable in comparative manner. Hence, ranking method is heavily applied in the present work. This test is a non-parametric test. It was developed by M. Friedman in 1937. It requires less restrictive assumptions conceding the level of data measurement. It is used whenever the number of sample is greater than or equal to 3 and ranked data is available.

Friedman's test statistic is

$$F = \frac{12}{nk(k+1)} \times \left(\sum_{i=1}^{k} Rj^2 \right) - 3n(k+1)$$

Where, n=number of years, k= number of sample (say region), Rj= total of ranks assigned to the sample (like region) during "n" years.

For this test, the calculated value of F is compared with the table value of chi-square.

The employment of the statistical tools was guided from the texts of Bajpai (2010), Gupta (2011), Nabendu and Sarkar (2009), and Agrawal (1991).

LIMITATIONS AND SCOPE FOR FUTURE RESEARCHES

In this attempt, only quantitative aspect of the productivity of StCBs is analysed but productivity greatly depends on the qualitative factors also which remain to be examined. Additionally, the results of the productivity of these banks or other co-operative banks can also be compared with that of Scheduled Commercial Banks and significant determinants of banks' productivity may be identified which would be important for making banking more efficient and banking policies accordingly.

ANALYSIS, FINDINGS AND DISCUSSION

Employee Productivity

The overall productivity of StCBs is assessed by categorizing these thirty one banks into six different regions as NAFSCOB has categorized. Firstly, employee wise productivity of these regions is calculated and compared and table 1 reveals the brief of statistics about three financial indicators of employee productivity.

Table 1 shows that on the basis of average amount of these three variables, StCBs of Eastern region stands first among these six regions because banks of this region overall have shown best performance. Then, it is easily observed that employee productivity of North-eastern region is found to be low and it is not because of ranks but per employee amount of the selected variables of StCBs of this region is also very less as compared to that of other regions. Three regions- Northern, Southern and Western have more or less been found at same performance in this regard i.e. human assets of StCBs of these regions have equally performed in doing banking business. Further, StCBs of Central region have achieved fifth position and it is right to suggest that StCBs of North-eastern and Central regions need to dwell on why their banking business have been too low and particularly it is more serious issue for StCBs of North-eastern region as they have run on per employee loss of Rs 7.8 lakhs during 2004-13 on an average. StCBs of Southern region have also reported loss of Rs 2.7 lakhs on average though their per employee business (deposits plus credit) have been satisfactory during the same period.

Table 1: Employee Productivity of State Cooperative Banks of Different Regions in India: 2004-2013 (Amt in Lakhs)

	Central	Eastern	N.E.	Northern	Southern	Western
Deposits per Employee						
Mean	**311.04**	**861.38**	**128.00**	**414.50**	**626.39**	**687.04**
S.D.	91.50	466.24	65.26	160.52	297.10	207.19
Min	201.27	372.68	52.96	198.48	296.62	402.46
Max	501.70	1633.61	229.89	662.25	1127.23	938.94
Rank	**5**	**1**	**6**	**4**	**3**	**2**
Credit(Loan outstanding) per Employee						
Mean	**233.98**	**639.79**	**51.43**	**419.91**	**625.03**	**405.68**
S.D.	91.54	330.82	23.54	188.30	314.72	127.96
Min	89.25	246.68	27.65	215.30	374.33	275.90
Max	418.89	1332.41	98.44	777.90	1317.20	657.41
Rank	**5**	**1**	**6**	**3**	**2**	**4**
Profits per Employee						
Mean	**4.85**	**9.71**	**-7.80**	**4.61**	**-2.70**	**0.48**
S.D.	3.10	4.19	5.05	1.92	5.66	5.24
Min	-0.36	3.90	-12.52	2.92	-10.18	-8.81
Max	9.64	17.11	5.25	8.27	3.91	12.67
Rank	**2**	**1**	**6**	**3**	**5**	**4**
Total Ranks	**12**	**3**	**18**	**10**	**10**	**10**
Overall Rank	**5**	**1**	**6**	**3**	**3**	**3**

Source: Compiled from NAFSCOB Publications

Branch Productivity

Next component of productivity is the assessment of branch wise productivity. The same three variables- deposits, advances and profits in terms of per branch are taken for this purpose.

According to table 2, average amount of per branch deposits of StCBs of Western region is very high as compared to that of others i.e. Rs. 16930 lakhs followed by Eastern region with Rs. 9239 lakhs, Southern with Rs 8707 lakhs, Central with Rs 7987 lakhs and Northern region with Rs 4147 lakhs respectively. StCBs of North-eastern region have again reported relatively low figure i.e. Rs 1258 lakhs. Further, the same sequence is found in performance of next variable – credit per branch. But, in case of profits per branch, Central region has topped with Rs 128 lakhs followed by Eastern with Rs. 113 lakhs. North-eastern and Southern regions have again shown loss on an average. But, interesting observation is that per branch profits of StCBs of Western region are quite low while their branch wise deposits and advances have significantly high during the study period as per mean figures i.e. either advances of these banks have not performed good or their operating expenses have been more. Hence, it should be examined deeply. Moreover, the same region gets first rank followed by Eastern, Central and Southern regions respectively.

Additionally, overall productivity of these regions is compiled by taking all ranks together assigned to these as per different variables of productivity and table 3 reveals the full picture about it.

Table 2: Branch Productivity of State Cooperative Banks of Different Regions in India: 2004-2013 (Amt in Lakhs)

	Central	Eastern	N.E.	Northern	Southern	Western
Deposits per Branch						
Mean	**7987.08**	**9238.53**	**1258.33**	**4146.50**	**8706.56**	**16930.29**
S.D.	1825.73	3899.80	534.72	1354.32	2947.87	3374.91
Min	5649.06	5059.27	622.99	2258.31	4994.54	12415.50
Max	10606.54	15726.24	2106.74	6203.76	12094.60	22377.98
Rank	**4**	**2**	**6**	**5**	**3**	**1**
Credit(Loan outstanding) per Branch						
Mean	**6498.29**	**6911.86**	**510.70**	**4195.52**	**8634.56**	**9979.16**
S.D.	2892.126	2742.894	188.9137	1615.102	2784.948	1703.544
Min	1116.11	3348.75	325.27	2449.66	6303.02	7867.85
Max	10501.15	12826.69	902.13	7287.13	14132.81	13206.45
Rank	**4**	**3**	**6**	**5**	**2**	**1**
Profits per Branch						
Mean	**128.28**	**113.09**	**-81.36**	**46.40**	**-30.27**	**10.44**
S.D.	84.83	57.28	50.34	16.73	74.57	109.67
Min	-9.66	52.97	-135.02	28.51	-120.76	-194.42
Max	252.38	223.62	48.11	75.62	60.35	254.56
Rank	**1**	**2**	**6**	**3**	**5**	**4**
Total Ranks	**9**	**7**	**18**	**13**	**10**	**6**
Overall Rank	**3**	**2**	**6**	**5**	**4**	**1**

Source: Compiled from NAFSCOB Publications

On an average, it is found that the productivity of StCBs of Eastern region has been best as compared to other regions and followed by Western, Southern, Central and Northern regions respectively. Performance of StCBs of North-eastern region has been low on all fronts and it is alarming for survival of the co-operative movement in that region of the country.

Table 3: Composite Productivity of Regions according to ranks assigned on the basis of selected parameters: Total Productivity Index

	Central	Eastern	N.E.	Northern	Southern	Western
DPE	5	1	6	4	3	2
CPE	5	1	6	3	2	4
PPE	2	1	6	3	5	4
DPB	4	2	6	5	3	1
CPB	4	3	6	5	2	1
PPB	1	2	6	3	5	4
Total Ranks	21	10	36	23	20	16
Ultimate Rank	4	1	6	5	3	2

Source: Taken from foregoing tables

Testing of Hypotheses

Further, the foregoing analysis is tried to be enriched and further assessed by examining the growth pace of their employee as well as branch wise productivity of these banks during 2004-13. For this purpose, business (deposits plus credit) per employee and per branch are considered. Growth rates (year to year) of these two variables of StCBs of six regions are calculated and significance in their differences is tested in the following way with the application of Friedman's Test.

$H0_1$ There is no significant difference among the growth rates of business per employee of StCBs of different regions during the study period.

$$F = \frac{12}{nk(k+1)} \times \left(\sum_{i=1}^{k} Rj^2 \right) - 3n(k+1)$$

$$= \frac{12}{9(6)(7)} \times [25^2 + 35^2 + 42^2 + 35^2 + 29^2 + 23^2] - 189$$

F = 8.11

Here, Degree of freedom = k-1 = 6-1 =5

Critical value $x^2_{(v=5)}$ = ±11.07 at 5% level of significance

Since the calculated value of F (8.11) is less than the critical value, the null hypothesis is accepted under the given circumstances. It may be concluded that there is no significant difference among the growth rates of per employee deposits of StCBs of different regions in India during 2004-13. The same is also clear from the figure of total ranks of different regions. Further, the table under consideration also shows that human resources of StCBs of north-eastern region has worked more efficiently in doing and attracting business year by year(total ranks=42) as compared to that of other regions while StCBs of central region are at lower in this regard (total ranks=24).

Table 4: Growth rates of Business per Employee of State Cooperative Banks of Different Regions in India: Friedman's Test

	Central	Eastern	N.E.	Northern	Southern	Western
2004	-	-	-	-	-	-
2005	-9.92 **1**	32.02 **6**	15.98 **5**	14.49 **4**	10.12 **3**	5.97 **2**
2006	31.11 **6**	0.92 **1**	12.02 **4**	29.14 **5**	11.28 **3**	2.86 **2**
2007	3.46 **2**	18.66 **6**	13.75 **4**	-3.56 **1**	12.17 **3**	17.48 **5**
2008	8.81 **2**	14.83 **3**	21.47 **6**	18.58 **5**	0.82 **1**	16.84 **4**
2009	7.86 **2**	13.77 **3**	18.62 **6**	16.22 **5**	0.74 **1**	15.96 **4**
2010	3.92 **1**	49.74 **5**	20.16 **4**	15.44 **3**	54.57 **6**	8.30 **2**
2011	14.77 **4**	13.68 **3**	21.12 **6**	18.05 **5**	13.14 **2**	5.37 **1**
2012	20.45 **6**	6.03 **2**	18.31 **4**	13.35 **3**	19.81 **5**	1.66 **1**
2013	-27.22 **1**	28.48 **6**	11.09 **3**	14.68 **4**	24.54 **5**	9.89 **2**
Total Rank	**25**	**35**	**42**	**35**	**29**	**23**

Source: Compiled from NAFSCOB Publications. Figures in bold font are ranks assigned from first rank to lowest growth rate and so on

$H0_2$ - There is no significant difference among the growth rates of business per branch of StCBs of different regions during the study period.

$$F = \frac{12}{9(6)(7)} \times [24^2 + 37^2 + 40^2 + 36^2 + 30^2 + 22^2] - 189$$

F= 8.62

Here, Degree of freedom = k-1 = 6-1 =5

Critical value $x^2_{(v=5)}$ = ±11.07 at 5% level of significance

Since the calculated value of F (8.62) is less than the critical value, the null hypothesis is accepted under the given circumstances. It means there is no significant difference among the growth rates of per employee deposits of StCBs of different regions in India. Here growth in branch productivity of StCBs of North-eastern region has again been found high (Total rank= 40)

Table 5: Growth rates of Business per Branch of State Cooperative Banks of Different Regions in India: Friedman's Test

	Central	Eastern	N.E.	Northern	Southern	Western
2004	-	-	-	-	-	-
2005	-14.72 **1**	25.66 **6**	14.67 **5**	9.75 **4**	5.51 **3**	2.91 **2**
2006	19.16 **5**	2.05 **2**	8.42 **4**	22.50 **6**	6.57 **3**	-2.09 **1**
2007	87.75 **6**	10.75 **4**	9.02 **2**	2.22 **1**	9.11 **3**	13.16 **5**
2008	-20.00 **1**	11.77 **3**	17.02 **6**	14.94 **5**	8.32 **2**	12.25 **4**
2009	-13.19 **1**	9.11 **3**	14.18 **6**	12.64 **5**	7.08 **2**	10.16 **4**
2010	8.14 **2**	31.36 **6**	14.69 **4**	9.45 **3**	20.22 **5**	2.97 **1**
2011	11.30 **3**	11.54 **4**	15.59 **5**	10.53 **2**	22.60 **6**	-2.45 **1**
2012	10.91 **4**	7.25 **3**	19.24 **5**	19.74 **6**	-1.70 **1**	-1.55 **2**
2013	-62.24 **1**	24.78 **6**	10.84 **3**	11.17 **4**	12.61 **5**	3.30 **2**
Total Rank	**24**	**37**	**40**	**36**	**30**	**22**

Source: Compiled from NAFSCOB Publications. Figures in bold font are ranks assigned from first rank to lowest growth rate and so on.

CONCLUDING REMARKS

In the environment of globalization when competition is increasing day by day, the efficient use of available resources is consistently becoming important and vital for survival in the market. For this, improvement in productivity is only mean and it needs to be kept sustainable for better results. In case of co-operative banks, it is more important to use all available infrastructure facilities and human capital in such a way so that they can sustain in the heavy competition with other commercial banks and play significant role in achieving the objectives of financial inclusion. Further, co-operative banks including various kinds of societies give positive contribution to sustainability. They are highly engaged in economic, social and environmental spheres of sustainability and Short term rural co-operative credit structure occupies the central position in this regard. The present study endeavors to assess the productivity level of all StCBs by categorizing these into six different regions. It is found that productivity of StCBs of Eastern region has been best as compared to other regions while in case of branch productivity, Western region's banks have occupied first position as per statistics of the selected productivity variables during reference period. Ultimately, the productivity of Eastern banks is observed as best. Further, the profitability of StCBs of North-east is a serious issue and banks of Southern region also need to assess the reasons of their loss. But, if we see the growth in productivity year to year, North-eastern region's StCBs have been found ahead as compared to other regions (table 5 and 6). In the current competitive scenario, StCBs should develop an electronic system through which they can monitor and manage the function of its DCCBs with PACSs. The employees of these banks need to adopt themselves to a change from non-price competition to price competition. More importantly, StCBs should renovate its and DCCBs branches to make these more attractive. A special task force on performance of co-operative banks of North-east states should be set-up to study the causes of poor performance of these banks because most of StCBs of this region have incurred losses since many years.

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ANNEXURE

A. Deposits per Employee of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	201.27	372.68	52.96	198.48	296.62	402.46
2005	224.70	457.01	62.85	232.35	344.48	456.91
2006	250.47	430.09	70.60	335.20	374.95	480.57
2007	242.01	495.05	80.52	275.64	415.14	508.54
2008	279.19	614.16	100.30	350.78	486.14	663.68
2009	315.22	740.80	121.15	428.55	548.12	835.33
2010	346.44	1227.40	162.43	522.54	859.38	938.94
2011	356.28	1274.57	188.51	546.68	831.38	866.94
2012	393.11	1368.46	210.81	592.54	980.48	839.44
2013	501.70	1633.61	229.89	662.25	1127.23	877.61

Source: Compiled from NAFSCOB Publications

B. Credit (Loans outstanding) per Employee of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	192.88	246.68	27.65	215.30	374.33	291.54
2005	130.35	360.66	30.64	241.37	394.39	278.51
2006	215.05	395.10	34.13	276.54	447.26	275.90
2007	239.61	484.09	38.62	314.31	507.14	380.17
2008	244.87	510.14	44.40	348.79	443.70	374.71
2009	250.05	538.26	50.50	384.47	388.61	368.79
2010	240.96	687.85	43.83	416.00	588.54	365.15
2011	317.88	902.62	61.31	561.23	806.87	507.16
2012	418.89	940.08	84.75	663.23	982.26	557.49
2013	89.25	1332.41	98.44	777.90	1317.20	657.41

Source: Compiled from NAFSCOB Publication

C. Profits per Employee of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	1.84	3.90	-5.72	3.55	1.02	0.96
2005	-0.36	9.62	-7.58	5.18	1.55	0.68
2006	2.26	17.11	-9.07	2.94	3.91	0.08
2007	3.25	12.76	-12.52	3.81	-0.39	1.74
2008	5.52	12.95	-10.91	3.40	1.08	0.37
2009	7.73	13.17	-9.24	2.97	2.36	-1.14
2010	7.74	6.04	-12.03	2.92	-8.88	0.40
2011	9.64	5.67	-8.94	8.27	-8.29	-8.81
2012	5.93	7.03	-7.27	7.11	-10.18	-2.17
2013	4.91	8.84	5.25	5.90	-9.16	12.67

Source: Compiled from NAFSCOB Publications

D. Deposits per Branch of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	5649.06	5059.27	622.99	2258.31	4994.54	12415.50
2005	5971.02	5905.00	730.95	2534.38	5557.26	13688.12
2006	6049.06	5619.46	794.70	3468.39	5792.71	13704.19
2007	10606.54	6037.05	868.60	3023.22	6238.77	13967.79
2008	8996.25	7290.17	1042.48	3729.36	7849.64	17512.34
2009	8174.95	8433.74	1211.97	4415.95	9407.35	20939.50
2010	9350.11	12258.69	1550.90	5104.99	11471.08	22377.98
2011	9325.23	12490.81	1717.80	5000.71	12024.59	19129.44
2012	9474.87	13564.90	1936.15	5725.92	11635.02	17937.89
2013	6273.72	15726.24	2106.74	6203.76	12094.60	17630.13

Source: Compiled from NAFSCOB Publications

E. Credit per Branch of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	5413.78	3348.75	325.27	2449.66	6303.02	8993.55
2005	3463.67	4660.13	356.38	2632.81	6362.32	8343.61
2006	5193.51	5162.32	384.19	2861.45	6909.98	7867.85
2007	10501.15	5903.32	416.58	3447.30	7621.42	10442.09
2008	7890.14	6055.39	461.49	3708.15	7164.36	9887.21
2009	6484.84	6127.86	505.25	3961.77	6669.60	9244.58
2010	6503.41	6869.89	418.54	4064.12	7855.93	8702.64
2011	8320.24	8845.71	558.72	5133.84	11670.05	11190.70
2012	10096.10	9318.55	778.41	6408.99	11656.13	11912.91
2013	1116.11	12826.69	902.13	7287.13	14132.81	13206.45

Source: Compiled from NAFSCOB Publications

F. Profits per Branch of State Cooperative Banks of Different Regions in India: 2004-2013

	Central	Eastern	N.E.	Northern	Southern	Western
2004	51.70	52.97	-67.33	40.41	17.17	29.61
2005	-9.66	124.28	-88.19	56.53	25.00	20.38
2006	54.61	223.62	-102.13	30.42	60.35	2.39
2007	142.23	155.60	-135.02	41.83	-5.80	47.69
2008	178.00	153.77	-113.44	36.14	17.47	9.76
2009	200.40	149.99	-92.41	30.61	40.52	-28.56
2010	208.86	60.35	-114.91	28.51	-118.54	9.50
2011	252.38	55.60	-81.47	75.62	-119.90	-194.42
2012	142.90	69.73	-66.81	68.66	-120.76	-46.46
2013	61.40	85.05	48.11	55.31	-98.25	254.56

Source: Compiled from NAFSCOB Publications

A STUDY OF NON-PERFORMING ASSETS AND ITS IMPACT ON VIJAYA BANK PERFORMANCE

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ABSTRACT

Non- performing assets (NPAs) is one of the important factor in judging the financial performance and position of the organization. NPAs are defined as credit due to the customers on which the interest and the principal amount has not been recovered for the past years. Banking sectors plays a very important role in the development of the economy. Increase in NPAs can have adverse effect in the economic development; therefore there is a need to find out the NPAs and its impact on profitability so that remedial measures can be taken effectively to control it. Thus, the present study makes an attempt to study the impact of nonperforming assets on the performance of Vijay bank. For the study three performance measurement factors are taken i.e. Return on Capital Employed, Return on Assets, Return on Net worth. The study investigates the impact of "NPA to net advances ratio" on Return on capital employed (ROCE),Return on assets (ROA), Return on net worth (RONW) respectively of Vijiya bank for the period of 6 years i.e. from the year 2008 to 2013. The findings of the study reveal that NPA is not the factors which significantly affect the ROCE, ROA and RONW of Vijay bank. The study concludes that Vijay bank is effectively able to manage its NPAs resulted in not affecting its profitability.

