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A STUDY OF CONSUMPTION OF CONSUTMER DURABLES IN RURAL INDIA WITH SPECIFIC REFERENCE TO BACKWARD STATES (PART 1)

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ABSTRACT

Indian has had a consumption driven growth since economic reforms began more than two decades back. The trinity of Liberalization, Privatization and Globalization (LPG) has definitely benefitted the country's socio-economic parameters. It is also true that a much higher growth has taken place in urban areas and within them, more specifically metropolitan or mega cities, where growth and opportunities have been the highest. Rural India has also achieved growth rates; though not as much as urban India. Among the backward states, the quartet of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh (colloquially called by acronym BIMARU states; bimaru means sickly in Hindi, National Language of the country), comprising almost 40% of India's population have also shown growth but with a faster rate in the period 2007-2011 (eleventh five year plan) as compared to the rest of country. Among the mentioned four states, study of selective consumer durables in rural areas has been done of Madhya Pradesh and Rajasthan. Primary data was collected from two districts in these states and the results were analyzed. The study assumes significance because of similar conditions prevailing in African (excluding South Africa), former Indo-French areas (Vietnam, Cambodia and Laos) and the smaller South American countries ,some of which are experiencing political stability, perhaps for the first time in modern era and citizens can experience security of life and livelihood.

India has always been a land of contradictions and enigma in case of economic development path and structure. Nothing seems to exemplify this than the skewed growth from primary to tertiary sector and fall in household asset percentage as per table 1 (year 2004-05 is currently being taken as the base year for macro-economic indicators by government of India, hence mentioned here). This is in-spite of huge social spending made by federal and state governments every year through various schemes in rural India.

Table 1

Year	% share of agriculture sector in GDP	% share of service sector in GDP	Income quintile of bottom 60% population (in %)	Income quintile of top 40% population (%)
2004-05	18	60	27	73

{"*How India Earns, Spends and Saves-Unmasking the Real India*" (2010) Rajesh Shukla, Sage Publications, 1st Edition}

The concept ‘Rural’ and ‘Marketing’, though used very frequently in various forums, have eluded any precise and non- controversial definitions. When combined, the resulting concept ‘Rural Marketing’ means different things to different persons. This confusion leads to distorted understanding of the problems of rural marketing poor diagnosis and, more often than not, poor prescriptions (Kashyap. 2010). Census India defines “rural as any habitation having a population density of less than 400 per sq. km., where at least 75 per cent of the male working population is engaged in agriculture and where there exists no municipality or board”. The definition does not consider the total population into consideration (Census of India 2011). The Central Banker of India, Reserve Bank of India “defines location with population up to 10,000 will be considered as rural and 10000 to 100000 as semi-urban”. The definition does not include villages with population above 10000; rather classifies towns with 5000-10000 populations as villages (GFICC 2013).

Marketers today define “rural as people living a different lifestyle as opposed to that of those who have settled in the bigger cities and towns”. If we also look at enterprises definition, SAHARA Group (a business conglomerate in India) defines “location having shops/commercials establishments’ up to 1000 are treated as rural”. LG Electronics defines “towns and semi urban area as rural area”. These definitions by the industries are suited to their marketing needs (Kashyap & Raut, 2009). Rural India accounts for 68.5% of India’s population, 57% of national income, and 65% of total expenditure and one third of total saving.

Table 2
(Indian Rural Income Pattern)

Sector	1970-71	1993-94	2007-08
Agriculture	74%	49%	40%
Industrial sector	9.1%	23%	29%
Service Sector	16.9%	28%	31%

(**Source: NCEAR-CMR Analysis 2009-2010)**

While an over whelming share of illiterate households are based in rural areas (85.6%), there are also (36.1%) percent households whose chief earner are graduates. The average household income of the large farm owing households is about four times that of the landless households. Landless households end up spending more on medical expenses (28.7% of all non-routine expenditure) and less on education (4.5)% compared to their richer counterparts who spend who spent 15% and 8% respectively. In real terms (at 1999 prices) the size of rural economy will be about Rs18, 000 billion by 2015-16 which was Rs2, 000 billion in 2007-08. The traditional vision of rural economies as a purely agriculture is clearly obsolete. The share of non-farm income will be about half by 2015-2016. The term non-farm encompasses all the non-crop agriculture activities. It includes manufacturing activities, energy consumption, construction, mining, trade, transportation and service in rural areas. It supplements employment to small and marginal form households, especially during the agriculture slack season, and reduces income inequalities and rural-urban migration, which has fallen from 6.5% in 1981 to 2.8% by 2011(Kashyap 2010 and Census 2011).

How do the rural households, particularly the salary/wages and self-employed non-form earning ones, compare with their urban counterparts? There are 21 million urban households that are engaged in self- employed non-agricultural activities and their annual income is about Rs125, 000 which is much more than their rural counter parts. Urban India also has more regular wage/salary earning household 25 million and these have an annual income of Rs1, 30, 000. These two groups of rural households form prime targets for marketers of consumer goods and services. These households are scattered over a large geographical area than urban households. But the point to consider here is that these rural households have a higher earning weight, that is, they have a higher share of income than other household type in rural India. The rural middle class is growing at 12 per cent, a rate close to the urban middle class, which is growing at 13 per cent (Narang and Singh 2009). Regarding consumption patterns, just as urban income is higher than rural ones, so are expenditure levels. A rural salary earning household spends about Rs 65, 000 annually compared to Rs. 80,000/- spend by its urban counterpart. While the rural salary household spends 61% of its income on routine and non-routine expenses, this works out to 68% for the urban salary-earning household. It also implies that these rural households have more surplus income for saving. For labor households in rural and urban India, the difference is less stark whereas it is most common among rural agricultural households that spend nearly 80% of their income on routine and non routine expenses compared its urban counterpart which spends only 66% on similar expenses. The absolute amount spend by different types of rural households: food expenditure for salary earning households is almost Rs30, 000 per year compared to Rs 20, 000 for labor household and Rs. 23,000 for self employed non households. Non food expenditure too differs significantly for these three household types with salary earners spending as much as Rs. 27,000 while labor household and self-employed non-agriculture household spending Rs10, 000 and Rs. 18,000 respectively.

Table 3
(Ownership of Selective Consumer Durables in % Households)

Product	**Urban Households(2010-11)**	**Rural Households (2010-11)**
Washing Machine	26	09
Televisions	54	17
Motor Cycle	34	19
Cell phone	52	38
Cars	12	3
Mixer/grinder	56	19

{Source: Corporate Catalyst India (2012) "A Brief Report on Consumer Durable in India." Du Pont (2013) "Indian Consumer Laundry Study"}

Such analysis can be the basis for smarter rural marketing strategies that can result in better outcomes. It is for marketers to discover the potential of untapped consumer base that the rural market provides. Increasing marketers are looking to rural consumers in a bid to grow sales of their products. Rural India is a major part of India's domestic consumption story not just because it has 68% of India's population, because it already has 56% of India's income, 64% expenditure and 33% of India's savings and with a significant proportion of salaried and non agricultural self-employed households. Product ownership among rural households too is undergoing significant change. For example, nearly 57% of color televisions are owned by rural consumers. High priced products such as refrigerators are also finding more buyers in rural area with nearly 30% of refrigerators being sold to rural households. Similarly rural households have purchased 55% of two wheelers and 45 percent of cellular phones (Shukla 2010). Table 4 represents a snapshot of rural demographics with ownership of consumer goods relative to overall households in India for the base year 2004-05(for all macroeconomic studies of Indian economic system)

Table 4 (Snapshot of Rural Consumer Dynamics)

Demographics	Share of Rural to Total (%)	Consumer Goods	Share of Rural Market (%)
Household	70.1	Computer	21.6
Population	71.3	Fridge	28.7
Income	56.0	Credit card	29.4
Expenditure	57	Car	31.7
Surplus income	33.0	Mobile	32.6
Salaried	38.7	Telephone	43.5
Self employed in Non –agriculture	46.1	Television	46
Labor	78.4	Pressure cooker	52.6
Agriculturist	97.2	Two wheelers	55
Illiterate	88.5	Celling fan	56
Up to primary	83	Wrist watch	67
Up to higher secondary	55.7	Radio	75
Graduate and above	36.5	Cycle	75.5
(Source: NCAER-CMR Analysis 2009-2010)			

WHY INDIAN RURAL MARKET IS IMPORTANT GLOBALLY?

As per estimates of Census 2011 almost 70% of India's population resides in rural areas, which translates to approximately 11% of global population {India accounts for 16% of world's population (Ramaswamy and Namakumari 2007)} which presents opportunities to consumer products' sellers. An interesting find of the latest (68th) round of National Sample Survey "KEY INDICATORS OF HOUSEHOLD CONSUMER EXPENDITURE IN INDIA, 2011-12" conducted by National Sample Survey Office, Ministry of Statistics and Program Implementation, Government of India, between June 2011-July 2012, revealed that by 2012, the percentage share of consumer expenditure on consumer durables in rural and urban areas had become similar (6.1% and 6.3% respectively). Further reasons about importance of rural India as an opportunistic market is described in research methodology.

RESEARCH METHODOLOGY

Selection of States

Among the Indian states (provinces), Bihar, Rajasthan, Madhya Pradesh, Uttar Pradesh (collectively called *BIMARU* meaning sick) have been afflicted by large population, low economic growth and socio-economic problems. The result was that although these states had (and still have) almost 40% of the country's population, they consistently lagged in socio-economic indicators like – gross state domestic product (GSDP) levels between 1980 and 2000, literacy levels, infant mortality, industrial index etc (Sachs et al 2002). However since the turn of century, these four states have seen relatively much faster economic growth and improvements in social indicators

(MSTTGT 2012 and PCDB 2013). Tables 5 indicate economic growth in these four states along with all India average value for comparison.

Table 5
Growth Rate Gross State Domestic Product at Current Prices (as on 27 February2013)

S.No.	States	% Growth Rate in 2011-12 Over Previous Year (Base Year 2004-05	Average (in %) from 2005-06 to 2012-13 (Base Year 2004-05
1	Bihar	24.40	9.36
2	Madhya Pradesh	19.02	8.82
3	Rajasthan	21.91	8.67
4	Uttar Pradesh	13.85	6.94
5	All India Average	14.65	8.02
(Source: Planning Commission of India Data Book 2013)			

They therefore make an interesting topic to study their consumption pattern; since such growth rates are logical precursor to increased consumption of consumer products. Rajasthan and Madhya Pradesh were the two states selected for study and within these two states villages from following two districts, were selected; depend upon convenience and easy availability of data. While choosing the sample size from each of four districts, Crohn Back Alpha method was used. The two districts are:

1. Udaipur (Rajasthan).
2. Vidisha (Madhya Pradesh).

Selection of Consumer Durables: In a study conducted in 1960s by (Patrick 1966), it was observed that in the transition from underdeveloped to developing economy, there is a shift from non reproducible tangible assets (e.g., land) to reproducible tangible assets (like consumer durables). This effect is complemented by a study done on rural China (Jalan and Ravillion 2001). Singh (2011) studied consumption of durables in two countries (China and India) and found differences in possession of consumer in economic pre reform and post reform periods. The basket of consumer durables in rural areas of both the countries changed drastically from older type durables (bicycle, sewing machine, black & white TV sets) to newer type durables like color TV sets, washing machines and refrigerators. Strong correlation was found with the changed income status and consumption of newer durables. Any category of durables where consumption was found to secular growth was automobiles, depending upon the income base and the subsequent earnings on yearly basis. In India, especially in rural areas, it was observed for two wheelers, that apart from price, a host of other attributes were taken into account before making the buying decision. Relation between consumption expenditure and rise in income has been established by Engel and Keynes has long been an established principle. Studies by Khan (2012) and Akekere & Yousuo (2012) also showed applicability of the same in developing countries. The traditional monthly per capita consumption expenditure (MPCE) has been affected due to increased urbanization of rural masses, breaking up of traditional family system, rise in consumerism and decreasing tendency to save (Pradhan 2012). Increasing use of industrialized inputs in agriculture production had lead to increased consumption of FMCG and durables (Satyasai and Vishwanathan

1999). Two studies on South Africa showed a highly elastic demand among rural communities for durables Visa-Vis Income (Ngqangwen 1999 and Hendriks et al 2007). It was reported in an earlier study (Patrick 1966) that rural savers prefer to shift the direction of extra income generated (e.g., out of bumper harvest) from investment in real investments (immovable property, gold) to consumer durables. The shift towards portfolio investments (financial instruments' investment) is, meager on account of lack of knowledge. A later study by Alvarez-Parra (2011) found that developing countries record higher consumption of consumer durables, whenever there is a favorable terms of trade of their main export commodities or lowered investment rates (of the financial instruments available). An earlier study by Pundir and Singh (2001) in two agriculturally prosperous villages of India found that strong linkages with urban areas (transportation and communication), remunerative agricultural prices, led to increased income and consumption of consumer goods (including durables).

In this study, newer durables – television, washing machines, air conditioner and refrigerators (on account of rural electrification) are taken. The CAGR of these newer durables between FY 2003 and 2010 was about 12%. It is expected to grow at high rates in rural India on account of - low base, increased disposable income on account of higher farm product price (by the federal government) and falling prices of these new durables (CCI 2013).The logic for taking cell phone and passenger cars is that rural India has experienced very high penetration in cellular phone services – from 1% in 2000 to 40% by 2012 (Mehta 2013); rural India already had high penetration in terms of two wheelers (motor cycles) and in recent years car sales have boomed in rural areas (RDDICR 2010). Along with above reasons, rapid urbanization is expected to increase consumption of consumer durable goods by 25% on per annum basis in rural India in the next few years {Jeykumar (2010), Bansal & Singla (2011) and Nigam (2012)}

Caveat - possession of consumer durables has been assumed to be homogenous in this study, i .e. no brand based data collection at both sample and census level was taken. Among the durables, possession of the same cell phone for more than three years was discarded, since the aim of the study was to capture data regarding consumer changes with regard to smart phones and older generation cellular phones. Similarly in the case of other durables, any possession data above seven years was discarded.

RURAL MADHYA PRADESH AS A MARKET

Madhya Pradesh (MP) is India's second largest state in terms of geographical size accounting for more than 9% of country's geographical area, 5.81% of total population and approximately 5% of India's GDP. Almost 25% area in the state is under forest (NABARD 2013). As per the Provisional Population Totals of Census 2011, density of population of the state was 236 per sq. km as compared to 382 per sq. km for the country as a whole. The total population of the state is 72.6 million comprises 37.6 million male (51.8%) and 35.0 million female (48.2%). The gender ratio is 930, which is lower than all India average of 940. The rural to urban ratio was 72:28 against all India figures of 69:31 in 2011(Central Census 2011). Central part of MP is relatively more developed in terms of farming, mines, industries, business centers and urbanization. This is where the non-tribal population is concentrated. Factors like landlessness, nominal and unproductive landholdings, inability to invest in farming, decreased importance of traditional forest based livelihoods in day to day life etc compel them to look beyond the village economies in search of earning opportunities (other than own farming and small scale wage works available in/around their villages). The share of marginal and small farmers in the total landholding area and the number of holdings in the state increased from 9.6% in 1970-71 to 21.5% in 2010-11, an increase of 75%. (Central Census 2011)

With a tribal population of some 15 million, equivalent to some 5 million households and with an average farmed area of 5 acres per household, data for 1995-96 showed that around 61% of land holdings in the state belonged to marginal and small farmers (NABARD 2013 and Central Census 2011). About 74% of the rural population depends on the agriculture sector for their livelihood. Agriculture sector contributes almost 1/3rd of gross state domestic product (GSDP) and forms the backbone of State's economy. During 1999-2000 to 2010-11, GDP from primary sector has grown at a rate of 2.85% per annum at constant price, while at current price growth rate is 9.71% per annum. The contribution of the primary sector to the total gross/net state domestic product showed decline in most of the years during 1999-2000 to 2009-10. Agriculture in the state is still traditional and mostly rain fed (Ayyappan 2011). Because of increased government support (federal and provincial) in terms of agricultural credit, compulsory rural employment scheme and constantly rising minimum support price of agricultural outputs; incomes have risen. However, because of low agricultural productivity (compared to all India levels), incomes and savings have lagged behind. Table 6 depicts the figures for FY 2010-11.

Table 6
Comparison of Crop Production between India and M P (2010-11)

Major Crops	**Production (million tons)**		**Production Share of MP (%)**	**Yield (Kg.)/ hectare**	
	India	*MP*		*India*	*MP*
Paddy	99.180	1.560	1.57	21.78	9.27
Wheat	427.6	6.52	8.08	29.07	17.23
Soybean	53.49	5.85	59.06	10.41	11.42
Gram	30.86	2.79	39.47	8.95	9.81

(Source: Directorate of Economy & Statistics, Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India.)

Another form of judging economic difference between India and MP is the stark difference in bank deposits over the past decade in table 7 and figure 1

Table 7
Bank Deposits (in hundred thousand rupees)

Financial Year	Bank Deposits (India)	Bank Deposits (MP)
2001-02	279107	13227
2002-03	311565	20801
2003-04	385369	22675
2004-05	458618	32560
2005-06	575130	40671
2006-07	671425	43750
2007-08	772282	44547
2008-09	900967	53850
2009-10	1136676	58850
2010-11	1377288	62700

(Source: Reserve Bank of India Financial Report 2010-11)

Figure 1
Comparison of Bank Deposits between FY 2001 to 2011

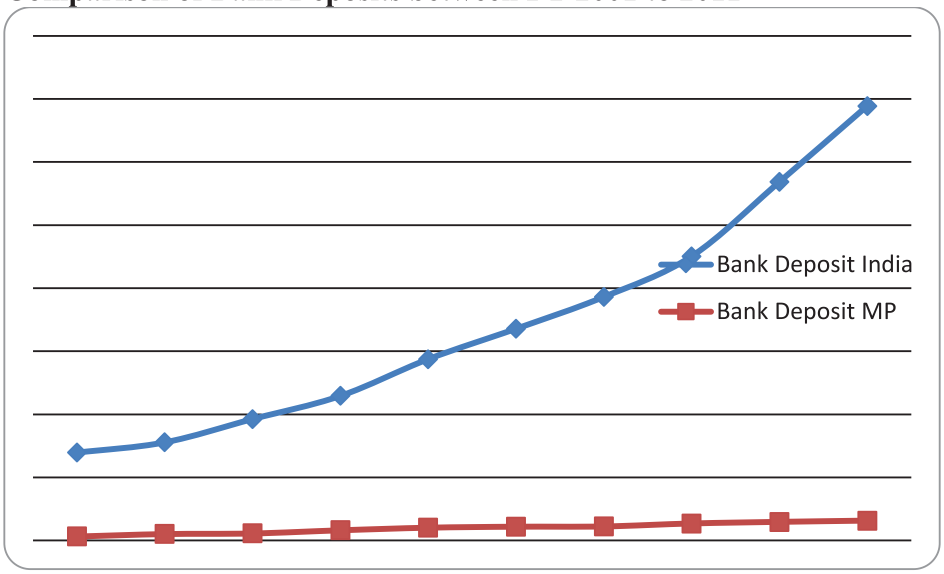
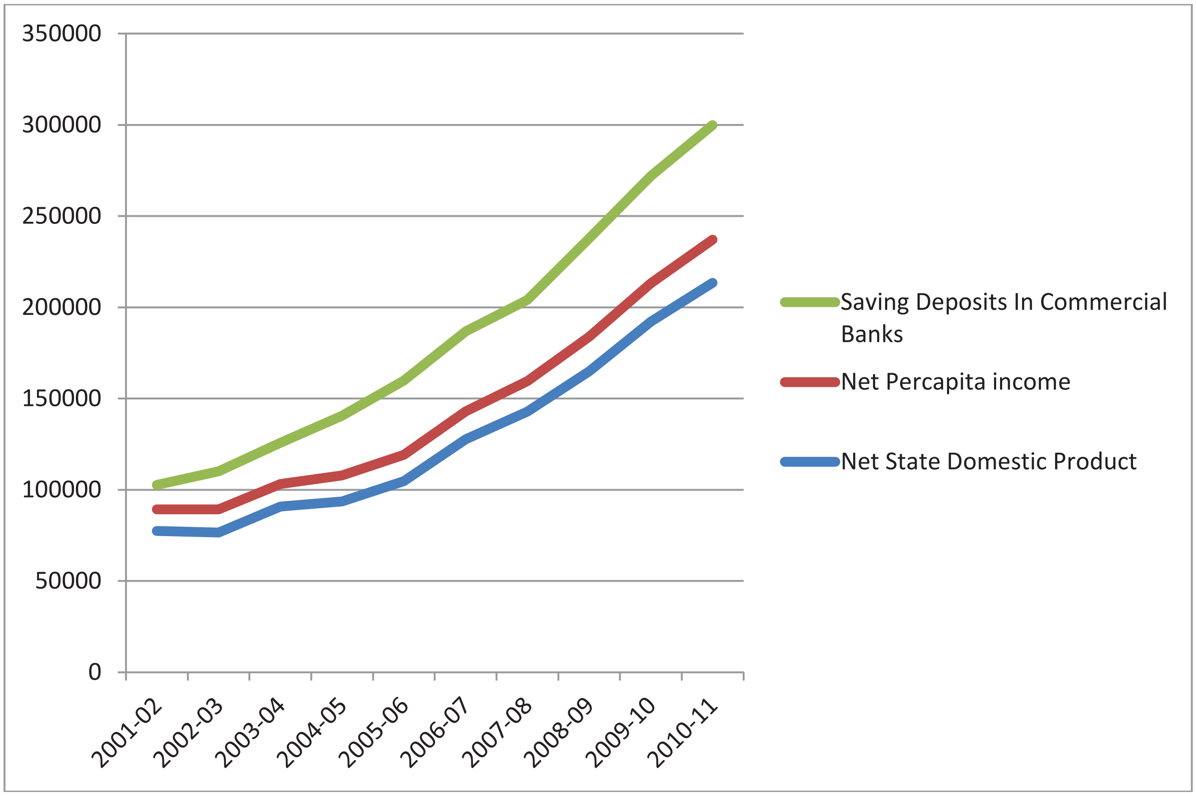


Table 8 gives comparison of Net Per Capita State Domestic Product at Factor Cost of MP and India in absolute and comparative terms in Rupees. The difference is stark in case of factor pricing because most of the labor has seasonal work on account of monsoon fed agriculture in MP; which happens to be largest employer.

Table 8
Net Per Capita State Domestic Product at Factor Cost of Madhya Pradesh and India (In Rupees)

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
11862	12697	12303	14306	14471	15442	16631	19028	20935	23757
24000	22500	24500	29000	31250	35000	45000	42000	62500	83850
2:1 (India/MP)	1.7:1	1.9:1	2:1	2.1:1	2.1:1	2.7:1	2.2:1	2.9:1	3.5:1
(Source: Reserve Bank of India, Hand Book of State Economy 2011)									

Figure 2
Net Per Capita Income, Net State Domestic Product and Saving Deposits of Madhya Pradesh



(Source: Reserve Bank of India, Hand Book of State Economy 2012)

Figure 2 shows a parallel growth between income, State GDP and bank deposits, all indicating that rural market of Madhya Pradesh is capable of providing opportunities for growth of consumer durable sector.

RURAL RAJASTHAN AS A MARKET

Rajasthan is India's largest state accounting for 10% of the country's area and nearly 5.6% of India's population and contributes little over 4% of the country's GDP. The state has 33 districts divided broadly into 7 divisions. The topography of the state is varied and characterized by hilly and sandy terrain. The 12 districts in western region of the state account for 61.11% of the state area which is either desert or semi arid. The state has faced 85 droughts in varying degrees in the last 100 years (NABARD 2013).The population density of the state is low but population growth rate is higher than the all India figures. The rural population is 75% of the total population of the state. The total work force was estimated at 42.5% of the total population and about 67% of the work forces was reportedly engaged in agriculture and allied activities (Census 2011). The gross state domestic product at constant (2004-05) prices for the year 2011-12 was estimated at Rs 178730 million as compared to Rs 171365 million in the year 2009-10 registering a growth of 4.30%. The following table gives comparison between the three economic sectors of the state visa-vies the country

Table 9 (Composition of GDP FY 2011-12)		
Sector	**Rajasthan**	**India**
Agriculture	21.57	14.40
Industries (manufacturing)	29.83	20.00
Service	48.60	65.00
{Economic Survey of India (2012-13) and Government of Rajasthan Economic Review (2011-12)}		

Per capita income is another major indicator of state's economy. As per government of Rajasthan (GoR) Economy Reviews 2011-12, the per capita income of the state for 2011-12 stood at Rs 39967/- at current prices and Rs 25616/- at constant prices of 2004-05 respectively. The corresponding figure for the nation as a whole was Rs 54835 and Rs 35917 respectively (Economic Survey of India 2012-13). The role of agriculture in the state economy is quite significant, contributing to 21.57% of the total GSDP in 2011-12 (table 9). Two third of population is dependent upon agriculture and allied activities for its livelihood. Agriculture in Rajasthan is mostly dependent on rainfall that remains scanty and irregular. The major crops grown in the state are millets and wheat among cereals; gram among pulses; rapeseed/ mustard, cumin, cotton, coriander etc. Rajasthan has the distinction of being the main producer of spices and condiments in the country {Economic Review (2010-11), Government of Rajasthan}.Due to development of few canals and diversion of rivers, growth in some agricultural produce has been observed (HDRR 2008**)**. Table 10 gives a perspective of the same.

Table 10 Production of Different Crops				
Crops	**2008-09**	**2009-10**	**2010-11**	**% Growth over previous year**
Pulses	18.16	7.02	30.12	329.06
Food grains	166.94	123.60	202.07	63.49
Oilseeds	52.01	44.36	61.02	37.56
Sugarcane	3.88	3.45	3.20	-7.25
Cotton	7.26	9.03	7.64	-15.39
{Source: Economic Review (2011-12), Government of Rajasthan}				

The phenomenal growth in pulses can be attributed to the high rise in prices on account of demand pull factors generated on account of general income rise, which led to increased consumption of superior foods (e.g., pulses) in a country (in general) where majority population is vegetarian in dietary aspect (NSSO 2012 and Economic Survey of India 2011-12). The growth in food-grains can perhaps be attributed to development of Indira Gandhi Canal in the arid and semi arid part of state, which brings the water of river Sutlej (originating from Tibet) to the parched landscape (HDRR 2008). In Oil seeds, Rajasthan is India's leading producer of mustard seed (NABARD 2013). Inspite of such high growth rates, Rajasthan lags behind all India averages on Net & Per Capita on Factor Cost basis. Tables 11 and 12 show the stark difference

Table 11
Showing Net Per Capita State Domestic Product at Factor Cost of Rajasthan and India
(In Rupees)

Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Rajasthan	14098	13128	16507	18565	20275	24055	26882	30647	34189	36234
India	24000	22500	24500	29000	31250	35000	45000	42000	62500	83850
Ratio (India/Raj.)	2:1	1.7:1	1.9:1	2:1	2.1:1	2.1: 1	2.7: 1	2.2:1	2.9:1	3.5:1
(Source: Reserve Bank of India Hand Book of State Economy 2011)										

CAGR of net per capita state domestic product at factor cost of Rajasthan is 9.90%. CAGR of Saving Deposits in Rajasthan is 11.82%. Figure 3 presents the stark contrast with respect to India.

Table 12
Saving Deposit of Rajasthan with Commercial Banks
(In Hundred Thousand Rupees)

Year	India	Rajasthan	Ratio India/ Raj
2001-2002	279107	24227	21:1
2002-2003	311565	31801	14:1
2003-2004	385369	33675	17:1
2004-2005	458618	35560	14:1
2005-2006	575130	51671	14:1
2006-2007	671425	54750	15:1
2007-2008	772282	55567	14:1
2008-2009	900967	58850	16:1
2009-2010	1136676	69850	19:1
2010-2011	1377288	74021	21:1
(Source: RBI Financial Report 2011-12)			

Figure 3
Comparison of Bank Deposits between FY 2001 to 2011 of Rajasthan and India

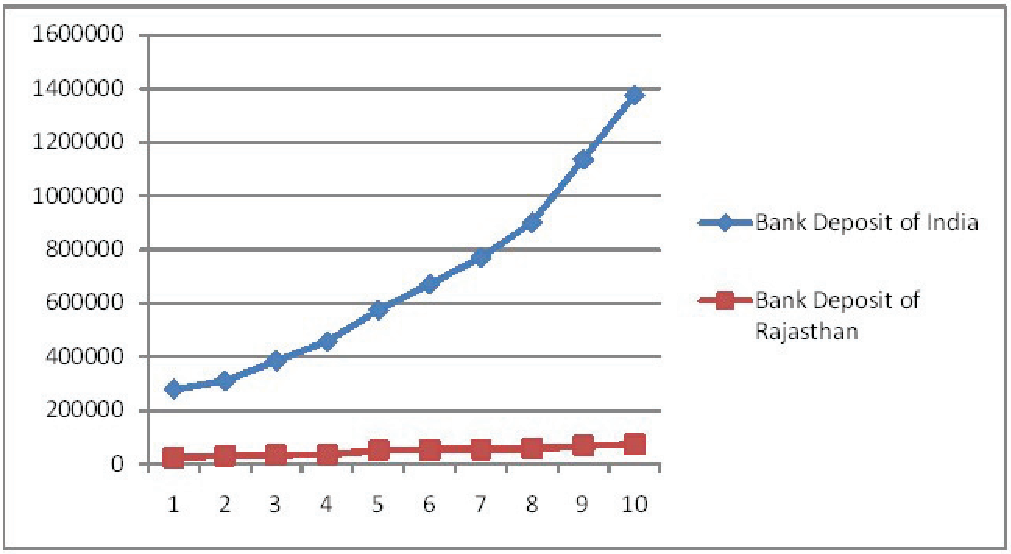
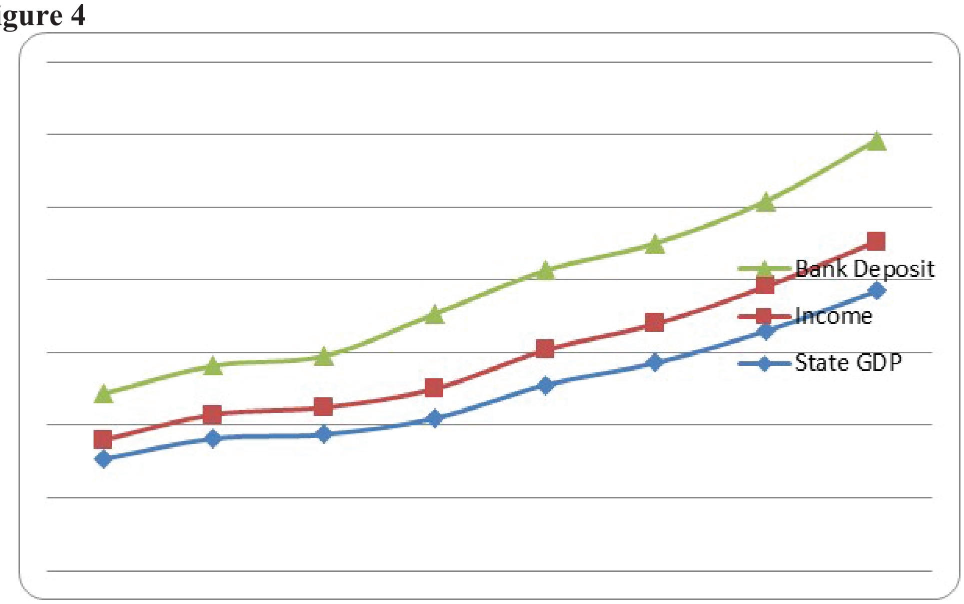


Figure 4 shows a parallel growth between income, State GDP and bank deposits, all indicating that rural market of Rajasthan is capable of providing opportunities for growth of consumer durable sector

Figure 4



METHODOLOGY REGARDING COMPUTATION PROCESS

Selection of district and villages were done on convenience basis. Individual households were selected on random basis. The survey took in to account the possession of time duration of specific samples; however these are not reflected in computation. The household income categories are as per following.

1. Rs 1, 00,000-2, 00,000 (Category A).
2. Rs 2, 00,000-5, 00,000 (Category B).
3. Rs 5, 00,000-10, 00,000 (Category C).
4. Rs 10, 00,000 and above (Category D).

Population figures have been taken from Shukla (2010) for all statistical analysis purpose (*for all calculations in this study*). The explanatory variable is the consumer durable and its value has been computed as weighted average multiplied by the midpoint value of income range.

SURVEY IN RURAL MADHYA PRADESH

District Vidisha

As per central census 2011, the total population of Vidisha was 1.5 million of which 1 million is rural population. Literacy rate of district is 72.08 % with gender ratio of 1000: 897 (male: female). Sample size at 5% of significance level with 3% confidence interval, is 1000 households. The nearby villages in Vidisha district, which were short-listed while doing field survey on door to door basis,were: - Sironj, Shamshabad, Pathri, Nateran, Lateri, Kurwai, Khamkheda, Gyraspur, Gulabganj and Ganjbasoda. The consumption of selected consumer durables from the sample households in Vidisha is as follows.

Table 13
Consumption of Selected Consumer Durables by Sample Households

Income category	Television	Washing Machine	Refrigerator
Category A	59	65	60
Category B	62	67	64
Category C	70	69	69
Category D	85	72	71

(Source: Primary Data Collected From Field Survey in Vidisha in August-September 2012)

Applying F-test at 5% significance level

Null hypothesis is H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Vidisha and σ_2^2 corresponds to India.

Calculation of mean of each sample ($\bar{x}$) and grand average ($\bar{\bar{x}}$)

$\bar{x}_1$ = 60+ 64+ 69+ 71 ÷ 4 = 66
$\bar{x}_2$ = 59+ 62 + 70+ 85 ÷ 4 = 69
$\bar{x}_3$ = 65 +67 + 69 + 72 ÷ 4 = 68
$\bar{\bar{x}}$ = 66+ 69 +68 ÷ 3 = 68
Sum of squares between the samples **SSB = 16 + 4 + 0 = 20**
Sum of squares within the samples **SSW = 94 + 406+20 = 520**

Table 14
ANOVA Table (Selected Consumer Durables in Table 13)

Square of variations	Sum of Squares	Degree of Freedom	Mean of squares	Computed value of F	Table value of F
SSB	20	C−1 3−1= 2	20/2= 10	2.17	4.26
SSW	520	n− C 12−3 = 9	520/9= 57.7		
Total	540	n−1 =12-1 =11			

Since the computed value of F (2.17) is less than the table value of F (4.26), hence the null hypothesis is accepted and can be concluded that there is no significant variance between consumption of selected consumer durables of sample from the villages in Vidisha and India.

Correlation Regression analysis for items in table 13

1. Television
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Television
Slope (m) = 3.29, y-intercept (c) = 49.233, r^2 = 0.953
Regression equation y = 3.29x + 49.233

For every increase Re 1 in income leads to rise in sale of television by approximate 3.3 times as per the sample in study.

2. Washing Machine
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for washing machine
Slope (m) = 0.882, y-intercept (c) = 62. 955, r^2 = 0.994
Regression equation y = 0.882x + 62.955

For every increase Re 1 in income leads to rise in sale of washing machine by approximately 0.8 times as per the sample in study.

3. Refrigerator

Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Refrigerator
Slope (m) = 1.441, y-intercept (c) = 57. 352, $r^2 = 0.976$
Regression equation y = 1.44x + 57.353

For every increase Re 1 in income leads to rise in purchase of refrigerator by approximate 1.441 times as per the sample in study.

In this particular sample survey, income alone can explain almost 95-99% of buying of Television, Washing Machine and Refrigerator. Among the above durables, the impact of income rise is seen maximum in television buying, probably due to surfeit of entertainment channels since the start of economic reforms in 1991, which reached rural areas later compared to urban areas.

Table 15
Consumption of Selected Consumer Durables by Sample Households

Income Class (Rs)	Car	Motor Cycle	Scooter
Category A	10	45	39
Category B	17	57	27
Category C	19	62	20
Category D	21	51	37
(Source: Primary Data Collected From Field Survey in Vidisha in August-September 2012)			

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Vidisha and σ_2^2 corresponds to India.

Calculation of mean of each sample ($\bar{x}$) and grand average ($\bar{\bar{x}}$)

$\bar{x}_1$ = 10+ 17+ 19+ 21 ÷ 4 = 17
$\bar{x}_2$ = 45+ 57 + 62+ 51 ÷ 4 = 53
$\bar{x}_3$ = 20 + 27 + 37 + 39 ÷ 4 = 31
$\bar{\bar{x}}$ = 17+ 53 +31 ÷ 3 = 34
Sum of squares between the samples **SSB = 956 + 1444 + 36 = 243**
Sum of squares within the samples **(SSW) = 69 + 165+237 = 471**

Table 16
ANOVA Table (For consumer durables in table 15)

Square of variations	Sum of Squares	Degree of Freedom	Mean of squares	Computed value of *F*	Table value of F
SSB	2436	**C−1** 3−1= 2	2436/2= 1218	1.39	4.26
SSW	471	**n− C** 12−3 = 9	471/9= 52.3		
Total	2907	n−1 =12-1 =11			

Since the computed value of F (1.39) is less than the table value of F (4.26), hence the null hypothesis is accepted and concludes that there is no significant variance between consumption of selected consumer durables of Vidisha and India.

Correlation Regression analysis for table 15

1. **Car**

Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for car
r^2 = 0.951, Slope (m) = 1.352, y-intercept (c) = 8. 632
Regression equation y = 1.352x + 8.632

For every increase by Re 1 in income leads to rise in sale of car by approximate 1.3 times as per the sample in study. In this particular sample survey, income alone can explain almost 95% of buying of car.

2. Motorcycle
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for motorcycle
r^2 = 0.389, Slope (m) = 0.852, y-intercept (c) = 48. 632
Regression equation y = 0.852x + 48.632

For every increase Re 1 in income leads to rise in sale of motorcycle by approximate 0.8 times as per the sample in study.

3. **Scooter**
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for scooter
r^2 = 0.167, Slope (m) = −0.441, y-intercept (c) = 33. 397
Regression equation y = − 0.441x + 33.397

For every increase Re 1 in income leads to decrease in sale of by more than 0.4 times as per the sample in study

The low value of r^2 for two wheelers can be understood from the following.

- The high value of intercepts (ca. 49 and 34) suggest that respondents had possession of two wheelers is *independent of current income*. Most of them had shown possession of two wheelers for more than five to seven years.
- The negative value of slope (in scooters) indicates that as income rises, consumers decrease buying of scooters, which is true because rural Indians prefer motorcycles over scooters on account of rugged terrain requirements. The same is also shown in the comparative values of regression values of the two different kinds of two wheelers

The divergence in the regression values (r^2) between the two sets of consumer durables (two wheelers) and others (remaining durables) is corroborated by the findings of (NSSO 2012), which showed high divergence in the consumption of two wheelers between the top 30% of (income) population from the remaining 70% of the population (income).

SURVEY IN RURAL RAJASTHAN

District Udaipur

As per central census 2011, the total population of Udaipur was 3.2 million in which 2.3 million was rural population, having a literacy rate of 62.74%, and gender ratio 1000: 958. Sample size at 5% of significance level with 3% confidence interval, is 1067 households. The nearby villages in Udaipur district, which were short-listed while doing door to door survey, were– Dharawan, Madla, Pipalwara, Kherwara, Ambasa, Amiwara, Amod, Anjroli, Atatiya and Kolyari. The consumption of selected consumer durables from the sample households in Udaipur is as follows.