Keywords: Non Performing Assets, performance, profitability, advances.

INTRODUCTION

The bank plays an important role in the economic development of a country by performing it's the most important function known as credit creation. The prime function of a bank is to accept the deposit and to lend .The bank creates credit in various forms such as loans and advances, cash credit, bank over draft to the individuals, firms, companies, government etc. In this sense the bank plays role of a lender of money and all these parties play the role of borrower. Unfortunately the credit provided by the bank doesn't come back to the bank. This creates bad debts, which is known as Non-performing Assets (NPA) in the terminology of bank. Banks usually classify as nonperforming assets any commercial loans which are more than 90 days overdue and any consumer loans which are more than 180 days overdue. An asset which is neither recoverable nor producing income in the form of interest not only decreases the overall profitability but also diverts management attention into non-productive action. Therefore it is necessary to find out impact of NPA on profitability and if present then how to minimize it. Based on the period for 90 days if the asset has remained non-performing (failure of interest and installments of principal) can be categorized as Sub-standard asset, doubtful assets and loss assets. A sub-standard asset is one, which has remained NPA for a period less than or equal to 18 months.

In such cases, the current net worth of the borrower/guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the banks in full. Sub standard assets would be classified as doubtful if it remained in the sub-standard category for 12 months. A loss asset is one where the bank internal or external auditors have identified loss or the RBI inspection but the amount has not been written off wholly. In India some of the causes of increase in NPAs are legal hindrances, political pressure, defective lending policies and willful defaults. Therefore it is essential to know whether NPA is the factor affecting the profitability of the bank and if so what are the remedial measures can be adopted. The study would be helpful to bankers in formulation of new strategies to reduce the NPAs. The study will also be helpful to the investors in judging the performance of banks.

LITERATURE REVIEW

Narula and Singla (2014) attempted to assess the NPA of Punjab National bank and its impact on profitability and found that there is a positive correlation between Net profits and Net NPA of PNB. Jani and Manish (2013) attempted to find out the impact of 6 nationalized banks for the period of 2002 to 2012 of NPAs on profitability of six nationalized banks and concluded that gross NPA is not the variable affecting the profitability. Poongavanam (2011) found that NPA not only reduces profitability but also leads to increase in carrying cost. Goyal (2010) tried to examine the trend of NPAs, quality of Assets, health of several loan assets; sector wise NPAs for the period of 2002-2009, and observed that there is a increase in gross as well as net NPAs in absolute terms. The public sector banks have managed its assets proficiently; however, the study observes that increased NPA's in the agriculture sector is a matter of great concern.

METHODOLOGY

The data comprises of the ratios (Net NPA to net advances ratio, ROCE, ROA, and RONW) for the period of six years i.e. from 2008-2013. The data for the study is taken from the official website and annual report of Vijaya Bank. As the study falls under the micro research, one independent variable and three dependent variables are taken and separate simple regression has been applied. To study the impact of Net NPA to Net advances ratio as one independent variable and performance measurement factors like return on assets, return on capital employed, return on Net worth profitability, as three dependent variables are taken. In Regression, P value is used to establish the fitness of model whether the model is significant or not. If the model is significant in nature then only, regression equations are calculated to understand the impact of NPA on performance measurement factors. Accordingly following three null hypotheses (H_0) have been formed to check significant impact of Net NPA to net advances ratio on ROCE, ROA and RONW.

1. There is no significant impact of "Net NPA to net advances ratio" on ROA
2. There is no significant impact of "Net NPA to net advances ratio" on ROCE.
3. There is no significant impact of Net NPA to net advances ratio" on RONW.

Where,

Independent variable:

1. $\mathbf{X_1}$- Net NPA to Net advances ratio.

Dependent variables:

1. $\mathbf{X_2}$- ROA
2. $\mathbf{X_3}$-ROCE
3. $\mathbf{X_4}$-RONW

FINDINGS AND INTERPRETATION

Firstly independent variable "Net NPA to advances ratio (X_1) was calculated using the given formula i.e. Net NPA / Net advances. In the same manner dependent variables i.e. (X_2) ROA was calculated by Net Profit/Total assets, (X3) ROCE was calculated with the formula i.e. EBIT/Capital employed, (X_4) RONW was calculated by Net profit/Net Worth. All dependent variables of Vijay bank were regressed separately on "Net NPA to advances ratio". On the basis of regression result all three null hypothesis were accepted. Table 1 shows the P-value (.526092) which is more than 0.05 so null hypothesis is accepted which reveals that there is no significant impact of "Net NPA to advances ratio on ROA". Table 2 depicts the P-value (.691895) which is more than 0.05 so null hypothesis is accepted which also reveals that there is no significant impact of "Net NPA to advances ratio on ROCE". Table 3 represents P-value (.800039) which is more than 0.05 so null hypothesis is accepted which reveals that there is no significant impact of "Net NPA to advances ratio on RONW".

Table 1: Regression Statistics between Net NPA to Advances Ratio and ROA

Intercept Value	X Variable	R Square	P-value
0.004969	0.078879	0.107365	0.526092

Table 2: Regression Statistics between Net NPA to Advances Ratio and ROCE

Intercept Value	X Variable	R Square	P-value
0.005539	0.051832	0.043439	0.691895

Table 3: Regression Statistics between Net NPA to Advances Ratio and RONW

Intercept Value	X Variable	R Square	P-value
0.12612	-0.76203	0.017986	0.800039

Table 1, 2 and 3 shows the R^2 values 0.107365, 0.043439 and 0.017986 respectively for dependent variable i.e. ROA, ROCE and RONW .The result interprets that only 10.7%, 4.3% and 1.7% variability in ROA, ROCE and RONW is explained by the variability in "Net NPA to Net advances ratio". It reveals the fact that there is significantly less variability of profitability explained by NPA. This shows that there may be other factors influencing the profitability of Vijaya Bank. Hence, the study observed the fact that though Vijaya Bank has NPA but it is not a matter of great concern. The study concludes that Vijaya bank is able to manage its NPA prudently having no effect on its financial performance.

CONCLUSION

The paper stresses on the importance of NPA management and its impact on Vijaya bank performance for which regression statistical was applied on four performance measurement factors i.e. Return on assets, Return on capital employed, Asset quality, Return on net worth. The testing of hypothesis reveals that "Net NPA to advance ratio" is not only the variable that affects the ROA, ROCA And RONW of Vijaya bank. This indicates that there is a scope of carrying out further research to find out the impact of other variables affecting profitability. Since insignificant relationship has been found of the variables tested it may be stated that Vijaya bank is able to manage their assets proficiently. As the data for the study is limited to Vijaya bank for the period of only six years i.e. 2008 to 2013, the findings may differ when changed. It can be also stated that Vijaya Bank has sufficient profit to meet out its NPAs effectively leading to no effect on its profitability. The study also observes the fact that the prudential norms and other initiatives taken by the regulatory authorities have enforced the bank to manage its financial performance adequately.

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Indian Journal of Accounting, Vol XLVII (2), December 2015, ISSN-0972-1479

MEASURING HUMAN CAPITAL: AN EXTENDED VERSION OF LEV AND SCHWARTZ MODEL

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ABSTRACT

The advent of knowledge based economy has led to a number of changes in the accounting and reporting practices of the organizations. The companies are spending huge amounts to develop the human resources to the maximum possible extent so as to achieve quality results. It would not be an exaggeration to state that the competence and calibre of the human beings working in the organization are the real assets of an enterprise. In spite of the fact that human capital is the real contributory for the success of an organization, It is very sad to note even today, our accounting researches could not develop a foolproof accounting system to evaluate the most important and valuable assets of an enterprise, that is man. The concept continues to be debated by economic, accounting, and psychology theoreticians universally.

Different models have been developed for the valuation of human capital focusing on different aspects. The present study is based on providing an extended version of the Lev and Schwartz model of valuation. A case study of Aarti International Limited has been done to suggest a model of valuation. The results show that the valuation of human capital can become more meaningful by giving equal weightage to the turnover rate of the employees, training cost and the annual increment being given to the employees. It has also revealed that the inclusion of human capital valuation enhances the quality of the information content of financial reports.

Keywords: Training cost, Turnover rate, Lev and Schwartz model.

INTRODUCTION

Over the past several decades there has been a tremendous transition of the economy from manufacturing to service based. The value contribution by human capital is getting more importance over other physical assets of an organization (Sharma and Shukla, 2010).

Accounting is considered as the language of business. It occupies an important place in the economic, trade and manufacturing concerns. It is both an art and a science which is based on certain principles with the aim of assisting the business in reporting the results of the business to the public. The external parties demand a detailed information regarding the most important asset of its organization i.e. the human resources so that they can make a better decision (Perere, 2010). Accounting is now regarded as a social activity, a descriptive analytical discipline and an information system. The primary role of accounting is to provide an effective measurement and reporting system for decision making. The human resource is more concerned with this decision making area of accounting. It is an effective tool for decision making. Of the four factors of production i.e. men, money, method and land only the first one is active factor and is responsible for the successful application of the rest of others (Avazzadehfath and Raiashekar, 2010).

In the present era of ever changing technology, only those organizations can survive in the long run which have adequate knowledge about the cost, value and performance of their human resources (Singh and Singh, 2009). Any decision regarding the adequacy of human resources is based on the results provided by human resource valuation (Sharma & Shukla, 2010). An organization with incompetent persons will fail sooner or later, whereas on the other hand any enterprise having competent staff may survive and perform very well in adverse circumstances. Employees thus can be regarded valuable assets of an organization. Even the presence of latest computer technology and other physical resources cannot save any organization from financial crisis if competent financial analyst is not there to manage, to conduct affairs of the organization. Hawaii Electric Light which has assumed status of world leader in electronics has attained the top position due to caliber of commitment, loyalty and character of the people working in the campus of Hawaii Electric Company**.**

The importance of human capital has been recognized since ages. However its valuation by the organizations has attained a very little attention. The earliest effort for the valuation of human resources was made by Sir William Petty (1623-87). However, it was not given due consideration. After this the human resource accounting attained a little attention by the organizations and R.G Barry Corporation, Ohio (USA) in 1967 was the first corporation to implement human resource accounting. The organizations are faced with challenge of measuring the impact of expenditure incurred on the human resources towards the economic contribution of the business. The present study is based on addressing these issues by discussing a case of Aarti International Limited and applying an extended version of the Lev and Schwartz model of human resource valuation.

LITERATURE CITED

The past several decades have witnessed a remarkable emphasis in the area of HRA. Several advocates of HRA have propagated the practical implications of HRA and its use in several areas. The most popular amongst being, Lev & Schwartz (1971), Elias (1972), Hendricks (1976), Pekin Ogan (1988), Dawson (1994), Flamholtz (2004), Herman & Mitchell (2008).

Hendricks (1976) conducted a study taking accounting and finance students a as sample. The simulated study shows that HRA has a significant positive relationship with the decision making by the investors. Gupta (1992) conducted a study on the comparative analysis of HRA disclosure practices followed by the selected public and private enterprises. The findings of the study reveal that although the organizations disclose the information regarding the valuation of human resource, yet it is lacking in the area of quality and use of human resources. He has suggested that attention should be given towards the second element as it can be crucial for the purpose of decision making. Dawson (1994) investigated in his study the relationship between two the replacement cost model (RCM) and the stochastic rewards valuation model (SRVM) of human resource valuation. The study highlights the practical implications of human resource valuation by throwing light on the benefits and limitations of simulation methodologies and its relationship with the prescriptive and descriptive approaches to the study of management. Batra (1996) asserted in his study the importance of auditing for human resource valuation by suggesting successful human resource accounting must be accompanied a system of HR audit to assure the performance of mangers in the overall interest of the organization.

Moreover it is imperative for finding out the efficiency of various segments of the business as well as the human resources in the ever changing business environment. Cuganesan (2006) examined the use of Key Performance Indicators (KPI) by the Australian banks in managing and utilizing the human resources. The author claims that the examination of KPI reporting indicates significant differences in the amount of KPIs reported and focus of the KPIs reported. The main reason for reporting of human resources is the stakeholder perspective.

Theeke and Mitchell (2008) evaluated the applicability of reporting under a human resource liability into the traditional accounting framework of contingent liabilities. The authors have examined the effect of human resource reporting on the two very important aspects i.e. market valuation and internal planning. They have propagated the need to have a shift in the human resource liability for the proper valuation of human resources. Singh and Singh (2009) have reported the results of a study conducted to evaluate the human resource accounting practices in Infosys Technologies Limited (ITL). The study shows that the HRA practices in ITL are satisfactory. In spite of the fact that there is neither any provision in the Companies Act 1956 nor there is standard regarding HRA, ITL has adopted HRA practices on its own. However the authors have suggested the inclusion of HR ratios by ITL in order to make HR decision more effective.

Cirappa and Muttesha (2010) reported the results of a study on the relationship between corporate attributes and HRA decision of the listed companies in Bangladesh. The findings reveal that the companies having higher market value give more importance to HRA information and hence disclose more as compared to the smaller companies. The fundamental reason for such disclosure is to maintain such market share in future as well. Another finding of the study is that the financial companies disclose more information relating to human resources as compared to non financial companies.

Andrade and Sotomayor (2011) discussed the various models for the measurement of human resource values. The paper validates the popularity of Lev & Schwartz and Flamholtz model as far as the practical applicability is concerned. Avazzadehfath and Raiashekar (2011) performed a study with threefold objectives i.e. the impact of HRA information disclosure on the investment decisions, factors affecting such decision and the evaluation of most appropriate method for the valuation of human resources. The findings reveal that the disclosure of HRA information significantly affects investment decision.

Regarding the method of evaluation, it is being observed that the original cost method is the most appropriate method which is consistent with the Iranian companies. Kashive (2011) argued that in spite of the fact that the Intellectual Capital (IC) measurement, reporting and disclosure are important elements for any organization; the Indian forms are still lagging behind their counterparts in European and American continents. This actually requires awareness about the significance of disclosure of human resource valuation on market valuation so that the companies pay their attention towards voluntary disclosure of human resources valuation.

Ratti (2012) conducted a study to determine the human resource efficiency quotient by calculating the value of human resources at different levels of the organization. The study concludes that the calculation of human resource efficiency quotient is quite an expensive affair and difficult as well. Islam et al (2013) performed a study on the recognition and disclosure of accounting methods and techniques of HRA. The authors have supported the use of economic value approach for the valuation of human resources, as the historical cost method is not the appropriate method of valuation. The authors have advocated the use of specific provisions in the Companies Act for the proper valuation of human resources as well as disclosure of details of investment in human assets in the form of training and development expenses, salaries and other allowances etc through annual reports.

Pandurangarao et al (2013) advocated the use of HRA by arguing that there is need to do more in the area of human resource valuation so as to show greater progress. In fact it requires an extensive search into the valuation methods and models, so as to ensure its practical applicability. Qatawneh (2013) found in his study that there exists a positive and significant relationship between human resource accounting information and accounting information system. At the same time it also enhances the reliability of the accounting information system.

Human resource accounting information had contributed to increase efficiency and role effectiveness of accounting information systems in companies. Khodabakhshi and Arash (2014) in his study focused on the analysis of HR valuation models used by the Indian companies. The main objective of the study is to do analysis of the variables so as to arrive at some logical decision and monitor the effectual use of human asset and assign value to the human resources. The findings reveal that amongst all the models, Lev and Schwartz model is the most popular.

OBJECTIVES OF THE STUDY

- To propose an extended version of Lev & Schwartz model for valuation of human resource accounting
- To value the human resources of Aarti International Ltd. Ludhiana on the basis of proposed extended Lev & Schwartz model.
- To analyse how human resource valuation figures are helpful for managerial decision-making.

LEV AND SCHWARTZ MODEL – AN EXPLANATION

The proposed model is an extension of the existing compensation model developed by Lev and Schwartz. Thus, to understand the extended version, we first need to understand Lev and Schwartz Model of human resource valuation.

The Lev & Schwartz model states that the human resource of the company is the summation of the Net Present Value (NPV) of the expenditure on employees. Under this model, the following steps are adopted to determine HR value.

i. All employees are classified in specific groups according to their age and skill.
ii. Average annual earnings are determined for various ranges of age.
iii. The total earnings which each group will get upto retirement age are calculated.
iv. The total earnings calculated as above are discounted at the rate of cost of capital.