Table 17
Consumption of Selected Consumer Durables by Sample Households

Income category	Television	Washing Machine	Refrigerator
Category A	50	42	52
Category B	52	58	59
Category C	59	69	70
Category D	72	72	84
(Source: Primary Data Collected From Field Survey in Udaipur in June-July 2012)			

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test where σ_1^2 is sample size of Udaipur and σ_2^2 corresponds to India.

Calculation of mean of each sample (x^{-}) and grand average ($x^{=}$)

x_1^{-} = 50+ 52+ 59+ 72 ÷4 = 233÷4 = 58
x_2^{-} = 42+ 58+ 69+ 72÷ 4 = 241÷4= 60
x_3^{-} = 52+ 59+ 70+ 84 ÷ 4 = 265÷4 =66
$x^{=}$ = 58+ 60 +66 ÷3 = 62

Some of squares between samples **SSB** = 64 +16 +64 =144
Sum of the squares between samples within the samples **SSW** = 154

Table 18 ANOVA Table (For consumer durables in table 17)					
Square of variations	***Sum of squares***	***Degree of freedom***	***Mean of squares***	***Computed value of F***	***Table value of F***
SSB	144	C −1 3−1= 2	144÷2 = 72	0.418	4.26
SSW	1545	n−C 12−3= 9	1545÷9 = 172		
Total	1689	n− 1 12−1=11	154		

Since the computed value of F (0.418) is less than the table value of F(4.26) , hence the null hypothesis is accepted and concludes that there is no significant variance between the selected consumer durables of India and Udaipur.

Correlation Regression analysis for table 17

1. Television
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Television
r^2 = 0.945, Slope (m) = 2.794, y-intercept (c) = 41.485
Regression equation y = 2.794x + 41.485
For every increase Re 1 in income leads to rise in purchase of television by approximate 2.8 times as per the sample in study.

2. Washing Machine
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Washing Machine
r^2 = 0.955 Slope (m) = 3. 852, y-intercept (c) = 37.132
Regression equation y = 3.852x + 37.132
For every increase Re 1 in income leads to rise in purchase of washing Machine by approximate 3.8 times as per the sample in study.

3. Refrigerator
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Refrigerator
r^2 = 0.985 Slope (m) = 4.08, y-intercept (c) = 41.720
Regression equation y = 4.08x + 41.721
For every increase Re 1 in income leads to rise in purchase of Refrigerator by approximate 4 times as per the sample in study.

In this particular sample survey, income alone can explain almost 95-99% of buying of Television, Washing Machine and Refrigerator. Among the above durables, the impact of income rise is seen maximum in Refrigerator buying, then Washing Machine and lastly Television. The significant difference in the results of the corresponding durables from that of Vidisha can be due to following (NSSO 2012)

- Per capita income in Udaipur is high.
- There is a drastic rise in consumption from the bottom 3rd decile class, which happens quite late in Madhya Pradesh.

Table 19 Consumption of Consumer Durables by Households in Udaipur			
Income class	**Car**	**Motor cycle**	**Scooter**
Category A	10	45	28
Category B	15	55	30
Category C	19	58	25
Category D	21	60	25
(Source: Primary Data Collected From Field Survey in Udaipur in June-July 2012.)			

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Udaipur and σ_2^2 corresponds to India.

Calculation of mean of each sample (x^-) and grand average ($x^=$)

x_1^- =10+ 15+ 19+ 21 ÷4 = 16
x_2^- = 45+55+ 58+60 ÷ 4 = 54
x_3^-= 25+25+28+30 ÷ 4 = 27
$x^=$ = 16+ 54+ 27 ÷ 3 = 32
Sum of squares between samples (**SSB) = 1024+ 1936+100 = 2960**
Sum of squares within the sample **(SSW)** = 71+78+18 =157

Table 20 ANOVA Table (For Consumer Durables in table 19)					
Square of variations	***Sum of Squares***	***Degree of Freedom***	**Mean of squares**	***Computed value of F***	***Table value of F***
SSB	2960	C−1 3−1= 2	2960/2=1480	2.207	4.26
SSW	157	n− C 12−3 = 9	157/9= 17.4		
Total	2117	n−1 =12-1 =11			

Correlation Regression analysis for table 19

1. Car

Regression y = mx+ c
Where y is income, m is slope, x is independent variable and c is intercept.
Regression coefficient for car
r^2 = 0.978 Slope (m) = 1.411 y-intercept (c) = 7.779

Regression equation $y = 1.411x + 7.779$

For every increase Re 1 in income leads to rise in purchasing of car by approximate 1.4 times as per the sample in study. In this particular sample survey, income alone can explain almost 98% of buying of car.

2. Motorcycle

Regression $y = mx + c$

Where y is consumer durable, m is slope, x is variable income and c is intercept.

Regression coefficient for motorcycle

$r^2 = 0.936$ Slope (m) = 1.852 y-intercept (c) = 43.382

Regression equation $y = 1.852x + 43.382$

For every increase Re 1 in income leads to rise in purchase of car by approximate 1.8 times as per the sample in study. In this particular sample survey, income alone can explain almost 94% of buying of motorcycle.

3. Scooter

Regression $y = mx + c$

Where y is consumer durables, m is slope, x is variable income and c is intercept.

Regression coefficient for Scooter

$r^2 = 0.687$ Slope (m) = - 0.50 y-intercept (c) = 30

Regression equation $y = -0.5x + 30$

For every increase Re 1 in income sale of scooter (s) goes down by 0.50 times as per the sample in study.

The low value of r^2 for two wheelers can be understood from the following.

- The high value of intercepts (ca. 44 and 30) suggest that respondents had possession of two wheelers is *independent of current income*. Most of them had shown possession of two wheelers for more than five to seven years.
- The negative value of slope (in scooters) indicates that as income rises, consumers decrease buying of scooters, which is true because rural Indians prefer motorcycles over scooters on account of rugged terrain requirements. The same is also shown in the comparative values of regression values of the two different kinds of two wheelers

The divergence in the regression values (r^2) between the two sets of consumer durables (two wheelers) and others (remaining durables) is corroborated by the findings of (NSSO 2012), which showed high divergence in the consumption of two wheelers between the top 30% of (income) population from the remaining 70% of the population (income).

CONCLUSION

The benefits of globalization and economic reforms have started affecting positively, the underdeveloped states of India, which in terms of geographical size and / or population can be considered equivalent to some African countries, which are now in the economic take off stage. Being agrarian states, Rajasthan and Madhya Pradesh have benefitted with higher agricultural prices, lower base effect (GDP), increased social welfare measures and rapid urbanization.

However in both the states, industrial growth is low and government happens to be the biggest employer. This naturally puts strain on public finance. This can result in increased taxation by state governments. The results of the study can perhaps provide some insight in to the efforts of corporations which are trying to expand in untouched areas like – West Africa, South America countries etc and can apply their learning from consumption growth patterns of backward Indian states

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A STUDY OF CONSUMPTION OF CONSUTMER DURABLES IN RURAL INDIA WITH SPECIFIC REFERENCE TO BACKWARD STATES (PART 2)

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ABSTRACT

Indian has had a consumption driven growth since economic reforms began more than two decades back. The trinity of Liberalization, Privatization and Globalization (LPG) has definitely benefitted the country's socio-economic parameters. It is also true that a much higher growth has taken place in urban areas and within them, more specifically metropolitan or mega cities, where growth and opportunities have been the highest. Rural India has also achieved growth rates; though not as much as urban India. Among the backward states, the quartet of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh (colloquially called by acronym BIMARU states; bimaru means sickly in Hindi, National Language of the country), comprising almost 40% of India's population have also shown growth but with a faster rate in the period 2007-2011 (eleventh five year plan) as compared to the rest of country. Among the mentioned four states, study of selective consumer durables in rural areas has been done of Madhya Pradesh and Rajasthan. Primary data was collected from two districts in these states and the results were analyzed. The study assumes significance because of similar conditions prevailing in African (excluding South Africa), former Indo-French areas (Vietnam, Cambodia and Laos) and the smaller South American countries ,some of which are experiencing political stability, perhaps for the first time in modern era and citizens can experience security of life and livelihood.

India has always been a land of contradictions and enigma in case of economic development path and structure. Nothing seems to exemplify this than the skewed growth from primary to tertiary sector and fall in household asset percentage as per table 1 (year 2004-05 is currently being taken as the base year for macro-economic indicators by government of India, hence mentioned here). This is in-spite of huge social spending made by federal and state governments every year through various schemes in rural India.

Table 1

Year	% share of agriculture sector in GDP	% share of service sector in GDP	Income quintile of bottom 60% population (in %)	Income quintile of top 40% population (%)
2004-05	18	60	27	73

{"*How India Earns, Spends and Saves-Unmasking the Real India*" (2010) Rajesh Shukla, Sage Publications, 1st Edition}

INDIAN RURAL MARKET

The concept ‘Rural’ and ‘Marketing’, though used very frequently in various forums, have eluded any precise and non- controversial definitions. When combined, the resulting concept ‘Rural Marketing’ means different things to different persons. This confusion leads to distorted understanding of the problems of rural marketing poor diagnosis and, more often than not, poor prescriptions (Kashyap. 2010). Census India defines “rural as any habitation having a population density of less than 400 per sq. km., where at least 75 per cent of the male working population is engaged in agriculture and where there exists no municipality or board”. The definition does not consider the total population into consideration (Census of India 2011). The Central Banker of India, Reserve Bank of India “defines location with population up to 10,000 will be considered as rural and 10000 to 100000 as semi-urban”. The definition does not include villages with population above 10000; rather classifies towns with 5000-10000 populations as villages (GFICC 2013).

Marketers today define “rural as people living a different lifestyle as opposed to that of those who have settled in the bigger cities and towns”. If we also look at enterprises definition, SAHARA Group (a business conglomerate in India) defines “location having shops/commercials establishments’ up to 1000 are treated as rural”. LG Electronics defines “towns and semi urban area as rural area”. These definitions by the industries are suited to their marketing needs (Kashyap & Raut, 2009). Rural India accounts for 68.5% of India’s population, 57% of national income, and 65% of total expenditure and one third of total saving.

Table 2
(Indian Rural Income Pattern)

Sector	1970-71	1993-94	2007-08
Agriculture	74%	49%	40%
Industrial sector	9.1%	23%	29%
Service Sector	16.9%	28%	31%

(**Source: NCEAR-CMR Analysis 2009-2010)**

While an over whelming share of illiterate households are based in rural areas (85.6%), there are also (36.1%) percent households whose chief earner are graduates. The average household income of the large farm owing households is about four times that of the landless households. Landless households end up spending more on medical expenses (28.7% of all non-routine expenditure) and less on education (4.5)% compared to their richer counterparts who spend who spent 15% and 8% respectively. In real terms (at 1999 prices) the size of rural economy will be about Rs18, 000 billion by 2015-16 which was Rs2, 000 billion in 2007-08. The traditional vision of rural economies as a purely agriculture is clearly obsolete. The share of non-farm income will be about half by 2015-2016. The term non-farm encompasses all the non-crop agriculture activities. It includes manufacturing activities, energy consumption, construction, mining, trade, transportation and service in rural areas. It supplements employment to small and marginal form households, especially during the agriculture slack season, and reduces income inequalities and rural-urban migration, which has fallen from 6.5% in 1981 to 2.8% by 2011(Kashyap 2010 and Census 2011).

How do the rural households, particularly the salary/wages and self-employed non-form earning ones, compare with their urban counterparts? There are 21 million urban households that are engaged in self- employed non-agricultural activities and their annual income is about Rs125, 000 which is much more than their rural counter parts. Urban India also has more regular wage/salary earning household 25 million and these have an annual income of Rs1, 30, 000. These two groups of rural households form prime targets for marketers of consumer goods and services. These households are scattered over a large geographical area than urban households. But the point to consider here is that these rural households have a higher earning weight, that is, they have a higher share of income than other household type in rural India. The rural middle class is growing at 12 per cent, a rate close to the urban middle class, which is growing at 13 per cent (Narang and Singh 2009). Regarding consumption patterns, just as urban income is higher than rural ones, so are expenditure levels. A rural salary earning household spends about Rs 65, 000 annually compared to Rs. 80,000/- spend by its urban counterpart. While the rural salary household spends 61% of its income on routine and non-routine expenses, this works out to 68% for the urban salary-earning household. It also implies that these rural households have more surplus income for saving. For labor households in rural and urban India, the difference is less stark whereas it is most common among rural agricultural households that spend nearly 80% of their income on routine and non routine expenses compared its urban counterpart which spends only 66% on similar expenses. The absolute amount spend by different types of rural households: food expenditure for salary earning households is almost Rs30, 000 per year compared to Rs 20, 000 for labor household and Rs. 23,000 for self employed non households. Non food expenditure too differs significantly for these three household types with salary earners spending as much as Rs. 27,000 while labor household and self-employed non-agriculture household spending Rs10, 000 and Rs. 18,000 respectively.

Table 3
(Ownership of Selective Consumer Durables in % Households)

Product	**Urban Households(2010-11)**	**Rural Households (2010-11)**
Washing Machine	26	09
Televisions	54	17
Motor Cycle	34	19
Cell phone	52	38
Cars	12	3
Mixer/grinder	56	19

{Source: Corporate Catalyst India (2012) "A Brief Report on Consumer Durable in India." Du Pont (2013) "Indian Consumer Laundry Study"}

Such analysis can be the basis for smarter rural marketing strategies that can result in better outcomes. It is for marketers to discover the potential of untapped consumer base that the rural market provides. Increasing marketers are looking to rural consumers in a bid to grow sales of their products. Rural India is a major part of India's domestic consumption story not just because it has 68% of India's population, because it already has 56% of India's income, 64% expenditure and 33% of India's savings and with a significant proportion of salaried and non agricultural self-employed households. Product ownership among rural households too is undergoing significant change. For example, nearly 57% of color televisions are owned by rural consumers. High priced products such as refrigerators are also finding more buyers in rural area with nearly 30% of refrigerators being sold to rural households. Similarly rural households have purchased 55% of two wheelers and 45 percent of cellular phones (Shukla 2010). Table 4 represents a snapshot of rural demographics with ownership of consumer goods relative to overall households in India for the base year 2004-05(for all macroeconomic studies of Indian economic system)

Table 4 (Snapshot of Rural Consumer Dynamics)			
Demographics	**Share of Rural to Total (%)**	**Consumer Goods**	**Share of Rural Market (%)**
Household	70.1	Computer	21.6
Population	71.3	Fridge	28.7
Income	56.0	Credit card	29.4
Expenditure	57	Car	31.7
Surplus income	33.0	Mobile	32.6
Salaried	38.7	Telephone	43.5
Self employed in Non–agriculture	46.1	Television	46
Labor	78.4	Pressure cooker	52.6
Agriculturist	97.2	Two wheelers	55
Illiterate	88.5	Celling fan	56
Up to primary	83	Wrist watch	67
Up to higher secondary	55.7	Radio	75
Graduate and above	36.5	Cycle	75.5
(**Source: NCAER-CMR Analysis 2009-2010)**			

WHY INDIAN RURAL MARKET IS IMPORTANT GLOBALLY?

As per estimates of Census 2011 almost 70% of India's population resides in rural areas, which translates to approximately 11% of global population {India accounts for 16% of world's population (Ramaswamy and Namakumari 2007)} which presents opportunities to consumer products' sellers. An interesting find of the latest (68^{th}) round of National Sample Survey "KEY INDICATORS OF HOUSEHOLD CONSUMER EXPENDITURE IN INDIA, 2011-12" conducted by National Sample Survey Office, Ministry of Statistics and Program Implementation, Government of India, between June 2011-July 2012, revealed that by 2012, the percentage share of consumer expenditure on consumer durables in rural and urban areas had become similar (6.1% and 6.3% respectively). Further reasons about importance of rural India as an opportunistic market is described in research methodology.

RESEARCH METHODOLOGY

Selection of States

Among the Indian states (provinces), Bihar, Rajasthan, Madhya Pradesh, Uttar Pradesh (collectively called *BIMARU* meaning sick) have been afflicted by large population, low economic growth and socio-economic problems. The result was that although these states had (and still have) almost 40% of the country's population, they consistently lagged in socio-economic indicators like – gross state domestic product (GSDP) levels between 1980 and 2000, literacy levels, infant mortality, industrial index etc (Sachs et al 2002). However since the turn of century, these four states have seen relatively much faster economic growth and improvements in social indicators

(MSTTGT 2012 and PCDB 2013). Tables 5 indicate economic growth in these four states along with all India average value for comparison.

Table 5 **Growth Rate Gross State Domestic Product at Current Prices (as on 27 February2013)**			
S.No.	States	% Growth Rate in 2011-12 Over Previous Year (Base Year 2004-05	Average (in %) from 2005-06 to 2012-13 (Base Year 2004-05
1	Bihar	24.40	9.36
2	Madhya Pradesh	19.02	8.82
3	Rajasthan	21.91	8.67
4	Uttar Pradesh	13.85	6.94
5	All India Average	14.65	8.02
(Source: Planning Commission of India Data Book 2013)			

They therefore make an interesting topic to study their consumption pattern; since such growth rates are logical precursor to increased consumption of consumer products. Rajasthan and Madhya Pradesh were the two states selected for study and within these two states villages from following two districts, were selected; depend upon convenience and easy availability of data. While choosing the sample size from each of four districts, Crohn Back Alpha method was used. The two districts are:

1. Sehore (Madhya Pradesh)
2. Chittorgarh (Rajasthan)

Selection of Consumer Durables: In a study conducted in 1960s by (Patrick 1966), it was observed that in the transition from underdeveloped to developing economy, there is a shift from non reproducible tangible assets (e.g., land) to reproducible tangible assets (like consumer durables). This effect is complemented by a study done on rural China (Jalan and Ravillion 2001). Singh (2011) studied consumption of durables in two countries (China and India) and found differences in possession of consumer in economic pre reform and post reform periods. The basket of consumer durables in rural areas of both the countries changed drastically from older type durables (bicycle, sewing machine, black & white TV sets) to newer type durables like color TV sets, washing machines and refrigerators. Strong correlation was found with the changed income status and consumption of newer durables. Any category of durables where consumption was found to secular growth was automobiles, depending upon the income base and the subsequent earnings on yearly basis. In India, especially in rural areas, it was observed for two wheelers, that apart from price, a host of other attributes were taken into account before making the buying decision. Relation between consumption expenditure and rise in income has been established by Engel and Keynes has long been an established principle. Studies by Khan (2012) and Akekere & Yousuo (2012) also showed applicability of the same in developing countries. The traditional monthly per capita consumption expenditure (MPCE) has been affected due to increased urbanization of rural masses, breaking up of traditional family system, rise in consumerism and decreasing tendency to save (Pradhan 2012). Increasing use of industrialized inputs in agriculture production had lead to increased consumption of FMCG and durables (Satyasai and Vishwanathan

1999). Two studies on South Africa showed a highly elastic demand among rural communities for durables Visa-Vis Income (Ngqangwen 1999 and Hendriks et al 2007). It was reported in an earlier study (Patrick 1966) that rural savers prefer to shift the direction of extra income generated (e.g., out of bumper harvest) from investment in real investments (immovable property, gold) to consumer durables. The shift towards portfolio investments (financial instruments' investment) is, meager on account of lack of knowledge. A later study by Alvarez-Parra (2011) found that developing countries record higher consumption of consumer durables, whenever there is a favorable terms of trade of their main export commodities or lowered investment rates (of the financial instruments available). An earlier study by Pundir and Singh (2001) in two agriculturally prosperous villages of India found that strong linkages with urban areas (transportation and communication), remunerative agricultural prices, led to increased income and consumption of consumer goods (including durables).

In this study, newer durables – television, washing machines, air conditioner and refrigerators (on account of rural electrification) are taken. The CAGR of these newer durables between FY 2003 and 2010 was about 12%. It is expected to grow at high rates in rural India on account of - low base, increased disposable income on account of higher farm product price (by the federal government) and falling prices of these new durables (CCI 2013).The logic for taking cell phone and passenger cars is that rural India has experienced very high penetration in cellular phone services – from 1% in 2000 to 40% by 2012 (Mehta 2013); rural India already had high penetration in terms of two wheelers (motor cycles) and in recent years car sales have boomed in rural areas (RDDICR 2010). Along with above reasons, rapid urbanization is expected to increase consumption of consumer durable goods by 25% on per annum basis in rural India in the next few years {Jeykumar (2010), Bansal & Singla (2011) and Nigam (2012)}

Caveat - possession of consumer durables has been assumed to be homogenous in this study, i .e. no brand based data collection at both sample and census level was taken. Among the durables, possession of the same cell phone for more than three years was discarded, since the aim of the study was to capture data regarding consumer changes with regard to smart phones and older generation cellular phones. Similarly in the case of other durables, any possession data above seven years was discarded.

RURAL MADHYA PRADESH AS A MARKET

Madhya Pradesh (MP) is India's second largest state in terms of geographical size accounting for more than 9% of country's geographical area, 5.81% of total population and approximately 5% of India's GDP. Almost 25% area in the state is under forest (NABARD 2013). As per the Provisional Population Totals of Census 2011, density of population of the state was 236 per sq. km as compared to 382 per sq. km for the country as a whole. The total population of the state is 72.6 million comprises 37.6 million male (51.8%) and 35.0 million female (48.2%). The gender ratio is 930, which is lower than all India average of 940. The rural to urban ratio was 72:28 against all India figures of 69:31 in 2011(Central Census 2011). Central part of MP is relatively more developed in terms of farming, mines, industries, business centers and urbanization. This is where the non-tribal population is concentrated. Factors like landlessness, nominal and unproductive landholdings, inability to invest in farming, decreased importance of traditional forest based livelihoods in day to day life etc compel them to look beyond the village economies in search of earning opportunities (other than own farming and small scale wage works available in/around their villages). The share of marginal and small farmers in the total landholding area and the number of holdings in the state increased from 9.6% in 1970-71 to 21.5% in 2010-11, an increase of 75%. (Central Census 2011)

With a tribal population of some 15 million, equivalent to some 5 million households and with an average farmed area of 5 acres per household, data for 1995-96 showed that around 61% of land holdings in the state belonged to marginal and small farmers (NABARD 2013 and Central Census 2011). About 74% of the rural population depends on the agriculture sector for their livelihood. Agriculture sector contributes almost 1/3rd of gross state domestic product (GSDP) and forms the backbone of State's economy. During 1999-2000 to 2010-11, GDP from primary sector has grown at a rate of 2.85% per annum at constant price, while at current price growth rate is 9.71% per annum. The contribution of the primary sector to the total gross/net state domestic product showed decline in most of the years during 1999-2000 to 2009-10. Agriculture in the state is still traditional and mostly rain fed (Ayyappan 2011). Because of increased government support (federal and provincial) in terms of agricultural credit, compulsory rural employment scheme and constantly rising minimum support price of agricultural outputs; incomes have risen. However, because of low agricultural productivity (compared to all India levels), incomes and savings have lagged behind. Table 6 depicts the figures for FY 2010-11.

Table 6
Comparison of Crop Production between India and M P (2010-11)

Major Crops	**Production (million tons)**		**Production Share of MP (%)**	**Yield (Kg.)/ hectare**	
	India	*MP*		*India*	*MP*
Paddy	99.180	1.560	1.57	21.78	9.27
Wheat	427.6	6.52	8.08	29.07	17.23
Soybean	53.49	5.85	59.06	10.41	11.42
Gram	30.86	2.79	39.47	8.95	9.81

(Source: Directorate of Economy & Statistics, Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India.)

Another form of judging economic difference between India and MP is the stark difference in bank deposits over the past decade in table 7 and figure 1

Table 7
Bank Deposits (in hundred thousand rupees)

Financial Year	Bank Deposits (India)	Bank Deposits (MP)
2001-02	279107	13227
2002-03	311565	20801
2003-04	385369	22675
2004-05	458618	32560
2005-06	575130	40671
2006-07	671425	43750
2007-08	772282	44547
2008-09	900967	53850
2009-10	1136676	58850
2010-11	1377288	62700

(Source: Reserve Bank of India Financial Report 2010-11)

Figure 1
Comparison of Bank Deposits between FY 2001 to 2011

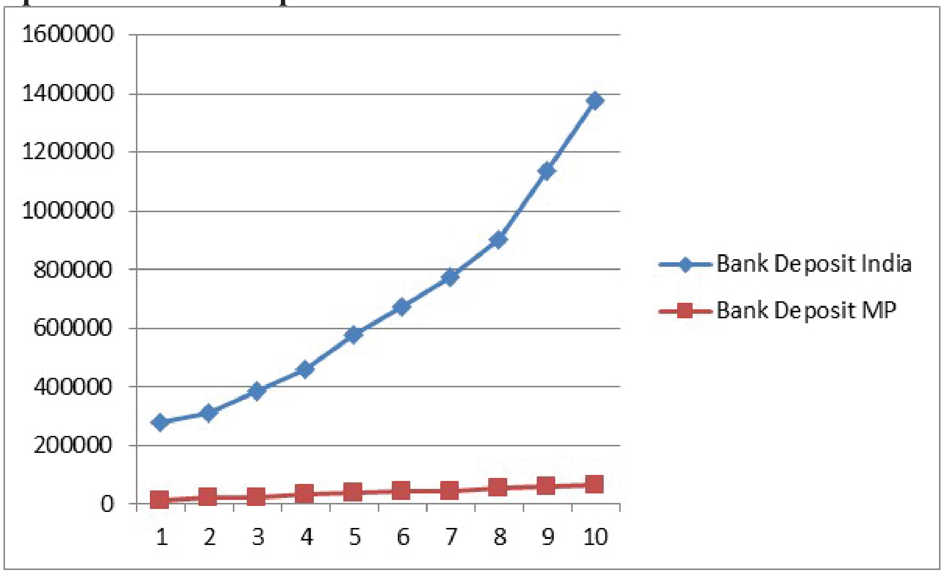
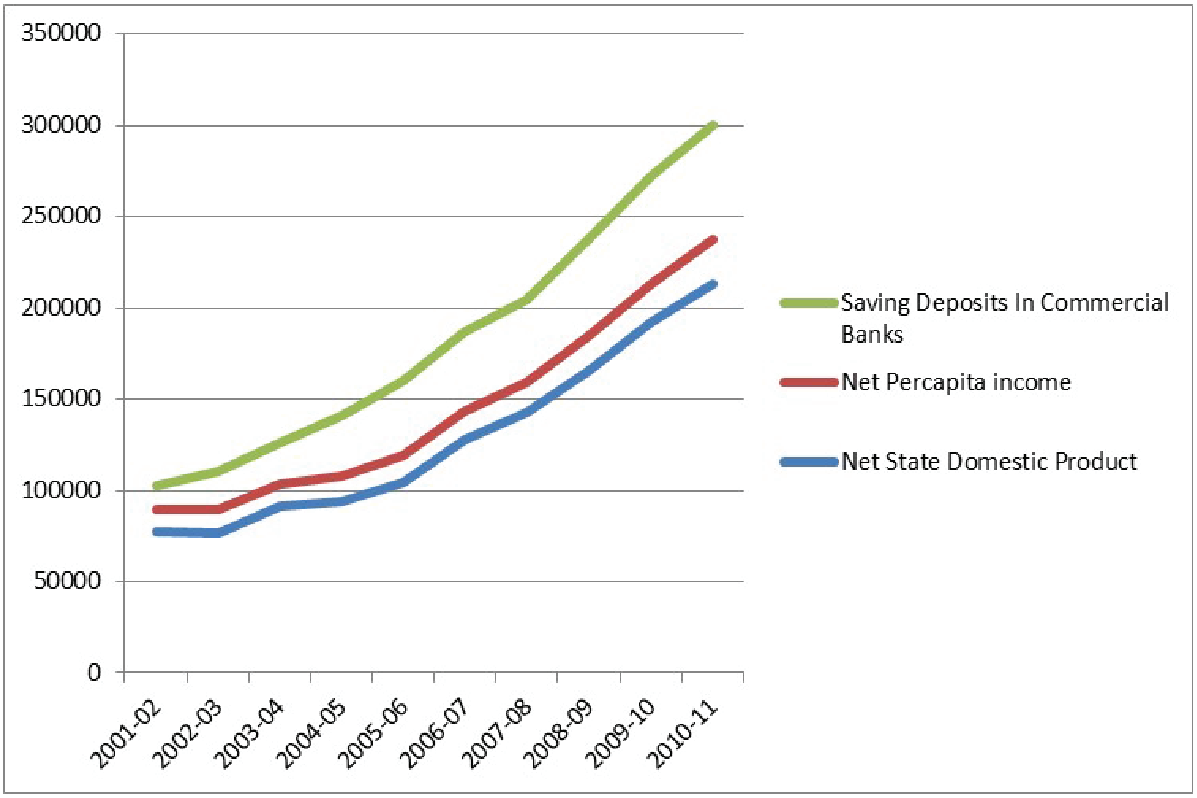


Table 8 gives comparison of Net Per Capita State Domestic Product at Factor Cost of MP and India in absolute and comparative terms in Rupees. The difference is stark in case of factor pricing because most of the labor has seasonal work on account of monsoon fed agriculture in MP; which happens to be largest employer.

Table 8
Net Per Capita State Domestic Product at Factor Cost of Madhya Pradesh and India (In Rupees)

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
11862	12697	12303	14306	14471	15442	16631	19028	20935	23757
24000	22500	24500	29000	31250	35000	45000	42000	62500	83850
2:1 (India/MP)	1.7:1	1.9:1	2:1	2.1:1	2.1:1	2.7:1	2.2:1	2.9:1	3.5:1
(Source: Reserve Bank of India, Hand Book of State Economy 2011)									

Figure 2
Net Per Capita Income, Net State Domestic Product and Saving Deposits of Madhya Pradesh



(Source: Reserve Bank of India, Hand Book of State Economy 2012)

Figure 2 shows a parallel growth between income, State GDP and bank deposits, all indicating that rural market of Madhya Pradesh is capable of providing opportunities for growth of consumer durable sector.

RURAL RAJASTHAN AS A MARKET

Rajasthan is India's largest state accounting for 10% of the country's area and nearly 5.6% of India's population and contributes little over 4% of the country's GDP. The state has 33 districts divided broadly into 7 divisions. The topography of the state is varied and characterized by hilly and sandy terrain. The 12 districts in western region of the state account for 61.11% of the state area which is either desert or semi arid. The state has faced 85 droughts in varying degrees in the last 100 years (NABARD 2013).The population density of the state is low but population growth rate is higher than the all India figures. The rural population is 75% of the total population of the state. The total work force was estimated at 42.5% of the total population and about 67% of the work forces was reportedly engaged in agriculture and allied activities (Census 2011). The gross state domestic product at constant (2004-05) prices for the year 2011-12 was estimated at Rs 178730 million as compared to Rs 171365 million in the year 2009-10 registering a growth of 4.30%. The following table gives comparison between the three economic sectors of the state visa-vies the country

Table 9 (Composition of GDP FY 2011-12)		
Sector	**Rajasthan**	**India**
Agriculture	21.57	14.40
Industries (manufacturing)	29.83	20.00
Service	48.60	65.00
{Economic Survey of India (2012-13) and Government of Rajasthan Economic Review (2011-12)}		

Per capita income is another major indicator of state's economy. As per government of Rajasthan (GoR) Economy Reviews 2011-12, the per capita income of the state for 2011-12 stood at Rs 39967/- at current prices and Rs 25616/- at constant prices of 2004-05 respectively. The corresponding figure for the nation as a whole was Rs 54835 and Rs 35917 respectively (Economic Survey of India 2012-13). The role of agriculture in the state economy is quite significant, contributing to 21.57% of the total GSDP in 2011-12 (table 9). Two third of population is dependent upon agriculture and allied activities for its livelihood. Agriculture in Rajasthan is mostly dependent on rainfall that remains scanty and irregular. The major crops grown in the state are millets and wheat among cereals; gram among pulses; rapeseed/ mustard, cumin, cotton, coriander etc. Rajasthan has the distinction of being the main producer of spices and condiments in the country {Economic Review (2010-11), Government of Rajasthan}.Due to development of few canals and diversion of rivers, growth in some agricultural produce has been observed (HDRR 2008**)**. Table 10 gives a perspective of the same.

Table 10 Production of Different Crops				
Crops	**2008-09**	**2009-10**	**2010-11**	**% Growth over previous year**
Pulses	18.16	7.02	30.12	329.06
Food grains	166.94	123.60	202.07	63.49
Oilseeds	52.01	44.36	61.02	37.56
Sugarcane	3.88	3.45	3.20	-7.25
Cotton	7.26	9.03	7.64	-15.39
{Source: Economic Review (2011-12), Government of Rajasthan}				

The phenomenal growth in pulses can be attributed to the high rise in prices on account of demand pull factors generated on account of general income rise, which led to increased consumption of superior foods (e.g., pulses) in a country (in general) where majority population is vegetarian in dietary aspect (NSSO 2012 and Economic Survey of India 2011-12). The growth in food-grains can perhaps be attributed to development of Indira Gandhi Canal in the arid and semi arid part of state, which brings the water of river Sutlej (originating from Tibet) to the parched landscape (HDRR 2008). In Oil seeds, Rajasthan is India's leading producer of mustard seed (NABARD 2013). Inspite of such high growth rates, Rajasthan lags behind all India averages on Net & Per Capita on Factor Cost basis. Tables 11 and 12 show the stark difference

Table 11 Showing Net Per Capita State Domestic Product at Factor Cost of Rajasthan and India (In Rupees)										
Year	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**
Rajasthan	14098	13128	16507	18565	20275	24055	26882	30647	34189	36234
India	24000	22500	24500	29000	31250	35000	45000	42000	62500	83850
Ratio (India/Raj.)	2:1	1.7:1	1.9:1	2:1	2.1:1	2.1: 1	2.7: 1	2.2:1	2.9:1	3.5:1
(Source: Reserve Bank of India Hand Book of State Economy 2011)										

CAGR of net per capita state domestic product at factor cost of Rajasthan is 9.90%. CAGR of Saving Deposits in Rajasthan is 11.82%. Figure 3 presents the stark contrast with respect to India.

Table 12 Saving Deposit of Rajasthan with Commercial Banks (In Hundred Thousand Rupees)			
Year	**India**	**Rajasthan**	**Ratio India/ Raj**
2001-2002	279107	24227	21:1
2002-2003	311565	31801	14:1
2003-2004	385369	33675	17:1
2004-2005	458618	35560	14:1
2005-2006	575130	51671	14:1
2006-2007	671425	54750	15:1
2007-2008	772282	55567	14:1
2008-2009	900967	58850	16:1
2009-2010	1136676	69850	19:1
2010-2011	1377288	74021	21:1
(Source: RBI Financial Report 2011-12)			

Figure 3
Comparison of Bank Deposits between FY 2001 to 2011 of Rajasthan and India

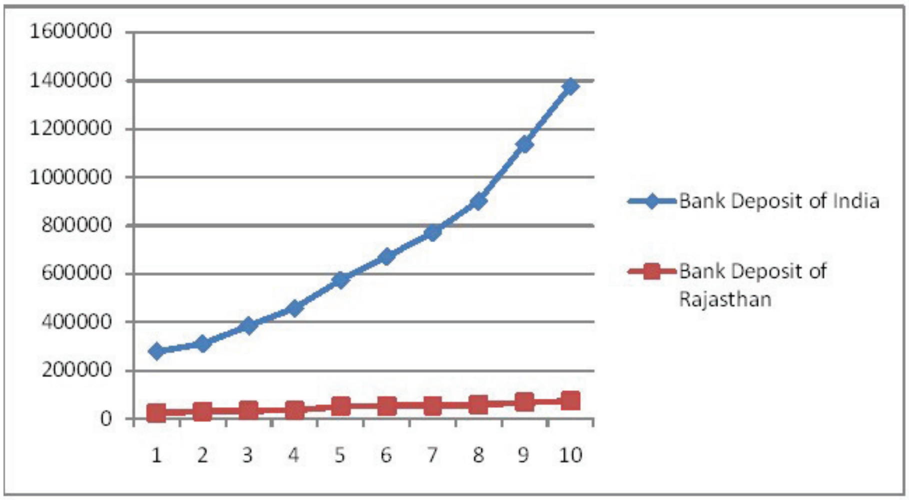
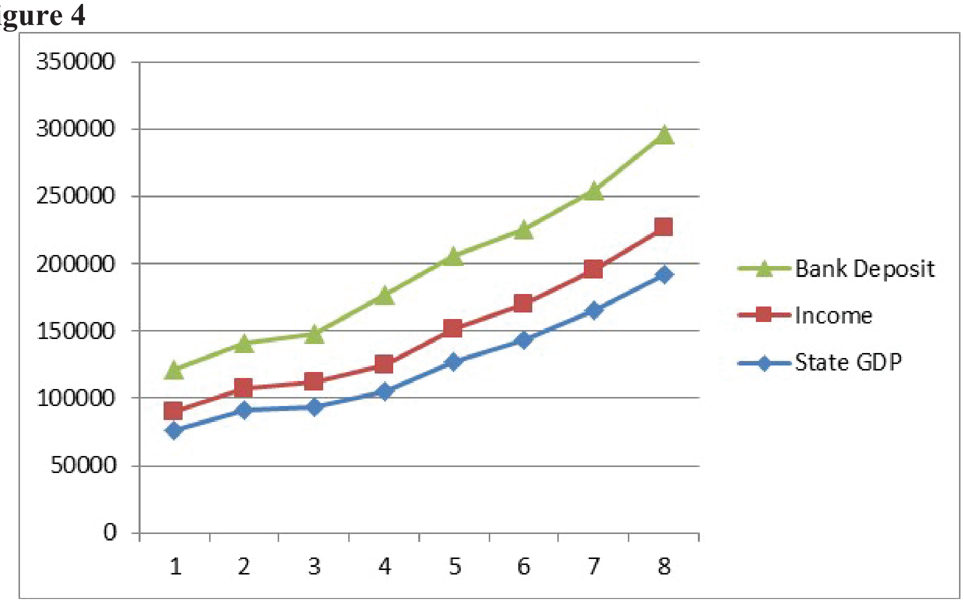


Figure 4 shows a parallel growth between income, State GDP and bank deposits, all indicating that rural market of Rajasthan is capable of providing opportunities for growth of consumer durable sector

Figure 4



METHODOLOGY REGARDING COMPUTATION PROCESS

Selection of district and villages were done on convenience basis. Individual households were selected on random basis. The survey took in to account the possession of time duration of specific samples; however these are not reflected in computation. The household income categories are as per following.

1. Rs 1, 00,000-2, 00,000 (Category A).
2. Rs 2, 00,000-5, 00,000 (Category B).
3. Rs 5, 00,000-10, 00,000 (Category C).
4. Rs 10, 00,000 and above (Category D).

Population figures have been taken from Shukla (2010) for all statistical analysis purpose (*for all calculations in this study*). The explanatory variable is the consumer durable and its value has been computed as weighted average multiplied by the midpoint value of income range.

SURVEY IN RURAL MADHYA PRADESH

District Sehore

As per central census 2011, the total population of Sehore was 1.3 million of which 1 million populations was rural population. Literacy rate of district is 62.08 % and the district is having a gender ratio of 1000: 931. Sample size at 5% of significance level with 3% confidence interval, is 1000 households. The nearby villages in Sehore district, which were short-listed while doing field survey door to door, are:- Veerpur, Uljhawan, Torniya, Tiladiya, Sultanpuri, Soyat, Sonthiya, Siradi, Shyampur, Shahganj and Sewda. The consumption of selected consumer durables in the sample taken in Sehore is as follows.