The value thus arrived at will be the value of human resources/assets. So, the human capital embodied in a person is the present value of his earnings from employment. The following formula has been suggested for calculating the value of an employee according to this model:

$$V_r = \frac{I(t)}{(1+r)^{t-r}}$$

Where, V_r = the value of an individual r years old

I (t) = the individual's annual earnings upto retirement

t = retirement age

r = the discount rate specific to the cost of capital to the company.

The above model explains the human resources as wealth and to compute the present value of this wealth. Specifically, Schwartz model explains the present value of future earnings of a person in an organization.

Limitations of Lev & Schwartz Model

Following are some of the limitations of Lev and Schwartz Model -

1. The Model ignores the possibility and probability that individual may leave an organization for reason other than death or retirement.
2. The training expenses incurred by the company on its employees are not considered.
3. This model does not consider the variable of career management of the worker within the organization

Proposed Extended Lev and Schwartz Model– An Explanation

In order to overcome the limitations of Lev and Schwartz model, an extended Lev and Schwartz model is proposed with following objectives:

1. To accommodate the possibility of an individual leaving the organization for reasons other than retirement and death, the proposed model introduces turnover rate for more accurate valuation of HR.
2. To take into consideration the training cost incurred by an organization on employees which also increases the value of HR.
3. To take into account the annual increment in the salary of employee over a period of time due to improvement in skill and experience of the employee.

Steps in Proposed HR Valuation Model

1. Total workforce has been divided into homogeneous groups on the basis of nature of functions performed by them.
2. Each group is further sub-divided into various age groups starting from the age of recruitment till the age of retirement.
3. Average salary for each age group is determined after incorporating annual increments.

4. Present value of earnings and training cost for each age group is calculated by taking into account the discount rate.
5. Summation of the above when multiplied with retention rate gives the present value of human capital belonging to a particular homogeneous group.

Valuation of Human Resources of Aarti International Ltd

- The total workforce of Aarti International Ltd. is divided into two major groups on the basis of nature of work performed by them i.e. workers and officers & support staff.
- Aarti International ltd. has 1748 skilled labourers belonging to age group between 18-50 years and 275 officers and support staff belonging to age group between 18-55 years
- The annual increment in wages is 12% p.a and labour turnover rate is 10%
- As the turnover rate is 10%, so there was a labour turnover of 175 skilled workers.
- The average wages of each newly recruited labour is Rs.7000 per month.
- The cost incurred on orientation is Rs. 18000 for each skilled labourer (i.e. Rs.6000 per month for initial 3 months) and there is no training cost incurred on officers and support staff.
- The discounting rate has been assumed to be 10%.

Table 1: Profile of Workers

Category	No of employees	Monthly Salary Slab (Rs)	Age (yrs)	Training Cost per Employee (Rs)	Annual Increment (%)
Group 1	1049	7000-26880	18-28	18000	10-15% pa
Group 2	437	9240-26880	29-40	18000	10-15% pa
Group 3	262	13305-26880	41-50	18000	10-15% pa

Table 2: Profile of Officers and Support Staff

Category	No of employees	Monthly Salary Slab (Rs)	Age (yrs)	Training Cost per employee	Annual Increment (%)
Managers	34	40000-125000	18-55	Nil	8-12% pa
Staff	216	15000-35000			8-12% pa
Support	25	8000-15000			8-12% pa

The valuation of 1748 employees among various age groups has been calculated as follows:

Table 3: Valuation of Workers

Age Group	No of workers	Cumulative no. of Workers	Average Salary during his stay in organisation p.m.	
18-28	1049	1049	(7000+16240)/2	=11620
29-40	437	1486	(16240+39626)/2	=27933
41-50	262	1748	(39626+87177)/2	=63402

- Wages of 18 year old employee after 11 years with an annual increase of 12% pa simple interest

$$=\frac{7000x12x11}{100} = Rs\ 9240$$

Amount=7000+9240= **Rs 16, 240**
NPV of employees (18-28 years) for first 11 years= 11620 x 12 x 1049 x 6.4951 = **Rs. 95,00,54,904.**

- Wages of 29 year old employee after 12 years with an annual increase of 12% pa simple interest= $\frac{16240x12x12}{100}$ = **Rs 23,386**

Amount= 23386+16240= **Rs 39,626**
Annuity Discounting Factor (ADF) for 18-40 years= 8.8832
Annuity Discounting Factor (ADF) for 18-28 years= <u>6.4951</u>
Therefore, ADF for 29-40 years =2.3881

NPV of employees (29-40 years) for next 12 years= 27933 x 12 x 1486 x 2.3881= **Rs 1,18,95,15,609**

- Wages of 41 year old employee after 10 years with an annual increase of 12% pa simple interest= $\frac{39626x12x10}{100}$ = Rs 47551

Amount= 47551+39626= **Rs 87,177**
Annuity Discounting Factor (ADF) for 18-50 years= 9.5694
Annuity Discounting Factor (ADF) for 18-40 years= <u>8.8832</u>
Therefore, ADF for 41-50 years = 0.6862
NPV of employees (41-50 years) for last 10 years= 63402 x 12 x 1748 x 0.6862

= **Rs 91,25,91,345**

NPV of total wages of workers (1+2+3) = 95,00,54,904 + 1,18,95,15,609 + 91,25,91,345
= **Rs 3,05,21,61,858**

Table 4: Training Cost of Workers

Induction Cost for all workers	1748 x 3 x 6000	Rs 3,14,64,000
+ Training cost of new workers due to attrition	10% of training cost = 10/100 x (3,14,64,000)	Rs 31,46,400
Total Training Cost		**Rs 3,46,10,400**

Total value of workers = (Net present value of total wages of all workers × retention rate) + Total training cost
= (3,05,21,61,858 × 0.9) + 3,46,14,000
= 2,74,69,45,672 + 3,46,10,400
= **Rs 2,78,15,56,072**

Table 5: Valuatuion of Officers & Support Staff

Category	No of employees	Monthly Salary Slab (Rs)	Age (yrs)	Training Cost per employee (Rs)	Annual Increment (%)
OFFICERS					
Managers	34	40000-125000			
Staff	216	15000-35000	18-55	Nil	8-12% pa
SUPPORT STAFF					
Sub-Staff	25	8000-15000	18-55	Nil	8-12% pa

- Average salary of **Manager** = $\frac{40000+125000}{2}$ = Rs 82500
(During his tenure in company)
NPV for 38 years (18-55) = 82500 x 12 x 34 x 9.7327 = **32,76,02,682**

- Average salary of **Staff** = $\frac{15000+35000}{2}$ = Rs 25000
(During his tenure in company)
NPV for 38 years= 25000 x 12 x 216 x 9.7327 = **63,06,78,960**

- Average salary of **Support Staff** = $\frac{8000+15000}{2}$ = Rs 11500
(During his tenure in company)

  NPV for 38 years= 11500 x 12 x 25 x 9.7327 = **3, 35, 77,815**

Total value of officers at NPV= 32, 76, 02,682 + 63, 06, 78,960 + 3, 35, 77,815
= **Rs 99, 18, 59,457**

Total Value of HR

Total value of HR = Total value of workers + Total value of officers & support staff
= 2,78,15,56,072 + 99,18,59,457
= Rs 3,77,34,15,529

Use of Human Capital Valuation in Managerial Decision-Making

Any decision by the firms regarding the valuation of human resources is based on finding out what contribution does it make towards major decisions of the business. The value of HR signifies the monetary amount assigned to HR of the company. The present study takes the above extended model towards the usefulness of HR valuation towards decision making. The areas are studied here i.e. the contribution of HR towards capital employed and the return on HR.

HR Contribution towards Capital Employed

The HR contribution towards Capital Employed can be calculated with the help of following formula:

$$\textbf{HR contribution towards Capital Employed} = \frac{\textbf{Value of Human Resource}}{\textbf{Capital Employed}} \times 100$$

Illustration:

Particulars	Company A	Company B
Capital Employed	100 crores	20 crores
Value of HR	70 crores	15 crores
HR contribution towards capital Employed	$\frac{70\ cr}{100\ cr} = 70\%$	$\frac{15\ cr}{20\ cr} = 75\%$
HR contribution per unit of capital employed	0.7	0.75

ANALYSIS

- There are 2 companies A and B with HR value Rs 70 cr and Rs 15 cr resp. Thus, at first instance, it can be felt that company A might have a stronger position owing to a higher HR value as compared to company B.
- But, when we compare the value of HR based on the capital employed, we see that company A's employees contribute 70% to the capital employed whereas company B's employees contribute 75% to the capital employed.
- In other words, company B is able to extract more from its HR assets per unit of capital employed than company A.
- Thus, we conclude that company B has been able to utilise and manage its HR in a more efficient way as compared to company A.
- Similar comparisons can be made amongst any number of companies in the same industry using the formula below.

Return on HR

So far, an attempt has been made to devise a model for valuation of HR based on futuristic values. In simple terms, the value of HR has been calculated by finding the present value of the salary, the employees will be paid till their age of retirement which turns out to be a number of big denomination.

Such valuations can be used an effective tool when it comes to motivation of employees. But these figures are of little significance for managerial decision-making. This gives rise to a need for formulating a technique which is based on the current accounting year's values and which may help in extracting results useful for decision-making

Thus, the following concept is framed which is based on the assumption that the super normal profits earned by a firm are purely due to the efforts of its HR. The following illustration will help in better understanding of the concept.

Illustration:

There are two firms, A Ltd. and B Ltd. in a particular industry. The following are the details pertaining to the two firms.

PARTICULARS	A LTD.	B LTD.
Capital employed	Rs. 10,00,000	Rs. 6,00,000
Rate of return (industry)	10%	
Rate of return (firm)	15%	12%
Employee benefit expenses p.a (in terms of salary and fringe benefits)	Rs. 5,00,000	Rs.1,00,000

The return on HR of the two firms may be calculated in the following manner:

	A LTD	B LTD
Profit earned by the firm during the year (1)	= 15% of 10,00,000 =Rs.1,50,000	= 12% of 6,00,000 = Rs.72,000
Profit (as per the industry rate of return) (2)	= 10% of 10,00,00 =Rs 1,00,000	=10% of 6,00,000 =Rs. 60,000
Super normal profits (1)-(2)	=Rs. 50,000	=Rs.12,000
Return on HR $= \frac{\text{Super normal profits}}{\text{Employee benefit expense}}$	$= \frac{50,000}{5,00,000} \times 100 = 10\%$	$= \frac{12,000}{1,00,000} \times 100 = 12\%$

It can be found out that even though, A LTD. has higher super normal profits in absolute terms, but the HR of B LTD. is more efficient as its return on HR is higher. Thus, it can be concluded that higher super normal profits are not a guarantee for efficient utilization of HR. In such a case, A LTD. has 2 alternatives:

1. Company may control its employee benefit expenses so that the profits extracted are commensurate with the expenditure made on HR.
2. Company may adopt productivity linked incentive schemes so as to motivate the employees to extract more profits.

CONCLUSION

The proposed model can be used as an effective motivational tool as it enables employees to know their value to the organization in quantitative terms. It will help an employee to estimate his earnings throughout his tenure in the organization which will give him a sense of financial and moral security. Moreover the persons working towards the valuation of human resources must understand its usefulness towards managerial decision making. The present study highlights this aspect by taking a hypothetical example of two firms and suggests that the contribution of HR towards capital employed can assist the managers in arriving at better decisions. But at the same time, it is an agreed fact that the concept of human resource accounting is still in its adolescence stage and struggling for its applicability by the organizations A lot of research work is required to be done before a holistic method of HR valuation is devised.

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OBSERVING THE FACTORS AFFECTING THE DISPOSITION EFFECT: AN EMPIRICAL STUDY FOR PREDICTING INVESTOR'S BEHAVIOR IN JAIPUR CITY

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ABSTRACT

Available literature and research finding evidences, that the impact of behavior and psychology of decision making cannot be ignored. In the recent times, sheer dependence on Efficient Market Hypothesis (EMH), advanced by Eugene Fama and the notion of 'rational investor' are not sufficient in every sphere. The disposition effect was coined by Statman & Shefrin in 1985, which argues that investors keep on holding those stocks that have lost in value and sell those stocks which have risen in value.

Grabbing the earlier scholarly work in the domain of disposition effect and the empirical previous finding, this research paper is an attempt to examine the factors which affect the disposition effect. The notion of 'selling winners too early and holding losers too long' was observed by taking into centre the factors suggested by previous researchers. In this line of work, Overconfidence Bias, Mental Accounting Bias, Regret Aversion Bias, Self Control and Loss Aversion Bias are scanned with reference to the existence of the disposition effect in the behavior of investors of Jaipur city.

Keywords: Disposition effect, Efficient Market Hypothesis, Mental accounting, Regret aversion, Self control, Rational Investor

INTRODUCTION

Traditional finance theories support the notion of Efficient Market Hypothesis (EMH), which was advocated by Eugene Fama. This asserts that the prices of securities reflect all the available information and there are no chances to earn abnormal returns as price change is just random. In the recent times, this has become an axiom as human behave rationally, as it is being observed that investors behavior in the stock market is quite inconsistent with those of a homoeconomicus man. This has swayed the way for an evolving field, i.e. behavioral finance, which connects the psychology and finance in financial decision making. Behavioral finance is paying attention to the behavior which is somewhat unreasonable and this gives a hit to the biases of investors in the decision making process. In the series of these biases, one of the prominent ones is 'Disposition Effect' which for investors frame an S-shave value function.

Over the years, it has been observed that in financial markets, investors are too keen to comprehend the gains whereas disinclined for accepting the losses and pains. This outlines the disposition effect advanced by Shefrin and Statman in 1985, which opposes the assumptions of traditional finance theories. The classical theories assert that a homoeconomicus man would release those shares from the portfolio who have lost in value as it is affecting the wealth, whereas should invest in promising prospects and should continue with those stocks which are increasing in value.

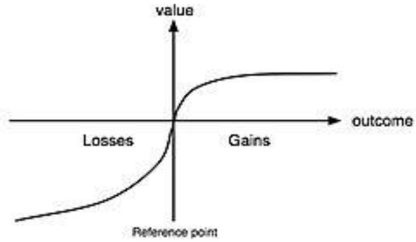
The past empirical findings have explored the way for analyzing and determining the variables which affects the disposition effect. The researchers in the field of behavioral finance have embodied the dimensions for biases which influence the disposition effect. The crystallized biases are overconfidence, mental accounting, regret aversion and self control, which are monitored as strong variables or factors for explaining the concept of disposition effect. The study was executed on stock market investors of Jaipur city to see if there is a significant relationship between these biases and to what extent they affect each other.

THEORETICAL BACKGROUND OF DISPOSITION EFFECT AND REVIEW OF LITERATURE

The conceptual framework of disposition effect is explained in the continuum of 'prospect theory' given by Kahneman & Tversky (1979) which asserts that the reference point becomes the utility point for gains and losses. This purchase price becomes the criterion to decide whether to retain the stock or should release the stock from the portfolio. In the series of this decision making process, whether to sell or retain the stock, the behavior takes the S-shape value function. This typically argues that investors are risk seekers in loss domains and risk averse in gain domains. Thus the utility function of prospect theory are convex in the loss sphere, whereas concave in the gain sphere. If a person were given two equal choices, one expressed in terms of possible gains and the other in possible losses, people would choose the former, this is also known as Loss Aversion Bias (investopedia.com).

The researches by Odean, 1998; Weber & Camerer, 1998; Locke & Mann, 2000; Grinblatt & Keloharju, 2001; Ranguelova, 2001, Pompian, 2009 have come across with the similar findings that if the stock prices increases, investors chases the profit via selling the stocks and on the other hand if the stocks are tumbling off, investors persuade themselves that the price will raise and hence they keep the loser stocks in their portfolio.

Figure 1: Prospect Theory Utility Function



For studying the variables which affects the disposition bias, further expansion for each of the biases is underneath.

Relationship between overconfidence bias and disposition effect

(Odean, 1998), pioneered the concept of overconfidence as a tendency to overestimate the accuracy of their knowledge about the value of a security. Overconfidence is a robust phenomenon which affects the decisions to a great extent. In a recent past, the core of global financial crisis 2008 is backed with over optimism, overconfidence and categorization which led to financial instability.

The concrete background of overconfidence is pragmatically tested by (Barber & Odean, 2001), which evidences that the notion of overconfidence escorts towards greater trading volume and frequency of trading in financial markets. This phenomenon leads to poor portfolio performance.

The distinction between overconfidence and disposition effect is linked with the empirical finding that overconfidence is responsible for the market wide increase in transaction volume whereas disposition focuses on individual stock level. (Odean, 1998), experimented the disposition effect on 10,000 discount brokerage accounts of individual investors. The ratio of realized gain over total gains, and the ratio of realized losses over total loss were taken for measuring the disposition effect. It was evidenced that investors are reluctant to realize their losses, but are willing to realize gains promptly.

Relationship between mental accounting bias and disposition effect

(Thaler, 1985), asserts that mental accounting is the course of action where the investor maintains the accounts separately for losses and gains and keep on tracking the accounts for gains and losses for a separate stock rather than looking at whole portfolio. The notion behind this mental accounting is that when an investor invests in a stock, that person opens a mental account for each of the stock and then the concept of prospect theory is being applied. The S-shape, value function shows that it is very painful to close a mental account with the loss. This supports the views of Tehrani et al (2012) who have propounded the connotation of disposition effect as 'sell winners too early and ride losers too long.

Relationship between regret aversion and disposition effect

As also supported by loss aversion theory that investors are reluctant to accept the losses and they keep on avoiding the regret. This leads them to hold the stock for a longer while and sell the winners too early. The conceptual framework of regret aversion is being demonstrated by (Kahneman & Tversky, 1979), Thaler (1985), Shefrin & Statman (1985) & (Shiller, 1999). They all have substantiated that in order to avoid regret, investors generate disposition to sell winners and postpones the feeling of regret for those stocks that have lost their value.