Table 13
Consumption of Selected Consumer Durables by Households in Sehore

Income Class (Rs)	Television	Washing Machine	Refrigerator
Category A	80	55	49
Category B	82	57	62
Category C	85	60	64
Category D	87	62	65
(Source: Primary Data Collected From Field Survey in Sehore in August- September 2012.)			

Null hypothesis is H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Sehore and σ_2^2 corresponds to India.

Calculation of mean of each sample (x^-) and grand average ($x^=$)

x_1^- = 80+ 82+ 85+ 87 ÷4 = 83
x_2^- = 55+ 57+ 60+ 62÷ 4 = 58
x_3^- = 49+ 62+ 64+ 65 ÷ 4 = 60
$x^=$ = 83+ 58 +60÷3 = 67

Some of squares between samples **SSB** = 1024 +324 +196 =1544
Sum of the squares between samples within the samples **SSW** = 30+30 +166 = 226

Table 14 ANOVA Table (Selected Consumer Durables in Table 13)					
Square of variations	***Sum of Squares***	***Degree of Freedom***	**Mean of squares**	***Computed value of F***	***Table value of F***
SSB	1544	C−1 3−1= 2	1544/2= 772	1.71	4.26
SSW	226	n− C 12−3 = 9	226/9= 25.1		
Total	1770	n−1 =12-1 =11			

Since the computed value of F (1.71) is less than the table value of F (4.26), hence the null hypothesis is accepted and concludes that there is no significant variance between consumption of selected consumer durables of Sehore and India.

Correlation Regression analysis for items in table 13

1. Correlation for Television

Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Television
r^2 = 0.987, Slope (m) = 0.911, y-intercept (c) = 78.029
Regression equation y = 0.911x + 78.029

For every increase Re 1 in income leads to rise in sale of television by approximate 1 times as per the sample in study. In this particular sample survey, income alone can explain almost 99% of buying of television.

2. Correlation for Washing machine

Regression y = mx+ c
Where y is income, m is slope, x is independent variable and c is intercept.
Regression coefficient for washing machine
r^2 = 0.988, Slope (m) = 0.912, y-intercept (c) = 53. 130
Regression equation y = 0.912x + 53.130

For every increase Re1 in income leads to rise in sale of washing machine by approximate 1 times as per the sample. In this particular sample survey, income alone can explain almost 99% of buying of washing machine.

3. Correlation for Refrigerator

Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for refrigerator
r^2 = 0.878, Slope (m) = 1.950, y-intercept (c) = 48.352
Regression equation y = 1.950x + 48.352

For every increase Re 1 in income leads to rise in sale of refrigerator by approximate 2 times as per the sample in study. In this particular sample survey, income alone can explain almost 88% of buying of refrigerator

In this particular sample survey, income alone can explain almost 89-99% of buying of Refrigerator, Television and Washing Machine. Among the above durables, the high impact of income rise in television buying is probably due to surfeit of entertainment channels since the start of economic reforms in 1991, which reached rural areas later compared to urban areas.

Table 15
Consumption of Selected Consumer Durables by Sample Households

Income Class (Rs)	**Car**	**Motor Cycle**	**Scooter**
Category A	10	45	39
Category B	17	57	27
Category C	19	62	20
Category D	21	51	37
(Source: Primary Data Collected From Field Survey in Sehore in August-September 2012)			

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Sehore and σ_2^2 corresponds to India

Calculation of mean of each sample (x^{-}) and grand average ($x^{=}$)

x_1^{-} = 10+ 17+ 19+ 21 ÷ 4 = 17
x_2^{-} = 45+ 57 + 62+ 51 ÷ 4 = 53
x_3^{-} = 20 + 27 + 37 + 39 ÷ 4 = 31
$x^{=}$ = 17+ 53 +31 ÷ 3 = 34

Sum of squares between the samples (**SSB**) **=** 956 + 1444 + 36 = 2436
Sum of squares within the samples (**SSW**) **=** 69 + 165+237 = 471

Table 16
ANOVA Table (For consumer durables in table 15)

Square of variations	***Sum of Squares***	***Degree of Freedom***	**Mean of squares**	***Computed value of F***	***Table value of F***
SSB	2436	C−1 3−1= 2	2436/2= 1218	1.39	4.26
SSW	471	n− C 12−3 = 9	471/9= 52.3		
Total	2907	n−1 =12-1 =11			

Since the computed value of F (1.39) is less than the table value of F (4.26), hence the null hypothesis is accepted and concludes that there is no significant variance between consumption of selected consumer durables of Sehore and India.

Correlation Regression analysis for items in table 15

1. Correlation for Car
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for car
r^2 = 0.951, Slope (m) = 1.353, y-intercept (c) = 8. 635
Regression equation y = 1.353x + 8.63

For every increase Re 1 in income leads to rise in sale of car by approximate 1.4 times as per the sample in study. In this particular sample survey, income alone can explain almost 95% of buying of car.

2. Correlation for Motorcycle
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for motorcycle
r^2 = 0.898, Slope (m) = 1.520, y-intercept (c) = 45. 532
Regression equation y = 1.520x + 45.532

For every increase Re 1 in income leads to rise in sale of motorcycle by approximate 1.5 times as per the sample in the study. In this particular sample survey, income alone can explain almost 90% of buying of motorcycle.

3. Correlation for Scooter
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for scooter
r^2 = 0.678, Slope (m) = −0.445, y-intercept (c) = 35. 490
Regression equation y = − 0.445x + 35.490

For every increase Re 1 in income leads to decrease in sale of by approximate 0.5 times as per the sample in study.

The low value of r^2 for two wheelers can be understood from the following.

- *The high value of intercepts (ca. 46 and 35) suggest that respondents had possession of two wheelers is independent of current income. Most of them had shown possession of two wheelers for more than five to seven years.*
- *The negative value of slope (in scooters) indicates that as income rises, consumers decrease buying of scooters, which is true because rural Indians prefer motorcycles over scooters on account of rugged terrain requirements. The same is also shown in the comparative values of regression values of the two different kinds of two wheelers*

The divergence in the regression values (r^2) between the two sets of consumer durables (two wheelers) and others (remaining durables) is corroborated by the findings of (NSSO 2012), which showed high divergence in the consumption of two wheelers between the top 30% of (income) population from the remaining 70% of the population (income).

SURVEY IN RURAL RAJASTHAN

District Chittorgarh

As per central census 2011, the total population of Chittorgarh was 1.6 million of which 1.1 million population was rural population. The literacy rate of district is 62.5 and the district is having a gender ratio of 1000: 970. Sample size at 5% of significance level with 3% confidence interval, is 1000 households. The nearby villages in Chittorgarh district, which were short-listed while doing door to door field survey are – Parsoli, Begun, Morwan, Dungla Mandal, Anoppura, Anwal, Heda, Barniyas, Chenchi, Doulat Pura, Alod, Arned, Beelot, Delwas and Bhatoll. The consumption of selected consumer durables from the sample households in Chittorgarh district is as follows.

Table 17
Consumption of Selected Consumer Durables by Sample Households

Income Category	Television	Washing Machine	Refrigerator
Category A	80	71	71
Category B	90	78	75
Category C	92	82	88
Category D	96	90	92

(Source: Primary Data Collected From Field Survey in Chittorgarh in June-July 2012.)

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Chittorgarh and σ_2^2 corresponds to India

Calculation of mean of each sample (x^-) and grand average ($x^=$)

$x_1^- = 78+ 71+ 82+90 \div 4 = 80$
$x_2^- = 71+ 75+88+ 92 \div 4 = 81$
$x_3^- = 80 + 90+ 92 +96 \div 4 = 89$
$x^= = 80+ 81+ 89 \div 3 = 83$

Some of squares between samples **SSB =** 36+16+ 144 =196
Sum of squares within the samples (**SSW**) **=** 189+226+130= 545

Table 18 ANOVA Table (For consumer durables in table 17)					
Square of variations	***Sum of Squares***	***Degree of Freedom***	**Mean of squares**	***Computed value of F***	***Table value of F***
SSB	196	C−1 3−1= 2	196/2= 98	1.43	4.26
SSW	545	n− C 12−3 = 9	545/9= 60.5		
Total	741	n−1 =12-1 =11			

Since the computed value of F (1.43) is less than the table value of F (4.26), hence the null hypothesis is accepted and concludes that there is no significant variance between consumption of selected consumer durables of Chittorgarh and India.

Correlation Regression analysis for table 17

1. Correlation for Television
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for Television
r^2 = 0.960 Slope (m) = 1.94 y-intercept (c) = 77.853
Regression equation y = 1.94x + 77.853

For every increase of Re 1 in income leads to rise in purchase of television by approximately 2 times as per the sample in study. In this particular sample survey, income alone can explain almost 96% of buying of television.

2. Correlation for washing machine
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for washing machine
r^2 = 0.960 Slope (m) = 2.352 y-intercept (c) = 66. 132
Regression equation y = 66.132 + 2.352x

For every increase Re 1 in income leads to rise in purchase of washing machine by approximate 2.4 times as per the sample in study. In this particular sample survey, income alone can explain almost 96% of buying of washing machine.

3. Correlation for Refrigerator
Regression y = mx+ c
Where y is consumer durable, m is slope, x is variable income and c is intercept.
Regression coefficient for refrigerator
r^2 = 0.952 Slope (m) = 2.85 y-intercept (c) = 64.382
Regression equation y = 2.85x + 64.382

For every increase Re 1 in income leads to rise in purchase of refrigerator by approximate 2.9 times as per the sample in study. In this particular sample survey, income alone can explain almost 96% of buying of refrigerator.

Table 19
Consumption of Consumer Durables by Households in Chittorgarh

Income Category	**Car**	**Motor cycle**	**Scooter**
Category A	9	40	30
Category B	13	42	32
Category C	17	45	35
Category D	19	48	39
(Source: Primary Data Collected From Field Survey in Chittorgarh in June-July 2012.)			

Applying F-test at 5% significance level

Null hypothesis, H_0: $\sigma_1^2 = \sigma_2^2$, and the alternate hypothesis, H_A: $\sigma_1^2 \neq \sigma_2^2$. The "≠" sign indicates that this is a 2-tailed test, where σ_1^2 is sample size of Chittorgarh and σ_2^2 corresponds to India.

Calculation of mean of each sample ($\bar{x}$) and grand average ($\bar{\bar{x}}$)

$\bar{x}_1$ = 9+13 +17+ 19 ÷ 4 =15
$\bar{x}_2$ = 40+ 42+ 45+48 ÷4 = 44
$\bar{x}_3$ = 30+ 32+35+ 39 ÷ 4 = 34

Some of squares between samples (**SSB) =** 1024+ 676+36 = 1736
Sum of squares within the sample **(SSW) =** 60 +37 + 46 = 143

Table 20
ANOVA Table (For Consumer Durables in table 19)

Square of variations	***Sum of Squares***	***Degree of Freedom***	**Mean of squares**	***Computed value of F***	***Table value of F***
SSB	1736	C−1 3−1= 2	1736/2= 868	2.01	4.26
SSW	143	n− C 12−3 = 9	143/9= 15.9		
Total	1879	n−1 =12-1 =11			

Since the computed value of F (2.01) is less than the table value of F (4.26), hence the null hypothesis is accepted and concludes that there is no significant variance between consumption of selected consumer durables of Chittorgarh and India.

Correlation Regression analysis for table 19

1. Correlation for Car

Regression y = mx+ c

Where y is consumer durable, m is slope, x is variable income and c is intercept.

Regression coefficient for Car

r^2 = 0.982 Slope (m) = 1.294 y-intercept (c) = 6.735

Regression equation y = 1.294x + 6.735

For every increase by Re 1 in income leads to rise in purchase of car by approximate 1.3 times as per the sample in study. In this particular sample survey, income alone can explain almost 98% of buying of car.

2. Correlation for Motorcycle

Regression y = mx+ c

Where y is consumer durable, m is slope, x is variable income and c is intercept.

Regression coefficient for Motorcycle

r^2 = 0.990 Slope (m) = 1.029 y-intercept (c) = 37.57

Regression equation y = 1.029x + 37.57

For every increase Re 1 in income leads to rise in purchase of motorcycle by approximate 1.1 times as per the sample in study. In this particular sample survey, income alone can explain 99% of buying of motorcycle.

3. Correlation for Scooter

Regression y = mx+ c

Where y is consumer durable, m is slope, x is variable income and c is intercept.

Regression coefficient for scooter

r^2 = 0.986 Slope (m) = -1.147 y-intercept (c) = 27.117

Regression equation y = -1.147x + 27.117

For every increase Re 1 in income leads to decrease in sale of scooter by approximate 1.2 times as per the sample in study. The high value of r^2 (ca. 0.99) leads to almost diametric movement away from scooter for any rise in income. A probable reason could be that Chittorgarh is a hilly area and need for motorcycle as a two wheeler is much greater than scooter.

CONCLUSION

The benefits of globalization and economic reforms have started affecting positively, the underdeveloped states of India, which in terms of geographical size and / or population can be considered equivalent to some African countries, which are now in the economic take off stage. Being agrarian states, Rajasthan and Madhya Pradesh have benefitted with higher agricultural prices, lower base effect (GDP), increased social welfare measures and rapid urbanization. However in both the states, industrial growth is low and government happens to be the biggest employer. This naturally puts strain on public finance. This can result in increased taxation by state governments. The results of the study can perhaps provide some insight in to the efforts of corporations which are trying to expand in untouched areas like – West Africa, South America countries etc and can apply their learning from consumption growth patterns of backward Indian states

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CONSUMER PURCHASE BEHAVIOR OF AN EMERGING MARKET LIKE INDIA TOWARDS CHINESE PRODUCTS

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ABSTRACT

The purpose of this research is to find out consumer perception towards Chinese, Taiwan, Hongkong products purchased in emerging market like India.

The research was carried out in Mumbai –also called mini India as its population is a blend of all region of India. The study is about consumers' perception and their purchase behavioral towards selected products from China, Taiwan and Hongkong. It was survey techniques using questionnaire as a research tool. A total of 200 participated in the study with 180 are taken up for analysis. They are selected on simple random intercept basis.

Majority of Indians have purchased Chinese products. It is possible due to Chinese products available at affordable price. Price, quality and functionality of a product could influence the purchase behavior. Taiwan has a greater image and good country of origin perceptions compared to China. Mobile, toys and food items are the most preferred category for purchase and has a good image due to country of origin

Practical implications: *Country of origin,product functionality at affordable price may be a good country penetration strategy for emerging market. Affordable product with quality can help the Chinese and other countries to enter India. This research will help the practitioner of international business in better understanding of emerging markets like India and China- both are top four economic countries of world.*

***Originality/value**: Research on acceptance of a brand based on psychic distance, consumer purchase behavior towards Chinese products in emerging market like India may give information on managing Chinese brands in global scenario. There is paucity of research which compares the country of origin among Chinese region-China, Taiwan and Hongkong in emerging market like India. India is an important trade partner for China*

***Key Words**: Purchase behavior, Emerging market, Chinese product, Perception, Country of origin*

INTRODUCTION

China and India rank among the world's largest developing nations; fastest growing economies; most populous states; and greatest ancient civilizations. But most importantly, they are among the foremost rising powers in Asia. In the past quarter of a century, China's productive forces and overall national strength have been constantly enhanced, which is now widely perceived as "the rise of China." Chinese electronic goods like radio, torch, DVD players, etc. are reigning supreme in the Indian market. Decorative items, fashion accessories like slippers, jwellarries, hand bags, etc. receive huge responses during festive seasons in India.. This year, one saw the flooding of the Indian markets with Chinese made idols which were welcomed with open arms by the Indian consumers. Globalization and liberalization offer competitive openings for several world brands to the Indian markets. Bestowed with growing disposable incomes,Indian consumers exhibit wide diversity in their buying habits.Apparently, the emerging fascination for imported brands impels distributors to leave enough space to shelf more with Chinese region brands in their showrooms. The substantial increase in consumers' demand for imported products with considerable attraction for 'made in China' brands inspired this study .It explores the perception of various types of Chinese products in the Indian regional markets. It is important due to increasing trade between India and China(ET,2013)

Many factors contribute to China's economic success. Besides, recent years have seen fast globalization of business across the globe with the boom of Asian economies such as India, China, Indonesia and Malaysia, among others.Growth through international expansion has led to unprecedented numbers of global brands competing for share in markets around the world. An international retailer may gain an advantage from perceived brand globalness. In emerging countries, a brand origin is classified as either foreign or domestic (Zhou, Yang, andHui 2010). Economic reform, the opening-up policy,stable international environment, large-scale development, export-oriented strategy, central-led investment, national consensus and support play important roles in China's economic growth(Zhou, Yang, andHui 2010 ,Ken Chinen and Yang Sun 2011). In spite of its three decades of sustained high economic growth rates, China has an image and reputation of a low cost producer in the global Marketplace (Ken Chinen and Yang Sun 2011) . China, however, "understands that it needs to move beyond a low cost production model into higher value-added products" (Loo and Davies, 2006). In spite of its three decades of sustained high economic growth rates, China has an image and reputation of a low cost producer in the global Market place(Ken Chinen and Yang Sun 2011) China, however, "understands that it needs to move beyond a low cost production model into higher value-added products" (Loo and Davies, 2006). By contrast, India's lag in GDP and other benchmarks compared with China due to the delay in economic reforms, lower national savings rate, lesser inflow of foreign direct investment (FDI), relative inefficiency of its bureaucracy, and the longstanding dispute with Pakistan. Most Indian scholars think that these explanations are reasonable and acceptable.

China has surprised the world with its robust economic growth throughout the 1980s and 1990s. According to the research done by Guntalee and Savika (2003), the average annual growth rate of GNP was about 9.4%, which made China the fastest growing economy in the world. China contributed 27.7% to world economic growth exceeding that of the United States, whose contribution in the same year was 16.3%. The Chinese exports to other Asian nations increased as companies from around the region moved their lower-end manufacturing processes to China. Trade relationship between India and China are rapidly emerging as one of the most important bilateral relationship in the worlds (ET,2008). .Recent agreement between India and China will help these countries to double the trade value in three years from $50 bn (TOI,2013).This study is inspired due to such development and is also important as both the countries fought a brief war in 1962.

TRADE BETWEEN INDIA AND CHINA

Closely following the liberalization and the economic reforms, India is witness to an important event: the 'Chinese Aggression' of a different order in the form of entry of Chinese goods at a price, which sends heart attack signals to many Indian organizations. A wristwatch for Rs. 10, a washing machine for Rs. 1250, a ceiling fan for Rs. 75, a mixer grinder for Rs. 350. The price list is up in many places (Basu, 2007). A rumor turns out to be true when the customers report that they have actually purchased these articles at these prices. Whether one believes it or not, there are a lot of issues raised. One major question rose: can China really offer these products at such a price? Is China trying to dump inferior goods at a cheap rate? Is this a temporary phenomenon or is it going to last long? If it is going to last long, what will happen to the Indian goods and Indian organizations? Can China be prevented from dumping the goods into the Indian market? The magnitude of India-China trade highlights that the trade between the two countries has grown very robustly. The think tanks of the country assure a tremendous potential with regard to the trade between these two countries and, therefore, this fast growing market demand is to supplant the US as India's single largest trading partner within few years (Srinivasan, 2002). Several studies acknowledge that the value added products from China, especially consumer durable and non-durable, are more supplementing Indian markets (Gopalan 2001, Luce and Kynge, 2003). Acceptance of Chinese products at low cost needs to be studied in Indian perspective

COUNTRY OF ORIGIN AND INDIAN CONSUMERS:

In emerging countries, a brand origin can be classified as either foreign or domestic (Zhou, Yang, andHui 2010). country of origin (COO) effect on consumer attitudes toward purchases from different countries has long been recognized in the literature.Country of origin is another important concept in international marketing that has been documented to affect consumer perceptions

Evidently, observation of current trends in regional markets also exposes that in order to withstand the rising inflation in India, regional markets prefer more made in China brands than any other foreign products. Against this backdrop, when almost all Indian retailers, especially from regional markets, report a significant rise in the sale of Chinese products, the overwhelming demand for low-priced imported products indicates the slow penetration of China brands into Indian markets. Apparently, this shift builds up slight market tensions among the indigenous producers and therefore, it is the time to evaluate the demand state of made in China products in Indian regional markets. In spite of its three decades of sustained high economic growth rates China has an image and reputation of a low cost producer in the global market place (Ken Chinen and Yang Sun 2011) China, however, "understands that it needs to move beyond a low cost production model into higher value-added products" (Loo and Davies, 2006).The economic liberalization in 1991 brought various products and brands into India and transformed the lifestyle of consumers in the country (Sabnavis, 2003). Indian consumers do get influenced by country of origin and is more pronounced in western and northern part of India compared to southern and eastern part of India (Kinare,2006,Srivastava,2009).The extant literature on country-of-origin effects suggests that, due to the rise in multinational production, international companies are increasingly paying less attention to the importance of country of origin as a source of competitive advantage and as a driver of customer preferences (Baker & Ballington, 2002)..There is need to study the perception of Chinese brands specially if there is any brand differentiation on perception of three countries namely China ,Taiwan and Hongkong among Indian consumers.

NEED FOR STUDY

It is unclear in emerging countries whether consumers favor global or local brands (Swoboda, etal, 2012). Perceived brand localness does not indicate that the brand is only active in one country. This study may increases our understanding of the effectiveness of country of origin, brand names in a foreign language and in congruence with country of origin to generate preferred perceptions. There is need to study the consumers' perception in emerging market like India. As Indian history has witnessed the material imports of Chinese silk, porcelains and herbal medicines, made in Chinese brands are not being new to Indian consumers. This study will focus on perception of Chinese products among Indian consumers .It is more important as globalization and reform process has led China and India emerging as a global economy.

LITERATURE REVIEW

***Country of origin and consumer perceptions*:** Country of-origin image influences and determines consumers'perceptions of a product, and thus, has an impact on the purchase decision and the use of a product or service. country-of-origin label, as one of the extrinsic cues, provides consumers with additional information about product quality (Papadopoulos and Heslop, 1993).Country-of-origin image is the key factor that influences consumer's perception of a product. The quality of unfamiliar foreign brands is inferred through country image. Positive country-of-origin image can be used as a powerful marketing tool (Vrontis et al 2006).However, Consumer's evaluation of country-of-origin and brand image changes if they use products from a specific country more extensively.Consumer experience plays an important role .Emerging market like India, due to globalization, are opening up a new market for rising middle class population. *It will be interesting variable to study the country of origin related to Chinese region –China,Taiwan and Hongkong products and see if there is any variance on the perception of each country in emerging market like India.*

Past research has established that consumers predict product quality/performance based on the association between brands and their COO images (Balabanis and Diamantopoulos2008) Country-of-origin studies have attempted to link gender and behavioural outcomes but have produced somewhat mixed results Consumers often make associations between products and countries based on their perceptions of a country's know-how and reputation relative to the design, manufacture and branding of particular generic goods (Usunier and Cestre 2007). The literature on country-of-origin effects suggests that, due to the rise in multinational production, international companies are increasingly paying less attention to the importance of country of origin as a source of competitive advantage and as a driver of customer preferences (Baker & Ballington, 2002) But, as global sourcing leads to an increasing number of bi-national products, consumers' evaluation becomes more complex as products are then associated with more than one country.Nowadays, it is rare for the brand origin (country from which the brand originates) and the country of manufacture (where the product is actually made) to be the same(Carvalho,2011). Consumers often make associations between products and countries based on their perceptions of a country's know-how and reputation relative to the design, manufacture and branding of particular generic goods (Usunier and Cestre 2007- Usunier, J. and Cestre, G., 2007).It is unclear in emerging countries whether consumers favor global or local brands (Swoboda,etal,2012). Moreover, most studies of COO effects have focused on technologically complex products (e.g., cars and computers) and very little is known about how consumers use COO information when evaluating simple products like textiles,crockery etc.

Country of Origin and Chinese brand perception: On recent past ,some research has explored the perception studies on China brands. Country of origin will affect only if consumer has a knowledge of country ,political relationship,product knowledge due to past experience and availability.(Theker and Pachern,1997,Kayanak and kucukemiroglu,2001,).Chinese brands image due to made in China was not perceived well in Hongkong except for the price.Chinese brand has a reputation of low cost and made in a developing nation' would turn off US consumers due to lack of familiarity or inferior image(Ken Chinen and Yang Sun 2011).*However,they are focused on China as a country but not much work has been done comparing the the Chinese region like China,Taiwan and Hongkong made products based on country of origin*.

This study focuses to increases our understanding of the effectiveness of country of origin preferred perceptions of Chinese region originated brands..How the purchase bahaviour is influenced by quality ,price besides country of origin needs to be studied.Is there exist a variation between China,Taiwan and Hongkong origin brand perception?

***Indian scene and acceptance of global brands*:** The economic liberalization in 1991 brought various products and brands into India and transformed the lifestyle of consumers in the country (Sabnavis, 2003). Consumers can rely on their perceptions of product quality from a specific country, and use them to evaluate other products from the same country A country image can also vary in time, due to changes in its level of industrialization but also lifestyle patterns.. When consumers are asked to evaluate products from different countries, products from industrialized countries are generally positively evaluated.(Leila ,2010).Globalisation and rapid economic reforms has helped Indian to get exposure to global brands .Increasing per capita income too helped Indian consumers to improve their living standards with increasing aspiration to use global brands.Indian still perceive "Chinese products" means coming not only from China but also from Taiwan and Hongkong.*There is no Indian study on brand perception on different parameters which differentiate the products coming from Chinese region specially after globalization*

OBJECTIVES OF THE STUDY

The objective of the study is to find out the perception and purchase behaviour of Indian consumers towards products manufactured in Chinese region like China,Taiwan and Hongkong.It also sought to test that how country of origin of these three may have different perceptions on image,quality,price,functionality in Indian consumers mind and thus affects purchase behavior.There is increasing trends among Indians to purchase foreign products.Rising middle class population has given more purchasing power due to more disposable income to global brands in India

METHODOLOGY

This study is an exploratory one in which an attempt is made to understand and infer the real reasoning behind Indian consumers'decision making when purchasing foreign-made products specially from China. Chinese products are taken up for study as Chinese products are available in India in many segments due to liberalised import.Today,China is a leading trade partner with India.Still in India products manufatured by Chines company are not rated high.Many Indian feel that Hongkong is separate and has a better image as a country of origin. When compared to main China,even Taiwan is considered to be better.In view of this perception,this study explores the image perception of products manufactured in China,Taiwan and Hongkong in era of globalization**.** Perception was measured on a scales from very good to bad. To develop the sample, we randomly selected households from Mumbai city which is a financial capital of India.Mumbai is a mini India as people from different states of India live to earn in the city.

Questionnaire design **:**This was based on experience of purchase of different types of Chinese products,perception,reasons to buy the Chinese,Taiwan,and Hongkong products among Indian consumers.It ask them to rate their perceptions on country of origin for these products which originated from Chinese region.The questionnaire is used as a research instrument to collect the data. Each question has a multiple options and the respondents are asked to register their opinion by selecting any of the options. It was filled on the basis of intercept technique by the interviewer on a selected random basis.These interviwer are the management graduates .

We measured the dependent variable like reasons for purchase and his satisfaction level using using five point scale adapted from Pan and Zinkhan (2006) in our survey.We conceptualized and measured the mediating variables like country of origin,price,quality,functionality on different scales . Global country image was measured with items taken from Martin and Eroglu (1993).This is built in the questionnaire it self.This helped us to have a standard approach in measurement of country of origin.

When a person is asked to rate a brand (object) on a specific attribute, the person may retrieve the brand attribute information in memory, or if the information is unavailable or not salient, the person will need to construct the rating from other attributes on a global impression of the brand collected from his friends or media.

SAMPLING AND DATA COLLECTION

Previous studies have been criticised for researching students because of biased responses (Liefeld, 1993). In an attempt to overcome this criticism and to strengthen the external validity (Ghauri & Gronhaug, 2005), the current study focuses on actual consumers. Respondents were screened prior to the start of the survey by asking them whether they buy Chinese products.The sample of this study comprised 200 consumers from Mumbai city which has different ethnic groups.180 respondents are selected for analysis as 20 respondents have not purchased Chinese products. They are selected on random basis by using intercept technique.

The data were collected by means of a specially-developed questionnaire. The survey was conducted during the period September – November, 2012. Table-I gives the samples profile

Table I: Samples profile of the respondents	
Age(Years)	N
Up to 25	100
26-35	56
36-45	16
46-55	8
56 and above	
Total	180
Education	
Post Graduate	40
Graduate	66
Under Graduate	74
Total	180

The samples is more biased towards younger age groups –below35 years (87%).India has more than 50% of its population below the age of 25 and more than 65% below the age of 35.(Basu,2011). Age group of 35 years has more buying power in India and is a dominant group in the population .59% respondents are graduate or post graduate education in our present study.*Only 18(10%)of the sample size are females*.Therefore,gender study was not done.

Management **:**The research was carried out in Mumbai-a financial capital of India..Each respondent ‘s age ,income,educationwere noted.Incomplete forms were rejected. Students enrolled in business administration were engaged to collect the data.

Ethical Consideration:This project is not sponsored project.Students participated as a part of course work.

RESULTS

Country of origin (COO) is an important concept in international business research because of its ability to influence purchase behavior and other critical outcomes. Indian population are well aware of the Chinese products.90% of the Indian population leaving in Mumbai have purchased products from Chinese region. This is contrary to findings of Ken Chinen and Yang Sun (2011) which mentions that ‘Made in a developing nation’ would turn off consumers. The country-of-origin effect influences the brand image to a great extent. The Chinese products have a negative image(Ken Chinen and Yang Sun,2011).This is not case in our study.A negative image will not lead to purchase behaviour as observed in our study.

The second part of the study was to find out their purchase experience and type of products purchased by them.Table-II gives the information about the same

Table: II-Type of Chinese product purchased during the last three months*(N=180)		
Type of Chinese product purchased	**N**	**%**
Mobile Phone	**70**	**39**
Bulb	**32**	**18**
Aparrel	**10**	**6**
Food item	**56**	**31**
crockery	**30**	**17**
Toys	**72**	**40**
TV	**20**	**11**
*Multiple entry		

Toys,mobile phone,food item are the top three most preferred purchase made by Indian consumers during the last three months from Chinese region. Differences identified between different category of products revealed that consumers consider the functions of designing and manufacturing differently depending on the technological complexity of the products.(Leila ,2010).51% were happy with their experience (Very good to good experience).38% reported fair experience .Only 11% reported to be unhappy with the Chinese products.This is contrary to finding of Chand and Tung(2011) which says that developing countries have perceptions of inferior quality affecting the demand for their products.It is possible due to psychic distance which has made Chinese products acceptable.Psychic distance influences the acceptance of a brand (Srivastava,2011).

The next question was asked on the reasons to purchase a Chinese or Taiwan or Hongkong manufactured products. In the recent years China is known to produce electronics goods at an affordable price and that is the reason many people prefer to buy products from China**.** Thus, when a person gets the same quality goods at a lesser price then it is obvious that they will get hold of the products which are cost effective. China has an image and reputation of a low cost producer in the global market place(Ken and Yang,2011).table –III informs about the reasons for their purchase behaviour.

Table-III: Reason to purchase Chinese products*(N=180).		
Reasons for purchase	N	%
Quality	46	26
Price	156	87
Functionality	34	19
Fashionable ,features	10	6
*Multiple entry		

Chinese products has perception of product at affordable price. When consumers have a positive perception of brand origin, attitude toward the brand is heuristically formed, rendering the strength of product attributes irrelevant(Carvalho et al,2011). Country-of-origin (COO) is used as a quality indicator, and there seems to be a positive correlation between product evaluations and the level of economic development of a country (Bilkey & Nes, 1982).China has done well economically.Chinese products does not command a high perception on quality but price factor accompanied by good functionality(19%) has made the brand accepted in the mind of Indian consumers. China has to convince the world that they have “brands that deserve a price premium” (Loo and Davies, 2006:).Indian consumer purchase Chinese products in certain category as they get value for money from their purchase.

The another question was to measure the nation perception on quality and price and functionality.These were the main reasons for purchase as per our pilot survey earlier.Taiwan,Hongkong,and China were taken up for the study . They are from the same region. Respondents rates the country on scale of 1-5 . Table IV gives this information

Table IV: Country perceptions on manufactured product and rank

Country	Quality	Price	Functionality	Rank in terms of preference
China	3.5	4.3	3.2	3
Taiwan	4.2	3.2	4.7	1
Hongkong	4.1	3.8	4.1	2

China	Taiwan	Hong Kong
3.5	4.2	4.1
4.3	3.2	3.8
3.2	4.7	4.1

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Column 1	3	11	3.666667	0.323333		
Column 2	3	12.1	4.033333	0.583333		
Column 3	3	12	4	0.03		
ANOVA						
Source of Variation	*SS*	*do*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.246667	2	0.123333	0.395018	0.689982	5.143253
Within Groups	1.873333	6	0.312222			
Total	2.12	8				
Ho: There is no significant difference between the average ranks given to the 3 types of products						
H1: There is a significant difference between the average ranks given to the 3 types of products						
Since Fcal< F tab, we accept Ho i.e. there is no significant difference between the average ranks given to the 3 types						

Chinese products score the maximum on price, Taiwanese products score the maximum on quality and Hongkong products score maximum on quality and functionality.The average score for Chinese products considering price, quality and functionality is 3.67.The average score for Taiwanese products considering price, quality and functionality is 4.03.The average score for Hongkong products considering price, quality and functionality is 4.0.

*Indians rate products from Taiwan better than China(**As per anova test**)*. Ken Chinen and Yang Sun(2011) reports that 'Made in a developing nation' would turn off US consumers due to lack of familiarity or inferior image. Same author (2011)mentions that people from Taiwan and Hong Kong had a significantly lower impression of China compared to the Mainland Chinese in showing that the COO effect could moderate product perceptions.*This data can be useful in improving the country image of Chinese manaufactured products.*Chinese manufacturer can get the product manufactured in Hongkong (part of China)to get better entry in a new market specially in emerging market like India.

DISCUSSION

Companies can generally capitalize on their country's favorably perceived capacity to design or manufacture a product category (e.g., Iran and woolen rugs, India and tea) if their global country image is unfavorable or conversely, capitalize on the global country image (e.g., Norway), or both (e.g., Germany and cars, engineering).But in the context of emerging markets, consumers' perceptions of the place where the product is designed or manufactured become decisive, especially in the case of unknown brand names entering the market(Leila,2010).The differences between emerging and developed markets, the increasing purchasing power of middle-class consumers in emerging markets, but also their increased familiarity with products of various origins underline the need for studying the applicability of the existing COO concept in this context**.** Concept of 'consumer animosity' which asserted that consumers will avoid products from certain countries not because of inferior quality but rather lingering 'antipathy related to previous or ongoing military, political, or economic events' from the offending nation.This has not happened in Indian case in the present study even though there was a war between India and China in 1962.Price ,quality and functionality of a product could influence the purchase behaviour.In emerging market it becomes more important due to affordability of the products.

In emerging market like India, purchase of a product is directly related to product functionality ,affordable price with quality linked to functionality,psychic distance and animosity.Psychic distance could influence the purchase of Chinese products as they are nearer to India. Psychic distance has a role in brand purchase behaviour(Srivastava,2011).Therefore,it will be be appropriate to design a following formula based on results which can explain this situation better :

$$PB \sum\sqrt{} PF+P/PD \pm Q \pm A \infty COO$$

(Pb=Purchase behaviour,Pf=product functionality,P=price,Q=quality,COO =country of origin.Pd =psychic distance,A=animosity)

Purchase behaviour of consumer of a product is summation of square root of product functionality plus price divided by psychic distance.This may be affected by quality,animosity and country of origin.If the psychic distance which is measured on cultural,physical and psychic distance is more than one ,the purchase behaviour will change.For example in hypothetical case ,if average scoremeasured on a scale of 1-5 five being the highest for Pf=3.3,P=4.1Pd=1,q= 3,a=3 then

$$Pb \sum\sqrt{} 3.3+4.1/1=2.70+3+3=8.7.$$

It means 58%chances are there for purchase bahaviuor.Country of origin not taken in to account.Thus this formula can be applied to determine the success factor in entry mode in international business.

Understanding consumer behavior in relation to the perception of COO provides fundamentals for strategic decisions in marketing and consumer behavior.Purchase behaviour of Indian towards Chinese product is fairly more inclined due to psychic distance factors as culturally Indians are more nearer to Chinese due to proximity of religion and culture.However ,in case there is longer Psychic distance the acceptance of the product may diminish if other products are available from near-buy country(Srivastava,2011) .Samsung is gaining more acceptance compared to Nokia.Quality is important but if the functionality is taken care ,Indians tends to buy the products. In developing country like India consumers expect the product to work when in use.Affordable product with good functionality will get advantage in term of acceptance. Animosity may affect the purchase behavoiur.However,if the two countries are nearer to each other culturally ,the purchase will take place .Indians do purchase products manufactured from Pakistan even though there is high degree of animosity. Both Taiwan and Hong Kong are among China'sbiggest trading partners – China is Taiwan's largest destination for outward FDI.(Chand and Tung,2011),It will be an interesting area for further study.

CONCLUSIONS

With the rise of China and India as major global economies, it is increasingly important to study the acceptance of Chinese products in India.Both the market has huge potentials and is shaping world economy.The Country of origin of a product affects purchase decisions because consumers tend to infer the quality of a country's products from its national image.Majority of Indians have purchased Chinese products.It is possible due to Chinese products available at affordable price.Indian perceives Chinese products as low priced with value for money.Mobile,toys and food items are the most preferred category.They are purchased mostly by younger population of age group below35 years.It is the most potential segment for India.Price is single most important point in decision making process by consumers in India followed by quality and functionality of the product..

LIMITATIONS AND SCOPE OF RESEARCH

This research was carried out in Mumbai- a financial capital which may not represent smaller population behaviour. The study was more confined to younger age groups which is a dominant age group of India.A study at geriatric population(Baby boomer category) may give a new information.Animosity was not taken up in this study.It will be good to study this factors as entry barrier in international business.Gender study was not done due to inadequate sample size of females.

MANAGERIAL IMPLICATIONS

Country of origin,product functionality at affordable price may be a good country penetration strategy for emerging market.Company in China can manufactured the product in Taiwan ,Hongkong(now part of China) to get good entry in large market like India.Textile has not gained much entry in India when compared to other countries.Affordable product with quality can help the Chinese and other countries to enter India.Quality product at affordable price can be a good penetration strategy for emerging market based on the present study

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DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN CENTRAL AND SOUTH AMERICA AND THE CARIBBEAN ISLANDS

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ABSTRACT

FDI inflows are sought by many underdeveloped economies. Weak economies, specifically of those countries that are still developing, have relied on FDI for at least ten years to provide national savings, capital inflows, and economic activity. Competition for FDI has increased because of the economic benefits. This study provides some recent evidence regarding the determinants of foreign direct investment (FDI) in Central and South America and the Caribbean islands. For this study an unbalanced panel model is used for a data sample of 27 countries covering the time period of 2000-2008. This study yields the following results: rule of law, encompassing political risk factors and the quality of contract regulation, has a positive and significant impact on FDI while total natural resources rent is negatively associated with FDI. An open market to trade appears to be an important determinant of FDI as well as less reliance on workers' remittances as a substitute for income.

INTRODUCTION

Over the past two decades globalization has steadily increased international business and economic activity worldwide. Through new international relations, each country hopes to boost its economy through alternative knowledge, divergent products, and increased trade. For almost two decades foreign direct investment (FDI) has been a very important part of the global economy. Foreign direct investment is defined by the World Data Bank as "net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments" (World Data Bank). FDI inflows are sought out by many underdeveloped economies. Weak economies, specifically of those countries that are still developing, have relied on FDI for at least ten years to provide national savings, capital inflows, and economic activity. Competition for FDI has increased because of the economic benefits. This competition can explain why FDI has grown so much in recent years, however, it cannot explain the determinants of FDI inflows.

This study seeks to explore the explanatory factors of foreign direct investment inflows using an unbalanced panel model. The data sample is 27 countries selected from Central and South America and the Caribbean Islands from the years 2000-2008. This will lead to results showing that rule of law, which encapsulates matters such as societal rules, enforcing property rights, and the quality of contract enforcement, is associated with an increase in FDI inflows while total natural resources rent is negatively associated with FDI. Also, other structural economic factors play a key role in determining FDI. Factors such as trade openness and decreases in workers' remittances result in higher FDI.

In the sections that follow, a concise review of the literature and a discussion of the data and model used to test the determinants of FDI are provided. This is followed by the results of the empirical study accompanied by concluding comments.

LITERATURE REVIEW

For almost two decades, foreign direct investment (FDI) has been a very important part of the global economy, especially for developing nations. Since the 1990s it has been imperative for these countries to attract FDI in view of the fact that it provides national savings, capital inflows, and improved economic activity. Countries routinely compete over FDI, so an inquiry into facets of a nation's economic environment that affect FDI will help shed light on the global allocation of FDI.

Krifa-Schneider (2010) uses fixed effect models and dynamic panel models to investigate the determinants of FDI. Companies investing abroad take on risks distinct from those they face when investing domestically. The uncertainty with these investments leads a profit maximizing firm or entity to analyze the countries of interest before allocating capital. Krifa-Schneider investigates political risk and business climate on FDI using data from 33 developing and transition countries covering the years 1996-2008. Results from the panel model were more convincing for the business climate variable than those from the fixed effect models. Their findings suggest that, all else equal, countries with superior government track records and business climates will attract more FDI. Surprisingly, the same panel model did not show significant results for the political risk variable. However, when using the fixed effect model for the political risk variable, it showed significance at the five percent level with a positive coefficient. Combined results from both the fixed model and panel model reveal that, all else equal, in order for a country to increase its scale of FDI it must invest in better infrastructure, and superior governance, and work towards stabilizing its economic and socio-political sectors.

Majeed & Ahmad (2009) observe that earlier theories of FDI focus on the presence of perfect competition. This theory, when studied, accredits one detail to FDI flows: the difference in interest rates between countries. More inclusive theories extend the model of FDI to account for market imperfections, oligopolistic interdependence, and monopolistic advantage. Market size, openness, exchange rate, cost of labor, and infrastructure variables are consistently considered in recent FDI studies. Majeed & Ahmad point out that other variables of interest are often overlooked as potential determinants. In their panel model they include remittances, official development assistance, dependency ratio, and military expenditures to study other facets of FDI allocation. In order to control for endogeneity and allow for lagged dependent variables as regressors, the GMM technique is implemented. Remittances, dependency ratio, and military expenditures can now be considered determinants of FDI as they all show significance in this model. Military expenditures enter the model with a negative and significant effect. When military expenditures increase then, this may be perceived as the regime's reaction to declining political and economic stability.

Faeth (2009) presents nine different theoretical approaches to FDI. When FDI increased in the 1990s, different theories on FDI started to emerge. Faeth organizes each theory, citing and categorizing empirical work. Her efforts highlight that FDI allocation is multifaceted and should not be studied based on one theory. FDI should instead be viewed as determined by multiple theories in a broad perspective. This is accomplished including control variables such as market size, trade openness, and growth as well as other numerous variables requiring further investigation. Examples include protection, risk factors, and policy variables.

Busse & Hefeker (2006) observe the relationships between political risk, institutions, and foreign direct investment over a longer time period. They include 83 developing countries in two different models from the years 1984-2003. Starting with a cross-sectional model and using the averages for the years 1984-2003, they test twelve risk indicators that shed light on political risk and other elements of political institutions. Busse & Hefeker find that only three of the twelve index variables are significant while inflation takes an unexpected positive sign. They also use a cross-sectional-time series unbalanced panel model with five 4-year averages taken from the 20-year time period. After sequentially considering each index variable in the model, they find that internal and external conflicts along with government stability, democratic accountability and investment profile are significant factors affecting FDI. Civil liberties and democratic rights, which are fundamental to a democratic government, are important for FDI according to Busse & Hefeker. Lastly, an Arellano-Bond GMM dynamic estimator model is implemented in order to address problems with autocorrelation and endogeneity. In this model, 8 of the 12 political indexes are statistically significant once again resulting in evidence that both political risk and institutional indicators play an important role in decision making for investors.

Ramirez (2010) highlights FDI in Latin America and the Caribbean Island. Most of the literature on FDI focuses on the positive impact that investment has on these countries in the form of capital flows, national savings, and improved economic activity. However, Ramirez points out that critics of this type of investment show, in the long run, the host nations are not better off. This is due to the opposite flow that must take place because of debt owed to the parent companies. Support of this argument comes from figures that show profit and remittances paid by Latin America and the Caribbean to the developed countries went from 7.0 billion to over 34.1 billion in the period of 1990-2004. Ramirez contributes an empirical study of determinants of FDI in Latin America. Data is pooled from Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, and Uruguay from the years 1980-2001. A pooled (fixed effect) model is used along with a dependent variable defined as the ratio of FDI inflows to real GDP. Common control variables to capture market size, country risk, and volatility of the exchange rate appear along with a rarely used variable, government expenditures on education. Results showed once again that these control variables including education of the population and economic freedom are all important in determining FDI.

Karimi & Yusop (2009) touch on a popular matter using a time series study from 1970-2005 in order to test causality and the relationship between FDI and GDP in Malaysia. Previous bilateral causality tests show varied results between FDI and GDP leaving much room for further investigation. An ARDL model and Toda-Yamamoto method are applied to examine signs of either growth-driven FDI, FDI-led growth, or a bi-directional causality between FDI and GDP. The ARDL model returns evidence of no long-run relationship between FDI and GDP. Insufficient evidence of a bi-directional causality is shown in the Toda-Yamamoto application concluding that FDI has no direct end result on economic growth in Malaysia.

VARIABLES AND MODEL

This section provides an overview of the model and data used to conduct the analysis. The data set is drawn from the World Bank data base. Data from the years 2000-2008 have been used. The models contain observations from 27 countries in Central and South America and the Caribbean Islands.

The dependent variable, FDIGDP, is foreign direct investment inflows as a percentage of GDP for country i in year t.

This study contains the following control variables, defined as follows:

GDP growth (GDP) is the percentage annual growth rate of gross domestic product for the years 2000-2008. Aggregates are based on current US dollars. This variable is used to control for growth and potential of the market. This variable can be argued as important to investors because it is associated with more market opportunities and a higher rate of profitability for the investing companies. Alternatively, it has been argued that an increased level of GDP can result in increased levels of income leading to higher wage rates. Therefore, FDI may be deterred if seeking cheaper labor opportunities (Hayakawa, Kimura & Lee, 2011). Also, as stated in the literature review, the bilateral causality between GDP and FDI has produced a number of mixed results making it more difficult to determine, with confidence, the relationship between GDP and FDI (Karimi & Yusop, 2009). This variable is expected to have either a positive or negative effect on FDI.

Market openness (TRADE) is the sum of imports and exports of goods and services measured as a share of gross domestic product and is used to characterize the openness of trade. If a country is more open to trade then this will encourage FDI because most investors benefit from expansionary export policies and accessibility to imports such as machinery and supplies from their home countries. This variable is expected to have a positive impact on FDI (Majeed & Ahmad, 2009).

The inflation rate (INFLATION) is another important variable in determining FDI inflows. This variable is an annual measurement of the rate of price change in the economy and is used as a proxy for macroeconomic policy deficiencies. This variable is expected to have a negative impact on FDI (Krifa-Schneider, 2010).

Workers' remittances (REMITTANCES) are current transfers by migrant workers and wages and salaries earned by nonresident workers. Majeed & Ahmad argue remittances variable should be positively associated with FDI, however, they provide apparently contradictory explanations for the sign. Similarly to Barajas (2009), they indicate that households substitute unearned income (remittances) for labor income and this income is subsequently spent on imports [Majeed & Ahmad, 2010; Barajas, 2009).

However, when household income includes remittances that means one household worker has sought economic opportunities outside the home country, presumably from a lack of such opportunities in the domestic country. Further, if remittances substitute for other labor income in the household, this suggests other domestic household workers may have low opportunity costs in a relatively weak domestic economy. Arguably then, weaker economies with greater remittances present as riskier environments for foreign direct investment. Therefore, it is expected that worker's remittances will have a negative effect on FDI.

Total natural resources rent (RESOURCE) are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents expressed as a percentage of GDP for the years 2000-2008. According to a study on natural resources by Yeo (2010), “the resource rent of a natural resource is the total revenue that can be generated from the extraction of the natural resource, less the cost of extracting the resource (including a normal return on investment to the extractive enterprise)” (Yeo, 2010). Findings by Poelhekke (2011) suggest that for countries with locations near large markets, the result in the net effect of resource endowments on total FDI is negative. Also, when a ‘resource bonanza’ is doubled there is a four percent decrease in aggregate FDI. Poelhekke (2011) also finds that countries having already been a resource producer saw a 12.4 percent decrease in non-resource FDI when there was a doubling of resource rents. Also findings conclude that natural resources can crowd out non-resource FDI and an abundance of natural resources ‘can be a drag on economic development’ (Poelhekke, 2011). Therefore, it is expected that natural resources will have a negative effect on FDI.

Profit remittances on foreign direct investment (PROREMIT) covers payments of direct investment income (debit side), which consist of income on equity (dividends, branch profits, and reinvested earnings) and income on the inter-company debt (interest). Data are expressed in current U.S. dollars. This variable is used to characterize the profit made by the investor country through payments of debt. Higher profit remittances should entice FDI back into the same country where the profits were generated. Therefore, it is expected that profit remittances will have a positive effect on FDI.

In this study there is one variable of interest which characterizes important components of political stability and governance. This is the focal point of the hypothesis considered in this research and is defined as follows:

Rule of law (RULE) is an index variable provided by the World Bank and is defined as: “capturing perceptions of the extent to which agents have confidence in and abide by the rule of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence” (World Bank). This variable provides perspective on one dimension of governance in a country. Some of the concepts included in this index are violent and organized crime, protection of intellectual and private property rights, judiciary independence, and confidence in forces such as the police and the court systems. RULE is set as a percentile rank where the 90th-100th percentile indicates the highest level of confidence in the rule of law and 0th-10th percentile indicates minimal confidence in the rule of law. Ensuring higher levels of RULE are associated with better governance and a more stable institution, thus it is expected that this variable will be positive.

EMPIRICAL SPECIFICATION

In the unbalanced panel model, foreign direct investment as a percentage of GDP is regressed on a set of variables characterizing the effects of GDP annual growth rate, the sum of imports and exports as a share of GDP, the inflation rate, the rule of law, workers' remittances, total natural resources rent, and total profit remittances. In the unbalanced panel model the following equation is used:

FDIGDP = β0 + β1FDIGDP(-1) + β2GDP + β3TRADE + β4INFLATION + β5REMITTANCES + β6RULE + β7RESOURCE + β8PROREMIT + u
where

FDIGDP: Foreign direct investment as a percentage of GDP for the years 2000-2008;
GDP: Percentage annual growth rate of gross domestic product for the years 2000-2008;
TRADE: Sum of imports and exports of goods and services measured as a share of gross domestic product used to characterize the openness of trade;
INFLATION: Inflation rate as an annual measurement of the rate of price change in the economy used as a substitute for macroeconomic policy deficiencies;
REMITTANCES: Workers' remittances are current transfers by migrant workers and wages and salaries earned by nonresident workers. Data are the sum of three items: workers' remittances, compensation of employees, and migrants transfers;
RULE: Rule of law is set as a percentile rank where the 90th-100th percentile indicates the highest level of confidence and the 0th-10th percentile indicates minimal confidence;
RESOURCE: Total natural resources rent are the sum of oil rents, natural gas rents, coal rents, mineral rents, and forest rents calculated by the total revenue generated from extraction of the resources, less the cost of extracting the resources;
PROREMIT: Profit remittances covers payments of direct investment income and income on the inter-company debt. Data are in current US dollars;

In this equation, the variable REMITTANCES tests positive for a unit root at level, but not when differenced. REMITTANCES enters the model in first difference in the unbalanced panel model.

In order to address autocorrelation in this model, a lagged dependent variable has been inserted. The variable FDIGDP(-1) is used to characterize whether last year's FDI affects the current year FDI and describes a momentum effect in investment.

All data is obtained from the World Bank from the years 2000-2008. The following 27 countries were used: Argentina, the Bahamas, Barbados, Cuba, Dominican Republic, Suriname, Haiti, Jamaica, Paraguay, Trinidad and Tobago, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Peru, Uruguay, Venezuela, Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama. Descriptive statistics for the unbalanced panel model are provided in Table 1.

Table 1 **DESCRIPTIVE STATISTICS**				
Variable	Mean	Standard Deviation	Maximum	Minimum
FDIGDP	3.87	3.08	15	-2
FDIGDP(-1)	3.64	2.78	15	-2
GDP	4.13	3.50	18	-9
TRADE	79.62	37.76	204	3
INFLATION	9.29	7.76	45	-3
REMITTANCES	0.44	1.55	7.67	-3.35
RULE	34.83	21.61	89.5	1
RESOURCE	7.47	10.48	41.63	0.12
PROREMIT	2.53E+09	4.78+09	2.88E+10	0

REGRESSION RESULTS

The unbalanced panel results and discussion are presented first, followed by the correlation matrix table. The estimated results from the unbalanced panel provided in Table 2.

Table 2 **REGRESSION RESULTS**		
Variable	Coefficient	T-Statistic
Constant	-0.773	-1.91
FDIGDP(-1)	0.517	5.48***
GDP	0.027	0.58
TRADE	0.024	4.49***
INFLATION	0.005	0.49
REMITTANCES	-0.220	-2.15***
RULE	0.024	3.02***
RESOURCE	-0.022	-2.60***
PROREMIT	2.92E-11	1.46
R-Square	0.58	
Adjusted R-Square	0.55	
F-statistic	21.50	
DW	2.15	

Where:
* indicates significance with 90 percent confidence.
** indicates significance with 95 percent confidence.
*** indicates significance with 99 percent confidence.

In general, the model generates results that shed light on the determinants of foreign direct investment. The adjusted R-square in the model is 0.55 while the F-statistic indicates overall significance of the model at beyond the one percent level. Details on the estimated parameters are discussed below.

All variables except for GDP, INFLATION, and PROREMIT are significant at the one percent level. The variable of interest, RULE, is positive and significant at the one percent level. This is consistent with the literature that finds political risk factors, business factors, and overall confidence in institutions to be an important determinant of FDI. Having greater confidence in the legal system, following the rules of society, enforcing property rights, judiciary independence and ensuring that there are agents within the country abiding by these set standards, will in turn, play a role in attracting FDI inflows for a country. TRADE has expected results as the variable is positive and significant at the one percent level. This variable is used to control for overall openness to trade. Foreign investors are encouraged to seek countries where there is trade openness as it will lead to better opportunities for their investments. REMITTANCES shows a negative sign and is significant at the one percent level. This is contrary to the study by Majeed & Ahmad (2009), however the results are consistent with the predictions made for this study. Workers' remittances are substituted for labor income which pulls more people out of the host country labor force and in turn discourages FDI from choosing the location where remittances are higher. RESOURCES also shows the expected result as it is negative and significant at the one percent level. This is consistent with the findings by Poelhekke (2011). All else held constant, the higher the percentage of total natural resources rent in a country the lower the FDI. While the variable INFLATION holds an unexpected positive sign, it remains insignificant in this model suggesting that macroeconomic policy deficiencies do not play an important role in attracting FDI. The lagged dependent variable FDIGDP is significant at the one percent level indicating that previous year FDI does in fact have a positive effect on current year FDI. GDP and PROREMIT have their expected signs but remain insignificant in this model. The result of GDP is consistent with the findings of Hawakaya, Kimura & Lee (2011) whose study finds that GDP neither attracts nor deters FDI. It also supports evidence by Karimi & Yusop (2009) whose study finds no significant evidence of bi-directional causality or long-run relations between GDP and FDI.

The correlation matrix for the unbalanced panel model appears below in Table 3.

Table 3
CORRELATION MATRIX

	FDIGDP	FDIGDP(-1)	GDP	TRADE	INFLATION	REMITTANCE	RULE	RESOURCE
FDIGDP								
FDIGDP(-1)	0.70							
GDP	0.17	0.18						
TRADE	0.47	0.44	0.08					
INFLATION	-0.29	-0.32	-0.27	-0.23				
REMITTANCE	-0.01	0.02	-0.16	0.38	-0.02			
RULE	0.46	0.48	0.10	0.08	-0.31	-0.09		
RESOURCE	-0.28	-0.25	0.11	-0.25	-0.32	-0.04	-0.23	
PROREMIT	0.01	0.02	0.11	-0.33	-0.03	-0.14	0.34	0.24

CONCLUSIONS

This study was conducted in order to shed light on the characteristics of the host countries that may encourage foreign direct investment inflows. Data from twenty seven countries was collected from the period 2000-2008. For the purpose of estimating the determinants of FDI, an unbalanced panel model was implemented. The results of the regression are summarized below.

The unbalanced panel model highlights the importance of openness of trade, political risk factors, and the role of total natural resources rent as well as workers' remittances for determining FDI inflows. However, total profit remittances, characterizing repayments by the host country to the investor, did not play a significant role in determining FDI. Results also showed insignificance for the GDP variable, characterizing potential for growth in the country. Inflation rate, characterizing macroeconomic policy deficiencies is also not significant in determining FDI inflows.

The findings in this model are consistent with studies by Krifa-Shneider (2010), Faeth (2009), and Busse & Hefeker (2006) who looked at political risk factors and the business climate of a country and found all to have a positive and significant impact on FDI. Also, it was argued by Majeed & Ahmad (2009) that there are variables that are often overlooked as potential determinants. In view of the argument, this study included total natural resources rent, profit remittances and Majeed & Ahmad's included variable, remittances. By including a few variables that are often overlooked as potential determinants, it was shown that total natural resources rent and remittances may be facets that determine FDI. The results suggest countries in Central and South America and the Caribbean islands can encourage and attract more FDI inflows by gaining more confidence in the country's rule of law, increasing trade, implementing better economic policies, moving away from workers' remittances as a substitute for income and focusing less on natural resource rent as an attraction factor.

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CULTURE, EXPRESSIONS OF ROMANTIC LOVE, AND GIFT-GIVING

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ABSTRACT

The reported research examines how cultural orientation influences expressions of romantic love. Results of two studies indicate that Westerners, compared to East Asians, are more likely to use verbal expressions when conveying romantic love. Further, for East Asians, gift-giving plays a self-expressive role in romantic context. That is, compared to Westerners, East Asians are more likely to use gift-giving to express romantic love. This finding persists across different stages of romantic relationships. In addition, this research highlights the similarities and differences in romantic gift-giving behavior owing to cultural, income, age, and gender differences, and thus provides theoretical insights and practical implications for understanding cultural shaping of love on the economic impact of gift-giving.

Keywords *Expression of Romantic Love; Cultural orientation; Gift-giving; Cross-cultural study*

CULTURE, EXPRESSIONS OF ROMANTIC LOVE, AND GIFT-GIVING

While considerable consumer research focuses on the expression of emotions in general (Agarwal & Malhotra, 2005), studies on the expressions of romantic love are surprisingly sparse in the marketing literature. Furthermore, only very limited consumer research has been devoted specifically to study the link between cultural orientation and expressions of romantic love. Thus, prior understanding does very little to explain the how, when, and whyfore of this phenomenon and its underlying processes (Wilkins & Gareis, 2006 is an exception). Drawing upon the cross-cultural psychology literature (Triandis, 1995), marketing researchers have demonstrated that consumer decision making differs because of dissimilar cultural values (e.g, Kim, Yang, & Lee, 2009; Zourrig, Chebat, & Toffoli, 2009). Indeed, there are meaningful cultural differences in the perception of different emotions and these may lead people to have different goals in the pursuits of the “same” emotional state (e.g., Kim, Yang, & Lee, 2009). This research seeks to build on such theoretical oversight. Cultural orientation, a rule-based phenomenon (Schall, 1983), entails compliance with unwritten and unspoken rule of acceptable social behavior such as communication and interpersonal relationships. In line with this, we argue that expression of romantic love may also be influenced by culture, pointing to the need to elucidate the specific patterns of influence for Western and East Asian individuals. Specifically, we suggest that individuals from Western cultural traditions are more comfortable with verbally expressing their romantic love, while individuals embedded in East Asian cultures are less likely to do so. Further, we suggest that compared to Westerners, East Asians are more likely to use gift-giving as a mode of expressing romantic love. Gift-giving plays different roles in various social contexts in both

Western and East Asian cultures, but within this article, the focus is on romantic gift-giving behavior (Nguyen & Munch, 2011).

In the following section, we review relevant literature and establish the conceptual underpinning of our theory that accounts for the cultural differences in the expression of romantic love. We then present two studies that test our predictions and reveal the role of gender, age, and income in expressions of romantic love. The paper concludes with a general discussion of our findings and suggestions for future research.

THEORETICAL BACKGROUND

Expressions of Romantic Love and Culture

Psychology researchers have recognized multiple kinds of interpersonal love and attachments including romantic love (e.g., Aron & Westbay, 1996; Fehr, 2009). That to love someone romantically is to experience a sudden and unrestrained passion for union with that unique person is well established (Acevedo & Aron, 2009; Buss, 2006; Hazan & Shaver, 1987; Sternberg, 1986). Intense feelings of attraction and engagement for another and an element of obsessive fascination and idealization are the dominant components of romantic love (e.g., Branden, 1988; Hatfield, Bensman, & Rapson, 2012; Rubin, 1970). Conceptualization of romantic love includes two separate aspects: passionate love and companionate love, with former serving to form relationship, and latter serving to help partners stay together (Berscheid and Hatfield, 1978; Buss, 1994). For the purpose of this paper, romantic love encompasses both of these aspects. Prior research indicates that romantic love offers great variations from couple to couple (Sanderson, Keiter, Miles, & Yopyk, 2007) and it can be expressed via verbal and nonverbal communication, and via behavior (Huang & Yu, 2000).

We suggest that expressions of intense emotional attachment, such as romantic love, are laden with meanings that derive from culture, and the manner in which they are exhibited is culturally constructed. Consequently, we expect that individuals will use culturally patterned forms to communicate romantic love, and thus, those patterns will likely vary from one cultural milieu to another (Jankowiak & Fischer, 1992; Shiota et al. 2010; Simmons, von Kolke, & Shimizu, 1986). This is in line with the growing body of evidence that attests to the pivotal role of culture in shaping and influencing values, assumptions, emotions, expressions, and consequently, social behavior (e.g., Kim & Drolet, 2003; Markus & Kitayama, 1991). We posit that divergent views of a consumer's self-concept have direct relevance on how individuals from Western and East Asian cultures express their emotions differently.

Western culture fosters uniqueness, freedom, and individuality, and consequently, self-expression is a core cultural norm. In this cultural context, individuals place a strong emphasis on their own interests, volition, and feelings, and when expressing such feelings to others, they consider those to be free of social context and categories (Markus & Kitayama, 1991). Along this vein, long-lasting feelings are expressed verbally so that the observer may understand the self-disclosing person's dispositions or feelings (Huang & Yu, 2000). For instance, romantic partners in the Western world have been found to idolize each other a great deal (Murray, Holmes, & Griffin 1996), and accordingly, verbal expressions are used extensively to convey affection. It is rather common for an individual to "say what's on one's mind if one expects to be attended or understood" (Markus & Kitayama 1991, p. 229). Consistent with this view, in a Western cultural context, self-expression and verbal sharing of thoughts and feelings are emphasized and frequently exercised (Kim & Sherman, 2007; Mesquita, 2001). Of particular note is the observation of Kim and Sherman (2007, p. 2) that "Americans often express their political beliefs through bumper stickers, signs of political affiliation in the front yard, and personal weblogs."

This view is also captured by the widespread practice in which both men and women place personal advertisements on the internet and in newspapers. Investigating complex marketing exchanges, Hirschman (1987) shows that using media outlets, both men and women are able to communicate their availability and marketable assets to others. This form of communication is prevalent in Western society only and thus speaks to our assertion regarding the Westerners' preference in expressing their romantic love in a straight forward manner.

In contrast, in collectivist East Asian cultures, members have a greater tendency to affirm social harmony and balance, and not to reveal their feelings or emotion publicly (Mesquita, 2001). Prior research demonstrates that explicit verbal expressions do not enjoy much prevalence in East Asian cultures (Chen, 1995). Individuals from East Asians cultures believe that maintenance of continuous social order requires behavioral responses rather than verbal expressions. Hence, verbal expression of romantic love is less favored or accepted as a communication mode. As the cultural norms do not encourage individuals to express thoughts freely, we posit that they are less likely to express their romantic feelings verbally. For instance, a Chinese respondent in Potter's study (1988) reports: "We Chinese show our feelings for one another in our work, not with words." Similarly, a Chinese respondent in Wilkins and Gareis (2006) says, "Love doesn't have to be express[ed] verbally," and a Korean respondent explains, "My culture believes verbal declaration of love is not important." Such preference for actions over verbal expression in conveying love is also captured in a frequently used Chinese saying: "The fact is better than eloquence." This line of reasoning leads us to expect that East Asians will utilize actions or behaviors, especially tangible ones, to express romantic love.

Within this tradition, individuals are known to draw from a great historical pantheon of cultural meanings rooted in Confucian and Taoist teachings and thoughts. For example, sayings such as "The superior man is modest in his speech, but exceeds in his actions," from Confucius; and "He who knows does not speak, he who speaks does not know," from Lao Tze, have exerted an enduring influence on their cultural beliefs. Societal norms are constructed to serve these ideological purposes, and these are constantly renewed to fit contemporary life. Seen in this light, we expect that emotions such as romantic love will not be voiced freely by East Asians (Solomon, 1971).

Gift-Giving and Romantic Love

Gift-giving serves an important role in maintaining social ties and solidarity and prior research has focused on different facets of gift-giving, including its role of symbolic communication in relationship (e.g., Belk, 1979, Schiffman & Cohn, 2009; Sherry, 1983). Although, early anthropological and sociological studies of gift-giving tended to focus on the norm of reciprocity (Mauss, 1925/1990), some studies diverged from this mainstream view, and emphasized gift-giving in light of altruism, such as expressions of romantic love within the agapic love paradigm (Belk, 1979; Belk & Coon, 1993). For instance, giving roses and chocolates takes on the meaning of romantic gestures and signals a long term commitment to relationship (Belk, 1979). Other accounts recognized gift-giving as an emotionally significant act. As a material evidence of love, gift-giving serves as means through which romantic partners demonstrate the value they assign to their partners (Fischer & Arnold, 1990; Huang & Yu, 2000). Similarly, Lindholm (1998, p. 24) notes that sacrifices lovers make for each other constitute a key element of romantic love as well as of gift-giving.

While gift-giving has woven itself into the fabric of most cultures, there is some evidence that cultural orientation influences gift-giving attitudes and behaviors (e.g., Beatty, Kahle, & Homer, 1991; Park, 1998). For example, motivations of self-interest and the pressure associated with giving appropriate gift were higher among Koreans, compared to Americans (Park 1998). We endorse this culturally constructed view of gift-giving and explore how romantic gift-giving behavior varies across Western and East Asian cultures.

Gift-giving in Western society is of great economic significance. In the U.S., for example, more than $300 billions are spent on gifts (Unity Marketing Gifting Report 2012). Intentions of gift-giving could be manifold. It can enhance one's self-attractiveness and serve to announce a relationship to the outer world (e.g., Cheal, 1987; Huang & Yu, 2000; Mick & DeMoss, 1990). Because gifting involves money, gift-giving, a noble expression of romantic love, could challenge the key spirit of perfect gift (Belk, 1996). Past research indicates that individuals from Western cultures find money and love to be incompatible resources and that the former cannot be exchanged in a free relationship such as romantic love (Brinberg & Wood, 1983). Money is involved in day-to-day economic activities and thus has more to do with rationality rather than with the passion and irrationality inherent in romantic love (Lindholm, 1998). Respondents in Belk and Coon's (1993) study echoed this assertion, reporting that they felt threatened when they were paid. Women often felt guilty or indebted for having money spent on them. Moreover, since Westerners highly value verbal expressions, comparatively, the role of gifts or money in romantic love seems less salient.

Individuals from East Asian cultures, being true to their cultural norms, rely on sociocultural resources for practices in their daily lives. In this vein, the liberal voicing of feelings of love is not encouraged (Solomon, 1971). Preferring concrete acts over verbal expression, these individuals will more likely use gift-giving to convey romantic love. A gift is concrete and tangible, and shows rather than tells one's romantic love. The selection of a gift requires effort, and gift-giving translates an individual's deepest feelings in a genuine way. Although gifts cannot buy love, they can leave lasting impressions and strengthen relationships. Moreover, for those who do not value verbal expression, gifting becomes an easier way to communicate romantic love. Thus, the act of gift-giving corresponds to the cultural norm. For instance, in Joy (2001), a respondent from Hong Kong said, "Giving gifts to my girlfriend is important because it is a way of telling her that I'll take care of her and that I want to make her happy." The respondent also emphasized that both trivial and sizeable gifts enhanced their relationship because they were tangible reminders of relationship development. In essence, East Asian individuals are more likely to resort to gift-giving to express their romantic love.

We summarize our discussion in two general hypotheses:

> ***H1:*** *Compared to individuals from East Asian (Western) culture, individuals from Western (East Asian) culture are more (less) likely to express romantic love through verbal expressions.*

> ***H2:*** *Compared to individuals from Western (East Asian) culture, individuals from East Asian (Western) culture are more (less) likely to express romantic love through gift- giving.*

RESEARCH METHODOLOGY

Extant cross-cultural research has focused on uncovering differences across nationalities, which are deemed to be proxies for culture (Hofstede, 2001). Akin to that tradition, we conducted two studies with participants from two distinctly different cultures: those of the United States and of China. All the participants were born and raised in their respective countries and so were their parents. Much past cross-cultural research (Hofstede, 2001; Singelis, 1994) has recognized the United States as an individualistic society, whereas China has been identified as a collectivist society. To achieve cross-cultural parallelism, we control for a language effect (Roth, Prasnikar, Okuno-Fujiwara, & Zamir, 1991). Instructions for the experiments in China were translated into Chinese and back-translated into English. Also, consistent with prior multi-country experiments, we controlled purchasing power parity in deciding the monetary incentives offered to Chinese participants in study 2.

STUDY 1

Method

Participants. American students in an introductory marketing class at a Southwestern university were asked to distribute surveys to adults involved in ongoing romantic relationships and with different backgrounds and occupations. They were also asked not to pass the survey to other students and received extra credit for collecting completed surveys. In the process, a total of 86 completed surveys were eventually collected (male: 46.5%; average age = 35.2). A snowball method was used to collect data from Chinese participants as romantic love is perceived as a delicate topic. Few participants would be willing to respond should there be no relationship between them and the investigator. To compensate for this reluctance, the survey was posted on **www.surveymonkey.com**. An invitation letter with a link to the survey was sent by email to some individuals (known to one of the authors) residing in China. They were asked to forward the link to friends who were involved in romantic relationships. One-hundred and eleven surveys from Chinese participants of different backgrounds were collected (male: 50.5%; average age = 33.8). We contend that both samples were drawn in a different ways and that may have compromised the random sampling need, however, regardless of this difference, both samples were highly similar in terms of age, educational background, and income.

Design and Procedure. The survey was adapted from that used by Wilkins and Gareis (2006). Participants were asked to state how often they used different methods to express romantic love. All responses were on a four point scale anchored at 1 = never, 2 = rarely, 3 = occasionally, and 4 = frequently. The options included verbal communication: face-to-face, on the phone, or others; written communications: cell phone text message, e-mail, letter, or others; and gift-giving. Respondents who chose gift-giving provided information about the kind of gifts and gift-giving occasions. Finally, they answered socio-demographic questions regarding gender, age, education, and income level. Given that income is a sensitive issue, and there could be substantial disparity between the income in the US and that in China, we created three relative measures of income levels: higher income, average income, and lower income. Participants identified themselves accordingly.

TABLE 1
Study 1: Means and standard deviations of dependent variables

	American			Chinese	
Variables	Mean	SD		Mean	SD
Verbal Expression	3.71	.55		2.36	.95
Written Messages	2.63	.87		2.18	.88
Gift-giving	2.60	.64		2.80	.72
N	86			111	

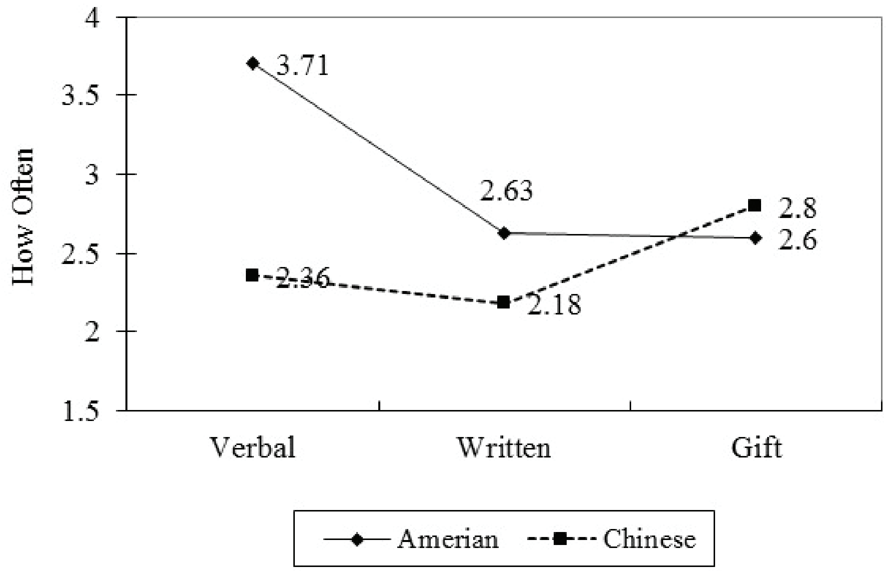
Results

Frequency of chosen methods. Analysis of Variance (ANOVA) was run as a 2 (culture: Western vs. East Asian) x 3 (method: verbal vs. written vs. gift-giving), with culture as between-subjects and method as within-subjects factors. As repeated measures ANOVA is susceptible to the violation of the assumption of sphericity, we ran Mauchly's sphericity test. It indicated that the assumption of sphericity was not violated. (χ^2 (2) = 3.364, p > .1, N.S.). The means for the dependent measures are reported in Table 1. A main effect of culture (F(1, 195) = 39.651, p < .01) and that of method (F(2, 390) = 46.237, p < .01) emerged. The anticipated two-way interaction qualified these main effects (F(2, 390) = 70.018, p < .01; see Figure 1). ANOVA with repeated measures were conducted for both American and Chinese participants to interpret the interaction. For the American participants, the Mauchly's sphericity test was marginally significant (χ^2 (2) = 5.842, p > .05). A significant main effect of method emerged (F(2, 170) = 93.715, p < .01). Then a series of paired-samples t-tests were used. Verbal expression was the most frequently used method (M = 3.71; vs. gift, t(85) = 13.624, p < .01; vs. written, t(85) = 11.702, p < .01) followed by written message (M = 2.63; vs. gift, t(85) = 0.228, p > .1). Gift-giving (M = 2.60) was the least frequently used method. The same tests were used for Chinese participants and Mauchly's test of sphericity was not significant (χ^2 (2) = 1.649, p > .1). A significant main effect of method emerged (F(2, 220) = 24.825, p < .01). Gift-giving was the most frequently used method (M = 2.80; vs. verbal t(110) = 4.752, p < .01; vs. written t(110) = 6.606, p < .01) followed by verbal expression (M = 2.36; vs. written t(110) = 2.118, p < .05) and written message (M = 2.18).

Compared to Chinese participants, American participants used verbal expression (M_{American} = 3.71, M_{Chinese} = 2.36; F(1, 195) = 137.203, p < .01) and written message (M_{American} = 2.63, M_{Chinese} = 2.18; F(1, 195) = 12.756, p < .01) more frequently to express romantic love. As expected, participants in China used gift-giving more frequently than the participants in the United States

($M_{American} = 2.60$, $M_{Chinese} = 2.80$; $F(1, 195) = 3.984$, $p < .05$). Collectively, these findings provided support for hypotheses 1 and 2.

FIGURE 1
Study 1: Culture x method interaction



To examine the role of gender, age, and income, a 2 (culture: Western vs. East Asian) x 2 (gender: male vs. female) x 3 (income: above the average vs. average vs. below the average) Analysis of Covariance **(**ANCOVA) with age as a covariate was conducted for three dependent variables: verbal expression, written message, and gift-giving. For brevity's sake, only effects on verbal expression and gift-giving and significant results (p's < .1) are reported. The detailed analysis and summary of the results are furnished in table 2 and table 3 respectively.