Relationship between self-control and disposition effect

Self control bias persuades individual to spend today at the expense of savings for tomorrow (Weber, 1998). Self control bias distracts investors to plan for retirement purposes. Earlier researches have shown that people who are not inclined for savings for retirement purposes, they do not invest in equities. (Grinblatt & Keloharju, 2001), explains that the nature of self control avoids the feel of realization of losses. Investors have a keen desire to hold on to those stocks that have been dropped off. This bias can cause investors to ignore the urges of compounding of interest which hit the wealth in a long time framework.

RESEARCH METHODOLOGY

The objective of the present theme of work is to evaluate the relationship between four prominent behavioral factors of disposition bias such as Overconfidence Bias, Mental Accounting Bias, Regret Aversion Bias and Self Control Bias. The inclination is for putting efforts to reduce these biases among the investors. The population under study includes the investors of Rajasthan. 523 investors were selected through convenience sampling method.

The instrument used for data collection was a questionnaire which was continuous and circuitous. In a sequence of measuring the reliability of the instrument, experts' views and suggestions are incorporated. For validating the instrument Chronbach Alpha was used, which was measured as 0.722. In order to test research hypotheses, statistical tests such as correlation and multiple regression analysis were employed.

HYPOTHESES

H_{01} There is no significant relationship between Mental Accounting Bias and Disposition Bias.

H_{02} There is no significant relationship between Regret Aversion Bias and Disposition Bias.
H_{03} There is no significant relationship between Self Control Bias and Disposition Bias.
H_{04} There is no significant relationship between Overconfidence Bias and Disposition Bias.

Table 1: Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Regression Model	.539	.290	.257	3.6225

The above model is asserting that independent variables such as, Mental accounting bias, Regret Aversion Bias, Self Control Bias and Overconfidence Bias are explaining 25.7% variation in the dependent variable i.e. Disposition Bias. Adjusted R Square is explaining that all independent variables are explaining the variation in dependent variable.

Table 2: ANOVA Statistics

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	356.263	4	89.066	8.065	.000
	Residual	5720.410	518	11.043		
	Total	6076.673	522			
a. Predictors: (Constant), Mental Accounting Bias, Self Control Bias, Regret Aversion Bias, Over Confidence Bias; b. Dependent Variable: Disposition Bias						

Statistical significance

The F-ratio in the ANOVA table tests is showing whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(4, 95) = 8.065, p < .0005$ (i.e., the regression model is a good fit of the data).
Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The coefficient table is showing that only two of the biases i.e. Self Control Bias and Mental Accounting Bias are significant as p-value is <.05. It is asserting that for each one unit increase of Self Control Bias, there is a .104 decrease in the degree of disposition bias. Similarly, if mental accounting bias increases by one unit, there would be an increase of 0.196 degrees in unit of disposition bias. Regret Aversion and Overconfidence Bias were not found significant for the investors of Jaipur City.

Table 3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	5.424	.881		6.15	.000		
Regret Aversion Bias	.104	.062	.074	1.694	.091	.946	1.057
Self Control Bias	-.151	.068	-.095	-2.220	.027	.993	1.007
Over Conf. Bias	.007	.042	.007	.168	.867	.944	1.059
Mental Acct Bias	.194	.039	.214	4.974	.000	.978	1.022

Table 4: Result of Analysis

Relation	Hypotheses	Standardized Beta Coefficient	t-value	Null Hypothesis
MA-DE	H_{01}	.214	4.974	**Rejected**
RA-DE	H_{02}	.074	1.694	**Not Rejected**
SC-DE	H_{03}	-.095	-2.220	**Not Rejected**
OC-DE	H_{04}	.007	.168	**Not Rejected**

Self Control Bias and Mental Accounting Biases were observed prominent for predicting the behavior of investors of Jaipur City. The tendency of selling winners early and holding losers too long is affected by self control and mental accounting bias. Self Control and Disposition is having negative correlation and Mental Accounting and Disposition Bias is having positive correlation. Thus, the null hypothesis for Mental Accounting and Self Control is rejected.

CONCLUSION

The results of the study are also supported by the previous research findings by Sun & Hsiao, 2006 and Tehrani & Gharehkoolchian, 2012. This piece of research paper has also evidenced that there is a positive relationship between mental accounting and disposition bias whereas self control and disposition bias is having negative correlation. The disposition effect is linked with self control and mental accounting as people hold on to loss making stocks in the hope that in future prices will go up. Investors wishes to avoid the regret for having losses in their portfolio which cultivates the tendency of postponing the actions. Accordingly, investor should evaluate information objectively before making investment decisions. Therefore, investor must try to practice some mechanisms to control his (her) irrational behavior.

LIMITATION OF THE STUDY

The research work is focused on the complex biases which shape the dynamics of the disposition effect among stock market investors. The confounding of related biases along with the psychological and demographic factors participates for multifaceted output.

FURTHER SCOPE OF THE STUDY

The field of behavioral finance is budding and the behavioral finance biases require a prominent development of scale along with the individual specific factors and investment market conditions so that the effect of biases on investment decision making could be observed in the right direction.

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APPENDIX

Correlations			
		Mental Acct.Bias	Disposition Bias
Mental Accounting Bias	Pearson Correlation	1	.207**
	Sig. (2-tailed)		.000
	N	523	523

Disposition Bias	Pearson Correlation	.207**	1
	Sig. (2-tailed)	.000	
	N	523	523

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

Correlations			
		Disposition Bias	Regret Aversion Bias
Disposition Bias	Pearson Correlation	1	.068
	Sig. (2-tailed)		.120
	N	523	523
Regret Aversion Bias	\Pearson Correlation	.068	1
	Sig. (2-tailed)	.120	
	N	523	523

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

Correlations			
		Disposition Bias	Self Control Bias
Disposition Bias	Pearson Correlation	1	-.094*
	Sig. (2-tailed)		.032
	N	523	523
Self Control Bias	Pearson Correlation	-.094*	1
	Sig. (2-tailed)	.032	
	N	523	523

** Correlation is significant at the 0.05 level (2-tailed).

Correlations			
		Disposition Bias	Over Confidence Bias
Disposition Bias	Pearson Correlation	1	.045
	Sig. (2-tailed)		.306
	N	523	523
Over Confidence Bias	Pearson Correlation	.045	1
	Sig. (2-tailed)	.306	
	N	523	523

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

PREDICTABILITY OF HUMAN CAPITAL INDEX BY FINANCIAL INCLUSION INDICATORS

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ABSTRACT

As the world march ahead with renewed development policies from MDGs to SDGs to be achieved by 2030, it is apt to stop for a while to assess the progress of human capital, human development and financial inclusiveness. This paper attempts to measure the usage dimension of financial inclusion through financial institutions among the 81 economies around the globe with the data gathered from Global Findex 2015. For this purpose, financial inclusion indicators like Account Penetration Index, Deposit Penetration Index, Credit Penetration Index, and financial service penetration has been calculated using the method used in the calculation of Human Development Index. The study further explored the effect of financial inclusion indicator indices on Human Capital Index across the world. The study statistically proved that the level of financial inclusion indicators significantly influence the Human Capital Index of economies both developed and developing.

Keywords: Gross National Income, Financial Inclusion Indicators & Human Capital Index.

INTRODUCTION

'Human rights are not violated only through terrorism, repression, or assassination but also by unfair economic structures that create huge inequalities' says Pope Francis (Millennial Journal, 2014). Horsten Bech and Asli Demigurc Kunt stated in their paper titled 'Access to Finance-An Unfished Agenda', that financial exclusion tend to act as brake on development and curb the economic growth,which leads to poverty and inequality (Beck & Kunt, 2008). It is observed that nations depicting sustainable growth in the financial development are much ahead in using the formal and semi formal institutions for their financial needs and the decision are based on the financial market information and not by impulses and emotions. Financial development contributes to the higher economic growth by enabling the people to acquire physical assets, formation of human capital, fostering technological innovation, and easy access to financial services and products. The financial inclusion in principle intends to include the vulnerable and weaker sections of the society, who involuntarily excluded from formal financial intermediaries and to provide a sustainable financial support, thereby ensuring equitable distribution of development of economies.

Variables Identified

The empirical evidences and the intersection of diffrent strands of literature addressing the boosters and the barriers of economic development of the nations has established a decisive intertwined relationship among the various development indices.The economic self relaince of the smallest unit of an economy, a household, is a crucial factor in determining the extent of growth of a nation in terms of standard of living, the human potential, the partcipation of the people in employment and in the formal financial system.

Human Capital Index-2015

The Human Capital Index (HCI) quantifies the three main factors related to nations' human potential such as levels of education, skills and employment participation among the people in 124 countries under five age groups ranging from 15 to 65. Human Capital Index is an aid to the policy makers to determine the talent inventory of the nation and at the same time it provides information on the knowledge gap, skill diversity among the people and the extent of labour force participation rate in an economy. The high-income economies are the toppers in the Human Capital Index, with high educational attainment and a corresponding high-skilled labour participation rate. Empirical studies have established the relationship between the concept of exclusion and the labour market participation in economies (Levitas, Pantazis, et al, 2007). Human capital plays a crucial role in fashioning the economic status of the nation. A discussion on the influence of usage of financial products and services offered by the formal financial institutions on Human Capital Index (HCI) is necessary while pondering over the augmentation of financial development through financial inclusion. It is observed that, the HCI of the high income economies ranged between 85.78 to 59.31 and that of Upper Middle income economies are grouped into 85.78 to 59.32. While Lower Middle income fell into the range of 76.21 to 40.72, the Low Income economies ranged between 67.24 to 41.10. Finland, a high income economy ranked as the best performing country in the world and Yemen, least developed economy was found as a least performing country among the 124 countries for which the Human Capital Index is calculated (WEF, 2015).

Financial Inclusion Indicators - Global Findex 2015

In the present globalised world marked by innovations and competitions, the cry of the vulnerable and low- income populace for equity and justice cannot be forgotten. The Global Findex presents the results of incredible effort taken by economies across the world in view of greater financial inclusion. Singh (2011) introduced a new set of indicators to measure the financial inclusion among the adults around the world. As per recently published, Little Data Book on Financial Inclusion, Global Findex database, maintained by world bank, provides a detailed picture of the finacial landscape of the globe under regional category and income category based on the financial data pertaining up to 2014. Countries like Norway, Denmark and Finland are cent per cent financially included economies in the world. Global penetration was just a little more than 50 per cent in the year 2011 and it has scaled to 60.7 per cent in 2015 depicting 19.91 per cent growth rate in the ownership of account (World Bank, 2015).

LITERATURE REVIEW

Knowledge of the interlink between economic growth and inclusive growth has spread like a wild fire, as a result financial inclusion has gained keen attention of the policy holders all over the world, especially low and middle income economies since 1993, when alerted by Leyshon and Thrift in United kingdom (Leyshon & Thrift, 1993). Earlier financial system had been preferential to high income group and observed a disparity created on the basis of social classes in accessing to financial services, which led to financial exclusion .The empirical studies have proved that the economic growth of the country mainly depend upon the efficient and effective financial system (Claessens and Feijen 2006).

The Millennium Declaration, which consists of eight Millennium Development Goals, adopted by the 184 countries, marched forward to reduce extreme poverty by 2015, and one of the indirect but important ways of achieving this goal was acknowledged as increased access to financial service to all. ‘Eliminating World Poverty, Building Our Common Future’- A US white paper published on International Development also has recommended to enhance access to financial Services to lessen the poverty (World Bank, 2008). A similar view was put forward by the World Bank, in its Policy Research Report, titled ‘Finance for all? Policies and Pitfalls in Expanding Access’, It emphatically affirms the role of banking system in the economy in its growth and poverty reduction - ‘….Well-functioning financial systems can boost growth and poverty reduction’. The third section of the report clearly warned about the adverse effect of making credit available to a selected class and proposes to broaden the financial service to all to alleviate poverty and to narrow the income inequality.

The empirical research evidences also emphasised the importance of sound financial development in the economic advancement of the nation. Bhattarai, in his paper to speak about the imprudence in over-financing which led the advanced economies to crisis and slow growth, he tried to affirm finding of the classical economists’ view that no economic advancement was possible without adequate degree of financial deepening (Bhattarai, 2015). Schumpeter’s perspective in this respect was that banking system and entrepreneurship were the two key agents for economic growth (Cameron, 1972). And the World Economic Forum pointed out that financial development rested on seven pillars such as institutional environment, business environment, financial stability, banking financial services, non-banking financial services, financial markets and financial access (WEF, 2009).

STATEMENT OF THE PROBLEM

Easy access to finance has been acknowledged as shortest route to economic development and eradication of economic disparity felt around the globe. Financial system of today is enabled to provide high-end personalised services to elite and HNW clients through Citi Prestige credit cards, American Express Centurion Cards i.e., with overdraft facility up to US dollar 1,00,000. And the progress made by the financial system in terms of connecting the unbanked to the formal and semi-formal institutions has been commendable in terms of number of ownership of bank accounts and geographical coverage of the banking outlets. As per Global Findex data, a little more than 60 per cent of the adults around the world own bank accounts. But a few questions creep into the minds of the researchers that how far the financial needs of rural hamlets and low-income groups are met? How many have found the formal sector as a source of fund for upgrading their skills and finding employment? How many aware of their right to receive financial services from formal institutions? This paper is an attempt to measure the effect of the level of financial inclusion indicators on Human capital Index.

OBJECTIVES OF THE PAPER

- To identify the extent of usage of basic financial service by the people in selected economies.
- To examine the effect of level of financial inclusion indicators on Human Capital Index.

HYPOTHESIS

H_0: There is no significant difference in the effect of financial inclusion indicators on Human Capital Index of developing and developed economies.

RESEARCH METHODOLOGY & DATABASE

THE GLOBAL FINDEX-2015

The Little Data book on Financial Inclusion brings out a comprehensive image of the formal financial spread or penetration of the formal sector in 143 countries. Benchmarks used for the assessment of financial inclusion were number of accounts per adults, number of adults who chose formal banks to deposit their savings, number of households raised from formal sector, adults suing ATM cards, ownership of credit cards and number of adults using ICT based payment system. The researchers decide to focus on the actual usage of the basic financial products and services offered through financial institutions as defined in the Global Findex in selected 81 countries **(APPENDIX-II).** The selected 81 countries consisted of 16 Low-income countries(LI), 19 Low-middle income countries(LMI), 24 Upper-middle Income Counties (UMI) and 22 High-income economies(HI), having complete details of the financial inclusion variables were selected from the Global Findex data 2015 to form part of the sample.

Human Capital Index -2015

Human capital is one of the determinants that accelerate economic growth. It provides the Human capital index score of 124 countries under five age groups ranging from 15 to 65 and out of these 81 economies were selected and were classified into developed economies and developing economies. Following the same benchmark used in Financial Inclusion, sample economies could be classified as follows; out of the 81 countries 12 economies are grouped under 'Very High' Human Capital Index category, 18 of them have 'High level' of HCI score, 38 economies gained 'Medium level' HCI and 13 economies classified under 'Low level' HCI.

Developed & Developing Economies

For the purpose of analysis, the economies are further classified into developed and developing economies. The status of development of economies are decided based on the reports of the premier institutions.The list of developing countries is secured from the published data of International Statistical Institute, a world renowned statistical organisation, which has a validity till December, 2015 (ISI, 2014). Details of the developed countries were gathered from the World Economic Situation and Prospects (UN, 2014) published by United Nations in 2014. Hence, the present sample consisted of 22 developed economies and 59 developing economies(WEF, 2015).

Tools Used

Commonly used Human Developemnt Index calculations are used in measuring the Usage dimension of Financial Inclusion Indicators Indices. And Multiple Calssification Analysis(MCA) is applied for identifying the effect of financial inclusion indicators on Human Capital Index.

Reference Period of the Study

The relevant literature related to Human Capital Index, financial inclusion and economic development was scanned and synthesised to establish an association between the study variables theoretically. The secondary data is collected from two reports published in 2015, namely Little Data book on Financial Inclusion (Global Findex-2015) and the Human Capital Report 2015. Both reports present the data pertaining to the year 2014.

RESULTS AND DISCUSSIONS

Financial Inclusion Indicator Indices

Demand Dimension of Financial Inclusion Index comprised of Account penetration Indicator Index, Deposit penetration Indicator Index, Credit Penetration Indicator Index and Financial Service Penetration Index (Table 1).

1. **Account Penetration Index:** Account penetration has been measured by the number of bank accounts in financial institutions per 1 million populations.
2. **Deposit Penetration Index:** Deposit penetration has been measured by the number of saving accounts per 1 million populations.
3. **Credit Penetration Index:** Credit penetration has been measured by the number of credit accounts in financial institutions per 1 million populations.
4. **Financial Service Penetration Index**: Financial service Penetration comprised of Payment made through account in a financial institution for wage payment Index, Government transfers Index and Utility bill payment Index. Each index has been calculated by the number of respective payment accounts per 1 million populations.

The demand dimension indicator index and the Demand Dimension Index were calculated with the following equations.

The indicator index for the i^{th} indicator d_i is computed by the following formula,

$$D_i = W_i\,(Actual_i - Minimum_i)/(Maximum_i - Minimum_i) \quad \text{(Form.1)}$$

Where, W_i = weightage attached to dimension i ($0 < w_i < 1$), $Actual_i$ = actual value of dimension i , $Minimum_i$ = minimum value of dimension i, $Maximum_i$ = maximum value of dimension i.

Formula (1) Ensures that $0 \le d_i \le w_i$. Higher the value of d_i higher is the achievement by an economy in financial inclusion dimension i. If `n' dimensions of financial inclusion are considered, an economy will be represented by a point $D_i = (d_1, d_2, d_3.....d_n)$ on the n-dimensional Cartesian space. In the n-dimensional space, the point O= (0,0,0,.....0) represents the point indicating the complete financial exclusion. And Point I= (1,1,1,....1) represents the highest achievement in each dimensions, i.e., complete financial inclusion. The financial inclusion index for the economy is measured by the normalised inverse Euclidean distance of the point D_i from the point I. Statistically it can be expressed as,

$$FII= =1-\sqrt{(1-d_1)^2+(1-d_2)^2+(1-d_3)^2+.....+(1-d_n)^2}\,/\sqrt{n} \qquad \text{(Form. 2)}$$

In formula(2) the numerator of the second component, i.e., Euclidean distance of the point D_i from the ideal point I, is normalised by square root of n and subtracted from '1' to give the inverse normalise distance. The normalisation is done in order to make the value lie between 0 and 1 and the higher value of the Financial Inclusion Index (FII) corresponds to higher financial inclusion. The benchmark followed for determining the extent of Demand Dimension of Financial Inclusion is cited below:

1) 0.8 < FII ≤ 1- Very High Financial Inclusion 2) 0.6 < FII ≤ .8 - High Financial Inclusion

3) 0.4 < FII ≤ .6 - Medium Financial Inclusion 4) 0.00 < FII ≤ .4 - Low Financial Inclusion.