TABLE 2
Study 1: Additional Analyses for Gender, Age, and Income

DV	Model	Results	Interpretation
Verbal Expression	2 (culture: Western vs. East Asian) x 2 (gender: male vs. female) x 3 (income: above average vs. average vs. below the average) ANCOVA	Three-way interaction: (F(2, 184) = 2.365, p < .1). Main effect of culture: (F(1, 184) = 114.985, p < .01). Main effect of Age: (β = -0.015, F(1, 184) = 10.447, p < .01).	In expressing romantic love, American women were more verbally expressive than their Chinese counterparts. Consistent with prior results, age was negatively related to the frequency of verbal expression.
	2 (culture: Western vs. East Asian) x 3 (income: above average vs. average vs. below the average) ANCOVA for Female and Male	For female: main effect of culture ($M_{American}$ = 3.74, $M_{Chinese}$ = 2.71; F(1, 89) = 64.031, p < .01) and age (β = -.016, F(1, 89) =5.359, p < .01). For male participants, the expected main effect of culture ($M_{American}$ = 3.74, $M_{Chinese}$ = 2.71; F(1, 89) = 64.031, p < .01) and that of age (β = -.016, F(1, 89) =5.359, p < .01)	In expressing romantic love, American women were more verbally expressive than their Chinese counterparts. Consistent with prior results, age was negatively related to the frequency of verbal expression. American men used verbal expression more compared to Chinese counterparts. For men as well, age was negatively related to the preference of verbal expression.
Gift-giving	2 (culture: Western vs. East Asian) x 2 (gender: male vs. female) x 3 (income: above average vs. average vs. below the average) ANCOVA	Three-way interaction: (F(2, 184) = 3.174, p < .05) . Culture x Gender interaction (F(1, 184) = 9.782, p < .01) Culture x Income interaction (F(2, 184) = 2.60, p < 0.08).	American participants, females used gifts more frequently to express romantic love compared to males (M_{female} = 3.13, M_{male} =2.33; F(1, 17) = 4.567, p < .05). Chinese participants were most likely to buy gifts frequently (M = 3.14; vs. average, p > .1; vs. low income, p < .05), followed by average income (M = 2.61, vs. low income, p > .1) and low income participants (M = 2.25). For low income participants, American women used gifts more frequently than their Chinese counterparts ($M_{American}$ = 3.13, $M_{Chinese}$ = 2.25; F(1, 17) = 7.029, p < .05).
	2 (culture: Western vs. East Asian) x 3 (income: above average vs. average vs. below the average) ANCOVA for Female and Male	For female: significant culture x income interaction (F(2, 94) = 5.619, p < .01) and age effect (β = -.010, F(1, 94) = 3.611, p < .07). For male: Main effect of culture ($M_{American}$ = 2.50, $M_{Chinese}$ = 3.00; F(1, 89) = 12.105, p < 0.01) and of age (β = -0.018, F(1, 89) = 9.757, p < 0.01).	For the American participants, females purchased gifts more frequently than males (M_{female} = 3.13, M_{male} = 2.33; F(1, 17) = 4.567, p < .05). For the Chinese participants, females were likely to purchase less frequently than males (M_{female} = 2.25, M_{male} = 2.83; F(1, 22) = 10.367, p < .01). For females, Chinese participants purchased gifts less frequently than American participants ($M_{American}$ = 3.13, $M_{Chinese}$ = 2.25; F(1, 17) = 7.029, p < .05). For males, Chinese participants purchased gifts more frequently than the American participants ($M_{American}$ = 2.33, $M_{Chinese}$ = 2.85; F(1, 22) = 7.522, p < .05).

TABLE 2
Study 1: Additional Analyses for Gender, Age, and Income

DV	Model	Results	Interpretation
			For Chinese participants, compared to females, males used gifts more regularly to express romantic love (M_{female} = 2.61, M_{male} = 3.04; F(1, 61) = 7.025, p < .05). For male participants, Chinese participants purchased gifts more often than their American counterparts ($M_{American}$ = 2.60, $M_{Chinese}$ = 3.04; F(1, 45) = 6.423, p < .05). As expected, compared to high income American participants, Chinese participants with high income appear to use gift-giving to express romantic love.
Gift bought and buying occasions	2 (culture: Western vs. East Asian) x 5 (occasion: holiday vs. birthday vs. Valentine's Day vs. anniversary vs. no specific situation)	Significant relationship between culture and occasion (χ^2 (4) = 19.117, p < .01).	American participants were more likely to buy gifts during a special day or occasion (holiday, birthday, Valentine's Day, or anniversary. However, Chinese participants were more likely to purchase gifts on any random day (56.8%) compared to American participants (30.2%; χ^2 (1) = 13.764, p < .01).

TABLE 3
Study 1: Result summary- Additional Analyses for Gender, Age, and Income

Expression			Interaction		Significant Findings
Verbal					Culture x Gender x Income interaction*
	American		Gender x Income		NS
	Chinese		Gender x Income		Age***
	Female		Culture x Income		Culture*** and age***
	Male		Culture x Income		Culture*** and age***
	Low Income		Culture x Gender		Culture*** and age***
	Average Income		Culture x Gender		Culture*** and age** Two-way interaction**
	High Income		Culture x Gender		Culture**
Gift					Culture x Gender x Income interaction**
	American		Gender x Income		Gender* Two-way interaction*
	Chinese		Gender x Income		Gender***, income***, and age***
	Female		Culture x Income		Age* Two-way interaction***
	Male		Culture x Income		Culture*** and age***
	Low Income		Culture x Gender		Age*** Two-way interaction***
	Average Income		Culture x Gender		Two-way interaction*
	High Income		Culture x Gender		Culture* and age***

All analyses were based on ANCOVA with age as a covariate
*: p < 0.1 **: p < 0.05 ***: p < 0.01

Discussion

The data furnished by study 1 provide strong support for our central thesis. That is, compared to East Asians, Westerners use verbal expression more frequently to convey romantic love. In addition, the pattern of results also suggests that for the purpose of expressing romantic love, East Asians use gift-giving more frequently than Westerners.

Results reveal interesting roles of age, income, and gender. It appears that frequency of verbal expression of romantic love tends to decrease with the age. This effect is more pronounced for men. Comparatively, the effect of age is more pronounced for East Asians. In line with prior research (Belk, 1979), this study shows that income influences romantic gift-giving behavior. For participants with average income, age did not have a significant negative effect in the context of gift-giving. East Asian participants exhibited the tendency of expressing romantic love through gift-giving more frequently as income increased. However, this pattern was not significant for the Westerners. Among American women participants, the tendency to express romantic love through gift-giving decreased as income increased. However, this trend was reverse for Chinese women. Further, Westerners were more likely to purchase gifts on holidays, whereas East Asians were more likely to purchase gifts on random days. East Asian participants favored traditional and typical gifts of love while Western participants' selections were more diversified. The findings also indicate that American women, especially the ones with low and average income, purchased gifts more frequently than men. The tendency to purchase gifts frequently decreased as income increased. Conversely, the trend was reverse for the Chinese counterparts. Our data also indicate that Chinese male (vs. female) and American females (vs. male) are more likely to use gift-giving to express the romantic love

While study 1 provides support for our prediction that culture plays a role in expressions of romantic love, the findings were based on overall evaluations. Specifically, we did not consider the length or stage of the romantic relationships. Some account suggests that romantic love will not be related to relationship length (Acevedo & Aron, 2009), while other evidence suggests that both passionate and companionate love decline over time (Hatfield et al., 2008). An ongoing romantic relationship may go through a modal development sequence, the stages of which are more likely to overlap than to be discontinuous (Kenrick & Trost, 1989). In accordance with different degrees of intimacy and emotional attachment, the relationships could be operationalized as occasional or regular dating, exclusive dating, and living together, engaged, or both (Hatfield & Sprecher, 1986). Study 2 investigates to what extent our findings could be generalized across different stages of relationships. Consistent with prior research, we consider three broad relationship stages: initial relationship building, formal committed relationship, and marital relationship.

STUDY 2

Method

Participants. American students in an introductory marketing class at a Southwestern university were asked to distribute surveys to married adults. They were also asked not to pass the survey to other students. They received extra credit for collecting completed surveys from participants. In the process, a total of 80 surveys were eventually collected (47.6% Male, M = 34.7 yr. old).

Three undergraduate students were hired to collect data from Chinese participants. They employed face-to-face and on-site interview methods. Extant research indicates that interviewing Chinese customers on the streets or in their office is an effective data collection method (Wei, Donthu, & Bernhardt, 2013). Each participant was paid RMB $20 and each student was paid RMB $10 for collecting a completed survey. A total of 82 surveys, consisting of married adults, were collected (52.5% Male, M = 36.1 yr. old) from a large southwestern city.

Design and Procedure. The survey was the same as that used in study 1 with the addition that participants answered the same set of questions for the present (marital) and other two previous (initial and formal) romantic relationship stages. Before making their responses, participants were asked to recall the time comprising the two previous stages.

Results

Study 2 employed a 2 (culture: Western vs. East Asian) x 3 (stages of relationship: initial vs. formal vs. marital) design with culture as a between-subjects and stages of relationship as a within-subjects variable. Table 3 furnishes the means.

TABLE 4
Study 2: Means and Standard Deviations of Expression Methods in Different Stages

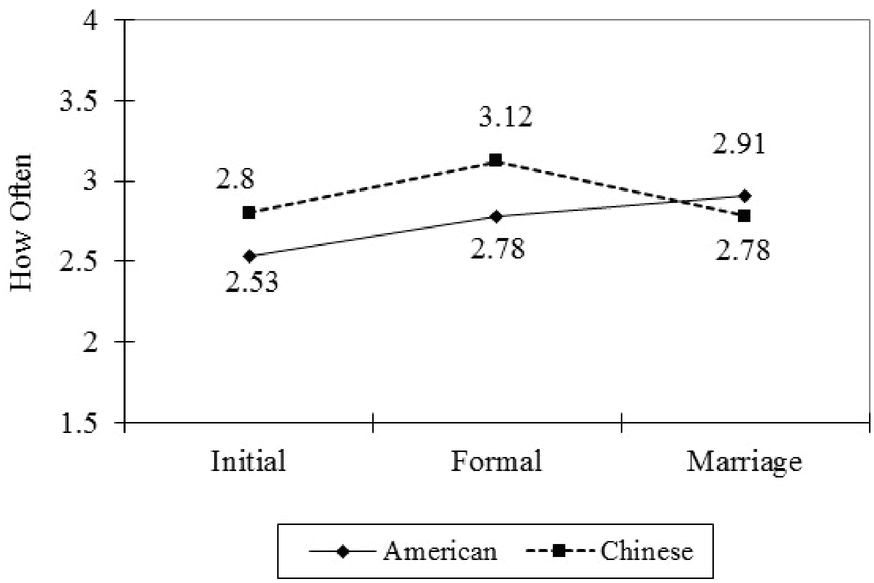
Culture	Stage	Expression of Romantic Love	M
		Verbal	2.55 (.90)
	Initial	Written	2.18 (.93)
		Gift	2.80 (.82)
		Verbal	2.65 (1.02)
East Asian (N=82)	Formal	Written	2.05 (.87)
		Gift	3.12 (.74)
		Verbal	2.54 (.98)
	Marriage	Written	2.10 (.96)
		Gift	2.78 (.79)
		Verbal	3.36 (.85)
	Initial	Written	2.73 (.84)
		Gift	2.53 (.62)
		Verbal	3.41 (.79)
Western (N= 80)	Formal	Written	2.91 (.90)
		Gift	2.78 (.66)
		Verbal	3.54 (.71)
	Marriage	Written	2.91 (.77)
		Gift	2.91 (.70)

Verbal expressions. 2 x 3 ANOVA revealed a significant effect only of culture (M_{Chinese} = 2.58, M_{American} = 3.44; $F(1, 160) = 59.335$, $p < .01$), suggesting that both Americans and Chinese participants reported using verbal expressions consistently across the three stages. As expected, American participants reported using verbal expressions more frequently than Chinese counterparts.

Written expressions. 2 x 3 ANOVA revealed the expected main effect of culture ($F(1, 160) = 42.158$, $p < .01$), and the culture x stages interaction ($F(2, 320) = 3.208$, $p < .05$). A subsequent planned contrast showed that American participants tended to use more written messages at advanced stages of romantic relationships (initial vs. formal, $t(79) = -1.890$, $p < .07$; initial vs. marriage, $t(79) = -1.954$, $p < .06$; formal vs. marriage, $p > .1$). For Chinese participants, there was no significant difference across the three stages ($M_{\text{initial}} = 2.18$, $M_{\text{formal}} = 2.05$, $M_{\text{marriage}} = 2.10$; $F(2, 162) = 1.011$, $p > .1$).

Gift-giving. 2 x 3 ANOVA revealed a culture x stages interaction ($F(2, 320) = 8.445$, $p < .01$). A follow-up contrast indicated a significant effect of stages ($F(2, 158) = 8.436$, $p < .01$) for American participants. A paired *t*- test showed that American participants were more likely to buy gifts after marriage ($M_{\text{initial}} = 2.53$, $M_{\text{formal}} = 2.78$, $M_{\text{marriage}} = 2.91$; $t_{\text{initial-formal}}(79) = -2.632$, $p < .01$; $t_{\text{formal-marriage}}(79) = -1.417$, $p > .1$; $t_{\text{initial-marriage}}(79) = -4.081$, $p < .01$). This suggests that romantic gift-giving behaviors of American participants generally followed a linear relationship. They were more likely to buy gifts for a loved one as the relationship moved towards the permanent type. Romantic gift-giving behaviors of Chinese participants also varied significantly across the three stages ($F(2, 162) = 10.622$, $p < .01$). A paired *t*- test showed that Chinese participants bought gifts more frequently during the stages of a more committed relationship compared to the initial stages of a relationship ($M_{\text{initial}} = 2.80$, $M_{\text{formal}} = 3.12$, $M_{\text{marriage}} = 2.78$; $t_{\text{initial-formal}}(81) = -3.999$, $p < .01$; $t_{\text{formal-marriage}}(81) = 4.272$, $p < .01$; $t_{\text{initial-marriage}}(81) = .276$, $p > .1$). Generally, Chinese participants were more likely to use gift-giving to express romantic love in both the initial and formal stages ($p < .05$). This pattern of results suggests that Chinese gift-giving behavior followed an inverted U relationship. A one-way ANOVA revealed no significant difference between American and Chinese participants ($p > .1$). A graphical presentation of the effect is shown in figure 2.

FIGURE 2
Study 2: Culture x stage interaction of gift-giving behavior



Expressions in different stages. An ANOVA with methods of expression as a within-subjects variable was run to check the within-cultural differences in each stage. For American participants, verbal expression was the most frequently reported method used (vs. gift and written, all p's < .01), but no significant difference was found between gift-giving and written expression (initial: gift vs. written, p < .06; all other stages: p's > .1). For Chinese participants, gift-giving was the most frequently reported method used and written message was the least frequently reported method used across all stages (all p's < .05).

Next, we conducted an ANOVA with method of expression as a between-subjects variable to check the between-cultural difference in each stage. Chinese participants, in general, used gift-giving more frequently than American participants (all p's < .05; marriage stage: *NS*), but American participants used verbal (all p's < .001) and written message (all p's < .001) more frequently than Chinese counterparts.

Discussion

The findings of study 2 offer further support for the theorizing that cultural orientation plays a role in expression of romantic love. Specifically, findings indicate that our basic proposition holds in different stages of romantic relationships. Consistent with our prediction, American participants are more likely to use verbal and written messages to express romantic love. Further, compared to American participants, Chinese participants were more likely to use gift-giving to express romantic love. The results indicate that American participants tend to use gift-giving more frequently as the romantic relationships mature. However, the Gift-giving behavior of Chinese participants exhibited an inverted U pattern.

GENERAL DISCUSSION

This research seeks to expand our understanding of expressions of romantic love and its cross-cultural disposition. To illustrate this, we have presented a theory and two experiments provide converging evidence to suggest that when compared to East Asians, Westerners are more likely to communicate romantic love through verbal expression. We also demonstrate that East Asians, compared to Westerners, are more likely to utilize gift-giving to communicate romantic love. Moreover, we have found the phenomenon to be robust across different relationship stages. Our research serves as a first step in theoretical discourse on how manifestation of romantic love differs across different culture. The external validity (Winer, 1999) of our findings has been boosted by our studying adult subjects.

We also demonstrate that gender and age influence the way individuals express their romantic love. For example, Western women are more expressive (verbal and gift-giving) than men while East Asian men are more verbally expressive than the women. Also, the frequency of expressions of romantic love (through verbal expression, written messages, or gift-giving) decreases as age increases. The effect of age is stronger for East Asians than for American participants. Also, for the East Asians, the effect of age is stronger for men.

This research raises some theoretically interesting issues. For instance, we find that consistent with prior research (Belk, 1979), income influences gift-giving behavior. As their income increases, East Asian individuals purchase gifts more frequently. This effect, however, is opposite for Western women. This could be because they are more likely to buy expensive gifts, so their gift-purchasing frequency decreases. Westerners often buy gifts for a specific day or occasion while East Asians are more likely to buy gifts on random days. East Asians are more likely to buy typical and traditional gifts for loved ones while Westerners' selections are more diversified.

IMPLICATIONS AND FUTURE RESEARCH

Several implications emerge from this work. First, this paper builds on previous research by focusing on a relatively long-lasting emotional disposition, romantic love. This is our key point of departure from the previous research on consumer behavior that has placed emphasis on relatively short-lived emotions (Metts & Bowers, 1994). Love is a feeling of intense yearning for and need to be with someone who is passionately desired. Second, this research provides insights into cross-cultural endeavors pertaining to expressing emotions (Bagozzi, Wang, & Yi, 1999). In this regard, it shares a theoretical platform with an important research stream about cross-cultural psychology and its applications (Aaker & Maheswaran, 1997). Impact of cultural orientation on human cognition and different behavioral outcomes has gained currency as markets continue to become global (Cleveland & Laroche, 2007). The third contribution pertains to scholarship on gift-giving. By highlighting the role of gift-giving in emotion-laden relationships such as romantic love, our work expands upon the substantive domains of gift-giving (e.g., Belk & Coon, 1993; Giesler, 2006) by adding a romantic love perspective and a cross-cultural grounding.

in various topics, there is consensus among theorists that it impacts the employee's intention to remain a member of the organization.

Rousseau (1989) defined PC as "an individual belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party" (p. 123). The four key concepts—individual belief, agreement, terms, and obligation—that characterize Rousseau's concept of a PC are delineated in this definition. Rousseau (1989) did not view PCs as one involving the perspectives of two interconnected parties. Instead, she posited it as an individual-level, subjective phenomenon. This holds true irrespective of whether or not the contract is legal/written or unwritten. All types of promises are deemed PCs. Consistent with this view, Rousseau (1989) suggested that "agreement exists in the eye of the beholder" (p. 123). Further, although agreements are not general concepts such as OC, they are comprised of concrete contents (e.g., high pay, training). Finally, she emphasized the binding power of PCs, suggesting that parties are bound by a set of reciprocal obligations when agreements are signed.

In short, OC focuses on the "strength" of EOR and PC focuses on the "contents" of EOR.

Impact of Career Changes on Organizational Commitment and Psychological Contracts

Incremental Career Change Effect

In this paper, we examine the career change effects on EOR. For this purpose, we begin with distinguishing several types of career changes. First, we distinguish two types of effects―incremental change effect and discontinuous change effect (George and Jones 2000). For detecting incremental change effect, we incorporated organizational tenure. Increase in organizational tenure occurs only with the passage of time (i.e., it occurs in an incremental manner).

In many studies, OC was conceptualized through the use of a multidimensional perspective of commitment (Bentein et al. 2005). As many researchers suggested, OC consists of at least two distinctive dimensions―affective and continuance commitment. Affective commitment represents the idea that one's commitment to the organization is due to his (her) emotional attachment to and identification with the organization. Continuance commitment, on the other hand, represents the perceived costs of not continuing with employment. It develops as a function of the magnitude of investments employees make in an organization.

Several studies revealed that continuance commitment and affective commitment change differently throughout employee's career. Results of several studies concerning continuance commitment are consistent. Many researchers suggest that continuance commitment increases with tenure (Ritzer and Trice, 1969; Hrebiniak and Alutto 1972; Alutto, Hrebiniak, and Alonso, 1973; Stevens et al. 1991). Findings obtained in these studies suggest that tenure are one of the most efficient and direct predictors of continuance commitment. Then,

H1a Tenure will positively relate to continuous commitment.

For affective commitment, however, the results of several studies are inconsistent. Although some researchers suggest that affective commitment decreases with tenure and career stages (Beck and Wilson 2000; Bentein et al. 2005; Lance et al. 2000), other researchers suggested that affective commitment increases with tenure (Allen and Meyer 1993; Gregersen 1993). In the Japanese context, Kanai, Suzuki, and Matsuoka (1998) examined the change in employees' affective commitment in the initial few years in a large retailing organization. They found that affective commitment increases only discontinuously with several career event such as promotion and functional change. Although we could not find consistent pattern about affective commitment changes across studies, many researchers agree that among several variables the strongest and most consistent correlations with affective commitment is positive work experiences (Mathieu and Zajac, 1990). This may implies that the way affective commitment change is discontinuous one rather than incremental.

H 1b Tenure will not relate to affective commitment

PCs between employees and employers will change incrementally with tenure. This can be better understood by considering it on a schema of an EOR (Rousseau, 1995). As Rousseau (2001) suggested, "psychological contracts themselves can form schema" (p. 515). A schema is a cognitive organization or mental model of conceptually related elements. We gradually develop a schema from past experience, and it subsequently guides the manner in which information is processed. And once a schema is formed, we tend to maintain it and new information tends to be interpreted in light of the schema (Rousseau, 2001). For example, gathering information about organization and their jobs, employees with initial few years try to establish and clarify their identity within organization (Schein, 1978). They may use several types of information to fine-tune their understanding of PC regarding what they can expect and what they need to contribute. Within few years, PC can evolve from discrete perceptions of many obligations to elaborately organized schemas (Schein, 1978). Employees with long tenure will develop stable and fine-tuned PC.

And once a stable PC is formed, employees gradually do not actively seek information and are unconcerned about EOR (Ashford, 1986). This is because employees' awareness of luck of change. As organization socialization theorist suggest, for employees with long tenure it is likely that everything will eventually seem routine and habitual, which result in a sense of lack of change in everyday work (Schein, 1978). Such an awareness of "career routine" (Hall, 1988) give rise to the employees' no longer thinking about employer and their own obligations. Accordingly,

H 2 Tenure will negatively relate to employees' perceptions of psychological contracts.

Discontinuous Career Change Effect

For detecting discontinuous change effects (George and Jones, 2000), we used three types of career movement according to Schein (1978) — (1) vertical movements, (2) functional movements, and (3) radial or horizontal movements. Vertical movement means advancing

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METHOD

Sample

The population sampled for this study consisted of employees in a large Japanese pharmaceutical company. We conducted a web-based survey of all employees in this company in July 2008. A total of 3,789 employees responded to the questionnaire. The average age of the participants at the time of the study was 39.81 years (S.D. = 8.716), their average tenure (length of employment with current employer) was 12.46 (S.D. = 9.14), and the percentage of women was 17 percent. Because our data represent only a cross-sectional view of what has been presented as longitudinal phenomena, we must be cautious when interpreting the results of this study.

Measures

Psychological contracts. Hattori (2010) developed Japanese version of PC scale consisting of 39 items (24 items related to an organization's obligations and 15 items pertaining to an employee's obligations). In this scale, with regard to the employer's obligations, participants were asked to indicate the extent to which their employer was obligated to provide them with a set of items. With regard to the employee's obligations, participants were asked to indicate the extent to which they were obligated to provide a set of items to an employer. Participants were provided with a five-point Likert-type scale, ranging from "not at all obligated" to "highly obligated" for each item.

An exploratory factor analysis of the items was conducted to reduce the item pool and to assess the factor structure in this company. First, a factor analysis (the principal factor method with promax rotation) for 24 items related to an organization's obligations was conducted. Items with loading less than .40 were deleted. Variables with eigenvalues less than one were not included in the factor structure. When items were reduced, there were no longer any cross-loadings. Two factors emerged from the items (see Table 1). The first factor was comprised of items such as "good career prospects," "support for personal problems," and "good work atmosphere." These patterns were consistent with the notion that employment can be characterized by relational issues involving the creation and maintenance of a relationship between an employee and employer; in other words, a "relational contract" (Rousseau 1995). The second factor was comprised of items such as "performance-based pay," and "high pay." Because these items reflect high extrinsic inducements (Rousseau 1995), they were termed "transactional contract." These patterns were consistent with the notion that distinct types of employment relationship can be discerned from the patterns of employee and employer obligations (Robinson et al. 1994; Millward and Hopkins 1998).

Then, a factor analysis (the principal factor method with promax rotation) for 15 items related to an employee's obligations was conducted. Items with loading less than .40 were deleted. Variables with eigenvalues less than one were not included in the factor structure. When or can be influenced by companies' activities (Freeman, 1984). It is argued that companies are confronted with various demands from multiple stakeholder groups. These pressures may arise from employees, customers, suppliers, government, community groups, and other stakeholders, especially institutional shareholders with various conflicting goals and objectives (McWilliams et al., 2006). A company should be able to synchronously fulfill its proper purposes, meet its responsibilities, and satisfy legitimate expectations.

Sustainability is but one of many important aspects of CSR in social accounting reporting. Credibility and completeness, which have close relationships with CSR, are two essential principles used in accounting for sustainability. Adams and Evans (2004) state that in credibility there are two elements that should be taken into account, internal credibility and external credibility. Third-party reports play an essential role in the quality of external credibility, whereas internal credibility is represented by the quality of corporate policies, organizational structures, business management systems, internal audit systems, and risk management systems. According to Adams and Evans (2004), completeness not only focuses on the scope of business activities included in social accounting reporting, but also the extent to which crucial effects are provided in such reporting. Some enterprises cover their negative impacts on stakeholders due to the default of their social responsibility, which can lead to the insufficiency of completeness in reporting. Consequently, this lack of completeness results in insufficient information being disclosed in social accounting reporting.

Environmental disclosures are often used to assist in enhancing companies' senses of social responsibility. Because many companies learn from adverse environmental events, they often attempt to monitor their activities. As argued by Karim et al. (2006), corporate environmental disclosure is a series of information, including the companies' past, present, and future environmental management activities, as well as financial implications. Due to the requirements for high-quality disclosure of CSR in social accounting reporting, domestic and international enterprises have increasing pressures to respond to the challenge of CSR.

This paper discusses reasons for CSR, reviews its definition, and examines its presence within United Kingdom (UK) companies by analyzing three cases: Tesco, Barclays, and The Royal Bank of Scotland. Specifically, CSR is explained through examining its definition, the reasons for companies to meet their social responsibility, how companies fulfill this responsibility, and influences of the Account Ability's (AA) 1000 Standards, Good Corporation Principles, and the Social Accountability 8000 Standards.

The rest of this paper proceeds as follows. Section II provides the theoretical framework of CSR and reviews related literature, including the concepts of CSR, agency theory, stakeholder theory, and legitimacy theory. Section III explains research methodology. Section IV presents CSR influences in the UK and examines CSR reporting by three UK companies. Section V summarizes.

II. THEORETICAL FRAMEWORK AND PRIOR LITERATURE

Development of CSR Concepts

Evidence of writing about social responsibility can be traced to the 20th century, where a large volume of literature contributed to the development of CSR (Carroll, 1999). The literature review in this paper starts with research conducted in the 1960s and 1970s, shifts to the 1980s and then to more recent literature when the issue became widely explored by professionals and business practitioners.

There was a dramatic increase in attempts to form an accurate statement of the meaning of social responsibility in the 1960s and 1970s. There occurred two transformations, first from social responsibility to corporate social performance (CSP), and from CSP to CSR. A significant contribution in the 1960s was the work of Davis (1960) who provides a definition of social responsibility which refers to business decisions and activities by a corporation beyond its pursuit of direct economic profits. Davis states that socially responsible management decisions can not only assist a firm to obtain great business profits but, in addition, a good reputation of such a firm emerges in society. This opinion was commonly accepted in the 1960s. Davis (1967) further states that social responsibility emphasizes whole social effects rather than individual benefits and CSR needs to be matched with social power. CSR makes progress by the recognition of the relationship between business management and social responsibilities.

The definitions of CSR experienced significant growth in the 1970s. One of the major contributions was made by Johnson (1971), who explored a variety of opinions of CSR. Johnson defines CSR as the following:

> *A socially responsible firm is one whose managerial staff balances a multiplicity of interests. Instead of striving only for larger profits for its stockholders, a responsible enterprise also takes into account employees, suppliers, dealers, local communities, and the nation. (p.50)*

Johnson implies the possibility of a stakeholder approach by referring to a multiplicity of interests groups. According to Johnson, businesses occur within a social culture power through social standards and business affairs to reflect some particular situations and finally achieve some social economic purposes.

In the 1980s, CSR had significant developments in some alternative themes. For example, CSR, business ethics, and stakeholder theory had dramatic growth during that period. Jones (1980) argues that CSR is the voluntary obligation to societal groups, including shareholders, employees, customers, and suppliers, and this obligation goes beyond corporation profits. The obligation is a voluntary behavior and not only a responsibility to shareholders but also to social groups. Jones' contribution is the emphasis on CSR as a process. Following Jones' work, Carroll (1983) argues that CSR relates to economic profits, consistency with law, ethical principles, and social supports. An explanation of the relationship between CSR and benefits was provided by Aupperle et al. (1985). This research was an early attempt to use theoretical literature as a measure of CSR. Their study confirms the succession of CSR's four parts in the following sequence: economic, legal, ethical, and voluntary components. According to Aupperle et al., 'economic' is concerned with business performance, while the other three components represent relevance to society. They provide a proposal to assess CSR through the attention paid to the latter three components compared to the economic component.

During the 1990s, instead of concentrating on the definition of CSR, corporate social performance, legitimacy theory, stakeholder theory, and institutional theory are the major themes. Wood (1991) combined Carroll's CSR model (1991) and Wartick and Cochran's (1985) CSP model to build one comprehensive model. Wood's model supports CSR with a broader meaning and more articulated explanation than earlier models. The unique characteristic of Wood's model is that social issues should be recognized under the outcome of company performance.

During the 2000s, research would associate sustainability with CSR. According to Joseph (2012), company operations can have an effect on sustainability, social response and economic decisions. As Gray (2010) stated, companies should seek a balance between profits, goals, and public interest through meeting social and environmental responsibilities. Most CSR literature published in the 2000s supported the position that CSR disclosure plays an essential role in accounting reporting in contemporary society. Companies will be fully assessed by their stakeholders. At the same time, CSR's importance could be presented in social accounting reporting.

Recently, some new elements were added to CSR by professionals and business practitioners. For corporate social irresponsibility, Schwartz (2013) states three key elements of illegal or unethical activity within and on behalf of organizations, and argues that such activity could be minimized through developing and sustaining an ethical corporate culture. Windsor (2013) states that progress toward a more general normative theory of corporate social responsibility and irresponsibility occurs through an emerging virtuous cycle of interaction between conceptualization and institutionalization processes. Lin-Hi and Müller (2013) emphasize corporate responsibility for "avoiding bad" to prevent corporate social irresponsibility, besides "doing good", by elaborating on the relevance of "avoiding bad" for the perceived social responsibility of companies. Herzig and Moon (2013) explore the UK financial sector's social responsibility and irresponsibility in the context of the financial crisis.

Theories Affecting CSR

The following paragraphs briefly examine three organizational theories that impact CSR. Specifically, agency theory, stakeholder theory, and legitimacy theory are examined.

Agency Theory: Hill and Jones (1992) viewed CSR as an important sign of an agency issue within the corporate world. Recently, Friedman (2007) supports a similar view, pointing out that a corporation has only one social responsibility, that of using business resources and engaging in business activities to efficiently increase profits within an open competition in society. Friedman further states that shareholders own companies and, thus, profits should belong to shareholders. Managers are agents for shareholders and have an obligation to maximize shareholders' wealth. However, Friedman argues that companies have wider objectives beyond profitability targets and good companies should satisfy their social responsibilities. The pursuit of profits alone, without ethical and responsible restrictions, could produce environment degradation, excessive exploitation, and resource inequality.

Stakeholder Theory: Stakeholder theory is a managerial strategy theory that is related to organization management and moral principles (Phillips et al., 2003). A significant contributor to stakeholder theory is Freeman (1984), who supported the traditional concept of stakeholders as individuals or groups who can affect or can be affected by corporate purposes and business activities. Stakeholders can be stockholders, employees, managers, customers, suppliers and the local community. The language of 'can affect or can be affected by' probably includes individuals or groups both inside and outside companies. Following the development of corporate management, the definition of stakeholders has changed and been adapted in Freeman's recent literature. In order to adapt the development of CSR to continuously changing circumstances, Freeman (2004) modifies the traditional definition of stakeholders to mean those individuals or groups who are vital for the existence and prospect of the corporation. The stakeholders themselves and their behaviors should also be taken into account. Stakeholders can take actions to resist the adverse business activities to protect their benefits.

Stakeholder theory is concerned with interaction among particular stakeholders. There are three aspects involved in stakeholder theory: the normative aspect, instrumental aspect, and descriptive aspect. First, the normative aspect is concerned with how managers should operate to achieve the purposes of the corporation based on ethical and moral principles (Friedman and Miles, 2006). Second, the instrumental aspect concerns the issue of how managers should behave if they intend to be in favor of their own benefits or profits. Contract is the focus. The corporation can obtain increased interests when it builds good relationships with stakeholders based on mutual trust and cooperation (Jones, 1995), and several strategic implications are suggested. CSR should be viewed as the strategic investment and reputation building or maintenance. In other words, it would be helpful and beneficial to the success of the corporation if managers act responsibly (Fontaine et al., 2006). The third aspect of stakeholder theory, the descriptive aspect, is related to how managers and stakeholders act and how they treat their relationship between roles and actions.

According to Morhardt et al. (2002), the focus of stakeholder theory is concerned with two questions: 'what is the objective of the corporation' and 'what responsibility does management have to stakeholders'. The first question addresses the issue of how companies create shared value and management supports benefits to its various stakeholders. The second question is related to what relationships need to be formed by management with stakeholders to achieve their intended objectives. The fundamental issue with stakeholder theory is that management should cultivate relationships, encourage stakeholders, and develop communities where people make efforts to achieve the corporation's promises (Morhardt et al., 2002). Stakeholder theory takes the firm as an entity with various practitioners to accomplish multiple purposes (Donaldson and Preston, 1995). As expected, there are and will be various conflicts in stakeholders' interests and benefits. However, management should resolve these issues through fulfilling its social responsibility.

Legitimacy Theory: A third theory that bears on CSR is legitimacy theory. Legitimacy theory concerns the corporation's interaction with society as a whole, while stakeholder theory is the interaction with particular stakeholders. Legitimacy theory is considered to be a system oriented theory (Deegan et al., 2002). As Gray et al. (1996) indicated, legitimacy theory is concerned with the role of disclosure of the relationships between firms, individuals, and groups. The corporation is considered to be affected by and in turn have an effect on society and the environment. Legitimacy theory indicates that the corporation is not assumed to have any particular right to resources. A similar view is presented by Mathews (1993), who argues that there is a social contract existing within companies and society. Society supports firms with the legal authority to own and use natural resources and to employ staff. Firms make use of societal resources to yield goods or services and waste to the public and environment. However, firms do not have inherent rights to obtain those benefits or profits. If firms intend to exist in society, society would expect super benefits that can exceed the costs to society. Consequently, the term 'legitimacy' may be connected with 'social contract'. That is to say, within legitimacy theory, it is assumed that firms' existence would be threatened if they violate their social contracts. Lindblom (1994) states that if society perceives that a corporation's activities are unacceptable and illegal, society will withdraw the contract to continue its survival. Failure to behave consistent with the social contract is considered to damage the ongoing operations of the corporation.

According to Dowling and Pfeffer (1975), companies attempt to build congruence between social values related to or implied by their activities and the acceptable behaviors in the larger social system. Corporation legitimacy exists where these two value systems are congruent. Three things can contribute to companies becoming legitimate. First, firms can adapt their products, objectives, and methods of management in accord with the prevailing definition of legitimacy. Second, firms can make an attempt to alter the definition of social legitimacy in order to conform to the companies' present activities, products, and values. Finally, the firms can make an attempt again through communication, to be recognized with symbols, values, or systems that have a strong base of social legitimacy.

Legitimacy is assumed when resources on which a firm is dependent exist. Therefore, it is suggested that if the particular resource is essential to a corporation's survival, firms should pursue some strategies, such as targeted disclosures and cooperation with other groups, to guarantee the resource (Deegan et al., 2002). Information is disclosed for some strategic reasons rather than on the basis of any responsibilities. By contrast, Cormier and Gordon (2001) find evidence to support the position that social responsibility disclosures to some particular stakeholders are more significant and important than other groups.

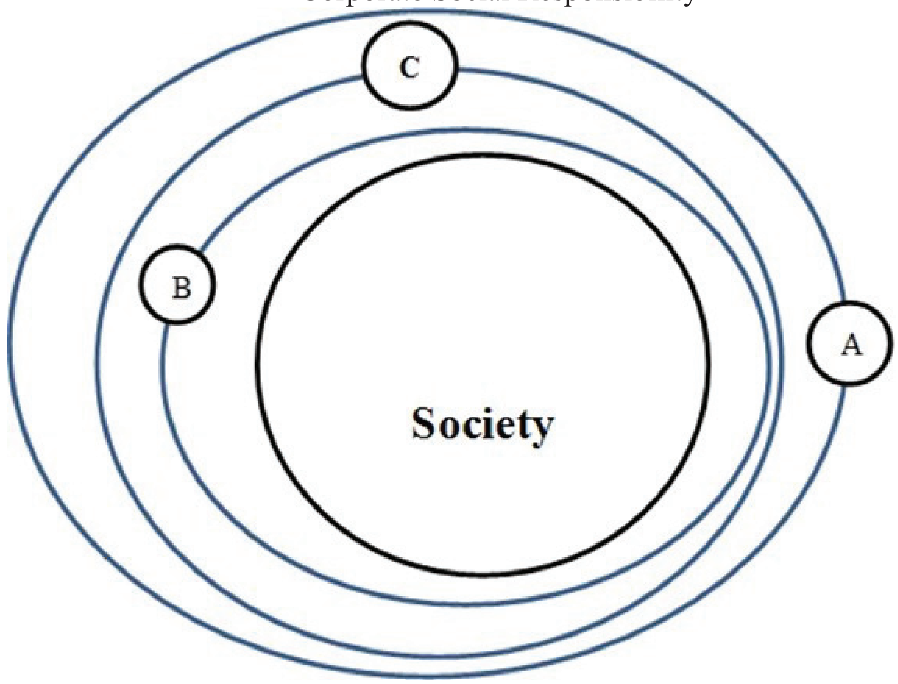
According to legitimacy theory, disclosures can be made to indicate that the corporation is in accordance with society's expectations, or alternatively, disclosures may be made to alter community expectations. To this point, it is believed that the media has an important effect on society's concerns for particular issues. There is evidence to show that managers believe that powerful media shapes community expectations.

Definition of CSR

As evident in the previous paragraphs, there have been several significant attempts to define CSR and there are alternate organizational theories that could affect the definition. Additionally, as the interests of society change over time, the relative importance of specific CSR elements may shift. For example, demonstrating its interest in the welfare of labor, the World Business Council for Sustainable Development (2000) defines CSR as "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large". Similarly, many authors, such as Lyon and Maxwell (2008) have studied the relationship of CSR to environmental issues.

Complicating the endeavor of developing a working definition of CSR are the meanings of the three individual words – corporate – social – responsibility. For example, does corporate simply mean "relating to corporations" or is it much broader. We suggest that corporate means "one person or a group of people working together to accomplish a task". This person or group could be working in any form of business, corporation or non-corporation. The second term, social, seems to be the central term causing most of the confusion about CSR. Sometimes social is equated with stockholders, other times social is related to employees, the environment, customers, and others. We suggest a return to basics where social is simply defined as relating to the welfare of human beings. The third term, responsibility, refers to accountability or duty. As a result, we offer the following concise definition of CSR: Corporate social responsibility is the duty of a company to strive to improve the welfare of society. Visually, as shown in Figure 1, this definition may be compared somewhat to our solar system, in which the sun represents society and a planet represents a specific company. As the company revolves around society, it maintains its existence (represented as a stable orbit) by balancing the many stresses placed on it by various elements in society. As society's interests shift to specific issues of concern (represented as society flares), such as labor reform or environmental concerns, increased pressures are exerted on the company. It is up to management to engage in practices that resolve the concerns (flares) and maintain the company's stability (proper orbit).

Figure 1
Corporate Social Responsibility



A, B and C represent business entities, such as corporations, partnerships, and individuals.

III. RESEARCH METHODOLOGY

We discuss the reasons for a corporation to satisfy its social responsibility and we examine CSR reporting in UK firms through case studies. In a case study, the researcher observes the subject within a particular environment, reads relevant literature, and thinks about the implications related to the case. This contrasts with an experiment in the laboratory, which isolates a phenomenon from its environment and focuses on a limited number of variables (Zitzler, 1999). Both qualitative and quantitative analysis of information may be involved in case studies. Some longitudinal studies of individual subjects are dependent on qualitative data that support descriptive evidence. On the other hand, data can be obtained from responses of individual subjects. As Phan (2003) points out, essential analyses or conclusions usually are provided in case studies. Case studies are not only beneficial in the exploration of data in the real environment, but they also can help researchers explain the roots of real situations or events that may not be captured through experiments or survey research.

Reasons for the Adoption of CSR

CSR is not only a duty needing to be fulfilled, but also can bring about great benefits for companies and stakeholders. First, CSR is considered a form of investment and should be demanded by consumers and other stakeholders, such as investors, suppliers, employees, and the community. According to McWilliams and Siegel (2001), CSR investments should reflect the corporation's products with socially responsible attributes. Companies may use a particular trademark or logo which can convey information to consumers that the firm is concerned with certain specific issues. These behaviors may attract a great number of faithful customers. CSR investments may also improve the firm's reputation for quality goods or reliable services (Brammer and Pavelin, 2004). High reputation building and maintenance are important components of corporate strategy. It is considered that if a corporation actively supports CSR, its products or services are of higher quality. As Brammer and Pavelin (2004) state, there is strong evidence that CSR attributes are of great importance.

Second, CSR is a differentiation strategy (McWilliams and Siegel, 2001). The variation of products or services is beneficial to attract demand or to charge a premium price for an existing product or service. Companies adopt a differentiation strategy so as to pursue multiple diversities. For example, many companies distinguish their products or services through generating unique flavors, using high quality materials, supporting the local community, and promoting diversity. CSR is a useful approach to accomplish differentiation because it requires managers to simultaneously fulfill responsibilities for stakeholders and to achieve product diversities. Significant investment in research and development is needed to create differentiation of products through the use of CSR resources, such as recycled products or environmental products. This investment can also simultaneously have a close connection with CSR procedures and production innovations, which is beneficial to increase production value and to increase customers' preferences (Hancock, 2005). For example, the 'organic' label conveys to customers information of the use of innovative organic approaches, which simultaneously involve relevant CSR manners and production innovations. This example illustrates the point that products should be produced with socially reliable attributes and in a socially responsible manner. This can increase the value of production.

A benefit of CSR reporting is that it can make contributions to further corporate prospects. Cooper (2003) states that the adoption of CSR reporting not only can effectively improve a firm's reputation but also may be useful to convey the information of corporate value or corporate culture to customers. CSR reports can be viewed as a form of explanation to stakeholders about corporate values and corporate behaviors. Cooper (2003) concludes that although the benefits of CSR may be more subtle and may be of no immediately effective function, there is no doubt that the advantages of CSR will be effective to a corporation's future development and success in the long run.

IV. ANALYSIS

CSR Influences in the UK

External force from various powerful organizations, institutions, and stakeholder groups can also contribute to the adoption of CSR. In March 2000, the significance of CSR reports was emphasized by the British government's CSR minister. The minister's responsibility was to cooperate with companies and governments to coordinate and promote CSR policies. The British Government takes CSR seriously and a number of major programs have been involved in business activities, such as independent auditing providers, partnership with companies, and building ethical principles of business practice.

Three main objectives will be focused on by the UK government to effectively implement CSR. The CSR Department of Trade and Industry will promote good business activities, improve work to illustrate business cases, and encourage international actions and cooperation with national governments on the subject of CSR. The suggestions in the European Union's (EU) Fifth Action Program on the Environment addressed in the report 'Towards Sustainability' (1992) have made contributions to the current focus on CSR. This report appeals to companies to provide overall information covered in their social accounting reporting. Details of environmental policies, business activities related to the environment, as well as the impacts and expenses related to environmental programs should be completely demonstrated in their annual social accounting reports. At the same time, environmental risks and future environmental expenses also should be taken into consideration.

The Environmental Management and Audit Scheme of the EU promotes companies to consider issues about the purposes and management strategies related to environmental performance, to provide environmental audit reports, and to demonstrate commitments to implement actions to satisfy their socially responsible objectives (Idowu and Towler, 2004). The Institute of Chartered Accountants in England and Wales Guidelines require companies to offer information on their environmental purposes and to reliably measure their CSR performance.

The Association of British Insurers establishes guidelines and standards on the disclosures of social, environmental, and ethical issues which investors expect to be embedded in social accounting reports. Listed companies that fail to be consistent with these standards will encounter resistance in attaining investors' votes to support their reports and may experience investors' reduced interest in additional investments. Research shows that investors prefer to invest in those products or services associated with ethical concerns rather than those products or services not associated with ethical practices (Hancock, 2005).

Standards for Measurement of CSR

Account Ability Standards: Account Ability (AA) is a leading global standard-setting organization supporting essential and innovative solutions to the most critical challenges in corporate responsibility and sustainable development (Adams and Evans, 2004). AA principles were established in England in 1995, aimed at providing help to companies, non-profit organizations, and governments to merge ethical, environmental, social responsibility, and governance accountability into their management strategies. The central objective of AA is to provide sophisticated research, widely recognized principles, and strategic advisory services to convey high-quality solutions to its clients. The AA1000 framework supports the principles and standards for social accounting and independent auditing reporting.

In order to achieve its central purpose, AA assists its clients to promote business performance and construct sustainable competitive advantages through building open, fair, transparent, and effective proposals to stakeholder practices. AA intends to develop and promote responsible fair competitiveness in companies, organizations, countries, and regions. Moreover, AA not only works to develop effectively collaborative governance strategies for partnerships and multilateral companies that are delivering innovation and value, but also makes efforts to set and popularize sustainability standards to support companies, non-profit organizations, and national governments activities in combination with ethical norms, environmental strategies, social responsibility, and governance accountability (AA1000, 2003). AA closely cooperates with global companies and standard-setters to provide useful and helpful information to organizations to assist them in making economic or management decisions and encourages them to make their business activities transparent and responsible.

At the core of AA is the series of AA1000 Standards based on the principles of inclusivity, materiality, and responsiveness. AA's 1000 series consists of principle-based standards to make companies become more accountable, responsible, and sustainable. These standards can have a significant impact on governance, business activities, and organizational strategies, as well as provide operational guidelines on sustainability assurance and business practitioners.

The AA1000 standards are designed for the integrated blueprints required by the low carbon, environmental friendly, and green economy, and for supporting high quality social reports and assurance. These standards are established and developed through a multi-stakeholder consultation process, which guarantees they are written for those they impact rather than those who may gain from them. Standards are used by many companies and organizations, such as multinational businesses, small and medium firms, governments, and civil societies. Overall, AA standards are composed of three main categories: the AA1000 Principles Standard (AA1000APS), the AA1000 Assurance Standard (AA1000AS), and the AA1000 Stakeholder Engagement Standard (AA1000SES).

AA1000APS outlines a framework for companies and organizations to recognize priorities and respond to their sustainability challenges. AA1000AS supports a methodology for assurance practitioners to evaluate corporation behaviors and actions and whether they comply with the AA Principles. Independent auditing providers should ensure their auditing reports are transparent, fair, accurate, and non-biased. The purpose of AA1000SES is to provide a framework to assist businesses or organizations to ensure that stakeholder engagement processes are purpose driven, robust and deliver results. These standards are involved in various areas to ensure corporation business activities are responsible and accountable. These standards were initiated and developed in England. Thus, they are appropriate and suitable to measure and evaluate CSR of UK companies.

Good Corporation: Good Corporation was established in 2000 by former practitioners and directors of Klynveld Peat Marwick Goerdeler Consulting Companies. The value philosophy of Good Corporation is to demonstrate that when a firm is reputable it becomes significant in winning new contracts, keeping clients, satisfying regulators' expectations, as well as the expectations of employees and wider society. The central purpose of Good Corporation is to assist its clients to protect and enhance the good reputation of their companies. At the same time, it aims to help its clients provide pertinent and high quality solutions to issues of focus to stakeholders.

Good Corporation intends to help corporate business activities comply with moral norms and ethical behaviors, which are essential to protect companies' reputations. Moreover, Good Corporation plays an important role in practical monitoring and measuring business operations, recognizing issues areas, and providing practical, useful solutions. More than 350 evaluations over 40 countries have been conducted by Good Corporation since 2000. It works for twenty FTSE100 companies and some of the world's leading enterprises.

Social Accountability 8000 Standards: The Social Accountability 8000 Standards (SA8000 Standards) were published in October 1997 according to the International Labor Organization (ILO) convention, the universal declaration of human rights and the United Nations (UN) convention on the rights of children. It is one of the world's first sets of auditable ethics international standards based on conventions of the ILO, UN, and national laws, which are suitable for appropriate workplaces, across all industrial sectors. The standards aim to ensure that suppliers offer products in accord with social responsibility standards. The SA8000 standards are corporate codes to create common principles for measuring social responsibilities. Many companies have adopted policies and procedures that protect the basic human rights of workers in support of SA8000 standards. The principles of SA8000 work towards the following: a prohibition against child labor, forced, and compulsory working, the protection of labors' health and safety, the respect of freedom of association and rights to collective bargaining, the elimination of discrimination, a guarantee of reasonable working hours, respect of remuneration, and no harsh or inhumane treatment. These standards have a close cooperation with the Account Ability Standards and Good Corporation principles to guarantee the implementation of CSR activities.

Examples of CSR Reporting in the UK

The FTSE-100 companies are the largest market capitalized companies in the UK. According to Brooks and Garrett (2010), approximately 80 percent of FTSE-100 companies are reporting relevant information on their environmental performance and social impacts. At the same time, 61 percent of small and medium sized enterprises have been involved in supporting local community issues. By providing relevant CSR reports, companies show they recognize their social responsibilities and convey to their stakeholders what contributions to society the companies have made in the past and will make in the future. In a recent survey by the Department of Trade and Industry, there were 45 global enterprises operating in the EU. More than 90 percent of these enterprises showed relevant data in their annual social accounting reports on their missions, visions and values, climate of working places, community engagement, the development of local economy, market atmosphere, and environmental impacts.

Tesco: Tesco ranks #1 in the Forbes list of the world's 2012 largest food retailers. It is the 6th largest public company in the UK and the 105th largest in the world. Based on sales, Tesco's world ranking is #59. As evident by its 33 page Corporate Responsibility Review 2012, Tesco takes CSR seriously. Tesco uses a seven part responsibility strategy to set goals to ensure the company delivers long-term sustainable growth. Part five of the seven part strategy is "To put our responsibilities to the communities we serve at the heart of what we do." Tesco's corporate responsibility strategy is reflected in five pillars called community promises: (1) buying and selling products responsibly, (2) caring for the environment, (3) actively supporting local communities, (4) providing customers with healthy choices, and (5) creating good jobs and careers. To achieve its responsibility goals, Tesco manages its business using a balanced scorecard consisting of five segments: community, operations, people, finance, and customer. Specifically within the community segment, Tesco's management approach consists of four elements: (1) review all stakeholder research conducted during the year, (2) develop community plans, (3) set targets for key performance indicators, and (4) report – monitor progress against targets.

Tesco's endeavors to be responsible to the community are reflected in the following examples: providing nutritional labels on food; offering more healthy food brands; sponsoring athletic training and exercise events; helping customers reduce their carbon footprints; sponsoring tree planting events; sponsoring environmental education programs; reducing carbon emissions from Tesco buildings and delivery equipment; streamlining supply chains; encouraging and supporting ethical treatment of suppliers' workers; educating young people on how to manage their finances; donating time and resources to local charities; and assisting recovery from natural disasters.

Tesco maintains two committees that are directly relevant to its CSR programs. Tesco's Sustainability Committee is composed of senior executives from various Tesco regions and business units. On average, the committee meets four times annually to develop responsibility strategy and review progress toward achieving such targets. Tesco's Corporate Responsibility Committee is composed of four non-executives whose function is to define and oversee corporate and social obligations.

Barclays: Barclays ranks #44 in the Forbes list of the world's 2012 largest major banks. It is the 25th largest public company in the UK. Based on sales, Barclays' world ranking is #157. Barclays' 98 pages 2011 Citizenship Report describes in detail the company's interests in social responsibility. The 2011 report marks the 12th year that Barclays reported on its environmental and social performance. As Chief Executive Bob Diamond stated" Citizenship is one of Barclays' four execution priorities (capital, returns, income growth, and citizenship) and is integral to our business. Three pillars underpin our citizenship strategy. In the first instance, Citizenship is about contributing to growth in the real economy, creating jobs and supporting sustainable growth. Second, it is about the way we do business, putting our customers' interests at the heart of what we do, and managing our impact responsibly. Third, it is about supporting our communities through investment programs and the direct efforts of our employees. As a testament to this commitment, our 2015 Citizenship Plan will launch later this year and will outline our key targets and ambitions."

Barclays' endeavors to be responsible to the community are reflected in the following examples: a total of £63.5m was invested in communities around the world, two million people in 33 countries were supported through Barclays' community investment activities, nearly half of Barclays' workforce supported community activity through volunteering, fundraising and regular giving; programs were provided to strengthen financial capabilities of the disadvantaged and young people; programs were offered to help young people get the skills they need to set up their own businesses; programs were developed to encourage young people to continue their education; and a Climate Action Program is maintained to reduce carbon emissions.

In 2011, Barclays created a Board Citizenship Committee as a formal sub-committee of the Barclays PLC Board of Directors. The Board Citizenship Committee is chaired by Barclays chairman and includes two non-executive Directors. The Board meets at least twice annually to review overall Citizenship strategy and policies. The Barclays Executive Committee is responsible for managing the delivery of the Citizenship agenda. Specific aspects of the Citizenship agenda are overseen by various management committees. For example, diversity and inclusion issues are managed by an Executive Diversity Group. Progress toward Citizenship priorities are reviewed and assessed regularly by both the Board Citizenship Committee and the Executive Committee. In September 2012, Barclays issued its 2015 Citizenship Plan describing how it intends to contribute to sustainable economic growth in ways that create value for society and are of the highest standards of integrity.

Royal Bank of Scotland: The Royal Bank of Scotland (RBS) ranks #45 in the Forbes list of the world's 2012 largest major banks. It is the 26th largest public company in the UK. Based on sales, the Royal Bank of Scotland's world ranking is #217. According to RBS Sustainability Report 2012 "Good citizenship is about doing business in a responsible way that recognizes our wider influence as a company…. Being a good corporate citizen also means playing a positive role in society and contributing financial and volunteer support to the communities we operate in". At RBS, sustainability is governed by the Group Sustainability Committee, which was created in 2009. This Committee oversees all RBS sustainability issues, is chaired by the RBS senior independent director, and includes membership by non-executive directors and representatives of all key business divisions. The Committee is one of six committees acting under authority of the RBS Group Board.

Examples of the RBS efforts to be responsible to the community are as follows: being the UK's largest taxpayer in 2011; enhancing due diligence of customers in power generation, gambling, defense, oil and gas, mining and metals, and forestry sectors to minimize environmental, social and ethical risks; upholding and respecting human rights by adhering to the United Nations Global Compact; following an Ethical Code for Suppliers committed to engaging only with suppliers who uphold the same high human rights standard as RBS; developing a diverse and inclusive supply chain; investing more than $14 million in 2012 through charitable grants and community sponsorships to support more than 1,000 non-profit organizations that fight hunger, provide shelter, strengthen communities and teach money management in the communities where colleagues live and work; introducing Citizens Helping Citizens, a comprehensive community program focused on strengthening communities through charitable giving, sponsorships and colleague volunteerism; helping disadvantaged children and young people in a variety of ways, notably, almost 4,500 employees volunteered approximately 45,000 hours in 2012; supporting the transition to a sustainable low carbon economy through the provision of tailored finance to help customers become more energy efficient or to generate their own energy through renewable technologies; and striving to be environmentally efficient by cutting usage of energy, paper, water, and travel emissions.

V. SUMMARY

The meaning of CSR and theories relevant to its development, agency theory, stakeholder theory, and legitimacy theory, have been reviewed in this paper and examples of CSR reporting by three UK companies have been presented. CSR has taken an increasingly significant place in corporate actions. CSR activities embed social concerns into management practices, such as adopting advanced human resource management strategies, developing employment opportunities, reaching higher levels of environmental standards through recycling and pollution abatement, and promoting the implementation of community organizational programs. Companies have recognized that CSR involvement can assist them to achieve potential economic benefits and high social reputations. However, there are major obstacles to CSR. Corporate principles and standards, regulatory frameworks, and various stakeholders' demands for CSR are diverse across nations, regions, and business fields. Corporate executives and managers bear stressful pressure from employees, customers, suppliers, and community groups, as well as government and non-governmental organizations, to improve their involvement in CSR.

CSR reporting ranges from the quite sophisticated to a brief mention in annual social accounting reports. The company examples presented, Tesco, Barclays, and The Royal Bank of Scotland, are examples of more sophisticated CSR reporting. The UK government has played an essential role in supporting companies to recognize that their socially responsible behaviors will be valued by stakeholders.

Corporate managers have struggled with the issues of companies' responsibilities to society. In fact, there is no explicit consensus on a definition for CSR. We offer the following simpler definition of CSR which may be viewed as a return to basics: Corporate social responsibility is the duty of business to strive to improve the welfare of society. Visually, this definition may be compared to our solar system, in which the sun represents society and a planet represents a specific company. Providing a clear, working definition of CSR with common terminology will assist in the determination of the significance of corporate CSR and help companies identify relevant CSR initiatives.

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PERSPECTIVES ON UNIVERSIAL HEALTH INSURANCE AND COVERAGE OF TRADITIONAL MEDICINE: THE CASE OF TAIWAN

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ABSTRACT

Inclusion of traditional medical therapies is one consideration in determining the range of services to be covered under universal health insurance. Having introduced a single-payer universal health insurance system in the 1990s that covers specified traditional therapies, Taiwan represents a distinctive setting in which to learn about the experiences with traditional therapies. This paper examines the perceptions of health care professionals and insured individuals in Taiwan about their satisfaction with the Taiwanese national health insurance (NHI) system in regards to the coverage of traditional Chinese medicine (TCM). In-person interviews were conducted with healthcare professionals and a survey was administered to insured individuals to understand the perceived satisfaction with TCM coverage by the NHI system. Results show that perceived satisfaction with TCM is high in the NHI system in Taiwan, which is consistent with previous research. Perceived belief in TCM is seen as being related to perceived satisfaction with NHI. Satisfaction with TCM reimbursement and choice of TCM treatments are associated with overall satisfaction with NHI. The results, combined with previous literature, suggest that the universal health system designed with consent of the populace in mind may lead to better satisfaction with the health system post-development. Practical suggestions based on the experiences in Taiwan could be useful to stakeholders in other countries and economies that are considering the integration of traditional medicines into their universal health insurance system.

INTRODUCTION

The World Health Organization (2010) has drawn attention to the goal of universal health coverage to ensure that individuals have access to health services regardless of financial abilities to pay for care. The question about inclusion of coverage for traditional and alternative medical therapies is one consideration when planning and evaluating the range of services to be covered by the universal health insurance system. The purpose of this paper is to examine the Taiwanese national health insurance system in regards to perceptions about its coverage of traditional Chinese medicine therapies. Through interviews with healthcare professionals and surveys of covered individuals, the results of the study provide insight for health care managers, policymakers, providers and insurers who may be considering the inclusion of traditional medicine or complementary and alternative medicines into their universal health insurance system. The topic is relevant and timely for healthcare today because the utilization of traditional medicine as well as complementary and alternative medicines is prevalent in many regions of the world (e.g., Bishop, Yardley & Lewith, 2007; Peltzer, 2009) and interest in alternative therapies is growing among individuals in many western countries (e.g., Chen, et al., 2007; Ni, Simile & Hardy 2002; Nahin, Barnes, Stussman & Bloom, 2009).

The path to the establishment of universal health coverage commonly involves a process driven by social forces calling for general access to health care and growth in health spending (Savedoff, de Ferranti, Smith & Fan, 2013). Taiwan's implementation of universal health insurance is illustrative of the process. Taiwan, an island located in eastern Asia off the southeastern coast of China, has experienced rapid economic growth and development over the past sixty years. By the beginning of the 21st century Taiwan had established a free enterprise economy and ranks thirteenth among the most competitive advanced economies in the world (Schwab, 2012). Economic prosperity has led to Taiwan's transformation of social and health programs, including significant reform of the health care insurance system. Taiwan's population is estimated at more than twenty-three million with the life expectancy at birth averaging 78.48 years (The World Factbook, 2012). Approximately 99 percent of Taiwanese citizens are enrolled in the National Health Insurance (henceforth, NHI) system (Bureau of National Health Insurance, 2012).

Taiwan introduced and implemented the NHI system in 1995 in order to provide comprehensive health coverage for Taiwanese citizens. At that time the NHI system was designed to consolidate separate insurance arrangements that covered only a percentage of the total population with the goal to provide health care coverage for all citizens and improve efficiency of overall health care delivery (Wu, Majeed & Kuo, 2010). In instituting the universal insurance system the Taiwanese government studied the health systems of other advanced countries and designed a single-payer system in which individuals maintain free choice of providers and hospitals (Cheng, 2003). The NHI system provides compulsory comprehensive benefit coverage including preventative and medical services, inpatient and outpatient services, prescription drugs, dental services and traditional medicine therapies. The NHI has allocated resources and expenditures to cover specified traditional Chinese medicine (henceforth, TCM) treatments as a category of medical services under the universal health system (Shih, Lew-Ting, Chang & Kuo, 2008).

Having accumulated almost two decades of experiences with the universal healthcare system, Taiwan represents a distinctive setting and reference point to better understand TCM in the context of the universal healthcare system. The primary focus of this paper is to learn more about the perceived satisfaction with the coverage of TCM as a component of the NHI system in Taiwan. We report on some of the perceived benefits, challenges and lessons for incorporating TCM coverage within the universal healthcare system. With the main focus of our paper on perceptions of TCM coverage in the healthcare system in Taiwan, we first provide a brief review of Taiwan's NHI system followed by discussion of the general characteristics of TCM covered by the NHI system. We then present the research questions for the study, methodology and results. We conclude with discussion of results, limitations and implications for future research.

Our study extends past research on understanding TCM within the Taiwanese healthcare system. We examine the perceptions of satisfaction with TCM in the healthcare system by using a combination of qualitative and quantitative data. Lessons about the perceptions of Taiwan's implementation of TCM coverage in its national health system have implications for the Taiwanese national health system and other universal delivery systems that may be considering coverage of traditional or alternative treatments. For example, the interest in TCM, as well as other complementary and alternative medicines, is growing in many western countries (e.g., Chen, et al., 2007). Ni, Simile and Hardy (2002) reported an estimated 28.9 percent of adults in the United States used at least one alternative treatment in the year of their study. Nahin, Barnes, Stussman and Bloom (2009) reported on statistics from the 2007 National Health Interview Survey (NHIS) showing approximately 38 percent of adults in the United States were using complementary and alternative medicine (CAM). In addition, adults in the United States spent $33.9 billion out-of-pocket on visits to complementary and alternative medicine (CAM) practitioners and purchases of CAM products, classes, and materials. The NHIS reported approximately 354 million visits to CAM practitioners in the 2007 survey. Elsewhere the World Health Organization (WHO) has long promoted the integration of traditional and alternative medicines with western medicine therapies into overall health delivery systems (Cheung, 2011; Chi, 1994). According to Cheung (2011), 60 to 75 percent of the populations of Taiwan, Japan, South Korea and Singapore have been reported to use traditional medicine at least once a year. Thus, as countries and economies contemplate alternative coverage options for their medical delivery systems, Taiwan's experiences with incorporating TCM into the national healthcare system may provide useful lessons for universal insurance systems as well as private-pay insurance arrangements that are considering coverage of some traditional Chinese therapies.

LITERATURE REVIEW

Overview of the Taiwanese Health Insurance System

The Taiwanese government adopted the universal NHI system in March 1995. Before NHI was implemented approximately 57 percent of the population was covered through various public insurance schemes such as labor insurance, government employee insurance, farmers insurance and low-income household insurance (Cheng, 2003; Lu & Chiang, 2011; Lu & Hsiao, 2003). The NHI was established to consolidate insurance programs into a single system, increase the breadth of coverage to ensure that individuals receive adequate care and provide efficiency in expenditures (Wu et al., 2010). The Taiwanese NHI system has been developed with a number of key features. The NHI is administered by the Taiwanese government through the Department of Health. The universal coverage rate is about 99 percent of the population (Bureau of National Health Insurance, 2012) and is compulsory for citizens and residents. The single payer system is administered by the government and providers contract with NHI for reimbursement of services that are provided. There is a premium and co-payment for the coverage, adjusted with need-based subsidies. Lu and Hsiao (2003) have reported on several benefits of the NHI system and found that the single-payer system provides ease of access. It has allowed Taiwan to manage health care expenditures and cover the previously uninsured. In addition, the NHI system enables equal access to healthcare services and provides financial risk protection for covered individuals.

In another overview of the NHI system Wu, Majeed, and Kuo (2010) characterized the national health care system as providing good accessibility for citizens, comprehensive population coverage and low costs resulting from the single insurer system. The program provides compulsory comprehensive benefit coverage including preventative and medical services, inpatient and outpatient services, prescription drugs, dental services and TCM therapies. Public satisfaction ratings have shown a high level of satisfaction with 80.4 percent of the population overall satisfied with NHI in 2011 (Bureau of National Health Insurance, 2012).

The Taiwanese single-payer insurance framework integrates the relationships among the insurer, provider and insured. The NHI system is financed through contributions from employers and employees (insured) that may vary for different income groups and occupations. Every Taiwanese citizen with official residency and all foreign nationals living in Taiwan with an Alien Resident Certificate (ARC) are required to enroll in the NHI program. NHI provides lifetime coverage, except for persons who lose insurance eligibility such as persons who give up Taiwan citizenship, move abroad or allow the ARC to expire. Covered individuals have an NHI issued IC card (integrated circuit or smart card) that is presented to providers for medical services. Each IC card provides electronic medical information about the individual's identity, medical history and health records. Whenever the insured patient sees a provider for medical services, the provider accesses medical information stored on the card for current details about the patient's medications and treatments. The provider uses the electronic system to bill the NHI (insurer) for claims related to the services provided and reimbursement is sent electronically to the providers from the NHI (Bureau of National Health Insurance, 2012).

Chen and Cheng (2010) recognized the importance of considering patient perceptions in evaluating the single-payer system in Taiwan. The NHI system does not have a referral mechanism or gatekeeper procedure; thus patients can pursue inpatient or outpatient care based on their individual preferences. In another study Cheng, Yang and Chiang (2003) examined patient satisfaction with hospital services in Taiwan demonstrating that interpersonal skills are influential on patient satisfaction and are more influential than clinical competence in some disease categories. Additionally, personal characteristics such as age, gender, education and family recommendations have been examined for association with patient satisfaction in the NHI system (e.g., Cheng, 2003; Young, Meterko & Desai, 2000).

Characteristics of Traditional Chinese Medicine

TCM has been regarded as an important therapeutic system for centuries in East Asia and mainland China (Jingfeng, 1988). It is common in Chinese populations throughout the East Asia region that TCM is practiced alongside western medicine (Chi, Lee, Lai, Chen, Chang, & Chen, 1996). The World Health Organization (WHO) has promoted the integration of traditional medicine with western medicine into an overall delivery system (Cheung, 2011; Chi, 1994). One's health in TCM is considered as harmony between the forces of yin and yang with regard to the body and its environment, while illness is considered an imbalance of the two forces. Qi is the source of life being defined as the circulation of energy in the body. TCM practitioners focus on the interruption of qi as the basis for diagnosis, treatment and prevention of illnesses (Chen, 2001) and use a system of holistic interpretation to evaluate the patient's condition. TCM practitioners examine the condition of the patient's skin, complexion and tongue, listen to the voice and breathing, question the patient and check the patient's wrist pulse as part of the health assessment of the body's equilibrium. As explained by Cheung (2011: S82), "the ultimate goal of treatment is to restore the qi (energy) and yin-yang (balance) of this complex system."

TCM has been considered a vital component of the Taiwanese national health system from the inception of the universal health care system. For example, Chi (1994) described a national study in Taiwan that was conducted at the time the universal health care system was being formulated. The study showed that 86 percent of respondents supported the coverage of TCM in the new NHI system that was to be implemented in 1995. Several researchers (e.g., Chi, 1994; Lu & Chiang, 2011; Wu et al., 2010) have studied the evolution of TCM in Taiwan's health care delivery from the historical perspective. In one overview of the health care system, Lu and Chiang (2011) noted that before the 20th century TCM was common in health care delivery, although there were no formal education and licensure. Chi (1994) described that before western influence in the 1860s that TCM was dominant in Taiwan. Lu and Chiang (2011) explained the diminishing role of traditional medicines during the first half of the 20th century as the acceptance and training of western medicine spread. By the early 1950s the TCM practices were modernized as part of the medical education system and licensure was reinstated.

Based on the medical traditions and values in Taiwan, the NHI system was designed to cover both TCM and western medicine (Shih et al., 2008). As the government formulated health care policies in the modern era, TCM has been a component of health care that is covered under the national health care system. From the delivery perspective, the patient is free to choose the TCM provider and licensed TCM providers qualify for reimbursement by NHI based on the provider's participation in the NHI system (Shih, Lin, Liao, & Su, 2009).

Attitudes about TCM utilization in Taiwan have been shown to be influenced by cultural values (Chen, 2001). Using national representative samples (e.g., Shih et al., 2008) researchers have studied the determinants and frequency of use of non-covered and covered complementary and alternative medicines and found that there is a demand for non-covered therapies beyond those covered by national insurance. Given the purpose of our current study to look at TCM in the NHI system, we focus on the TCM therapies and TCM providers that are part of the coverage by the NHI system. TCM represents a relatively small percentage of overall expenditures and resources allocated in the NHI system. TCM outpatient visits per covered person averaged about 1.63 visits per year across the period 2007-2011 (Bureau of National Health Insurance, 2012).

In general the NHI coverage includes TCM treatments that are derived from traditional medicinal herbs, acupuncture, moxibustion and traumatology manipulative therapies (Shih et al., 2008). The NHI has described the diagnostic classification of patients seen by Chinese medicine practitioners. Some common health conditions for which patients see Chinese medicine providers include diseases of the respiratory system, diseases of the musculoskeletal system and connective tissue, injuries and poisoning and diseases of the digestive system.

In a study of outpatient reimbursement claims researchers (Chen et al., 2007) examined the utilization of TCM therapies and found that TCM was utilized by more than 60 percent of the subjects during a six-year interval to treat diseases and problems of major human organ systems. The most common diseases that were treated with TCM included problems and diseases of human organ systems recognized by western medicine including TCM visits for the respiratory system, musculoskeletal system, digestive, genitourinary system and symptoms for ill-defined conditions (Chen et al., 2007). The most common treatment modalities were the use of Chinese herbal remedies, acupuncture and traumatology manipulative therapies. In the same study the researchers found that most TCM treatments were completed in private TCM outpatient clinics.

Other recent studies of the NHI system have examined the utilization of TCM for treatment of specific diagnoses. Liao, Lin, Li and Lin (2012) examined the use of TCM treatments among patients with liver cancer a leading cause of deaths in Taiwan. In another study (Chang, Huang, Chou, Lee, Kao & Huang, 2008) using data from the NHI claims records, it was shown that herbal medications are the major component of TCM for more than two-thirds of ambulatory visits. According to a study conducted by Shih, Lin, Liao and Su (2009), children with higher socioeconomic status utilized TCM more often compared to children from low socioeconomic families. Other researchers (Chen et al., 2007) have shown that as many as 60 percent of beneficiaries covered by the NHI system had used TCM at least once in a given year.

Others (Shih et al., 2009) noted that educational level was a determinant of TCM utilization with people having thirteen or more years of education being more likely to visit TCM practitioners. As other large scale studies are conducted utilizing data and medical records from the NHI system, information continues to be gained about the prevalence of TCM utilization among the population for specific disease categories.

Recognizing that interest in alternative and complementary medicines is growing among patients in other countries and economies (Winnick, 2007) other researchers (e.g., Chung, Hillier, Lau, Wong, Yeoh & Griffiths, 2011) have examined the attitudes and behavior of western medicine practitioners towards TCM. The World Health Organization has underscored the importance of attention to involving western practitioners in understanding TCM and other alternative medicines. One report (World Health Organization, 2008) suggested that the communication between TCM providers and western providers should be improved and training should be developed to understand the relationship between western medicine and traditional medicine practitioners.

Research Questions

The primary focus of this paper is to learn more about the perceived satisfaction with the coverage of TCM as a component of the NHI system in Taiwan. Building on prior research about the Taiwanese universal health system and the coverage of TCM, we are interested in understanding the relationship between TCM and the perceived satisfaction with the NHI system from the point of view of healthcare professionals and insured individuals. Healthcare professionals are interviewed and insured individuals are surveyed about their experiences and perceived satisfaction with TCM in the context of coverage by the Taiwan's NHI system. We inquire about the quality, access and cost of TCM as related to satisfaction with the NHI system to learn about the perceived benefits, challenges and lessons for incorporating TCM coverage within the universal healthcare system.

METHODS

Sample and Data Sources

Given the nature of our research questions, we utilized both quantitative and qualitative approaches (e.g., deMarrais & Lapan, 2004; Neuman, 2011). Our first objective was to conduct in-depth conversations with experienced healthcare professionals in Taiwan to understand their perspectives on TCM in the NHI system and to learn their suggestions for other health systems that may be considering the incorporation of TCM coverage in a universal health system. Our second objective was to survey respondents in Taiwan who had experience in utilizing TCM that was covered through the national healthcare system in order to provide insight into the perceived satisfaction with TCM as covered by the NHI system.

Participants for the interviews were healthcare professionals having knowledge and experiences with TCM and the NHI system. The participants were identified via purposive sampling in the metropolitan area of Taipei, Taiwan. Through an initial contact, participation was sought from other healthcare professionals known to have considerable experiences with TCM in the NHI system. In this respect, the participants in the interviews are similar; otherwise they differ considerably in terms of their background and experiences. Individuals were introduced to our study by e-mail correspondence followed by in-person contact in Taiwan.

Utilizing personal interviews our objective was to have in-depth discussions on the topic of TCM in the NHI system with these professionals who were knowledgeable about the subject. In addition, a detailed questionnaire was developed to survey insured individuals who are covered by NHI to collect quantifiable data about their perceptions of and satisfaction with TCM coverage in the NHI system. The survey sample was identified from covered individuals located in the metropolitan area of Taipei, Taiwan.

Data Collection and Procedures

The interviews were semi-structured with predetermined questions and supplemented with open-ended questions asked as the need arose during the interview. According to qualitative researchers (e.g., deMarrais & Lapan, 2004) it is appropriate to maintain this flexibility in order to explore the insight provided in each individual interview. Consistent with procedures followed by other researchers (e.g., Brislin, 1970; Yang, Chen, Choi, Zou, 2000) the survey questionnaires, interview questions and consent forms were translated from English to Mandarin and back-translated into English by one researcher who is fluent in English and Mandarin and checked for equivalent meaning by two other individuals who are bilingual in English and Mandarin.

Nine semi-structured interviews were conducted in Taipei, Taiwan during the period December 27, 2012 through January 7, 2013. Practical restrictions on sample size are commonly associated with interviewing; however the use of more than one interview is important for validity (Lee, 1999; Neuman, 2011). Intentionally healthcare professional with different backgrounds are represented in the study. Several precautions were implemented in the data collection consistent with qualitative research approaches (Miles, Huberman & Saldãna, 2014). Preliminary to each interview the interviewer conveyed the purpose of the research, described the use of the data and addressed confidentiality. The researcher kept detailed field notes during the interview and targeted a one-day turnaround to summarize the field notes from the interviews. Comments were noted in detail by the researcher during and immediately after each interview. Each interviewee was identified by a pseudonym which corresponds to the coded identification in field notes of the researchers. When reporting results from the interviews the names of the participants are not disclosed.

Interviews averaged approximately 60 minutes and were conducted in Mandarin by the researcher who is fluent in English and Mandarin. The researcher was accompanied for each interview by another bilingual speaker. Approximately one week prior to the interview, each interviewee was given a copy of the interview questionnaire with general questions in Mandarin. Several interviewees wrote notes and general responses on the questionnaire prior to the interview. These notes on the questionnaire were collected at the end of the interview and referenced by the researchers for completeness and accuracy. During the personal interviews participants were asked to respond to questions and elaborate further if applicable. Answering the open-ended questions (e.g., Neuman, 2011) the participants responded in their own words as the discussion proceeded. Follow-up contacts were made as needed with respondents by e-mail or phone to ensure the completeness of the data or clarify responses.

Data from the interviews were content analyzed in accordance with qualitative research procedure using an iterative process (e.g., Strauss & Corbin, 1998) and coded by categorizing interview data into common themes (Lee, 1999). Researchers read the responses to identify themes and patterns and independently cross-analyzed the content of responses. Researchers worked together to summarize the findings as well as compare and contrast. Differences were few and the process continued to address conceptual discrepancies to increase interrater reliability (Lee, 1999) as recommended for analysis of qualitative data (Miles, et al., 2014).

In addition to the interviews we developed and administered a survey to insured individuals. The questions were derived from the literature review and background research in order to understand the perceptions about and satisfaction with TCM in the NHI system. The survey instrument was translated from English to Mandarin by the researcher who is bilingual in English and Mandarin and checked for accuracy by two bilingual speakers. The survey was administered in Mandarin and responses were back-translated to English by the researcher and checked for accuracy by two bilingual speakers. A total of 45 surveys were collected, and the survey averaged approximately fifteen minutes for each respondent to complete.

RESULTS

Interview Results

Participants in the interviews included three private health insurance professionals, three western medicine practitioners with professional experience including practice within a western hospital, two traditional Chinese medicine practitioners and one professional with a pharmacy background. Of the nine healthcare professionals interviewed six were male and three were female. Three respondents were 26-45 years of age, two were 46-55 years of age, three were 66 years of age or older and one respondent did not provide an age. In terms of experience one respondent reported less than five years of healthcare experience, two reported six to ten years of experience, one reported eleven to fifteen years of experience, one had between sixteen and twenty years of experience, and four had twenty-one or more years of experience with TCM in the NHI system. With regard to highest level of education obtained two reported some college, four reported the bachelors education, one had earned a master's degree, and two had earned the doctorate. Four reported having some health-related professional experiences abroad.

For reporting results from the interviews our findings are presented in seven common themes in the words of the respondents including: primary reasons for TCM coverage in the NHI system; positive factors that facilitated TCM utilization; problems to consider in TCM coverage through universal insurance; improvements to better integrate TCM; acknowledgement of health benefits of TCM treatments; possibility of TCM coverage in the United States; and freedom for accessibility to licensed TCM practitioners.