And the calculation of this indices with its ranks are given in the **APPENDIX-I**

Table 1 : Financial Inclusion Indicators in Developed and Developing Economies

		Developed (22)				Developing (59)			
Financial Inclusion Indicators	**Level of Penetration**	**Mean**	**SD**	**N**	**%**	**Mean**	**SD**	**N**	**%**
Account Penetration	Low	69.66	2.16	2	9.09	59.86	8.81	44	74.58
	Medium	72.00	5.44	3	13.64	65.80	4.81	4	6.78
	High	75.50	2.21	2	09.09	64.33	3.55	4	6.78
	Very High	80.17	3.41	15	68.18	70.87	8.04	7	11.86
Savings Penetration	Low	73.03	3.61	10	45.45	61.19	8.31	57	96.61
	Medium	80.40	1.62	4	18.18	-	-	0	0.00
	High	81.67	2.63	5	22.73	81.37	1.94	2	3.39
	Very High	82.85	1.00	3	13.64	-	-	0	0.00
Credit Penetration	Low	76.25	5.08	14	63.64	60.69	8.93	50	84.75
	Medium	78.27	6.02	4	18.18	68.77	2.54	5	8.47
	High	79.64	-	1	4.55	75.38	6.54	2	3.39
	Very High	82.85	1.00	3	13.64	60.88	3.29	2	3.39
Financial Service Penetration	Low	75.42	4.63	15	68.18	61.56	8.71	58	98.31
	Medium	82.16	2.15	5	22.73	80.00	-	1	1.69
	High	-	-	0	0.00	-	-	0	0.00
	Very High	83.36	0.68	2	9.09	-	-	0	0.00

Source: Computed from Little Data book on Financial Inclusion (Global Findex-2015)

The level of financial inclusion indicators of 81 economies are depicted in Table.1. It was found that mean scores of Account Penetration of developed economies, in all four categories are dominating compared to the developing economies mean scores portraying a greater ownership of accounts in financial institutions. The hard fact is that, in the case of Account Penetration, out of the 59 developing economies 74.58 per cent of economies are grouped under 'Low Level' penetration category and only 11.86 countries are grouped under 'Very High Level' category and equal per cent (6.78 per cent) of economies are belonged to the 'Medium' and 'High Level' Categories. While among the developed economies, 68.18 per cent of the economies fall under 'Very High' category of Account penetration.

As in the case of Saving Penetration of developing countries 96.61 per cent of the economies are categorized under the 'Low Level' penetration category with mean score of 61.19 and 3.39 per cent are grouped into High level penetration category with the mean score of 81.37. Corresponding position among the developed economies, 45.45 per cent economies are classified under the 'Low Level penetration' category with mean score of 73.03 and 13.64 per cent economies are clustered into 'High Level penetration' having very high mean score of 82.85 per cent. The result indicated that saving penetration among the developing economies is much low compared to developed nations.

An analysis on the Credit Penetration among the developing economies, 84.75 per cent of the economies have 'Low Level' of credit penetration, 8.47 per cent of economies have Medium level of credit penetration and 3.9 per cent of economies are reported to have 'High' and 'Very High Level' of credit penetration indicating that access to credit through financial institutions are still scanty among the developing economies. When considering the credit penetration among the developed countries, 63.64 per cent of the economies are grouped under 'Low Level' credit penetration category with the mean score of 76.25 whereas 18.18 per cent of economies are classified under Medium level with mean score of 78.27 and 13.64 per cent economies scored to have High Level of credit penetration with a mean score of 82.85.

Like the other financial inclusion indicators, Financial Service Penetration among the developed economies seems to be deeper than developing countries. A whopping majority of 98.31 per cent of the developing economies is classified under 'Low Level' of financial service penetration and a meagre per cent (1.69 per cent) is slipped into Medium level of financial service penetration. Similar case in developed economies, 68.18 per cent is grouped under 'Low Level' penetration category and only 9.09 per cent alone have reported to have 'Very High Level' of financial service penetration.

Influence of Human Capital Index

The descriptive statistics of Human Capital Index of 22 developed countries and 59 developing economies has been presented in the Table 2. Descriptive statistics for the developed economies seems to be in a better position compared to the developing economies.

The observed **mean** score of Human capital index is high for developed economies (77.68) compared to developing economies (61.87) indicating high Human capital Index scores found in developed countries. The median value of Human Capital Index scores of developed economies is (78.81), which is much higher than that of the developing economies (62.50).

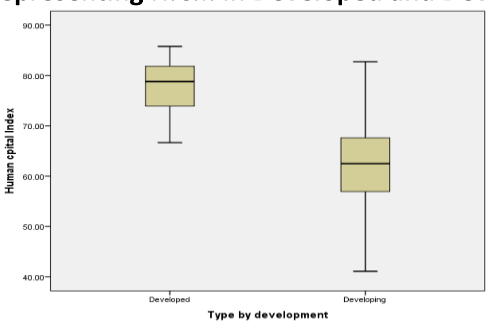
Table 2: Descriptive Statistics of Human Capital Index

Human capital Index	Developed Economies	Developing Economies	All
Mean	77.68	61.87	66.17
Median	78.81	62.50	67.09
Mode	66.66	57.62	57.62
Std. Deviation	5.16	8.96	10.74
Variance	26.67	80.35	115.26
Skewness	-0.59	-0.20	-0.22
Kurtosis	-0.39	-0.15	-0.59
Minimum	66.66	41.10	41.10
Maximum	85.78	82.74	85.78

Source: Human Capital Report 2015

Most frequently observed Human Capital Index score of developed countries is 66.66 as against the developing countries is just 57.62. SD of developed economies (5.16) lower than the developing economies (8.96) denoting the greater spread of the Human capital Index score among the developing countries while developed economies in unison depicted still greater spread of the Human Capital Index Score. The direction of the index scores of Human Capital Index negatively skewed both in developed and developing economies, as the mean values are less than the median. The degree of skewness observed is more in the developing countries showing low human capital index score observed in those economies. The Human Capital Index scores of developed economies are more kurtic than that of the developing economies indicating the indicating a wider spread of the scores from the mean score of Human Capital Index. The Human Capital Index score of developed economies ranged from 66.66 to 85.78 while in developing economies the range of such score is 41.10 to 82.74. The comparison of the minimum score between Developed and developing countries depicted a vast difference in Human capital development (25.56). The specific features of the developed and developing economies are presented through a box plot (fig. 1) :

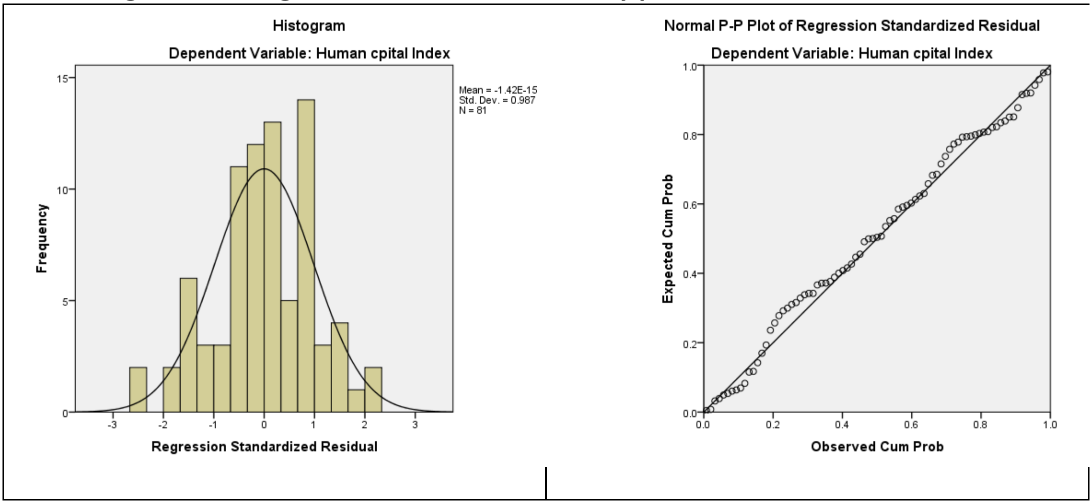
Figure: 1 Box plot representing H.C.I. in Developed and Developing Economies



Test of Multicollinearity and Residuals

In the first part of the figure 2, visualizes the Histogram and Normal Probability plot of standardised residual. The histogram is found to be normally distributed and the observed cumulative probability on expected cumulative probability found to be cluster around the diagonal line indicating that the residuals of the regression model is normally distributed.

Figure: 2 Histogram and Normal Probability plot of standardised residual



Multiple Classification Analysis

The Multiple Classification Analysis (MCA) is employed to determine the effect of independent variables namely Level of development, Account penetration, Savings penetration, Credit penetration and financial service penetration on the dependent variable, Human Capital Index. The MCA table is used to find out the magnitude and direction of the effect of each independent variable on Human Capital Index and the interaction between the independent variables. The table consists of mainly four columns, first two are unadjusted mean of predicted Human Capital Index and R and the second two are adjusted mean predicted Human Capital Index and R.

It is important to compare the unadjusted R values and adjusted R values, because the effect of each factor reduces when adjusted for other independent factors, it indicates the relation between the factor under study with all other independent variables. And if both unadjusted R-values and Adjusted R-values remain same or closer to one another indicates an independent effect on the dependent variable. The full model adjusted R-value represents the overall relationship between dependent variables and all other independent variables.

The result from MCA table 3 indicates that the unadjusted mean predicted Human Capital Index of the developed countries is 77.68 per cent and that of developing countries 61.87 per cent, depicting a difference of about 16 per cent. The R value of the regression model representing the unadjusted values is 0.659, indicating that the coefficient of determination (R^2) is 0.4343.

Table: 3 MCA Table of the Effect of Financial Inclusion Indicators on Human Capital Index

			Predicted Mean of Human Capital Index			
			Unadjusted		**Adjusted**	
		N	**Mean**	**R**	**Mean**	**R**
Type by Development				0.659		0.27
	Developed	22	77.68		70.96	
	Developing	59	61.87		64.38	
Level of Ownership of accounts				0.685		0.30
	low	46	60.29		63.36	
	Medium	7	68.46		69.63	
	High	6	68.06		68.82	
	Very High	22	77.21		70.21	
Level of Savings				0.659		0.32
	low	67	62.96		64.69	
	Medium	4	80.40		69.88	
	High	7	81.58		74.06	
	Very High	3	82.85		75.84	
Level of Credit				0.382		0.20
	low	64	64.09		65.46	
	Medium	9	72.99		71.67	
	High	3	76.80		69.05	
	Very High	5	74.06		63.54	
Level of Financial service				0.498		0.02
	low	73	64.41		66.15	
	Medium	6	81.80		65.95	
	Very High	2	83.36		67.47	
Full model						0.63

*So*urce: Computed from Little Data book on Financial Inclusion (Global Findex-2015) and Human Capital Report-2015

It means that 43.43 per cent variation in the Human Capital Index is determined by level of development of the country. But the corresponding adjusted mean value for developed country is reduced to 70.96 per cent and that developing countries mean value increases to 64.38 per cent with a difference of about seven per cent. Further the R value reduces to 0.274, from which the R^2 can be calculated as 0.0751. It means that only 7.5per cent variation in the Human Capital Index is determined by level of development of the country when the effect of other variables is kept at their mean. It means that by the introduction of other independent variables, the effect of level of development of the country on the Human Capital Index reduces dramatically indicating very high interaction between level of development and other independent variables.

Similarly, the unadjusted R values of Financial Inclusion Indicators are higher than corresponding adjusted R values indicating that the effects of financial inclusion indicators on Human Capital Index and were explained away by their mutual interaction. From the table, it can be seen that adjusted predicted Human Capital Index as obvious positive relation with levels of ownership of accounts and savings. In both cases, the Human Capital Index is lowest for the low level of ownership of accounts and savings and steadily increases through medium and high and attained the maximum at very high levels. The predictability of these two variables are as their adjusted R value are 0.303 and 0.316 respectively.

In the case of level of credit and level of financial services, there is no particular pattern of change is observed from low level to very high level of inclusion. The adjusted mean value for level of credit is least in the very high category and highest mean value is observed for medium level of inclusion. The corresponding predicted adjusted mean value for financial services does not track any pattern of change, instead 'high level of inclusion ' is missed out, indicating a gap between developed economies and developing economies. The adjusted R-value of the full model is 0.630 from which R2 can be calculated as 0.3969 which indicate that the overall predictability of the independent variables is 39.69 per cent.

From the result it can be concluded that the financial inclusion indicators are highly interrelated and are capable of predicting about 39.69 per cent variation in the Human Capital Index. The most important indicator of financial inclusion which determines HCI is level of savings followed by ownership of accounts.

FINDINGS OF THE STUDY

The major finding of the study throw light to the fact that the four financial inclusion indicator indices- level of ownership of accounts in financial institutions, level of savings, level of credit availability and the level of use of financial services have significant effect on Human Capital Index. The first two predictors namely level of ownership of accounts and level of savings can predict 65-68 per cent of Human Capital Index of a nation. And the remaining financial inclusion indicators-level of credit and level of usage of financial services could explain 38 and 50 per cent respectively. The analysis also revealed that the level of development of economies has significant influence on the Human Capital Index of economies.

CONCLUSION

Inclusive growth is an economic desire and a dream where economic growth is shared with every citizen of the universe. The study raises a pressing need, a need for change- a change from basic education to quality higher education, where human potentials are fully formed and equipped to utilise the skills for economic up building. The formal banking institutions can play a vital role in providing resources for higher education, fostering cognitive and creative skills to generate employment opportunities within the boarder and even to market them to other economies. The financial institutions cannot no longer be satisfied with providing basic financial services to the citizens especially to the vulnerable sections of the society and worshipping the ’High Net Worth individuals for whom banking sector spent most of their research and development fund to engineer innovative financial products and services. The banking sector has to fulfil twin responsibilities to stay in the play field i.e., capital formation and human capital formation. A time has come to say two birds in the bush are better than one in the hand.

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APPENDIX-I

Usage Dimension of Financial Inclusion Index of select countries

Economies	Type of Economies	Account penetration		Savings penetration		Credit Penetratio		Usage of accounts		Usage Dimension of financial Inclusion	
		D.1	Rank	D.2	Rank	D.3	Rank	D.4	Rank	FII	Rank
Kenya	LI	0.52	81	0.37	23	0.43	29	0.11	36	0.34	27
Uganda	LI	0.23	80	0.20	41	0.46	23	0.03	60	0.21	50
Bangladesh	LI	0.25	79	0.08	69	0.27	50	0.01	71	0.14	65
Nepal	LI	0.30	78	0.19	43	0.34	38	0.01	72	0.20	53
BurkinaFaso	LI	0.08	77	0.09	65	0.21	59	0.02	66	0.10	69
Malawi	LI	0.11	76	0.07	70	0.15	69	0.01	73	0.08	73
Rwanda	LI	0.34	75	0.31	30	0.22	57	0.03	61	0.22	48
Tanzania	LI	0.14	74	0.10	63	0.16	66	0.02	67	0.10	70
Guinea	LI	0.01	73	0.02	79	0.02	77	0.01	74	0.01	79
Madagascar	LI	0.00	72	0.02	77	0.02	78	0.00	78	0.01	80
Tajikistan	LI	0.06	71	0.00	82	0.07	73	0.02	68	0.04	75
Chad	LI	0.02	70	0.04	73	0.03	75	0.01	75	0.02	77
Ethiopia	LI	0.17	69	0.16	53	0.19	64	0.00	79	0.13	67
Cambodia	LI	0.07	68	0.03	76	0.85	4	0.02	69	0.16	60
Mali	LI	0.08	67	0.02	80	0.04	74	0.00	80	0.03	76
Burundi	LI	0.01	66	0.03	74	0.00	81	0.00	81	0.01	81
Cameroon	LMI	0.06	65	0.08	67	0.27	51	0.01	76	0.10	71
India	LMI	0.50	64	0.17	51	0.16	67	0.04	56	0.20	54
Mauritania	LMI	0.16	63	0.12	60	0.20	63	0.06	47	0.13	68
Ghana	LMI	0.31	62	0.22	40	0.21	60	0.03	62	0.19	55
Guatemala	LMI	0.37	61	0.18	45	0.35	37	0.07	43	0.23	43
Armenia	LMI	0.12	60	0.00	81	0.59	13	0.05	51	0.16	61
Zambia	LMI	0.27	59	0.20	42	0.11	71	0.04	57	0.15	63
Moldova	LMI	0.13	58	0.07	71	0.16	68	0.04	58	0.10	72
Mongolia	LMI	0.91	57	0.41	20	0.70	7	0.22	22	0.49	15
Pakistan	LMI	0.03	56	0.02	78	0.00	81	0.01	77	0.02	78
Bolivia	LMI	0.37	55	0.29	34	0.59	14	0.05	52	0.30	35
Cote d'Ivore	LMI	0.10	54	0.10	64	0.03	76	0.02	70	0.06	74
Honduras	LMI	0.26	53	0.17	49	0.26	52	0.04	59	0.18	57
Nigeria	LMI	0.41	52	**0.33**	**26**	**0.12**	**70**	**0.06**	**48**	**0.22**	**49**
Srilenka	LMI	0.82	51	0.38	22	0.53	20	0.05	53	0.38	24
Indonenia	LMI	0.32	50	0.33	28	0.37	33	0.05	54	0.26	41
Ukraine	LMI	0.50	49	0.08	66	0.22	58	0.18	24	0.23	45
Vietnam	LMI	0.27	48	0.17	48	0.55	18	0.03	63	0.23	46
El-Salvador	LMI	0.31	47	0.16	52	0.08	72	0.09	40	0.16	62
Thailand	UMI	0.77	46	0.51	17	0.45	25	0.07	45	0.40	21
South Africa	UMI	0.67	45	0.41	21	0.34	39	0.26	21	0.40	22
Mauratius	UMI	0.81	44	0.44	18	0.50	22	0.15	28	0.43	19
Romania	UMI	0.58	43	0.15	54	0.33	41	0.13	32	0.28	39
Hungry	UMI	0.71	42	0.23	39	0.23	56	0.30	18	0.34	28
Jordan	UMI	0.20	41	0.03	75	0.39	31	0.03	64	0.15	64
Brazil	UMI	0.66	40	0.14	57	0.34	40	0.18	25	0.30	36
China	UMI	0.78	39	0.52	16	0.26	53	0.17	26	0.38	25
Azerbaijan	UMI	0.25	38	0.05	72	0.56	16	0.07	46	0.21	51
Philippian	UMI	0.24	37	0.17	47	0.33	42	0.06	49	0.19	56
Turkey	UMI	0.54	36	0.10	62	0.60	12	0.16	27	0.31	34

Source: calculated based on Global Findex data 2015 and Human Capital Report 2015

D1- Account Penetration among the adults through Financial Institutions.