Primary reasons for TCM coverage in the NHI system Most respondents identified tradition as the primary reason for TCM coverage. As one respondent stated, "The fact that TCM has survived this long and still exists is reason in itself that it should be in the universal health system." Several respondents suggested TCM as an alternative source of care helped in the facilitation of overall care and well-being. They reasoned that issues in western medicine, such as the often perceived lack of effectiveness in some medications, likely prompted the demand for TCM and its continued use. Additionally, the belief in TCM has a significant influence in its being covered and implemented in the NHI process. Notwithstanding the safety or efficacy standards many respondents expressed that the history of TCM and its endurance through the centuries give credence to the healing potential. One respondent stated, "It has a thousand years of trial and error." Another responded, "The Taiwanese people believe in its healing effects and have been using it for a very long time." While western medicine remains the primary modality for immediate treatment, TCM is utilized for chronic illnesses where a patient may perceive the benefits of TCM to improve ability in daily life to manage the illness.

Positive factors that facilitated TCM utilization Respondents were asked to identify and describe the positive factors that have facilitated the utilization of TCM within the universal health system. Most respondents indicated that incorporation of TCM in the NHI system can lower the payment burden of the public thereby serving those who may otherwise not afford treatments. In one instance a respondent gave a detailed explanation of the benefits of TCM medicine to show specific benefits of TCM compared to western medicine and to enhance the treatments provided by western medicine. Another respondent referred to the downsides of western methods that utilize prescription medications, suggesting that TCM, being made from natural herbs, would be less likely to harm the body. However, respondents cautioned that TCM and western medicine should only be used if one has health issues because, as one respondent stated, "Too much of anything could become a poison." Most respondents strongly advocated the safety and effectiveness of TCM as a factor in utilization. One respondent mentioned the importance of considering the environmental costs associated with medicines and stated, "If western medicine is thrown away and not used, it is important to consider the environmental problems that must be taken into account when disposing of unused medications, compared to TCM where the herbs are natural, so less concern when disposing of unused medicines."

Problems to consider in TCM coverage through universal insurance Asked about identifying and describing problems associated with TCM coverage in universal insurance, the majority of respondents mentioned the fundamental differences between TCM and western medicine. As one respondent summarized, "While TCM focuses on the yin-yang theories and the flow of qi the western medicine operates scientifically." Many described that from a western perspective, there is often a tendency to want to evaluate TCM with a set of specified western standards that are not necessarily applicable to TCM. As another explained, "When a TCM practitioner joins the health insurance system it may not provide appropriate compensation for the level and time of the treatments." Two scenarios were highlighted by another respondent where TCM practitioners could be influenced by reimbursement in the time they devote to an assessment. To maximize patient volume for reimbursement of treatments, the practitioner could invest less time with an individual patient for a specified treatment.

Several respondents mentioned the need to carefully evaluate the credentials and experiences of TCM practitioners and recognized efficacy as a priority. In particular the consideration for appropriate licensure and training were identified by all respondents as an important consideration. For the NHI system to cover TCM treatments there is a need to ensure that practitioners have appropriate experience and background to practice in Taiwan. Efficacy was a prioritized concern among respondents. As one respondent described, "One of the primary problems is the complexity of herbal remedies." Different TCM practitioners offer different remedies and because of the complexity of the treatments, it becomes very difficult to measure the benefits and the results. The majority of TCM treatments and processes are derived from historical records and guidelines. As one respondent said, "Without proper scientific research, the two approaches, western medicine and TCM, just do not see eye to eye." As another stated, "It is important and necessary to evaluate the quality of TCM practitioners to ensure that the quality of care is improved and not diminished."

Improvements to better integrate TCM Respondents identified several issues and acknowledged the need to identify and prioritize the issues that need to be attended. Most respondents suggested the need for attention to real integration of TCM and western practitioners. Others described that western medicine and TCM are not fully integrated despite being covered in the NHI system. In the words of one respondent "the two modalities must work together instead of just coexisting." Other respondents suggested the need for attention to monitoring and/or reducing overutilization and eliminating wastefulness of resources. For instance, the importance of ongoing efficacy studies was mentioned by most respondents as a topic that requires immediate attention if TCM is to garner broader acceptance in the western medical community. Such importance was highlighted by a respondent who described "the future of healthcare is in preventative medicine…and opportunities exist in the collaborations between TCM and western medicine." The responses provided some indication that TCM, while it has been utilized for centuries, has not matured as compared to western medicine.

Acknowledgement of health benefits of TCM treatments Several of the respondents explained that it is necessary for western practitioners to recognize the health benefits of TCM treatments in order for longer term integration of the two modalities. One respondent expressed that it is not necessary for the acknowledgement in order for the two modalities to co-exist independently. The proponents of better integration between western medicine and TCM emphasized that mutual understanding would promote synergy. As one respondent elaborated, "The integration validates and accurately determines the diagnosis." All respondents expressed the ongoing difficulties of integration given the fundamental differences between the two treatment modalities. One respondent who did not think western acknowledgement is necessary for the two approaches to co-exist explained, "Western treatments and TCM treatments are completely different disciplines and are completely different ways of addressing a problem." One respondent commented, "The two disciplines speak in completely different languages" and clarified that the methods and explanations behind TCM and western medicine are so different that each cannot understand the other's fundamental theories behind treatment processes. Some training and integration across the western and TCM practitioners could begin to address the acceptance and understanding. Though TCM is rooted in tradition and concurrent use with western modalities in Taiwan is common, the responses from the interviews suggest there are still obstacles for mutual collaboration and real integration.

Possibility of TCM coverage in the United States Regarding TCM treatments in western countries, the respondents were asked to provide suggestions or identify issues that would be important to address if the United States or other economies were to consider the inclusion of TCM treatments into a national healthcare system. Several respondents expressed unawareness of the growing popularity of alternative medicine in western countries. As to the ability to integrate TCM into other universal healthcare systems, several expressed the lack of understanding of TCM as a barrier. One respondent answered, "It will be very difficult. There is not a long history of understanding and teaching TCM. They need to know about it and teach it. It is not as common as it is here." Majority of respondents commented on the necessity of providing education and training in order to expose western medical practitioners to the benefits of TCM and to be sure that TCM practitioners are trained appropriately if they are to practice in the country. Most respondents commented that coverage of TCM by insurance would be very difficult given the predominance and acceptance of western medicine. Another concern expressed was "the need to be aware of the credentialing and verifying the training of TCM practitioners purporting to be knowledgeable of TCM" and "the need to be very careful not to get tricked." "There needs to be proper credential checks and experiences must be documented," advised another respondent.

A number of respondents stated the importance to understand the views of the pharmaceutical industry on TCM and other alternative medicines. Most respondents decidedly answered that TCM coverage in their universal health system was positively viewed by the pharmaceutical industry. Several respondents commented on the increase in profitability for pharmaceutical outlets due to the insurance coverage. As one respondent explained, "The powder TCM treatments help pharmaceuticals. TCM treatments are made available in pill form which increases the filling of prescriptions." Another respondent described that "unlike western medications where research and development as well as strict government regulations restrict the profitability, production of TCM is based on preexisting formulations." One respondent explained that standardization of TCM and acceptance in the pharmaceutical industry "prevents misuse of medicine and makes it less expensive. TCM practitioners could prescribe wrong drugs or just prescribe anything in order to get reimbursed, so it is very important to have some oversight." Because of the ambiguity of the TCM diagnostic process, it is highly sensitive to possible corruption. While the coverage of TCM in the health insurance system has lowered the cost of TCM treatments for patients, there are "many practitioners that opted out of reimbursement, allowing them to charge premiums for their services" without concern for the customary reimbursement specified by the NHI system. Several respondents mentioned that there is stratification of price between types of medicine; some TCM treatments are extremely expensive. Other medicines made from exotic ingredients are not covered under the health insurance system. The oversight and standardization of TCM treatments could be a concern for realizing widespread utilization in western countries.

Freedom for accessibility to licensed TCM practitioners Respondents were asked for thoughts on any changes that the universal health insurance system should consider in the freedom for accessibility to licensed TCM practitioners. Respondents report being satisfied with the freedom for accessibility. The current system allows patients to visit any TCM clinic without going through a gatekeeper. The majority of respondents supported the level of freedom in accessibility. The respondents explained that "the purpose of the universal health insurance system was to provide equal opportunity and access to healthcare for all." As another respondent stated, "Limitations should not impede that process." In the words of another respondent, "TCM practitioners are everywhere and people are everywhere. Transportation is fast and readily accessible; this is the way that it should be with freedom of choice for healthcare services." One respondent noted that "there is access to western medicine practitioners, and there should be no restrictions on access to TCM practitioners covered in the NHI system."

Survey Results

Of the 45 surveys that were returned, 44 had usable results. Twenty seven (or 61.4 percent) reported being male and 12 (or 27.3 percent) female, with the remainder of respondents not reporting gender. Four of the 44 respondents were 18-25 years old (or 9.1 percent), five were 26-35 years old (or 11.4 percent), nine were 36-45 years old (or 20.5 percent), nine were 46-55 years old (or 20.5 percent), nine were 56-65 years old (or 20.5 percent) and six were 66 years old or older (or 13.6 percent). Two respondents did not report their age. With respect to highest level of education that was reported, seven respondents reported high school (or 15.9 percent), seven reported some college (or 15.9 percent), twelve reported a bachelor's degree (or 27.3 percent), six reported a master's degree (or 13.6 percent), and nine reported a doctorate (or 20.5 percent) with three not reporting.

Table 1 shows the descriptive statistics and correlations related to our initial question of satisfaction with Taiwanese NHI. A 5-point Likert scale was used with (1) representing strongly disagree to (5) representing strongly agree. As shown in Table 1, there is great perceived satisfaction with the NHI. Also, three of the four variables have correlations with this perceived satisfaction in the NHI system. The only variable that is statistically non-significant is perceived satisfaction with the quality of TCM treatments covered by NHI.

Table 1
MEANS, STANDARD DEVIATIONS AND CORRELATIONS FOR VARIABLES

Variable	Mean	S.D.	NHI	Reimburse	Choice	Quality	Culture
NHI	4.068	.974	-				
Reimburse	3.773	.912	.385**	-			
Choice	3.932	.625	.313*	.013	-		
Quality	3.523	1.023	.220	.455**	.166	-	
Culture	4.273	.973	.348*	.098	.108	.087	-
n=44; *significant at .05 level; **significant at .01 level							

Table 2 shows results for the linear regression analysis. Again, three of the four variables are statistically significant. The model explains 32.2 percent of the perceived satisfaction with the NHI (p=.004). The results indicate that the perceived appropriateness of reimbursement of TCM and choice in the selection of TCM treatments affect the level of satisfaction with the NHI, as does the perceived effect of culture. This means that the level of satisfaction with TCM reimbursement and choice of TCM treatments are associated with overall satisfaction with the NHI. Also, there is a relationship between individuals who think that culture plays a role in utilizing TCM and satisfaction with NHI. The perceived satisfaction with the quality of TCM treatments covered by the NHI is not only statistically non-significant, but the direction of the relationship is negative. To test for multicollinearity we ran a variance inflation factor (VIF) analysis and determined no issues with multicollinearity (VIF<1.4).

Table 2
REGRESSION RESULTS FOR THE SATISFACTION WITH TAIWAN HEALTH INSURANCE

	Unstandardized Coefficients		Standardized Coefficient		
Variable	B	Std. Error	Beta	t	Sig.
Reimbursement	.385	.159	.360	2.419	.020
Choice	.437	.210	.281	2.083	.044
Quality	-.014	.143	-.015	-.099	.922
Culture	.284	.133	.284	2.129	.040
R^2=.322					

We analyzed data related to the demographics of the survey respondents. Analyses showed that there were no statistical relationships among the respondents' age, gender, or educational level related to satisfaction with the NHI (results not shown). We also had an interest in knowing about the survey respondents' perception of the health benefits of TCM. We asked them to respond from (1) strongly disagree to (5) strongly agree to the statement: "I believe in the health benefits of TCM." The average respondents' reply was 3.8 on this 5 point scale. We performed a linear regression analysis testing the relationship that exists among a belief in the health benefits of TCM and our previous independent variables. Table 3 shows these results. The model explains 27.4 percent of the perceived belief in the benefits of TCM (*p*=.012). This analysis provided similar non-significant VIF results. Culture is not related to belief in health benefits of TCM. Our results indicate that only respondents' belief in TCM being appropriately reimbursed has significant statistical relationship with belief in the health benefits of TCM.

Table 3
REGRESSION RESULTS FOR BELIEF IN THE HEALTH BENEFITS OF TRADITIONAL CHINESE MEDICINE

	Unstandardized Coefficients		Standardized Coefficient		
Variable	B	Std. Error	Beta	t	Sig.
Reimbursement	.515	.195	.407	2.646	.012
Choice	.073	.163	.275	1.994	.053
Quality	.017	.176	.015	.097	.923
Culture	.326	.257	.040	.284	.778
R^2=.274					

When we performed a linear regression to see if age, gender or educational level of the respondents related to the belief in health benefits of TCM, we found non-significant findings (results not shown). This may relate to our finding on belief in the health benefits of TCM. When we examine the correlations between satisfaction with NHI and belief in the benefits of TCM we see a relationship .303 (*p*=.046).

DISCUSSION AND CONCLUSIONS

This study examined the practice of TCM in Taiwan as related to the NHI system. We interviewed Taiwanese healthcare professionals about their general perceptions of TCM that is covered by the NHI system and supplemented the analysis with a survey about the perceptions of TCM and NHI. Results of our study are used to offer several observations and recommendations about TCM and patient satisfaction with reimbursement by the NHI system. We found that the perceived satisfaction with TCM reimbursement and choice is positively related to the satisfaction with Taiwan's national healthcare system. The study may provide relevant information for others contemplating the integration of TCM into their health care system.

Our study has implications for theory and practice. The perceived satisfaction with TCM is found to be high which is consistent with previous research. Perceived belief in TCM also is seen as being related to perceived satisfaction with NHI. Our qualitative and quantitative results, combined with the literature, suggest that a health system designed with the desires and consent of the populace in mind may lead to better satisfaction with the health system post-development. This may be inherent in the reimbursement level and access or choice variables. Our results related to quality may represent the fact that individuals are not assigned providers, but rather choose themselves; thus the non-significant findings. Another practical importance of the study is that it provides insights from professionals known to have experience with the NHI system in Taiwan and TCM.

The results of our study are limited in several ways and should be interpreted with caution. Inherent in our study is the concern about generalizability to other settings. Taiwan is unique in its social, historical, cultural and political context in developing universal healthcare. The lessons from this study may not be generalizable or transferrable to other health care systems; however, the results do provide practices that may have implications for other universal health care systems considering the coverage and reimbursement of TCM. Our study is limited by the sample choice in that we interviewed professionals in Taipei with knowledge of TCM and the NHI. Our interviews intentionally identified known experts. Also, the survey response rate is modest and surveys were administered in Taipei, so generalization to non-respondents and the general population may not be possible. Our study reports on perceptions of satisfaction, thus more information is needed in future research on efficacy of TCM.

Studies involving language translation are relatively uncommon and involve challenges for researchers. Future studies should increase the sample size to provide a more complete view. To provide causal inferences among the variables, longitudinal research would be beneficial. Nevertheless, for practical benefits, studying and understanding the experiences of existing healthcare delivery systems are useful for designing, developing and implementing future health practices in other settings. The interviews with experienced healthcare professionals provide important reflections on their experiences. Future research should address the limitations and more research is needed to learn about TCM's role as complementary or integrated with western medicine. We anticipate additional research on the topic in the future.

The universal health insurance system in Taiwan is well-established yet continues to evolve as stakeholders examine the financial condition, political environment and interests of the public and providers (Wang, 2012). With regard to some recent reforms of the NHI, the changes in the NHI payment system and delivery could modify the allocation of resources among healthcare providers and patients. The perceptions from experienced healthcare professionals should be taken into consideration as well as the perceptions of patients and providers in these decisions. We sought new insight into the relationship between TCM and the NHI by adding to the existing literature on perceived satisfaction. Our research has added to the knowledge of TCM and its coverage by the NHI system through interviews and surveys conducted in Taiwan with health care professionals. Given that interest in TCM and other alternative medicines is present in many developing economies and growing in many western countries (e.g., Ni et al., 2002), the results may have implications for other economies and countries considering changes in health care delivery systems, modifying reimbursements for alternative medicines or exploring coverage of TCM as a component of universal health care coverage.

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WHY CHINA WANTS TO PEG IT'S CURRENCY? AN EMPIRICAL INVESTIGATION

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ABSTRACT

Our study develops two propositions for establishing the superiority of a flexible exchange rate system over a fixed one. These propositions require one of the two following conditions: a) either purchasing power parity holds between two countries, or b) the output target of the reference country is adjusted to its long-run value and its real exchange rate is lower than the long-run value. Our result shows that purchasing power parity does not hold between China and the U.S. We test the second proposition to see if a flexible exchange rate system is better for China. For a flexible exchange rate system to be better for China, the second proposition requires that China's output be adjusted to its long-run value and that its real exchange rate with the U.S. dollar be lower than its long-run value. Our results again show that both of these requirements are not fulfilled. Therefore, a flexible exchange rate system cannot be claimed to be better than a fixed exchange rate system for China. As such, China's choice to peg its currency in terms of U.S. dollar cannot be claimed to be irrational.

Key Words: fixed exchange rate, flexible exchange rate, purchasing power parity, welfare

INTRODUCTION

After the collapse of the Breton Wood system, most countries in the world have adopted either a managed floating or an adjustable peg exchange rate system. A fixed exchange rate system or a system allowing for deviations within a very narrow band has been viewed as the working solution to the problem. The region defined by the band is called target zones (Krugman, 1991). The main objective of adopting this type of arrangement is to maintain price stability, and thereby enhancing economic prosperity and welfare through increased and unobstructed trade. Implicit in this idea is the assumption that the purchasing power parity (i.e. Domestic Price = Foreign Price x Exchange Rate) always holds. If PPP holds then domestic price will be fairly stable as foreign prices are subject to smaller and/or infrequent fluctuations. This stability in price level encourages specialization in production and spurs economic growth. Similarly, a fixed exchange rate is also viewed as a measure to equalize interest rates across the border. In a perfectly competitive global financial market, the interest rate differential between two countries equals the percentage of deviation of the current exchange rate from the expected exchange rate between the currencies of the two countries. Since a fixed exchange rate eliminates the differential between the current and expected exchange rates, it equalizes the interest rates across the countries and enhances international capital movement. As such, a fixed exchange rate system has been viewed as an effective measure to ensure price stability and smooth flow of international trade and capital, and to promote long-term investment.

Some scholars (e.g. Barro and Gordon, 1983) argue that the government should fully commit to a zero inflation rule to achieve price stability. Some scholars (e.g. Lohman, 1992) argue that monetary policy should be delegated to a partially independent central banker. There are some scholars (e.g. Zhu, 1996 & 1997) who suggest that the government should build up reputation by taking an appropriate action in current period, because the government's current action is an indicator of its future policy. In contrast, Obstfeld (1996) argues that the economic agents' decisions and expectations are influenced by the government's resources rather than its current actions or commitments. The government's possible future actions depend on the relative size of losses under different policy regimes. He further argues that the government has a constant temptation to go to the flexible exchange rate system so long as the cost of changing the exchange rate is not high enough to equalize losses under the two regimes, although a fixed exchange rate system could bring about price stability. All these arguments are mainly based on two basic assumptions: (i) the purchasing power parity always holds, and (ii) a fixed exchange rate system can successfully limit people's expectations. However, the purchasing power parity condition can fail due to various reasons, such as the deviation from the Law of One Price (LOP), the presence of non-traded goods, and the terms of trade effects arising from home bias in consumption.

It gives rise to a general curiosity as to what happens if these assumptions do not hold. Can a target zone system still survive even if purchasing power parity fails to hold? This question is important considering the fact that a score of countries still peg their currencies to U.S. dollar, euro, etc. For example, despite continued pressure from the United States, China still pegs its currency to U.S. dollar. Such a practice on the part of China is attributed to have been motivated by the objective of boosting its export by artificially making its goods cheaper in the United States.

The whole argument is influence by the answers to the following questions: "Which exchange rate system performs better when purchasing power parity does not hold between the two countries?" "Is it in the advantage of a country to keep its currency floating even if the purchasing power parity does not hold?" The theoretical frameworks developed so far do not fully answer these questions. According to Duarte and Obstfeld if the deviation from PPP is due to deviations from the LOP or due to the presence of non-traded goods, a flexible exchange rate system is still optimal. Devereux and Engel (2003), on the other hand, have shown that, if PPP fails because of deviations from the LOP arising from sticky prices in local currency, then fixed exchange rates are optimal, even in the presence of country-specific shocks. Thus, the studies, so far, have mixed results. Moreover, these studies do not establish the superiority of one exchange rate regime over the other when PPP condition does not hold and when output target and real exchange rate deviate from their long-run equilibrium values. The purpose of this paper, therefore, is to seek the answers to these questions. This paper, therefore, devotes itself to analyzing the effect of the violation of PPP along with the deviation of output target and real exchange rate from their long-run equilibrium values on government's loss function. We will develop a model in section 2 and outline the data and methodology in section 3. In sections 4 and 5, we will present the empirical results and the summary of our findings, respectively.

THE MODEL

We assume a typical government loss function taken from Barrow and Gordon (1983) as following:

$$L = (Y - KY^*)^2 + \beta(\Pi^2) + c(\varepsilon), \tag{1}$$

where, Y is the output level, Y* is the targeted output level, Π is the rate of inflation, $c(\varepsilon)$ is the cost of changing the exchange rate, ε is the exchange rate, and K and β are assigned weights. The first squared term in the loss function is the quadratic approximation of the welfare loss of being away from targeted output level. The output deviation enters the government loss function, because it causes unnecessary economizing on real balance, which generates costs of price change and even increases endogenous relative price uncertainty (Benabou, 1988). The second term in the equation is the rate of inflation. An unanticipated inflation is costly, because it increases relative price variability (CuKiermanm, 1984), and costs of information gathering. The redistribution of income and wealth associated with unanticipated inflation can also be regarded as socially undesirable. The third term is the cost of changing exchange rate. Because excessive short-run fluctuations in exchange rates under a flexible exchange rate system may be costly in terms of higher frictional unemployment if they lead to over-frequent attempts at reallocating domestic resources among the various sectors of the economy.

The output function is drawn from the augmented Phillips curve as following:

$$Y_t = \overline{Y} + \alpha(\Pi_t - \Pi_t^e) + u_t, \tag{2}$$

where, Y_t is the output level, $\overline{Y}$ is the long-run output level, Π_t and Π_t^e are actual and expected inflation rates respectively, and u_t is the output shock. The purchasing power parity condition, the movement of real exchange rate, the aggregate demand function, and the uncovered interest parity condition used in our model are given by equations (3), (4), (5), and (6) respectively as following:

$$e_t - p_t + p_t^* = q_t \tag{3}$$

$$q_t - q_{t-1} = \lambda(\zeta - q_{t-1}) + v_t \tag{4}$$

$$m_t - p_t = hy_t - \gamma i_t + \mu_t \tag{5}$$

$$i_t = i_t^* + (e_{t-1}^e - e_t) \tag{6}$$

where, v_t, u_t, and μ_t, are output-, real exchange rate-,and demand-shocks respectively and ε_t is a white noises with zero mean and constant variance and α, λ, h, and γ are coefficients. All variables, except the interest rates (i, i*), p_t and p_t^*, are in natural logarithmic form. The variables p_t and p_t^* are domestic and foreign price levels respectively, q_t is the real exchange rate, e_t is the nominal exchange rate, m_t is the nominal money supply, and i_t and i_t^* are domestic and foreign interest rates respectively. Similarly, ζ is the long-run equilibrium exchange rate. Using the equations (1) through

(6), we derive loss functions under flexible and fixed exchange rate systems respectively as following:

$$L^{Flex} = \frac{\beta}{\alpha^2+\beta}(\bar{Y} - KY^* - \alpha\varepsilon_t^e + u_t + \alpha\lambda(\zeta - q_{t-1}))^2 \tag{7}$$

$$L^{Fix} = \{\bar{Y} - KY^* - \alpha\varepsilon_t^e + u_t - \alpha vt\}^2 + \beta\{\lambda(\zeta + q_{t-1}) + v_t\}^2 \tag{8}$$

Taking unconditional expectation yields,

$$E(L^{Flex}) = \frac{\beta}{\alpha^2+\beta}(\bar{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \frac{\beta\alpha^2}{\alpha^2+\beta}\lambda^2(\zeta - q_{t-1})^2 + \frac{\beta}{\alpha^2+\beta}\sigma_u^2 + \frac{2\beta\alpha}{\alpha^2+\beta}\lambda(\zeta - q_{t-1})(\bar{Y} - KY^* - \alpha\varepsilon_t^e) \tag{9}$$

$$E(L^{Fix}) = (\bar{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \sigma_u^2 + \alpha^2\sigma_v^2 + \beta\lambda^2(\zeta + q_{t-1})^2 + \beta\sigma_v^2 \tag{10}$$

Since $c(\varepsilon) = c(\varepsilon_t - \varepsilon_{t-1})$, it is the cost borne due to the change in exchange rate. This cost enters the loss function under flexible exchange rate system only. Because excessive short-run fluctuations may lead to higher frictional unemployment due to over-frequent attempts to reallocate domestic resources among the various sectors of the economy. A monetary authority will be tempted to adopt a flexible exchange rate system when the effect of u_t (output shock) and/or v_t (real exchange rate shock) is so high that $E(L^{Flex}) + \bar{c}(\varepsilon) > E(L^{Fix})$ or so low that $E(L^{Flex}) + \underline{c}(\varepsilon) < E(L^{Fix})$, where $\bar{c}(\varepsilon)$ is the highest value and $\underline{c}(\varepsilon)$ is the lowest value of $c(\varepsilon)$. Suppose, $c^*(\varepsilon)$ is such that,

$$E(L^{Flex}) + c^*(\varepsilon) = E(L^{Fix}) \tag{11}$$

Substituting equation (9) and (10) into (11) yields,

$$\frac{\beta}{\alpha^2+\beta}(\bar{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \frac{\beta\alpha^2}{\alpha^2+\beta}\lambda^2(\zeta - q_{t-1})^2 + \frac{\beta}{\alpha^2+\beta}\sigma_u^2 + \frac{2\beta\alpha}{\alpha^2+\beta}\lambda(\zeta - q_{t-1})(\bar{Y} - KY^* - \alpha\varepsilon_t^e) + c^*(\varepsilon)$$

$$= (\bar{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \sigma_u^2 + \alpha^2\sigma_v^2 + \beta\lambda^2(\zeta + q_{t-1})^2 + \beta\sigma_v^2$$

$$\Rightarrow - \frac{\alpha^2}{\alpha^2+\beta}(\bar{Y} - KY^* - \alpha\varepsilon_t^e)^2 - \frac{\beta^2}{\alpha^2+\beta}\lambda^2(\zeta - q_{t-1})^2 - \frac{\alpha^2}{\alpha^2+\beta}\sigma_u^2$$

$$+ \frac{2\beta\alpha}{\alpha^2+\beta}\lambda(\zeta - q_{t-1})(\overline{Y} - KY^* - \alpha\varepsilon_t^e) + c^*(\varepsilon) = (\alpha^2 + \beta)\sigma_v^2$$

$$\Rightarrow \sigma_v^2 = - \frac{\alpha^2}{(\alpha^2+\beta)^2}(\overline{Y} - KY^* - \alpha\varepsilon_t^e)^2 - \frac{\beta^2}{(\alpha^2+\beta)^2}\lambda^2(\zeta - q_{t-1})^2$$

$$- \frac{\alpha^2}{(\alpha^2+\beta)^2}\sigma_u^2 + \frac{2\beta\alpha}{(\alpha^2+\beta)^2}\lambda(\zeta - q_{t-1})(\overline{Y} - KY^* - \alpha\varepsilon_t^e) + \frac{c^*(\varepsilon)}{\alpha^2+\beta} \quad (12)$$

Rearranging equation (12) yields,

$$c^*(\varepsilon) = \frac{\alpha^2}{\alpha^2+\beta}(\overline{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \frac{\beta^2}{\alpha^2+\beta}\lambda^2(\zeta - q_{t-1})^2 + \frac{\alpha^2}{\alpha^2+\beta}\sigma_u^2$$

$$- \frac{2\beta\alpha}{\alpha^2+\beta}\lambda(\zeta - q_{t-1})(\overline{Y} - KY^* - \alpha\varepsilon_t^e) + (\alpha^2 + \beta)\sigma_v^2 \quad (13)$$

Since $c^*(\varepsilon)$ is the critical value of $c(\varepsilon)$, which equalizes $E(L^{Flex})$ and $E(L^{Fix})$, $c^*(\varepsilon) > 0$ implies that $E(L^{Flex}) < E(L^{Fix})$, whereas $c^*(\varepsilon) < 0$ implies $E(L^{Flex}) > E(L^{Fix})$. So, dynamic consistency requires that the government change the exchange rate whenever $c^*(\varepsilon) > 0$. Thus a fixed exchange rate system is sustainable as long as $c^*(\varepsilon) < 0$.

In Obstfeld (1996) model with purchasing power parity assumption, the loss function under both regimes remains unaffected by real exchange rate deviation. So, if the cost of exchange rate change is negligible, then loss under flexible exchange rate system is always less than that under fixed exchange rate system; and the flexible exchange rate system is always better. However, this is no longer valid when purchasing power parity does not hold. To show this, we subtract equation (9) from (10), which yields,

$$E(L^{Fix}) - E(L^{Flex}) = \frac{\alpha^2}{\alpha^2+\beta}(\overline{Y} - KY^* - \alpha\varepsilon_t^e)^2 + \frac{\beta^2}{\alpha^2+\beta}\lambda^2(\zeta - q_{t-1})^2 + \frac{\alpha^2}{\alpha^2+\beta}\sigma_u^2$$

$$- \frac{2\beta\alpha}{\alpha^2+\beta}\lambda(\zeta - q_{t-1})(\overline{Y} - KY^* - \alpha\varepsilon_t^e) + (\alpha^2 + \beta)\sigma_v^2, \quad (14)$$

In the above derivation, we have implicitly assumed that the cost of exchange rate change is negligible (i.e. $c(\varepsilon) = 0$). Further, if we assume that purchasing power parity holds, then it implies that $q_{t-1} = 0$ and, therefore, $\zeta = 0$. Thus, the negative term on the right hand side of equation (14) drops out. If we also assume that output target is fully adjusted to the long run equilibrium output level i.e. $\overline{Y} = KY^*$, and that the real exchange rate is lower than its long-run equilibrium value i.e. $q_{t-1} < \zeta$, then, from equation (14), it is clear that

$E(L^{Fix}) > E(L^{Flex})$. This means the expected loss under a fixed exchange rate system outweighs the expected loss under a flexible exchange rate system. These results lead us to the following propositions.

Proposition-1:

Under purchasing power parity, a flexible exchange rate system is always better.

Proposition-2:

Under purchasing power disparity, a flexible exchange rate system is better only if output target is adjusted to its long-run value and the real exchange rate is lower than its long-run value. If these conditions do not hold under purchasing power disparity, then the superiority of a flexible exchange rate system cannot be claimed.

METHODOLOGY AND DATA:

In order to test proposition (1) we will first compute the real exchange rate of Chinese Yuan in terms of US dollar (q_t) using equation (3) and test the PPP hypothesis by estimating the following equation:

$$\Delta q_t = a_0 + \boldsymbol{\gamma} q_{t-1} + \boldsymbol{\beta}_2 \Delta q_{t-1} + \boldsymbol{\beta}_3 \Delta q_{t-2} + \ldots\ldots\ldots + \varepsilon_t \tag{15}$$

If the hypotheses of $\boldsymbol{\gamma} = 0$ cannot be rejected, then PPP fails for the two nations. Enders (2004) advises that we not include the expression $\mathbf{a_2 t}$ in equation (15), because the theory of PPP does not allow for a deterministic time trend. Following Bahmani-Oskooee and Gelan (2006) we will impose a maximum of eight lags on the real exchange rate variable (q_t) and will use Akaike's Information Criterion (AIC) to select the optimum lags. If the hypothesis of $\boldsymbol{\gamma} = 0$ is rejected, then we will test proposition (2). Suppose that the output and the real exchange rates are represented by following ARMA processes respectively:

$$q_t = c_0 + c_1 q_{t-1} + e_{1t} \tag{16}$$

$$Y_t = d_0 + d_1 Y_{t-1} + e_{2t} \tag{17}$$

Using lag operator, the above equations can be transformed as,

$$(q_t - c_1 L q_t) = c_0 + e_{1t} \tag{18}$$

$$(Y_t - d_1 LYt) = d_0 + e_{2t} \tag{19}$$

By rearranging the terms the above equations can be rewritten as,

$$q_t = c_0/(1 - c_1) + e_{1t}/(1 - c_1) \tag{20}$$

$$Y_t = c_0/(1 - c_1) + e_{2t}/(1 - c_1) \tag{21}$$

Taking expectation of equations (20) and (21) yields the following equations:

$$E(q_t) = c_0/(1 - c_1) \tag{22}$$

$$E(Y_t) = d_0/(1 - d_1) \tag{23}$$

Thus the short-run and long-run means of Y_t (output) series are given by d_0 and $d_0/(1 - d_1)$ respectively. If output target is set to its short-run mean, then testing if the output target is adjusted to its long-run value amounts to testing if $d_0 = d_0/(1 - d_1)$. This requirement, in turn, boils down to testing if $d_1 = 0$. If the hypothesis of $d_1 = 0$ cannot be rejected, then we will conclude that the output target is adjusted to its long-run value. The second part of proposition (2), that is, the real exchange rate must be lower than its long-run value requires that $c_0 < c_0/(1 - c_1)$. This requirement implies that c_1 must be less than 1 but greater than zero. In order to test proposition (2), therefore, we will estimate equations (16) and (17) and test if $d_1 = 0$ and c_1 is less than 1 but greater than zero. If these hypotheses cannot be rejected, then proposition (2) will be accepted and we will conclude that a flexible exchange rate system is better for China, otherwise, the superiority of a flexible exchange rate system cannot be claimed and, therefore, China's decision to peg its currency in terms of US dollar cannot be labeled to be unwise.

Data on the variables of our model, such as, exchange rate, output, domestic price, and foreign price have beeb collected from the IMF publication called, "International Financial Statistics". As for the exchange rate data, a score of researchers have used black market rates as proxies for floating exchange rates. Studies in this group include those by Culbertson (1975), Phillip (1988), Bahmani-Oskooee (1993), El-Sakka and McNabb (1994), Baghestani (1997), Sanchez-Fung (1990), Luintel (2000), Kouretas and Zarangas (2001), Nagayasu (2000) and Bahmani-Oskooee and Goswami (2005). But for our study, we propose to use official data published by IMF. The data covers the years 1982-2005.

EMPIRICAL FINDINGS

We estimated equation (3) as following:

$$\Delta q_t = 0.05550598 q_{t-1} - 1.5950475\, \Delta q_{t-1} - 2.1291251\, \Delta q_{t-2} - 1.213944\, \Delta q_{t-3}$$

(0.07058) (0.027549) (0.065206) (0.224969)

$$- 0.2438819\, \Delta q_{t-4}$$

(0.457177)

$R^2 = 0.54666076$ F-statistic = 3.37639 p-value = 0.0357254

The p-value associated with the F-statistic indicates that the model is significant. The figures in the parentheses are the p-values associated with the respective coefficients. As the p-values indicate the coefficients at lag 2, 3, and 4 are insignificant at 5 percent significant level. As such, no more lags need to be added. Also, the coefficient associated with the variable $\mathbf{q_{t-1}}$ is insignificant at 5 percent, but significant at 10%. Therefore, the hypothesis of $\gamma = 0$ cannot be rejected at 5 percent, but can be rejected at 10%. This implies that the hypothesis that purchasing power parity does hold between U.S.

and China cannot be rejected at 5 percent, but can be rejected at 10%. Therefore, we turned to proposition-2 and estimated equations (16) and (17) as following:

$$\mathbf{q_t = 8.965392 + 0.994545q_{t-1}} \tag{16}$$
(0.10421) (0.000)
$R^2 = 0.973258$ F-statistic = 764.2955 p-value = 0.000

$$\mathbf{Y_t = 16.73232447 + 0.864720073Y_{t-1}} \tag{17}$$
(0.92139866) (0.000)
$R^2 = 0.986819223$ F-statistic = 1572.229275 p-value = 0.000

The figures in the parentheses are corresponding p-values. Since the coefficient associated with the variable $\mathbf{Y_{t-1}}$ is significant even at 1 percent level, the hypothesis that $\mathbf{d_1=0}$ is rejected. That means the hypothesis that the output target is adjusted to its long-run value is rejected also. The next task is to test if the coefficient associated with the variable $\mathbf{q_{t-1}}$ (i.e. $\mathbf{c_1}$) is statistically greater than zero, but less than one. We found that the t-statistics associated with the hypotheses $\mathbf{d_1=0}$ and $\mathbf{d_1=1}$ are **27.6462** and **-0.1516** respectively. This implies that the hypothesis that $\mathbf{d_1}$ is greater than zero but less than one is rejected. This in turn implies that the hypothesis that the real exchange rate is lower than its long-run value is rejected. Next we relate our results with our propositions. The first proposition states that, under purchasing power parity, a flexible exchange rate system is always better. Our result shows that purchasing power parity does not hold between China and the U.S. Therefore, we test the second proposition to see if a flexible exchange rate system is better for China. For a flexible exchange rate system to be better for China, the second proposition requires that China's output be adjusted to its long-run value and that its real exchange rate with the U.S. dollar be lower than its long-run value. Our results again show that both of these requirements are not fulfilled. Therefore, a flexible exchange rate system cannot be claimed to be better than a fixed exchange rate system for China. As such, China's choice to peg its currency in terms of U.S. dollar cannot be said to be irrational.

CONCLUSION

Studies, so far, on various exchange rate systems, do not clearly establish the superiority of one exchange rate regime over the other. Most of these studies, either in the support or against of a flexible exchange rate are based on the assumption that purchasing power parity holds between two countries. Our study develops two propositions in this regard. The first proposition states that under purchasing power parity, a flexible exchange rate system is always better. The second proposition states that under purchasing power disparity, a flexible exchange rate system is better only if output target is adjusted to its long-run value and the real exchange rate is lower than its long-run value. If these conditions do not hold under purchasing power disparity, then the superiority of a flexible exchange rate system cannot be claimed. To test these propositions and to see if pegging its currency with U.S. dollar is a rational decision on the part of China, we employ our tests on the data over the period of 1982-2005. Our result shows that purchasing power parity does not hold between China and the U.S. Therefore, we test the second proposition to see if a flexible exchange rate system is better for China. For a flexible exchange rate system to be better for China, the second proposition requires that China's output be adjusted to its long-run value and that its real exchange rate with the U.S. dollar be lower than its long-run value. Our results again show that both of these requirements are not fulfilled. Therefore, a flexible exchange rate system cannot be claimed to be better than a fixed exchange rate system for China. As such, China's choice to peg its currency in terms of U.S. dollar cannot be claimed to be irrational.