D2- Stands for Saving Penetration among adults through Financial Institutions.
D3 -Stands for Credit Penetration among adults through Financial Institutions.
D4 -Stands for financial Service Penetration through Financial Institutions.

APPENDIX-II

Spread and Depth of Usage of Financial Services:

Economies		Popu.	HCI	GNI	Acct.	Saving	CR	Usage of A/c for Recpt wages	Govt transfers	Paying bills	FII
Kenya	LI	25.60	57.5	1160	55.20	30.20	14.9	18.00	6.40	5.80	0.3
Uganda	LI	19.40	57.3	600	27.50	16.80	15.7	6.40	1.00	2.60	0.2
Bangladesh	LI	109.60	57.6	1010	29.10	7.40	9.90	1.00	0.40	0.70	0.1
Nepal	LI	18.20	55.7	730	33.80	16.40	11.9	2.60	0.10	0.40	0.2
Burkina Faso	LI	9.20	49.2	750	13.40	8.70	7.90	3.90	2.00	0.90	0.1
Malawi	LI	9.00	53.4	270	16.10	7.10	6.00	2.10	0.60	1.30	0.0
Rwanda	LI	6.70	54.1	630	38.10	25.50	8.20	6.80	1.90	1.30	0.2
Tanzania	LI	27.20	56.5	860	19.00	9.00	6.50	5.20	1.20	0.50	0.1
Guinea	LI	6.80	48.2	460	6.20	2.90	2.00	2.30	1.00	0.40	0.0
Madagascar	LI	13.20	56.2	440	5.70	3.30	2.00	0.60	0.10	0.10	0.0
Tajikistan	LI	5.30	67.2	990	11.50	1.50	3.80	1.50	0.70	2.60	0.0
Chad	LI	6.60	41.1	1030	7.70	4.60	2.40	0.80	1.40	0.20	0.0
Ethiopia	LI	53.90	50.2	470	21.80	13.60	7.40	0.70	0.30	0.10	0.1
Cambodia	LI	19.40	58.5	950	12.60	3.60	27.7	3.20	0.40	1.70	0.1
Mali	LI	8.00	48.5	670	13.30	2.90	2.70	1.30	0.10	0.20	0.0
Burundi	LI	5.60	46.7	260	6.90	4.00	1.50	1.60	0.30	0.10	0.1
Cameroon	LMI	12.70	60.7	1290	11.40	7.70	9.90	3.70	0.40	0.70	0.2
India	LMI	887.90	57.6	1570	52.80	14.40	6.40	4.00	3.60	3.40	0.2
Mauritania	LMI	2.30	42.4	1060	20.40	10.60	7.70	10.80	4.70	1.90	0.1
Ghana	LMI	15.60	62.6	1770	34.60	18.60	8.10	5.80	2.00	0.70	0.1
Guatemala	LMI	9.20	61.3	3340	40.80	15.10	12.3	9.90	3.90	4.70	0.2
Armenia	LMI	2.40	72.5	3800	17.20	1.60	19.9	3.90	4.20	5.00	0.2
Zambia	LMI	7.80	62.5	1810	31.30	16.80	4.80	7.60	1.50	1.90	0.2
Moldova	LMI	3.00	66.8	2470	17.80	6.80	6.60	11.10	1.00	1.20	0.1
Mongolia	LMI	2.10	70.8	3770	91.80	33.20	23.2	25.60	25.20	6.10	0.5
Pakistan	LMI	120.50	52.6	1360	8.70	3.30	1.50	1.40	1.80	0.40	0.0
Bolivia	LMI	7.00	66.4	2550	40.70	23.50	19.7	10.40	2.60	2.30	0.3
Cote d'Ivore	LMI	11.90	49.0	1450	15.10	8.90	2.30	2.90	1.20	1.30	0.7
Honduras	LMI	5.20	58.9	2180	30.00	14.50	9.70	5.80	1.60	4.60	0.9
Nigeria	LMI	96.60	47.4	2710	44.20	27.10	5.30	8.80	3.00	5.20	0.2
Sri Lanka	LMI	15.30	68.2	3170	82.70	30.90	17.9	7.10	5.30	1.10	0.4
Indonesia	LMI	177.70	66.9	3580	35.90	26.60	13.1	6.60	3.00	2.90	0.3
Ukraine	LMI	38.90	76.2	3960	52.70	7.80	8.30	30.00	12.60	5.60	0.2
Vietnam	LMI	69.30	68.5	1740	30.90	14.60	18.4	7.80	1.60	0.50	0.2
El-Salvador	LMI	4.40	66.9	3720	34.60	14.00	3.90	15.10	4.40	3.90	0.5
Thailand	UMI	54.80	67.5	5340	78.10	40.60	15.4	8.30	9.00	1.70	0.4
South Africa	UMI	37.50	68.7	7410	68.80	32.70	12.1	26.80	28.20	12.20	0.4
Mauritius	UMI	1.00	61	9570	82.20	35.50	17.1	29.50	9.50	3.40	0.4
Romania	UMI	17.00	66.7	9050	60.80	13.30	11.8	24.20	5.20	6.90	0.3
Hungry	UMI	8.40	73.9	13260	72.30	19.30	8.70	35.90	11.10	31.90	0.3
Jordan	UMI	4.30	75.8	4950	24.60	3.80	13.6	7.90	0.70	0.10	0.2
Brazil	UMI	152.10	65.6	11690	68.10	12.30	11.9	22.90	13.20	9.40	0.3
China	UMI	1112.6	64.6	6560	78.90	41.20	9.60	17.70	9.50	15.10	0.4
Azerbaijan	UMI	7.30	67.6	7350	29.20	5.30	18.9	13.90	4.30	1.60	0.2

Philippians	UMI	64.80	71.2	3270	28.10	14.80	11.8	11.90	2.20	3.50	0.2
Turkey	UMI	55.70	67.1	10970	56.50	9.10	20.0	16.60	5.50	18.40	0.3
Malaysia	UMI	22.00	70.2	10430	80.70	33.80	19.5	30.80	19.90	12.70	0.5
IIR	UMI	59.00	63.2	5780	92.20	21.60	31.6	16.80	61.60	34.90	0.5
Botswana	UMI	1.30	60.8	7770	49.20	26.60	13.0	18.90	12.60	8.10	0.3
Jamaica	UMI	2.00	65.9	5220	78.30	29.70	11.1	12.60	2.80	7.80	0.3
Namibia	UMI	1.50	59.1	5870	58.10	26.70	6.90	17.60	6.20	4.90	0.3
Venezuela	UMI	21.70	60.5	12550	56.90	22.80	2.00	16.10	2.00	10.30	0.2
Colombia	UMI	34.90	67.6	7590	38.40	12.30	15.6	15.40	4.80	1.90	0.2
Mexico	UMI	87.50	68.5	9940	38.70	14.50	10.4	17.20	10.50	5.30	0.2
Tunisia	UMI	8.40	58.2	4200	27.30	10.30	8.00	4.30	1.10	2.10	0.1
Albania	UMI	2.30	67.2	4510	38.00	7.50	10.2	10.80	3.50	2.60	0.2
Costa Rica	UMI	3.70	69.8	9550	64.40	24.20	12.7	18.70	7.90	9.40	0.3
Panama	UMI	2.80	71.0	10700	43.40	20.40	11.8	15.30	5.50	2.50	0.3
Peru	UMI	21.60	68.1	6270	29.00	12.30	11.2	11.90	1.20	1.10	0.2
Australia	HI	18.70	80	65400	98.90	61.40	23.4	55.60	40.50	64.10	0.7
Japan	HI	110.70	82.7	46330	96.60	60.40	7.90	43.10	10.60	65.60	0.5
Kuwait	HI	2.50	59.3	45130	72.90	25.50	14.1	28.30	2.40	7.20	0.4
UK	HI	52.80	79.1	41680	98.90	52.30	21.1	51.50	18.70	71.60	0.6
Malta	HI	361.00	75.8	20980	96.30	41.60	9.50	30.00	28.40	36.90	0.5
Netherlands	HI	8.90	82	51060	99.30	58.90	12.6	60.60	32.40	63.40	0.6
Finland	HI	4.50	85.9	48820	100.0	57.00	21.6	58.10	37.00	79.20	0.7
Belgium	HI	9.30	81	48820	98.10	55.50	15.8	52.10	24.60	70.50	0.6
Spain	HI	39.50	82.7	29940	97.60	48.10	18.0	41.90	20.70	62.80	0.6
Portugal	HI	8.90	74.5	21270	87.40	24.90	9.50	31.00	15.80	53.50	0.4
Poland	HI	32.80	77.1	13240	77.90	20.80	18.9	35.50	7.90	31.90	0.4
Germany	HI	70.10	78.5	47250	98.80	57.90	18.6	47.20	11.40	72.80	0.6
New Zealand	HI	3.50	81.8	35760	99.50	70.60	32.5	58.90	34.60	68.60	0.8
France	HI	53.90	80.2	43520	96.60	52.20	15.1	76.00	36.00	70.70	0.6
Austria	HI	7.30	81.0	50390	96.70	60.40	13.3	68.50	34.60	51.00	0.6
Greece	HI	9.40	73.8	22690	87.50	12.60	10.2	14.80	8.30	11.10	0.3
USA	HI	254.30	79.6	53470	93.60	54.10	23.3	43.30	18.10	63.20	0.7
Chile	HI	13.90	71.8	15230	63.30	15.00	15.6	27.70	5.50	8.60	0.3
Norway	HI	4.10	83.8	10270	100.0	78.40	29.4	95.90	54.20	79.00	0.9
Russian Fed.	HI	120.80	77.5	13850	67.40	15.50	10.3	35.00	16.60	17.50	0.32
Uruguay	HI	2.70	71.2	15180	45.40	12.50	21.0	16.30	6.00	6.30	0.29
Canada	HI	29.40	82.88	52210	99.10	62.60	27.0	83.00	73.10	65.70	0.85

Source: Global Financial Inclusion Database-The Little Data Book on Financial Inclusion 2015 and Human Capital Report-2015

IMPACT OF CORPORATE GOVERNANCE MECHANISMS ON EARNINGS MANAGEMENT

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ABSTRACT

Corporate governance mechanisms have been devised to facilitate the control of management and groups of power in the firm and facilitate the achievement of maximization of firm value. However, these corporate governance mechanisms are far from perfect. Their efficiency is limited by tradeoffs between control of the firm and protection of minority shareholders. Moreover, institutional differences in the broader corporate governance system affect the relationship between the shareholder, the board of directors and managers. There are two main systems of corporate governance, the Anglo-Saxon system market control, and the Continental European system of large-shareholder control, have developed different ways to reduce the limitations; that is, active institutional investors in the market control system and codes of good governance in the large shareholder control system.

Despite the differences in corporate governance systems, there seems to exist a trend towards convergence. This convergence is not only occurring in developed economies, but also in transition economies, which are adopting corporate governance mechanisms as they develop their institutions, as well as in developing economies, which face pressure from international donors for more transparent governance systems. This trend towards convergence does not imply a movement towards a single model of corporate governance, but a transition towards common guiding principles of information, transparency and accountability. Variation in national context, especially in terms of legislation, institutions the development of capital markets, concentration of ownership and separation of ownership and control, will sustain differences in corporate governance and control systems.

Keywords: ASZ, ACM, BSZ, BND, CG, CDUA, EM, OWNCN, PRINF

INTRODUCTION

Corporate Governance is the system which incorporates the decision making of the self interested managers, in order to maximize the performance of the company. The pavement of this lies in managing the internal control systems, board of directors' responsibilitities, and structure of ownership (concentration and voting rights). Also, it deals with working on the corporate control, egulatory intervention and external factors.

The separation of corporate ownership and control is the basis of an agency problem that drives managers to pursue their own utility even at the expense of company's value. This conflict of interests between owners and managers affect the quality of the accounting information because reported earnings in the financial statements to some extent determine the managers' compensation, takeovers, management buyouts, debt covenants etc. One manifestation of such agency costs widely recognized in the existing literature is the opportunistic earnings management. To mention, there are two types of earnings management: efficient earnings management (i.e. to improve earnings imformativeness in communicating private information) and opportunistic earnings management (i.e. management reports earnings opportunistically to maximize their own utility).

The very way of bookkeeping collections gives administrators a lot of watchfulness in deciding the profit an organization reports in any given period in light of data asymmetry in the middle of supervisors and proprietors. Profit administration happens when administrators use judgment in budgetary reporting and in organizing exchanges to adjust money related reports to either misdirect a few partners about the basic monetary execution of the organization or to impact contractual results that rely on upon reported bookkeeping numbers. In such a situation, a few components are required to guarantee the security of financial specialists' rights and, in this manner, corporate governance emerges as an arrangement of limitations to lessen the variety of organization expenses started by the nexus of agreements in the organization.

LITERATURE REVIEW

Under this study, the review of literature, the studies focusing on the corporate governance mechanisms like board structure, audit committee, ownership pattern, and capital structure and earnings management are reviewed:

Siregar and Utama (2008) investigated a sample of 144 Jakarta Stock Exchange (JSE) listed firms during the study to examine the effect of ownership structure, firm size, and corporate-governance practices on the type of earnings management (efficient or opportunistic). It was found that corporate governance practices with regard to independence of directors and audit committee did not have any significant influence on the efficient earnings management. By constructing a corporate governance index considering board structure, ownership structure and audit committee independence, Shah et al. (2009) examined the impact of quality of corporate governance mechanisms on the earnings management using a sample of 53 Karachi Stock Exchange (KSE) listed securities in the year 2006. The results of the study were unconventional indicating presence of positive relationship between corporate governance and earnings management using ordinary least squares estimation.

The work of Baxter and Cotter (2009) explained that audit committees help in reducing the adverse effects of polishing of the books of accounts. Also, it was found that audit committee features audit committee independence, activity and size did not had a significant effect on earnings quality.

Teshima and Shuto (2008) empirically tested the relationship between managerial ownership and absolute value of discretionary accruals and found that the relationship was significantly negative within low and high levels and significantly positive for intermediate levels of managerial ownership.

Jara-Bertin and Lopez-Iturriaga (2007) examined the impact of capital structure proxied by leverage on earnings management in Chile, they reported that bank debt had positive relationship with discretionary accruals whereas public debt was found to be negatively related to accounting discretion given the incentives of managers to make good public image.

OBJECTIVE OF THE STUDY

The study is based on the technical efficiency which evaluates the effect of corporate governance systems on the earnings management. In contrast, the objective of the study is:

- To analyse the effect of size, leadership and compensation of the board of directors on firms' technical efficiency.

RESEARCH DESIGN

The study has made use of descriptive statistics and test of differences to broadly analyze the earnings management and corporate governance practices. Further, panel data regression has been used to study the impact of corporate governance mechanisms on the earnings management. The results have also been tested for multicollinearity, endogeneity and outliers. The study was carried out for the financial year 2009-10 to financial year 2013-14. The study utilizes an unbalanced pool of manufacturing firms in sixteen countries and offers support that active large external shareholders' who commit credible signals to minority investors of firms that have an insider-dominated or balanced small board with a unified leadership can lead to enhanced technical efficiency. The database has computerized information drawn from annual reports, other mandatory filings and press releases of thousands of large and small Indian companies, as well as daily stock prices and other computed returns for companies on the Bombay Stock Exchange and other stock exchanges. The data was analysed using the STATA Version 10.0 and Statistical Package for the Social Science Version 15 (SPSS 15.0).

HYPOTHESES

In order to attain the core objective of the study, in the impact of the corporate governance mechanisms has been tested by the following hypotheses:

H_{O1}: There is no significant relationship between corporate governance mechanisms and earnings management.

H_{O2}: There is no significant relationship between multiple directorships and earnings management.

Analysis of the Impact of Corporate Governance Mechanisms on Earnings Management

Table 1 depicts the multivariate panel data (random effect) regression results using the full sample of the 1035 company/year observations for the period of 5 years, 2009-10 to 2013-14 with discretionary total accruals as the dependent variable and overall governance variables as the independent variables.

The results for the overall effect of corporate governance mechanisms on earnings management considering board independence (BND) and ownership concentration (OWNCN) are presented in **column 1** of the Table 1. The results reveal that the board size (BSZ) is negatively related to discretionary accruals with a coefficient of -0.01 but it is marginally insignificant (p-value of 0.101). However, board independence (BND) is also found to be negatively and significantly associated with the proxy for earnings management with a p-value of 0.068, that is, the above relation is significant at 1 per cent level.

Multiple directorships by the directors of the company (MLDR) is found to be statistically insignificantly related to earnings management. CEO duality (CDUA) and controlling shareholders on the company board (PRINF) have a positive coefficient of 0.01 and 0.05 respectively implying positive relation with the discretionary accruals but the relation is statistically insignificant.

The diligence exercised by independent directors in attending the meetings of the board (DRDL) is reported to be negatively and significantly (at 5 per cent significance level) related to the earnings management, entailing that more regular the independent directors are in attending the board meetings, lesser is the earnings management. It has been reported in the table that the number of committees formed by the board(NMCM) to resolve relevant matters is not significantly related with the practice of earnings management.

Table 1: Regression Results of Corporate Governance Mechanisms on Earnings Management

Explanatory Var.	Column 1	Column 2	Column 3	Column 4
Intercept	1.52*** (0.000)	1.39*** (0.000)	1.36*** (0.000)	1.48*** (0.000)
BSZ	-0.01 (0.101)	-0.01 (0.093)	-0.01 (0.112)	-0.01* (0.077)
BND	-0.03* (0.068)	-	-	-0.03* (0.078)
BMJ	-	-0.03 (0.338)	-0.03 (0.364)	-
MLDR	-0.04 (0.223)	-0.05 (0.194)	-0.05 (0.203)	0.04 (0.234)
CDUA	0.05 (0.786)	-0.03 (0.848)	-0.01 (0.777)	0.02 (0.858)
DRDL	-0.02** (0.012)	-0.02** (0.014)	-0.02** (0.014)	-0.02** (0.012)
PRINF	0.05 (0.174)	0.05 (0.174)	0.05 (0.150)	0.05 (0.149)
NMCM	-0.05 (0.642)	-0.04 (0.654)	-0.04 (0.666)	-0.01 (0.656)
ASZ	-0.01 (0.687)	-0.04 (0.793)	-0.03 (0.815)	-0.01 (0.710)
ACM	-0.03** (0.023)	-0.03** (0.022)	-0.03** (0.022)	-0.03** (0.023)
AIN	-0.01 (0.634)	-0.01 (0.862)	-0.01 (0.874)	-0.01 (0.696)
OWNCN	-0.04 (0.882)	0.01 (0.861)	-	-
MNSH	-	-	0.03 (0.134)	0.03 (0.148)
FNLV	-0.05*** (0.005)	-0.05*** (0.005)	-0.05*** (0.006)	-0.05*** (0.006)
GRP	-0.02 (0.648)	-0.02 (0.656)	-0.02 (0.688)	-0.02 (0.678)
INDCN	0.18*** (0.005)	0.18*** (0.005)	0.18*** (0.004)	0.18*** (0.005)
AGE	-0.05 (0.548)	-0.05 (0.500)	-0.05 (0.517)	-0.05 (0.565)
FSIZ	-0.05 (0.198)	-0.05 (0.176)	-0.05 (0.187)	-0.05 (0.209)
RSK	-0.05 (0.414)	0.05 (0.432)	-0.05 (0.416)	-0.05 (0.405)
No. of observations	1035	1035	1035	1035
Overall R^2	1.89%	1.86%	2.10%	2.11%
Wald Statistics (F)	41.18	38.91	40.88	43.02
Prob>Chisquare	0.000	0.000	0.000	0.000

Dependent variable is Discretionary Total Accruals.
The p-values are shown in parentheses
*** indicates level of significance at 1 per cent. The test of significance is two-tailed.
** indicates level of significance at 5 per cent. The test of significance is two-tailed.
* indicates level of significance at 10 per cent. The test of significance is two-tailed.
Results are obtained by using STATA 10.0.

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The audit committee characteristics such as audit committee size (ASZ) and audit committee independence (AIN) are insignificantly associated to discretionary accruals. However, audit committee meetings (ACM) have negative coefficient (-0.03) which is significant at 5 per cent level of significance, implying negative relationship between audit committee meetings and discretionary accruals.

The results for the overall impact of corporate governance mechanisms on discretionary total accruals including board independence (BMJ) and ownership structure (OWNCN) are presented in **column 2** of the Table1. In regression, the intercept is significant at less than 1 per cent level of significance. The board size is reported to be negatively and marginally insignificantly related to discretionary accruals. The coefficient of board majority (BMJ) is not statistically significant. However, it has been observed in this case that the coefficient of board independence is higher when board majority is used as proxy for board independence rather than percentage of independent directors on the company board (BND). The results for multiple directorships (MLDR), CEO duality (CDUA), controlling shareholders on the board (PRINF) and number of board committees (NMCM) are the same as in regression that these variables have negative but statistically insignificant relationship with discretionary accruals. The diligence of directors (DRDL) is also found to have negative relationship with discretionary accruals (significant with a p-value of 0.014).

The table reports that financial leverage (FNLV) shows a negative and highly significant impact on discretionary accruals with a coefficient of -0.05 significant at less than 1 per cent level of significance. The overall R^2 of the model is 1.86% and the model is significant at 1 per cent level of significance.

The results for the overall effect of corporate governance mechanisms on discretionary total accruals including board independence (BMJ) and ownership structure model (MNSH) are presented in **column 3** of the Table1. The results of the regression indicate that the board size (BSZ) is marginally insignificant at 10 per cent level of significance. The diligence of directors (DRDL) is also found to be negatively and significantly related to discretionary accruals. The regression results depicted that the audit committee meetings (ACM) and financial leverage (FNLV) are found to be negatively related at a significance level of 5 per cent and 1 per cent respectively.

The proxy for ownership structure used in this model is the ownership type is further depicted by dummy variables. The results of regression analysis showed that ownership structure has no significant impact on the earnings management. The model is significant. The overall R^2 of this model is found to be 2.10% which is more than regression. The results for the overall impact of corporate governance mechanisms on discretionary total accruals including board independence (BND) and ownership structure (MNSH) are presented in **column 4** of the table. Regression revealed the same results as reported by other models. The overall R^2 of this model is 2.11%. It is reported that the model is significant with Wald statistics of 43.02 (p-value of 0.001). The intercept of the model is significant at 1 level of significance. This model shows a negative and significant coefficient (-0.02 at a level of significance of 1 per cent) of board size (BSZ) on the discretionary accruals. The results reported that the negative coefficient of board independence (BND) has become significant at 1 per cent level of significance. The results for multiple directorships (MLDR), CEO duality (CDUA), controlling shareholders on the board (PRINF) and number of board committees (NMCM) are the same as in regression. Directors' diligence (DRDL) is also found to be significantly related to discretionary accruals with negative coefficient of 0.02 with a p-value of 0.012.

Concerning the audit committee characteristics, the regression results reported that audit committee meetings (ACM) are negatively and significantly related to discretionary accruals at a level of significance of 5 per cent, implying frequent audit committee meetings results in reducing earnings management.

The ownership type (MNSH) is found to be insignificantly related with discretionary accruals. Financial leverage (FNLV) is found to be significantly affecting the practice of earnings management. A negative relation is reported between financial leverage and discretionary accruals which is significant at 1 per cent level.

CONCLUSION

The results of the regression analysis in the four columns (1 to 4) depicted by Table 1 reveals that the business affiliation (GRP) has a negative but statistically insignificant coefficient. However, industry control (INDCN) is significantly and positively related to discretionary accruals with a coefficient of 0.18, 0.18, 0.18 and 0.18 in columns 1, 2, 3 and 4 respectively at a significance level less than 1 per cent. The control variables viz. age, company size and risk are found to be negatively but insignificantly related to the proxy of earnings management in all the four different regression.

Overall, the results of regression show that when the number of independent directors on the board is higher, discretionary accruals are lower. This finding is consistent with past research and illustrates a setting in which a large proportion of independent directors is associated with better monitoring.

Financial leverage is significantly related to discretionary accruals as the literature supports that earnings management is carried out in order to avoid debt covenants or to meet contractual obligations. The results evidenced that higher the leverage, lesser are the chances of earnings management. More debt in the capital structure of the company will force the company to limit its earnings management activities as the lenders fully scrutinize the financials of that company.

SUGGESTIONS

The results of the panel data regression suggested that the percentage of board meetings attended by independent directors is negatively related to earnings management. The diligence exercised by the independent directors will make the management more responsible towards financial reporting.

The above discussion on board structure suggests that several dimensions of board characteristics are important for improving the financial reporting environment and curbing earnings management. Board size, board independence and diligence exercised by the independent directors in attending the board meetings are some of the board qualities which have been found to alleviate earnings management.

As far as audit committee characteristics are concerned, audit committee meetings are negatively associated with earnings management. This result suggests that frequent audit committee meeting will result in better monitoring of the financial reporting mechanisms and hence, lesser earnings management. Inactive audit committees are unlikely to monitor management effectively. Previous research provides mixed evidence on the association between the number of meetings of audit committees and the quality of financial reporting.

The manipulations are possible in the short-run but over the study period no positive association was found. If the lender monitoring effect prevails, then earnings management will decrease with financial leverage. Furthermore, another viewpoint can be that the informational content of financial statements could play less relevant role in this case because the lenders are more attentive towards the debt service rather than in accounting information. Consequently, managers would have fewer incentives to manage earnings in a highly leveraged company.

The results for the control variables in the study revealed that the industry control is significantly and positively related to earnings management suggesting earnings management is more prevalent in manufacturing industry than in the services industry. Company size is found to be positively associated with discretionary accruals but does not suggest a significant impact on earnings management.

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CORPORATE SOCIAL RESPONSIBILITY REPORTING IN INDIA

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ABSTRACT

Social responsibility reporting is an attempt by the business enterprises to integrate social and environmental concerns in their business operations. This reporting is useful to internal users and external users. The companies through social responsibility disclosures can create good image among the stakeholders and can respond to public reactions satisfactorily. In turn, this can reduce cost of capital and improve value of a firm. External users also can use the social responsibility information for judging a company for investment decision purposes. This paper examines the social responsibility reporting practices adopted by two large size Indian companies – Hindustan Unilever Ltd. and Infosys Ltd. Undertaken as a case study it is found that these two companies are disclosing many social responsibility information in their annual reports. However, there is a need to establish relationship between social responsibility disclosures and value of a firm as well as validating relevance of different modes of disclosures for the internal and external users.

Keywords: **Social Responsibility Reporting, External Users, Social Cost And Benefit, Investment Decision Making, Social Responsibility Report, Company Annual Reports.**

CONCEPT OF SOCIAL RESPONSIBILITY REPORTING

Corporate Social Reporting (CSR), also known as Social Responsibility Reporting is defined as the integration by companies of social and environmental concerns in their business operations and in the interactions with their stakeholders on a voluntary basis. Social Reporting is an expression of a company's social responsibilities and requirements for general corporate accountability. Perks define the term as follows:-

"It (corporate social reporting and disclosure) involves reporting by companies and other organizations about wider social and economic aspects of the organisation's performance than profit and financial position alone. It is usually seen as reporting to a broader range of interests groups than shareholders and creditors, including employees and even society as a whole."

The True Blood Committee Report observes that "an objective of financial statements is to report on those activities of the enterprise affecting society which can be determined and described and which are important to the role of enterprise in its social environment."

Thus, social reporting is a logical assessment of and reporting on some useful, definable domain of a business enterprise's activities that impact social concerns and welfare. Social Reporting concerned with the social, human and environmental constraints, aims to measure social benefit and costs.

Importance of Social Responsibility Reporting

Business and society are interdependent. Wellbeing of one depends on the other. Business in order to grow must take care of the society. On the other hand, society in order to develop must support the effort done by companies for the betterment of society. Both cannot exist in isolation. Social reporting by business enterprises is useful to internal users (managers) and external users like shareholders, investors and other stakeholders. By reporting on its environmental, economic and social impact on the community, a company is able to engage with stakeholders and maintain a meaningful dialogue on the direction of the business.

Corporate Social Reports help an organization to sustain for long running time, it minimizes its negative environmental impacts, and the company is able to act in conformity with societal expectations. Apart from analyzing financial statements, Corporate Social Responsibility Reports are increasingly scrutinized by investors and financial institutions. The report shows how far the company is able to act responsibly towards people, planet and profit (the so called 3 P's).

Companies should not only focus on social responsibilities but also must report these activities to the public. Corporate social reports can help to build a company's positive image. Regular social reports, correctly targeted will strengthen credibility with the stakeholders and the general public and, in turn aid the company in gaining a competitive advantage. Such reports improve employee morale and motivation, as they gain confidence in their own roles within the company. Social Reporting helps management evaluate potentially emerging developments before they develop into unwelcome surprises. Inaccurate and unreliable information could damage the firm's reputation. Social Reporting adds to the reputation of the companies. Earlier, company's reputation and goodwill were valued on the basis of products and services it provided to its customers. Now, a company can build reputation by engaging in social responsibility activities. Consumers prefer products that are produced in a socially responsible way. Hence, demand for product increases.

Besides the above, social responsibility reporting has the following benefits:

- Increased transparency

- Informed and accurate decision
- Better risk and crisis management
- Enhanced brand value and reputation
- Good relations with government and communities
- Long term sustainability for the company and society as more criticism and suggested improvements are received from internal and external auditors
- Ensured CSR implementation as government monitor standard compliance

In India CSR Reporting has now found a place in Law. The New Companies Act 2013, which is effective from 1st April 2014 along with Companies Rules, 2014 have turned Corporate Social Responsibility from voluntary activities to mandatory responsibilities. The CSR Reporting is required to be done in Annual Reports of the Company (American Institute of Certified Public Accountants, 1973). According to Sec.135 of Companies Act 2013, following companies will be covered under this provision (Lal, 2009):

Companies (includes foreign company with branches or project in India) having:

- Minimum net worth of Rs. 500 crores,
- Turnover upto Rs.1000 crores
- Having a net profit of atleast '5 crore'.

During any financial year are covered under this provision. The Government has also fixed a threshold limit of 2% of the 'Average 'Net Profits of the previous three years on CSR activities.

REVIEW OF EMPIRICAL LITERATURE

Many studies have been done which link corporate social responsibility with a firm's financial performance favourable stock prices better managerial decisions, higher employee morale, wiser investor's decisions, firm's reputation and enhanced social welfare. The study of Spicer (1978) study finds that the most profitable, larger companies, in general , were judged by investors to be less risky in terms of both total and sysyematic risk. In addition, these companies were awarded generally higher price-earning ratios than those with poorest pollution-control records. Longstreth and Rosenbloom (1973) found that 57% percent of the respondents indicated that they considered social factors in addition to economic factors while making investment decisions.

Anderson and Frankle (1980) investigated the impact of voluntary social reporting on the stock market by using an iso-beta portfolio analysis .Their results strongly support the contention that the market values social disclosure positively. The study of Adams, Hill, Robert (1998) identifies factors that influence all types of social disclosures. A sample of 150 annual reports from six European countries was examined using content analysis. The results indicate that company size industrial grouping and country of domicile all influence corporate social reporting patterns. It was found that 'super large companies are significantly more likely to disclose all types of corporate social information.

The study conducted by Cowen, Ferreri and Parker (1987) seeks to extend our knowledge of the relationship between a number of corporate characteristics and specific types of social responsibility disclosures, based on an extensive sample of U.S. corporate annual reports. Corporate size and industry category are found to correlate with certain types of disclosures while the existence of a corporate social responsibility committee appears to correlate with one particular type of disclosure.

The study conducted by Chapple and Moon (2005) addresses four hypothesis: (a) that corporate social responsibility (CSR) in Asia is not homogeneous but varies among countries, (b) that the variation is explained by stages of development, (c) that globalization enhances the adoption of CSR in Asia, and (d) that national business systems structure the profile of multinational corporations CSR. These hypotheses are investigated through analysis of web site of 50 companies in seven Asian countries:

Thompson and Zakaria (2004) worked on corporate social reporting in Malaysia. According to them, companies will benefit not only from being socially responsible but also from being able to demonstrate convincingly that they are socially responsible through communicating to stakeholders their commitment to and record on CSR.

Maignan and Ralston (2002) analyzes the degree and substance of organizations correspondences about (CSR) in France, the Netherlands, the U.K and the U.S. Specifically, the study researches the way of CSR standards, procedures, and partner issues examined in site pages. The outcomes demonstrate that organizations in the four nations don't show the same avidness to show up as socially dependable and utilize various intends to pass on social obligation pictures.

Pemni (2005) offers a unique outline of non – money related disclosure on CSR by focusing on data discharged through corporate social, natural and manageability reports. The paper draws on the supposition that corporate social disclosure can be considered as the most direct articulation of the organizations states of mind and practices with respect to social obligation. The subsequent corporate socially mindful representation is connected to seven noteworthy topics that are: operational productivity, most extreme wellbeing, ecological insurance, quality and advancement, open dialog, ability improvement and dependable citizenship.

KPMG conducted a survey to measure responsibility reporting in Indian Corporate sector. The following are its key findings:

India CR reporting trends

- 73 percent of India’s N100 companies have some amount of CR disclosure, 45 percent use standard frameworks for CR disclosure, 31 percent of India’s N100 comprehensively reports on CR through separate reports.

- Information Technology (IT) sector is among the leading sectors with all N100 IT companies producing separate CR reports.
- There is higher rate (70%) of N100 companies disclosing CR information in annual report but Integrated Reporting will take few years to gain prominence.
- Global Reporting Initiative (GRI) is the most widely used reporting framework with 64 percent of N100 reporting companies (using standard reporting frameworks) referring to GRI.
- National Voluntary Guideline on Social, Environmental and Economic Resposibilities of Business (NVG-SEE) framework is estimated to outpace GRI among the N100 companies with mandatory requirements on Business Responsibility (BR) Reporting, but it is expected that an increasing number of N100 companies would adopt the GRI reporting framework to meet their BR Reporting obligations as well.
- 81% of N100 companies producing separate CR reports have demonstrated enhanced credibility and reliability of reports through external assurance and half of all assurance statements are issued by major accountancy firms.
- 39 percent of N100 companies with separate CR reports have restated the information presented for earlier reporting years. However, the quality of data reported sees an improvement with 71 percent restatements relating to improved estimations/calculations enhanced scope of reporting and updates in definitions while 29 percent of restatements were made owing to an error or omission.

Quality of CR reporting in India

- The average quality score for all CR reports is 42 out of a possible 100, indicating that there is a need to significantly improve the quality of CR reporting in India.
- Indian CR reports tend to have relatively better disclosures on the stakeholder engagement process and least disclosure on supplier and value chain aspects.
- IT companies have the best quality reports in India with an average score of 64, while the Pharmaceutical sector has the lowest average score of 20.

OBJECTIVES OF STUDY

The purpose of this paper is to evaluate annual reports of two Indian Companies, as a case study, to examine their social responsibility reporting practices. The advantage in case study is that one gets almost complete picture of what is being practiced by a firm. Further, evaluation is not confined to ‘average maximum’ or ‘average minimum’ or ‘overall trends’.

Corporate Practice

The companies selected in this study are Hindustan Unilever Ltd. and Infosys Ltd. and their published annual reports for the years 2013-14 have been considered for evaluating status of their responsibility reporting practices.

HINDUSTAN UNILEVER Ltd. (HUL)

An analysis of the annual report of HUL for the year 2013-14 reveals that the company has performed many social responsibility activities in different areas concerning social welfare and performance. Based on the study of the company's annual reports, the following social responsibility disclosures have been found.

1) Sustainable Living

HUL business model is designed to deliver sustainable growth. Business needs to be a regenerative force in the system that gives it life. For example, by reducing waste, they create efficiencies and reduce costs, helping to reduce margins while reducing risks.

2) Unilever Sustainable Living Plan

i) **Improving health and well-being**

a) **Health and Hygiene:** By 2020 Unilever will offer more than a billion individuals to enhance their cleanliness some assistance with habiting and will convey safe drinking water to 500 million individuals. This will decrease the rate of life-undermining illnesses like looseness of the bowels.

b) **Nutrition:** Unilever will continually work to improve the taste and nutritional quality of all products. By 2020 the Company will double the proportion that meets the highest nutritional standards, based on globally recognised dietary guidelines.

ii) **Reducing environmental impact**

a) **Greenhouse Gases:** Unilever's commitment is to halve the greenhouse gas impact of products across the lifecycle by 2020.

b) **Water:** Unilever's commitment is to halve the water associated with the consumer use of products by 2020.

iii) **Enhancing livelihoods**

a) **Waste:** Unilever's commitment is to halve the waste associated with the disposal of products by 2020.

b) **Sustainable sourcing:** By 2020 Unilever will source 100% of agricultural raw materials sustainably.

c) **Better livelihoods:** By 2020 Unilever will engage with atleast 5,00,000 smallholder farmers and 75,000 small-scale distributors in the supply network.

3) Winning with Brands and Innovation

Success of HUL depends on building brands that consumers love to buy and use. They make sure that their brands remain relevant and contemporary; their innovations remained meaningful to consumers by putting their brands through the innovation funnel. They evaluate their life-cycle environmental impact and social value while driving brands to focus on purpose- Making Sustainable Living Commonplace.

4) Winning in the Marketplace

HUL are making special efforts to reach out to the remotest corners of India, delivering products and services to people and places that have not been served directly before, in most cost effective manner. This will help them drive competitive and sustainable growth in the marketplace.

5) Project 'Express': Reaching out to Rural India

Project 'Express' was launched to provide leverage to HUL's deep rural reach and further enhance the earning potential of their channel partners including the Shakti ammas in 2011, they entered into an agreement with Tata Teleservices to distribute their products in rural markets, leveraging their existing networks. In 2012, the partnership with Tata Tele services was further strengthened. HUL expanded the model through their Rural Distribution system in 13 telecom circles across the country. They are now distributing telecom products for Tata Teleservices in 95,000 telecom outlets through a network of over 700 rural distributors.

6) Listening to the Network

HUL has direct coverage of more than 2 million outlets through their vast distribution network of more than 2500 redistribution stockists. The helpline set up for traders is a unique initiative and it has given voice to the millions of outlet owners to reach out directly to HUL. They receive more than 600 calls a day from outlets and this helps them to understand the issues and opportunities in the marketplace better and solve them with speed.

7) Improving Eco-efficiency

In 2012, HUL made significant progress towards sustainability goals in manufacturing operations. For every tone of production in 2012, CO_2 emissions reduced by 22%, water use by 29% and waste by 77% compared to 2008 baseline. 31 HUL factories have now become 100% zero non-hazardous waste to landfill. Their renewable energy share has moved from 8% in 2010 to 20% in 2012 through using alternate biomass – based fuel.

8) Project 'Shakti'

HUL keep on driving its rustic scope plan through Project Shakti, which now has 48,000 Shakti business visionaries (Shakti ammas) supplemented by more than 30,000

Shaktimaans,the male individuals from Shakti amma's crew. Shakti ammas have demonstrated effective in expanding the Company's vicinity in provincial territories, building solid nearby associations with buyers, along these lines empowering brand faithfulness. Shakti ammas are additionally going about as their Company's diplomats to spread consciousness of wellbeing and cleanliness in profound provincial India with restricted media reach. In the meantime, Shaktimaans circulate Company items on bikes, covering more than 1,35,000 towns in 15 states and serving 3.3 million family units.

So as to further fortify the country and streamline the production network arrange, the Company has sent an ease portable IT answer for Shakti program, amid the year. This is a small scale ERP (Enterprise Resource Planning) bundle keep running on a passage level advanced mobile phone to offer the Shakti business visionaries some assistance with managing their endeavor better. The bundle is currently being utilized by more than 40,000 Shakti business people the nation over.

9) Environment, Safety, Health and Energy Conservation

HUL continues to focus on the vision of being an Injury Free and Zero Environment Incident organization. A behavioral safety program was deployed across the company as the core of their safety journey. This has been supplemented by a consistent focus on prevention of hand-in-machine and slip-trip fail injuries at workplace and multiple initiatives for improving road safety in 2012, the safety incident rate measured as total recordable frequency rate decreased by 61% over 2008 baseline.

The Company continues to make excellent contribution to the Unilever Sustainable Living Plan, where Unilever’s vision is to double the size of its business while reducing the overall impact on environment and improving its positive social impact. The Company has been taking steps to reduce electricity and water consumption in its manufacturing processes as well as control waste generation.

In all Company units, recyclable waste e.g. packaging material, empty raw material containers, spent lubricants, project scrap, etc. are systematically segregated and tracked for effective recycling. More than 98% of total waste is recycled in environment friendly ways. Total waste per ton from the manufacturing sites has reduced by 77% against the 2008 baseline.

10) Sustainable Living

Sustainability is at the core of the HUL’s way of doing business. It guides Company on the path to achieve long term success in a world where the battle for resources can only escalate. In this direction, ‘Unilever Sustainable Living Plan’ (USLP) embeds sustainability in its business model. The USLP sets out to decouple growth from environmental impact, while at the same time, increase positive social impact.

INFOSYS Ltd.

Infosys is a reputed IT company having overseas operations and is listed on major stock exchanges in the world. A survey of the company annual report for the financial year 2013-14 points out that the company has given various social responsibility information in its annual report. The salient features of the company's social responsibility reporting are as follows:

1) Sustainability Focus

Over the years, the leaders of the company have been spearheading the company's sustainability strategy to achieve a fine balance of economic, environmental and social imperatives, while paying attention to the needs and expectations of their internal and external stakeholders. The leaders have been championing sustainability initiatives through global forums and bodies. This indicates the management's commitment to company's sustainability goals, which are embedded in the corporate scorecard.

2) Corporate Social Responsibility Committee

A committee is formed who will formulate and monitor the CSR policy of the Company. It has adopted a policy that intends to:

- Strive for economic development that positively impacts the society at large with a minimal resource footprint, and
- Embrace responsibility for the corporation's actions and encourage a positive impact through its activities on the environment, communities and stakeholders.

3) Solutions for Societal Well-being

The research currently focuses on improving health for the sports community, but Infosys envisages its application across important facets of well-being, which include:

- Assisted living for the elderly and remote monitoring
- Continuous monitoring of health and safety of field personnel working in hazardous and remote environments like mines, chemical plants, etc.
- Regular monitoring of blood chemistry and vital signs of post-operative and high-risk patients.
- Emotion monitoring through stress levels and Facial Expression, Awareness, Compassion, Emotions (FACE).

4) Managing Assets for Environmental Well-being

Infosys has numerous customer loaned assets – over 70,000 equipment worth about Rs.8,988 crore. This accounts for a large carbon footprint, high datacenter space requirements, high power consumption, administrative bandwidth and substantial maintenance and cooling costs. On completion of the projects, a re-export of these assets would mean high transportation costs and/or real-estate expenditure for company's clients. A four-pronged innovative approach has been conceptualized to address many challenges.

- Build innovation platform
- Optimized asset management
- E-waste management
- Server and storage virtualization

5) Employee Well-being

Being an organization that is knowledge-intensive and highly dependent on the competency of people to deliver value to clients, the employees are the most valued assets. The company strives to attract and retain the best talent in the market. As a strategy, the company tries to develop the careers of its employees by providing them long-term opportunities.

6) Freedom of association:

The company recognizes the right to freedom of association through collective bargaining agreements as per the laws of land. A de minimus percentage of the employees are covered by Collective Bargaining Agreements (CBA).

7) Employee Resource Groups

Infosys workers speak to different foundations, affinities and aptitudes. The organization have made various worker asset gatherings to address the necessities of organization's workforce, for example, group investment, organizing, social enhancement, and support in view of sex, partiality, capacity and sexual introduction. These asset bunches conduct programs and activities, for example, shared discussions, pioneer talk arrangement, gatherings and exceptional occasions to guarantee osmosis and engagements of the differing bunches and groups with the bigger workforce. As a component of its representative engagement activities, it additionally has normal occasions to make mindfulness and celebrate social differing qualities at the work environment.

8) Employee Satisfaction Survey – Let's Interact on Themes That Matter to Us (LITMUS)

Organization's yearly representative fulfillment overview, LITMUS, is utilized to catch, break down and attract up activity tracks to address the worries of its workers. The organization utilizes an outsider structure for the LITMUS study with an emphasis on measuring and enhancing representative engagement utilizing the renowned Gallup Q12 model. The discoveries are examined and activity things are distinguished and doled out to center gatherings. Assignments and exercises are actualized, followed and answered to the Board of Directors.

9) Work-life Balance

The part of experts in the present social milieu demands adaptability in dealing with a discretionary work-life parity. Accomplishing individual and additionally proficient objectives prompts a connected with workforce and it is this social obligation that endeavors today are tending to through different work-life equalization programs.

The organization has set up a devoted group in HRD to evaluate the necessities of their workers over the organization. The accompanying are the critical HR strategies that backing work-life parity and inclusivity:

Paid maternity leave

- Extended maternity leave
- Sabbatical for personal reasons
- Paternity leave
- Adoption leave
- Part-time, flexi-hours and selective telecommuting
- Sabbatical for community service
- Work options from satellite offices
- Work from home

10) Equal Opportunity

The organization is focused on giving a workplace that is free from separation and badgering for every one of the representatives. The Company is an equivalent open door manager and settles on work choices in light of legitimacy and business needs. The Company's arrangement precludes provocation of any sort, including badgering in view of pregnancy, labor or related medicinal conditions, race, religion, statement of faith, shading, sexual orientation, national beginning or ancestory, physical or mental handicap, restorative condition, conjugal status, age or some other premise ensured by laws of governments where organization work.

11) Addressing Employee Grievance

The company recognizes the rights of its employees and provides forums, support groups and policies to hear and address their concerns, and resolve issues and conflicts in a fair and transparent manner. The Hearing Employees and Resolving (HEAR) forum helps employees to express their grievances and address them in a fair and objective manner. Company’s Anti-Sexual Harassment Initiative (ASHI) allows employees to report sexual harassment cases at workplace. The cases are heard and resolved by an unbiased group. The company has a Whistleblower Policy that assures complete anonymity and confidentiality of information to the reporting individual.

12) Occupational Health and Safety

The company is committed to provide a safe and healthy workplace for all the stakeholders and have worked to enhance its performance through improvement of processes during the year.

13) Ozone-The Health, Safety and Environmental Management Systems (HSEMS)

Ozone, the company's HSE initiative, helps it to comply with all applicable legal requirements or these expectations wherever it operates in the world. All the company's campuses in India were re-certified with OHSAS 18001-2007 during December 2013.

14) Health Assessment and Lifestyle Enrichment (HALE)

Medical research suggests a strong correlation between high work pressure and stress, which could lead to several conditions such as heart ailments, hypertension, depression, mental disorders, and relationship issues. Research also shows that proactive early interventions that lead to early detection, coupled with treatment options and lifestyle changes, can contribute significantly towards enhancing the active working age of an individual and directly impact workplace productivity. The company launched the Health Assessment and Lifestyle Enrichment (HALE) program that primarily focus on Health, Safety, Leisure and De-stress.

15) Human Rights

Infosys recognize and respect human dignity and the equal and inalienable rights of all its stakeholders. The company strives to build an organization based on core values such as freedom, dignity and justice. Building an organization that nurtures these values requires a leadership that is willing to lead the way and adopt good governance and processes. The company comply with human rights laws and guidelines laid down in the Constitution of India, and other international laws.

16) Initiatives and Actions

As a signatory to the United Nations Global Compact (UNGC), the company is committed to the fundamental principles contained in the Universal Declaration of Human Rights.

17) Addressing Employee Grievances

Infosys have platforms and forums in place for addressing employee grievances and issues related to human rights abuses. Company has not received any complaints of human rights violations during the reporting period. The existing formal measures to address employee concerns and grievances are as follows:

- Hearing Employees and Resolving (HEAR) provides a channel for addressing work related concerns in a fair and objective manner.

- The company provide a safe, healthy and conductive work environment for its employees, contractors and visitors. The OHSAS 18001:2007 specifications ensure that all objectives and targets are measured.
- The Anti-Sexual Harassment Initiative (ASHI) allows employees to report sexual harassment at the workplace. An internal committee looks into all complaints of sexual harassment and is headed by an external independent chairperson.
- The Whistleblower Policy has been formulated to encourage employees to report questionable accounting practices, and fraudulent financial transactions. The employees use this channel to voice concerns related to discrimination, retaliation and harassment and is assured of complete anonymity and confidentiality.

18) Environment

It is Infosys endeavor not only to deliver best-in-class sustainable business practices, but to also set benchmarks for other organizations and the society to follow. The company has identified climate change as a key operational risk. It has taken specific goals for carbon neutrality, water conservation, waste management and biodiversity. A dedicated Green Initiative team, along with the Facilities team has steadily worked to achieve the stated goals.

19) Health, Safety and Environment Policy, and Certifications

Company's Health, Safety and Environment (HSE) policy is a declaration of its commitment to protecting the environment, sharing best practices and providing a safe and healthy workplace for its employees. The policy is accessible to all its employees worldwide on Sparsh, and is displayed at strategic locations on its campuses.

20) Energy Efficiency Strategies

Infosys energy consumption is mainly through the use of electricity and high speed diesel used for generators and boilers. Conservation of electricity has been one of the company's focus areas and it has reduced its per capita electricity consumption through some of its key strategies. These measures also help reduce the stress on the regional grids for power availability to its local communities.

21) Central Command Center

The company has set up a central command center to monitor, manage and optimize its electricity consumption, remotely. They have building efficiency experts manage operations, provide remote technical expertise for all locations and analyze data to identify optimization opportunities. This centralized monitoring has helped the company make diagnostics smarter, and thus enhance operational effectiveness.

22) Green Buildings

In fiscal year 2014, the company was awarded the leadership in Energy and Environment Design (LEED) Platinum rating for five of its buildings in Mysore, Mangalore, Pune, and Hyderabad. The company has now 10 LEED Platinum rated buildings and two buildings with GRIHA 5-star rating, making a total of about 3.4 million sq.ft. with green certification-the highest in India for office buildings.

23) Adoption of Renewable Energy

The goal of the company is to source 100% electricity from renewable sources by fiscal year 2018. It has used 75.6 million units of electricity in fiscal year 2014. It installed rooftop solar plants of 392 KW at its Hyderabad campus and over 1,000 KW capacities in its Chennai campuses- 306 KW at Sholinganallur and 765 kW at Mahindra City.

24) Emissions

The company's emissions include greenhouse gases (GHG), SO_xNO_x and Ozone Depleting Substances. Other emissions from the stacks connected to generators, boilers and diesel operated fire hydrant pumps are also monitored on a monthly basis. There have been no deviations from the specified limits.

25) Water efficiency

As a responsible organization, the company is committed to conserve water. Water has become a scare resource in our country. The company has taken voluntary annual goals to reduce fresh water consumption and to harvest rainwater. Rain water harvesting has helped replenish the ground water tables in and around campuses.

26) Waste Management

The company has a focused approach towards waste management and establishes strategic annual targets to ensure environment friendly disposal of waste in adherence to legislations as applicable. Company's initiatives are spread across three dimensions – influencing social behavior, process optimization, and the implementation of technology. Company has also set up bio-gas and organic waste composting plants in some of its campuses and are in the process of setting up similar plants at all India's locations.

27) Biodiversity

The company's biodiversity policy is its commitment to conserve and promote biodiversity across all its campuses. It continues to organize tree plantation drives with an emphasis on native and endangered species on its campuses.

28) Eco Advocacy and Eco Group Activities

The company advocates positive sustainability actions among its employees to encourage good citizenship behavior. It sponsor and support's employee – run volunteer eco groups, which take up projects that sustainable living, conservation of electricity and water, recycling of waste, reducing carbon emissions and afforestation. These groups also partner with local communities around the campuses to work on various sustainability-related initiatives.

CONCLUSIONS AND SUGGESTIONS

Social responsibility information and their disclosure are relevant to business firms, external users and other stakeholders in the society. The New Companies Act 2013 which is effective from 1st April 2014 along with Companies Rules, 2014 have turned Corporate Social Responsibility from voluntary activities to mandatory responsibilities. It is an encouraging development in corporate reporting practices in India. Further, many Indian companies have been providing social responsibility information in their annual reports on voluntary basis. The disclosures made by Hindustan Unilever Ltd. and Infosys Ltd. in their annual reports are highly satisfactory for the Indian investors.

In spite of good developments in this area in India, there are some issues which need to be investigated by the future researchers with a view to make social responsibility reporting more meaningful and useful for both – business enterprises and Indian investors and other stakeholders. Some of the issues requiring investigation are listed below:

1. Determining the informational requirements of Indian investors towards social responsibility disclosure.
2. Determining the relative importance of different items of social responsibility report.
3. Determining the appropriate mode of social responsibility disclosure.
4. Determining the possible association between social responsibility disclosure and firm characteristics such as performance, profitability, cost of capital and firm value etc.
5. Determining the extent of regulatory requirements to monitor social responsibility disclosures.
6. Determining the theory or approach underlying social responsibility reporting i.e. positive theory, normative theory or integrated theory.

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Printed in India by **Prof. G. Soral** at Ekta Paper Products, Gwalior and published by him on behalf of the Indian Accounting Association, Udaipur-313001.