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Appendix

GDP, CPI, and Exchange Rate Data For the U.S. and China

Year	China Exchange Rate (Yuan/$)(ae)	China CPI	China GDP (Y_t)	US CPI	US GDP	China Real Exchange Rate (q_t)
2005	8.0702	360.2935874	18232.1	137.709	11048.6	-214.5144371
2004	8.2765	353.9229738	16028	133.2158	10703.5	-212.4306727
2003	8.2767	340.3105518	12173	129.6941	10301.1	-202.3397081
2002	8.2773	336.2752488	10789.8	126.9011	10048.9	-201.0968438
2001	8.2768	338.9871459	9859.3	124.8367	9890.7	-205.8736609
2000	8.2774	337.3006427	8934.1	121.4365	9817	-207.5867786
1999	8.2795	336.2917674	8267.3	117.4291	9470.4	-210.5832066
1998	8.2787	341.0667012	7985.3	129.937	8790.2	-202.8509847
1997	8.2798	343.8172392	7489.5	127.8726	8300.8	-207.6648425
1996	8.2982	334.4525673	6833	124.9581	7813.2	-201.1962457
1995	8.3174	308.8204684	5851.1	121.4365	7400.5	-179.0666043
1994	8.4462	264.1749088	4669.1	118.1577	7054.3	-137.5710292
1993	5.8	212.7012148	3450.1	115.1218	6642.3	-91.77944686
1992	5.7518	185.6031543	2402	130.4228	6020.2	-49.42859186
1991	5.4342	174.5210666	2019	126.5368	5722.9	-42.55007099
1990	5.2221	168.5379687	1768	121.4365	5522.2	-41.87940459
1989	4.7221	163.5338334	1600	115.2432	5250.8	-43.56852896
1988	3.7221	138.25992	1407	109.9	4900.4	-24.63782
1987	3.7221	116.4	1117.9	105.7	4497.2	-6.9779
1986	3.7221	107	946.4	101.9	4205.4	-1.3779
1985	3.2015	100	833	100	3974.2	3.2015
1984	2.7957	89.4	676.1	96.6	3724.8	9.9957
1983	1.9809	87	562.7	92.6	3355.9	7.5809
1982	1.9223	85.4	503.8	89.7	3114.8	6.2223

GREEN INNOVATION AND ENVIRONMENTAL IMPACT IN EUROPE

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ABSTRACT

"Green" product and process innovations that are environmentally friendly are essential to the health of future generations. Such developments can also be economically friendly for companies that use them as competitive advantages. The cost savings from reduced use of energy and materials can be substantial for large businesses with high production levels, but not necessarily for SMEs. On the other hand, if green materials are more expensive, the required investments may outweigh the savings. From a philosophical point of view, ecopreneurs, who are more typically found among SMEs, view environmental friendliness as more important than pure profit. Such people may be willing to live with the extra cost because they can literally "live" with the more environmentally friendly options. This study examines environmental innovation motives among small, medium-sized and large businesses that are involved in product and/or process innovation. The results show that large businesses are usually more likely than SMEs to say that reducing environmental impact is a highly important objective for innovation, but cost savings is most often a significant factor.

INTRODUCTION

The interaction of innovation and sustainability has become a "strategic priority for theory and practice" (Dangelico & Pujari, 2010, p. 471). This is especially evident in Scandinavia countries, where great value is placed on protecting the environment (Environmental Media Association, 2103; EPI, 2014). The Environmental Performance Index (EPI) is created by Columbia University's Center for International Earth Science Information Network and the Yale Center for Environmental Law and Policy (EPI, 2014). The Scandinavian nations of Sweden and Norway, along with France and Austria, were named to the "Top Ten Eco-Friendly Countries" list by the Environmental Media Association (2013). According to this association, the residents of these countries regularly recycle and use alternative energy. The recently released 2014 rankings from the Environmental Performance Index (2014) list Switzerland in first place, followed by Luxembourg, Australia, Singapore, the Czech Republic, Germany, Spain, Austria, Sweden and Norway. A similar sustainability ranking by Robescam (2013) placed Sweden at the top, with Australia, Switzerland, Denmark and Norway in second to fifth place.

Investments by small and large companies alike can pay off if customers view environmentally friendly products as more desirable and suppliers can thus differentiate themselves from the competition (Isaak, 2002; Morsing & Perrini, 2009; Schick, Marxen & Freimann, 2001; von Weltzien Høivik & Shankar, 2010). These rewards do not, however, come without risk. Innovation activities require an investment of resources without the guarantee of return on that investment. This proposition can seem even riskier for small businesses with limited resources and less to gain from economies of scale (Millard, 2011). At the same time, SMEs may be more flexible and better able to take advantage of green innovation opportunities (Jenkins, 2009; von Høivik & Shankar, 2010). Business founders, especially ecopreneurs, are also more likely to be able to show their own concern for the environment through their firms, even when it means putting profits in a secondary position (Beveridge & Guy, 2005; Tilley & Young, 2009; von Weltzien Høivik & Shankar, 2010). Zee, Fok and Harman (2011) found that small businesses showed greater belief in the importance of going green.

This study examines environmental protection as a motive for innovation. Specifically, it analyses the proportion of innovative firms that pursue reduction of environmental impact and reduced material and energy as highly important objectives. Data from the 2010 Eurostat Community Innovation Survey (2014) are compared to determine if there is a relationship between business size and the motivation to engage in this type of innovation. The next section presents a brief background on green innovation, followed by the methodology, results and analysis of the data for this study.

ENVIRONMENTAL INNOVATION

"Green" product and process innovations that seek to protect the environment by reducing environmental impact are vital to the health of society. Environmental innovation can involve the introduction or improvement of sustainable products, processes and practices (marketing, organizational practices, etc.) (McKeiver & Gadenne, 2005). Common motives for green innovation include more profitable business operations, as well as compliance with regulations and philosophical concern for the environment.

Reduced savings and increased sales create practical incentives for businesses to invest in environmentally friendly products and processes. In contrast to these factors that "pull" companies into green innovation, regulations also "push" firms to comply with stricter environmental policies (Gibbs, 2009; Keough & Polonsky, 1998; Linnanen, 2002; Martin et al., 2013; Pastakia, 2002; Post & Altman, 1994; Taylor & Pandza, 2003; von Weltzie Høivik & Shankar, 2010; Walley & Taylor, 2002). Regulations are often enacted as a response to previous practices that were harmful to the environment. Examples of such regulations include the Kyoto Protocol, Montreal Convention, Restriction of the Use of Certain Hazardous Substances in EEE (RoHS) and Waste Electronics and Electrical Equipment Directive (WEEE) (Chen, 2008; Environment Agency, 2011; Haden, Oyler & Humphreys, 2009; Pastakia, 2002; Schick et al., 2002).

It is no secret that "going green" can mean increased costs (Dixon & Clifford, 2007; Revell & Blackburn, 2007). Yet when the greening of business products and processes are related to environmental innovation, it can make business sense all along the value chain from production to consumption to product disposal. More efficient use of materials and energy reduces costs and pollution (Braun, 2010; Chen, 2008; Dangelico & Pujari, 2010; Day & Schoemaker, 2011; Gibbs, 2009; Hajer, 1995; Isaak, 2002; Johnson, 2009; Kolk, 2000; Lober, 1998; Millard, 2011; OECD, 2009; Porter & van der Linde, 1995; Revell & Blackburn, 2007; Schick, Marxen & Freimann, 2002; Seiler-Hausmann, Liedtke & von Weizsacher, 2004; Tilley, 1999; Vachon & Klassen, 2008; von Weltzien Høivik & Shankar, 2010; Zee et al., 2011).

Green products are increasingly popular with consumers around the world who report that they expect to purchase more environmentally friendly products in the coming years

(Anderson, 1998; Bansal & Roth, 2000; Cohen & Winn, 2007; Cohn & Wolfe, 2011; Dwyer, 2009; Kirkwood & Walton, 2010; Russo & Fouts, 1997; Schaper, 2002; Schaltegger, 2002). Environmentally friendly products are also useful for promoting a positive company image that differentiates a company from its competitors (Isaak, 2002; Martin, McNeill & Warren-Smith, 2013; Morsing & Perrini, 2009; Schick et al., 2001; von Weltzien Høivik & Shankar, 2010; Yarahmadi & Higgins, 2012). Some companies even feel a "moral pressure" to go green (Braun, 2010, p. 249).

The National Geographic Society (2014) surveyed 17,000 consumers in 17 countries about their behaviors regarding energy use and conservation, choice of green products instead of other products, and their attitudes toward sustainability and the environment. These data were analyzed and used to create the 2012 Greendex ranking. India, China and Brazil were the top three countries for having consumers concerned about the environment and stating that their lives were negatively influenced by environmental problems. Ironically, the citizens of these countries were found to have the least impact on the environment, yet the most likely to voice a feeling of guilt about their impact. In contrast, consumers in the United States, Canada, Japan and France were the most likely to feel that they as individuals could help improve the environment, but apparently not following through on these feelings as they exhibited the least sustainable behaviors. Sweden placed in the middle of the rankings. Americans, French and British consumers were the most likely to express concern about the cost of energy and fuel. Similar results were found in 2010. Such feelings could entice consumers in these countries to take a favorable view of products that are perceived as environmentally friendly, resulting in marketing advantages for companies that produce and promote such products and position themselves as green companies.

Several studies suggest that compared to SMEs, large businesses have more to gain from cost reductions and improved efficiencies resulting from environmental innovation. In a study of large (more than 500 employees) and small (fewer than 50 employees) businesses, large businesses were more likely to produce green products and services (Zee et al., 2011). Large businesses (more than 250 employees) in Germany were also more likely than SMEs to engage in innovation with environmental benefits (Robinson & Stubberud, 2012). The differences between small and large businesses were greatest for innovations that primarily benefited the manufacturer. Over 60% of large companies surveyed were involved in innovation that resulted in reduced energy use for the manufacturer, compared to 43% for small businesses and 55% for medium-sized businesses. A similar pattern was seen for reduced material use per unit of output, recycled materials/water and reduced pollution. While SMEs were less likely to engage in all included types of environmental innovation, the gaps were smaller for innovations involving end-user benefits, such as reduced energy use and reduced pollution. A little over 30% of small businesses, 31% of medium-sized businesses and 38% of large businesses improved recycling after use. Chen (2008, p. 540) found similar results when comparing the green core competence, green product innovation performance and green image of SMEs with those of large businesses in Taiwan. Large companies are more likely to benefit from cost savings, but smaller companies could nonetheless use environmental innovations that benefit end-consumers to better serve customers and achieve marketing advantages (Anderson, 1998; Bansal & Roth, 2000; Cohen & Winn, 2007; Isaak, 2002; Kirkwood & Walton, 2010; Millard, 2011; Morsing & Perrini, 2009; Schaper, 2002; Schaltegger, 2002; Schick et al., 2001; von Weltzien Høivik & Shankar, 2010).

Ecopreneurs who start their own businesses in order to follow their passion for the environment while at the same time making a profit and include sustainability in their core values are more likely to truly support green initiatives than are companies that are focused primarily for profit (Beveridge & Guy, 2005; Cato, Arthur, Keenoy & Smith, 2008; Gibbs & O'Neill, 2012; Kirkwood & Walton, 2010; Linnanen, 2002; Rodgers, 2010; Schaltegger, 2002; Schaper, 2002; Schick et al., 2001; Tilley & Young, 2009; von Weltzien Høivik & Shankar, 2010). Small businesses are more likely to show higher levels of green awareness and belief in the importance of going green (Zee et al, 2011). Larger companies, however, are more likely than SMEs to control the resources necessary for innovation, including human and financial capital (Eurostat, 2009) and more likely to start innovation projects (Eurostat, 2009; Robinson & Stubberud, 2012). Green awareness and belief in the importance of going green as a philosophy may not translate into actual business practices if small businesses do not have the resources to carry out innovation.

Collaboration with others can be a key factor in successfully navigating green technology markets (Day & Schoemaker, 2011; Horbach, 2008; Mazzanti & Zoboli, 2009; Vachon & Klassen, 2008; Yarahmadi & Higgins, 2012). Martin and associates (2013) reported that building relationship was vital for environmental innovation among small rural businesses. Large businesses have been shown to be more likely than SMEs to collaborate for innovation (Robinson & Stubberud, 2011; 2012; 2013). Pairing new and established businesses has been suggested as one way to improve overall innovation, especially environmental innovation (Gibbs, 2009; Keijzers, 2002, p. 356; Nieto & Santamaria, 2010; Yarahmadi & Higgins, 2012). Suppliers and customers are logically the most common partners for innovation (Australian Institute for Commercialisation, 2011; Robinson & Stubberud, 2012). This which makes intuitive sense given that suppliers and customers would benefit from the result of a firm's innovative activities without competing with the business.

SMEs may be closer to green issues if their founders are ecopreneurs because it is easier for their values to influence the entire company. On the other hand, large businesses are more likely to have the resources to invest, the ability to risk innovation and more to gain from cost savings derived from innovation. This study examines the proportion of companies involved in innovative activities that state that reducing environmental impact and reducing material and energy use per unit of production are highly important objectives. The following section describes the results of this study comparing the proportion of innovative small, medium-sized and large businesses that value environmental innovation in these ways.

METHODOLOGY AND RESULTS

This study examined data from the 2010 Community Innovation Survey conducted by Eurostat (Eurostat, 2014). Only companies that were engaged in product or process innovation are included in this study. These results therefore present the proportion of innovative firms, not the proportion of total firms, that viewed reducing environmental impact or reducing material and energy use as highly important. Some firms may have viewed reducing environmental impact as a secondary goal or an unintended consequence of innovation. Such firms would be counted among those who did not state that reducing environmental impact was a highly important objective.

Table 1 presents the results of analysis on the data for 25 European countries in which businesses indicated whether reducing environmental impact was a highly important objective for innovation. Only countries for which there was complete data are included in this analysis, meaning some large countries, such as Germany and the United Kingdom, are omitted.

Table 1
PROPORTION OF COMPANIES CLAIMING REDUCTION OF ENVIRONMENTAL IMPACT AS A HIGHLY IMPORTANT OBJECTIVE

Country	Total	10-49 employees	50-249 employees	250+ employees	Chi-sq	P<
Norway	38%	40%	30%	47%	33	.001
Turkey	38	38	37	44	19	.001
Cyprus	37	35	42	43	3	.285
Hungary	35	30	39	51	63	.001
Slovenia	33	31	34	44	10	.006
Romania	30	24	35	49	120	.001
Latvia	27	22	32	38	11	.003
Croatia	26	26	27	34	7	.025
Lithuania	26	27	21	41	18	.001
Portugal	26	25	28	39	40	.001
Slovakia	24	23	21	36	20	.001
Luxembourg	24	21	26	34	6	.048
Ireland	23	23	23	27	2	.366
Poland	22	19	22	29	51	.001
France	21	19	24	32	225	.001
Bulgaria	21	18	24	31	30	.001
Austria	20	19	18	33	71	.001
Serbia	20	17	23	29	25	.001
Spain	19	18	21	29	115	.001
Sweden	18	17	20	30	59	.001
Malta	18	16	18	32	3	.222
Italy	17	16	21	26	251	.001
Belgium	16	13	20	31	110	.001
Czech Republic	15	13	15	28	99	.001
Estonia	13	10	15	35	40	.001

The overall averages (rounded to the nearest percent) range from 38% in Norway to 13% in Estonia. Therefore, even in Estonia, over 10% of businesses involved in innovative activities claimed that reducing environmental impact was a highly important objective for innovation. A closer look shows that Estonian SMEs were among the least likely to claim this objective (last or second-to-last among the 25 countries), but large businesses ranked 10th (just ahead of Croatia). Italian large businesses (26%) had the lowest percentage for that size, but that was a higher proportion than Italian medium-sized (21%) and small (16%) businesses. Large businesses in Hungary (51%) and Romania (49%) had the highest proportions, topping Norway's 47%.

Only six of the countries in the top ten EPI rankings for 2014 (Environment Performance Index, 2014) are included in this study. Luxembourg, which was ranked second in the 2014 EPI, was middle of the pack, with 24% of total businesses and a high of 36% of large businesses claiming the reduction of environmental impact as a highly important objective. While Norway was at the top of Table 1, it ranked 10 in the EPI. The Czech Republic (5th ranked on the EPI), Sweden (9th), Spain (7th) and Austria (8th) all were in the bottom 9 rows of Table 1, with 15% (Czech Republic) to 20% (Austria) of total businesses in these countries claiming this objective. Turkey, which ranked second in Table 1, ranked 66 in the EPI for 2014. It should be noted, however, that the data presented in this study were from the 2010 Community of Innovation

Survey. The EPI rankings for 2010 listed Sweden in 4th place, Norway in 5th, France in 7th and Austria in 8th place. Turkey was ranked 77th. Except for Norway, the other three countries in the EPI top ten were in the middle-to-lower range of Table 1 with 18-21% of total businesses and 30-33% of large businesses stating that reducing environmental impact was a highly important objective for innovation.

Chi-square analyses were conducted to examine the associations between business size and reducing environmental impact as a highly important objective. Cyprus, Ireland and Malta were the only countries for which there were not statistically signification associations between business size and the propensity to say that reducing environmental impact was a highly important goal. The total averages for these three countries were varied, with Cyprus at 37% (third highest in this study), Ireland and 23% and Malta 18%. In Norway and Lithuania, and to a lesser extent Slovakia, a pattern emerged in which there was a statistically significant association between size and environmental innovation as a highly important objective, with large businesses having the highest proportions and medium-sized businesses having the lowest. In these cases, small businesses were more likely than the medium-sized businesses to claim that reducing environmental impact was a highly important objective for innovation. This might be explained by small business founders whose green values influence their businesses. This pattern, however, was not as common as that shown in the majority of countries, where small businesses were the least likely and large businesses were the most likely to state this reason for environmental innovation.

Taken together, these results confirm previous research showing that large businesses were more likely than SMEs to engage in environmental innovation (Robinson & Stubberud, 2012; Zee et al., 2011). Large businesses may be enticed to innovate if there are savings in costs from reduced use of materials or energy. With greater production levels, larger companies would have more to gain from reduced costs per unit. One part of the Eurostat survey asked whether companies considered reduced materials and energy per unit to be a highly important objective for innovation. The data in Table 2 show the survey results for that question. Table 2 also includes the difference in percentage between the two objectives. For example, 38% of total businesses in Norway reported reduced environmental impact as a highly important objective and 34% reported materials and energy savings as a highly important objective. The difference (4%) is shown in parentheses. A positive number indicates that a higher proportion claimed reduction of environmental impact as a highly important objective compared to the proportions seeking reduced savings, while a negative number indicates a higher proportion stated that reduced materials and energy use was a highly important objective. Turkey took the top spot as the country with the highest proportion of businesses that saw reduction of material and energy cost per unit to be a highly important objective. Approximately half of all businesses engaged in innovation in Turkey claimed this objective, with only a 6% difference between small businesses (48%) and large businesses (54%).

Table 2
REDUCTION OF MATERIAL AND ENERGY COST PER UNIT AS A HIGHLY IMPORTANT OBJECTIVE COMPARED TO REDUCED ENVIRONMENTAL IMPACT AS A HIGHLY IMPORTANT OBJECTIVE

Country	Total	10-49 employees	50-249 employees	250+ employees
Turkey	49% (-11%)	48% (-10%)	52% (-15%)	54% (-10%)
Slovenia	37 (-4)	34 (-3)	37 (-3)	59 (-15)
Cyprus	36 (+1)	33 (+2)	44 (-2)	53 (-10)
Hungary	35 (0)	30 (0)	39 (-1)	46 (+5)
Ireland	35 (-12)	33 (-10)	38 (-15)	38 (-11)
Norway	34 (+4)	35 (+5)	30 (0)	42 (+5)
Latvia	31 (-4)	30 (-8)	31 (+1)	42 (-4)
Romania	30 (0)	25 (-1)	37 (-2)	46 (+3)
Slovakia	29 (-5)	23 (0)	34 (-13)	41 (-5)
Lithuania	27 (-1)	27 (0)	23 (-2)	45 (-4)
Portugal	27 (-1)	25 (0)	33 (-5)	42 (-3)
Croatia	24 (+2)	21 (+4)	29 (-2)	32 (+2)
Poland	21 (+1)	19 (0)	23 (-1)	27 (+2)
Bulgaria	21 (0)	17 (+1)	27 (-3)	29 (+3)
Austria	21(-1)	18 (+1)	24 (-6)	38 (-5)
Malta	20 (-2)	14 (+2)	31 (-13)	32 (0)
Czech Republic	19 (-4)	16 (-3)	22 (-7)	32 (-4)
Estonia	19 (-6)	16 (-6)	21 (-6)	41 (-6)
Spain	18 (+1)	17 (+1)	20 (+1)	26 (+3)
Sweden	18 (0)	17 (0)	19 (+1)	30 (0)
France	18 (+3)	17 (+2)	20 (+4)	26 (+6)
Serbia	17 (+3)	15 (+2)	21 (+2)	22 (+7)
Luxembourg	17 (+7)	13 (+8)	22 (+4)	24 (-10)
Belgium	15 (+1)	11 (+2)	20 (0)	30 (+1)
Italy	14 (+3)	13 (+3)	17 (+4)	25 (+1)

Chi-square analyses were not conducted on these data, but a visual comparison of the proportions suggests that large businesses were again more likely than SMEs to answer yes to this survey question. Saving material and energy costs was a highly important objective for 59% of large businesses in Slovenia, compared to 34% among small businesses there. Norway and Lithuania were the only countries in which this pattern did not hold. In Norway, 35% of small, 30% of medium-sized and 42% of large businesses claimed this motive. In Lithuania, 27% of small, 27% of medium-sized and 45% of large businesses saw material and energy reduction as a highly important objective.

The differences between these two motives were categorized as 0-2%, 3-5%, 6-9% and 10% or more. Among small businesses, 2 countries (Turkey and Ireland) had small businesses showing more than 10% difference, 4 countries had 4 medium-sized businesses and 5 countries had large businesses in this category. In each case, the proportion stating that reduced material and energy costs were a highly important objective was 10% or more higher than the objective pertaining to reduced environmental impact.

Whereas 5 countries had a total average over 30% for reducing environmental impact as a highly important objective, 9 countries were at 30% or greater for the total average for reducing material and energy costs. Turkey had the highest proportion of small businesses (48%), which was considerably higher than the next country, Norway (35%). In Slovakia, where small businesses were slightly more likely than medium-sized firms to seek reduction of environmental impact, the same proportions of small businesses (23%) claimed reduction of environmental impact and reduction in material and energy use as highly important objectives. The proportions of medium-sized and large businesses increased when looking at reduced costs. Whereas 34% of medium-sized businesses sought reduced costs, 21% sought to reduce environmental impact. Among large businesses, the proportion rose to 41% for reduced costs compared to 36% for reduced environmental impact.

This side by side comparison shows that businesses in a cluster of countries were more likely to state that materials and energy savings are a highly important objective than to claim reduced environmental impact as a highly important objective. The proportions for Turkish businesses were 10% higher among small businesses (48% vs. 38%) and large businesses (54% vs. 44%) and 15% higher among medium-sized businesses (52% vs. 37%). A similar pattern, but with smaller differences, was evident for businesses in Slovenia, Ireland, Latvia and Slovakia. In seven countries, medium-sized and large businesses had higher proportions for the materials and energy cost savings objective, but small businesses did not. This would suggest that in these countries, the medium-sized and large businesses were motivated by per unit cost savings—a logical outcome given that they would likely have more to gain more from reduced costs at higher production levels. It is also possible that small businesses in these countries place more value on environmental protection and see green innovation in a philosophical light rather than a strictly economic light.

Green attitudes may be more prevalent in those countries where the proportions of companies listing reduced environmental impact as a highly important objective were higher than the proportions for reduced materials and energy costs as a highly important objective. Norway, France, Serbia, Luxembourg and Italy all showed this pattern. The greatest differences were evident in the small (8% difference), medium-sized (4%) and large businesses (10%) of Luxembourg. Small and large businesses in Norway showed differences of 5%, but none for medium-sized businesses there. In France, the differences became greater along with business size (2% for small, 4% for medium-sized and 6% for large businesses). Further research should explore the attitudes of businesses owners in these countries compared to those of other countries where cost savings seems to be more important.

CONCLUSIONS

The proportions of businesses that stated the reducing environmental impact or reducing material and energy use costs were highly important objectives did not show a close association between business proportions and EPI rankings for 2010 or 2014. In the National Geographic Society (2014) Greendex, France ranked near the bottom in 2012 and 2010, while Sweden was midpack. Further research by the National Geographic Society and GlobeScan determined that in comparing data from 2010 and 2012, consumers' environmental friendly behavior increased in only 5 of 17 countries while it decreased in 9 countries to levels below that found in the original 2008 survey. This could give companies less incentive to create sustainable products if they do not directly benefit the firm, such as through lower production costs. Further research should follow this trend among consumers and businesses.

Previous research has shown that environmental innovation can contribute to a successful business strategy (Gibbs, 2009; Harvey, 1996; Millard, 2011; Revell & Blackburn, 2007; Schick et al., 2002; Tilley, 1999; von Weltzien Høivik, & Shankar, 2010). Cost savings from reduced energy use can be substantial for large businesses with high production levels. As shown in this study, larger businesses seemed to be more likely than small businesses to state that reduced materials and energy costs were a highly important objective for innovation. A comparison of the two objectives shows that small businesses were more likely than medium-sized and large businesses to value reduction in environmental impact and reducing in material and energy costs at a similar level. That is, in 15 of the 25 countries included in this study, the difference between the proportion of small businesses claiming each objective as highly important varied by no more than 2%. This was true of medium-sized businesses in 11 countries and large businesses in only 6 countries. Among large businesses, the differences between these two objective was greater than 10% in 5 countries, with reduced costs always being claimed more often. This may indicate that large businesses place more value on the economic benefits of cost savings that can come from environmental innovation.

Small businesses may be more likely to have green awareness and green values (Zee et al., 2001) as ecopreneurs found businesses (Beveridge & Guy, 2005; Cato et al., 2008; Gibbs & O'Neill, 2012; Kirkwood & Walton, 2010; Linnanen, 2002; Rodgers, 2010; Schaltegger, 2002; Schaper, 2002; Schick et al., 2001; Tilley & Young, 2009; von Weltzien Høivik & Shankar, 2010). This research, however, shows that the proportion of small businesses that claimed reduced environmental impact as a highly important objective for innovation was generally lower than that of large businesses. The comparison with reduced material and energy use as a highly important objective begins to show a more complex picture. Large businesses may actually be more motivated by reduced costs than by environmental protection.

Further research should examine these motives to determine the role that sustainability, green values and the desire to protect the environment plays in business strategy and innovation. In particular, a more longitudinal analysis should be conducted to determine how significant of a role environmental regulations have played in green innovation over the years.

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TRANSFORMATION TO MORE-ACCRUAL-BASED ACCOUNTING PRACTICES IN INDONESIAN GOVERNMENT

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ABSTRACT

More and more countries have shifted or are shifting toward either full or partly accrual governmental accounting. However, the forces leading to this change particularly in developing countries have rarely been discussed. This study aims to bridge the gap in the current research by providing detailed historical approach of the transformation to accrual accounting in Indonesian government. Employing the perspective of new institutional theory, the research found out that the decision to move to accrual accounting in Indonesia—as well as other developing nations—can be largely attributed to coercive influences from international donor organizations.

Keywords: accrual, public sector accounting, institutional theory, coercive isomorphism

INTRODUCTION

If the base of accounting is illustrated as a continuum between cash and accrual, public sector accounting has always been inclined to the cash spectrum of the scale. Numerous explanations have been explored and stated to explain why accounting for government significantly differs from its private counterpart (see for example Barton, 2004; Chan, 2003; Buhr, 2012). It was not until the early 1980's when governments started to move to accounting principles that are similar to the ones used in the private sector. This movement is a part of New Public Management (NPM) where accounting holds a crucial role as an instrument to support public sectors in order to improve their performances (Hood, 1991, 1995).

The movement to accrual accounting was pioneered by developed countries namely Australia and New Zealand. The migration to full accrual accounting by these countries is a part of the public sector reform brought by the NPM ideology (Hood, 1995). Following the steps of developed countries, developing and emerging countries are also in the process of either adopting, already implemented, or still constructing their own accrual-based governmental accounting standards. However, while changes were brought by internal pressures in developed countries, in developing countries, changes were induced by external factors such as the role of the International Monetary Fund, the World Bank and the Asian Development Bank (James and Manning, 1996). Moreover, these multinational organizations worked conjointly with international accountancy professional bodies such as International

Federation of Accountants (IFAC) to facilitate changes in the system of government accounting in developing countries (Hepworth, 2003; Sutcliffe, 2003).

In Indonesia, the pronouncement of Law 17/2003 marked the government's decision to adopt a full accrual basis of accounting. The change toward accrual governmental accounting practices, however, stems from as early as 1980s. There is limited literature on the process of moving toward accrual accounting in developing countries in general and Indonesia in particular. In Indonesia, Harun et. al. (2012) explained the process of the institutionalization of accrual accounting within Indonesian local government by employing Dambrin et. al. (2007) institutionalization process model (IPM). While the study indicates that outside pressure plays an important role to the movement, it does not explore on how the force is exerted on Indonesia. Moreover, even though the process of the reform is extensively explained, the study does not provide details on the accounting change itself. This research is conducted by examining legal documents, official reports, as well as other publicly available information to identify and present detailed chronological evidence regarding public sector accounting development in Indonesia. The evidence will then be discussed based on DiMaggio & Powell's (1983) new institutional theory on institutional isomorphism.

The objective of this paper is to identify the forces leading to transformation to a more accrual-based public sector accounting in Indonesia by presenting comprehensive and chronological evidence of the public sector accounting development and the issues surrounding the implementation of such reform. In order to do so, NPM that underlines the reform will be explained. Next, prior research regarding public sector accrual accounting in both developed and developing nations will be briefly discussed and theoretical background will be explained. The methodology employed in this study will be presented followed by chronological details on the public sector accounting development in Indonesia. Findings of this paper will be analyzed in the discussion and then conclusion and possible future study will be drawn.

ACCRUAL ACCOUNTING AND NPM MOVEMENT

New Public Management (NPM) is a term that was coined in the early 1980's to indicate a shift towards a new public management style. According to Hood (1995), this era had two fundamental features: "public sector distinctiveness" and "rules versus discretion" (p. 96). The first feature, "public sector distinctiveness", means that the differences between public sector and private sector should be reduced or removed which is often marked by creating segregation or unbundling organizations into separate entities, increasing competition between public sector entities or between public sector and private sector, practicing proven private sector management style, and putting more discipline on the use of economic resources (Hood, 1995). The second feature, "rules versus discretion", was stated to explain that public administration in this era was set to increase accountability by establishing clear assignment of responsibility, constructing measurable standards and instituting performance measurement, and putting more emphasis on results, rather than on procedures and controls (Hood, 1995).

The NPM era and its characteristics mainly focused on how to adapt commonly applied private-sector management styles into public sector. The philosophy behind this movement is the preconception that private sector management styles are superior compared to the public sector administrative processes. One form of adaptation induced by NPM is the use of accrual accounting which is a common accounting basis used in the private sector.

Accounting has played a crucial role in NPM-reforms. Hood (1995) stated that a shift toward "accountingization" was central to this change of modes of public management. The term "accountingization" was used to indicate the introduction of explicit cost categorization in areas where costs were formerly only aggregated, pooled or undefined (Hood, 1991, 1995). Since the one center of NPM is to increase accountability, accounting serves as a vital tool to achieve transparency and to measure accountability which can be attained by presenting information on the performance of a public sector entity in monetary units. Moreover, in NPM, public sector officials are prone to skepticism which means that their activities need to be closely costed and evaluated by accounting practices (Hood, 1995). As a result, conventional cash accounting which was formerly used in the public sector is considered not appropriate any longer to achieve a transparent and accountable management. Cash accounting in the public sector is viewed to pay attention merely on the execution of budget and compliance to the legal system, rather than on how to manage economic resources effectively (Pallot, 1998). Therefore, in NPM, the use of accrual accounting is considered appropriate since this system allows public officials to know the full costs to their various activities, to get a comprehensive view on an entity's assets and liabilities, and also to monitor financial sustainability.

Subsequent to the spread of NPM philosophies, governments in numerous countries have embraced private sector management styles, including the way of thinking and the models or methodology used (Guthrie et al., 1999). Guthrie (1999) also noted that this change has not occurred only in state-owned or public enterprises, but also in the core functions within the governments. Under the umbrella of NPM, public sector bodies have transformed their financial statement to incorporate accrual accounting principles which are believed to be the vital tool to achieve transparency and accountability. It is believed that several driving forces such as the wish to infuse more financial awareness into the decision-making process in the public sector and the demand to provide comprehensive, transparent, and accountable information to all stakeholders are the reasons behind these reforms (Guthrie et al., 1999). The information presented is expected to help both government officials in the decision making, and citizens and/or other stakeholders to measure the extent to which revenues meet the full cost to deliver public service. The influential actors in bringing about these NPM-related reforms are politicians, financial institutions, management consultants, scholars, the media, and international organizations (Pina and Torres, 2003).

The decision to move to accrual accounting might seem unproblematic since accrual accounting constitutes as the proven method in the private sector. However, the different nature of public sector compared to private sector creates certain difficulties and limitations to which extent should these changes be implemented. The concern of generalizing accounting standards across sectors has always been a long-debated issue since the early NPM movement until recently. For example, Mautz (1981) argued on the differences between public sector and private sector and criticized that, "forcing financial accounting and reporting into the business balance sheet and income statement models will fail to meet the needs of most of the interests to be served" (p. 60). Furthermore regarding this matter, Buhr (2012) explained the following:

> *On the surface, it may seem that accrual accounting, as developed for the private sector, could be imported directly into the public sector, but the extent to which this could be done produced the most notable tension in the introduction of accrual accounting to government*. (p. 289)

A number of literature have also paid attention to the differences between public sector and private sector that possibly will make the implementation of accrual accounting not as easy as it sounds (see for example Barton, 2004; Chan, 2003). According to these sources, there are a number of important ways on how public sector differs from private sector. These differences include:

1. Activities in the public sector are not intended to make profit, thus, the style of accounting which is mainly intended to measure profit is not appropriately applicable in the public sector;
2. In the public sector, the sovereignty of government means that the elected government has regulatory powers such as to confiscate upon taxes on its people and to manage government resources while in the private sector this particular type of power does not exist;
3. Most transactions in the public sector are non-exchange transactions which means that revenues received (e.g. from taxes) do not provide equal value in return while the services provided (e.g. for building infrastructures) do not receive equal value in return. Consequently, the principle to match revenues earned and costs incurred (called the matching principle) which is used in accrual accounting therefore is not applicable in public sector setting;
4. Assets in government are comprised of wider range of types that private sector does not have to deal with. These assets, including infrastructures, military and heritage assets, are mainly not used to generate revenues. Moreover, since the nature of these assets is unique compared to those in private sector, the valuation and the decision and methods used to depreciate assets are debatable; and
5. Compared to the private sector, government is held accountable in a broader way and also to a wider scope of stakeholders.

Over the time, a number of researchers have noted that accounting has dominated NPM reforms and agendas (see for example Hood, 1995 and Guthrie et al., 1999), while other researchers questioned if the change to accrual accounting was just rhetoric to support bigger hidden purposes of the reform (see for example Carlin & Guthrie, 2009; Guthrie, 1998). While accrual accounting in its position in NPM related reforms have been questioned in a number of ways, it does not stop the global movement to accrual accounting.

PREVIOUS RESEARCH IN DEVELOPED AND DEVELOPING COUNTRIES

There are abundant bodies of literature concerning the motivation to adopt accrual accounting from developed countries as the pioneers for the movement itself are mostly from more developed nations. Following the agendas of NPM, the adoption of an accrual accounting has become the main reform in order to enhance public sector accountability and transparency.

The move toward a comprehensive accrual accounting in the world has been pioneered by Australia and New Zealand in the late 1980s (see for example Buhr, 2012; Carlin, 2004a). The latter country became the first nation to implement accrual accounting at both a national and agency level and to produce its financial statements on a full accrual basis (Carlin, 2004a, Baker & Morina, 2006). While the inclination toward accrual accounting in New Zealand had been shown by the early 1980s when many government trading enterprises started to implement the system, it was not until the late 1980s when the government officially enforced the implementation of accrual accounting (Pallot 1996 and Carlin, 2004a). The change toward accrual accounting was part of a wave of government reform brought on primarily by fiscal difficulties (see for example Pallot, 1996; Halligan, 1997). During this time, the government produced two pieces of legislation, the State Sector Act 1988 and the Public Finance Act 1989, and by December 1990, all existing New Zealand government departments had moved to accrual accounting leading to the production of accrual based whole government reports for the following year (Ball et al., 1999).

While the migration to accrual accounting in New Zealand is in a whole-of-government basis, in Australia, the change was initiated by a local government (Christensen, 2002). In Australia, the drive for change came along the election in 1988 where the appointed leader of New South Wales (NSW), Nick Greiner, promoted an “NSW Initiated” vision of running the government like a business (Christensen, 2002 and Carlin, 2004a). In the course of his leadership, Greiner also requested the production of The Curran Report which proposed the adoption of a “corporate management framework” in the governmental environment (Groom, 1990, p. 144). Prepared by NSW Commission of Audit, the report contains several recommendations, including the implementation of accrual accounting which was seen as a radical measure at the time (Curran, 1988 and Groom, 1990). The adoption of accrual accounting and reporting in NSW government was achieved within a proposed timeframe of a three year roll out period which was in advance of the implementation of the same system in other states (Walker, 1995).

The change toward accrual accounting in both Australia and New Zealand is primarily brought by internally-induced NPM reforms, either caused by fiscal stress or by the enthusiasm of politicians to introduce business-like management system in the governments. In point of fact, for most developed countries, the decision to adopt accrual accounting is mainly related to NPM reform (see for example Lye et al., 2005; Pallot, 1996; Christensen, 2002; Buhr, 2012; Baker & Morina, 2006; Ellwood, 2002; Brorstrom, 1998; Paulsson, 2006; and Bac, 2002). Ellwood (2002) suggested that the transformation to accrual accounting in United Kingdom (UK) can be attributed to NPM reform led by “perceived need for improved information” (p. 587). On the other hand, the reform of public sector accounting in Canada was caused by the coercive influence from the Office of the Auditor General of Canada supported by the normative influence of the Canadian Institute of Chartered Accountants’ Public Sector Accounting Board (Baker & Morina, 2006). Moreover, in Sweden, the change was a part of a wider public sector reform preceded by the acceptance of “norm maker” ideas of to conduct efficient management as in the private sector (Brorstrom, 1998, p. 328 and Paulsson, 2006). To conclude, a comparative study in Anglo-American countries (Australia, Canada, New Zealand, the United Kingdom, and the United States) conducted by Buhr (2012) revealed that the motivation to adopt accrual accounting in these countries can be attributed to the 1980s philosophy of NPM.

The migration to accrual accounting in developed countries is followed by the same movement in developing countries. While changes were induced by NPM-related reforms in developed countries, in developing countries, however, changes were driven by the requirement to comply with the rules issued by international financial authorities such as the International Monetary Fund (IMF), the World Bank and the Asian Development Bank (James and Manning, 1996). New Zealand in particular has been regarded as highly successful in its accrual accounting implementation, thus, became the exemplary used by international donor organizations in developing countries (Bale & Dale, 1998). Exemplary to this situation is the study conducted by Adhikari & Mellemvik (2011) where it indicates that government accounting developments in Nepal demonstrate that “the country has been widely exposed to the accounting ideas and practices introduced and disseminated by international organizations and donors” (p. 134). Similar situations also occurred in Ghana (Abu, 2009), Fiji (Alam & Namdan, 2008 and Sharma & Lawrence, 2008), and Sudan (El-Batanoni & Jones, 1996) where the changes toward accrual accounting in these nations were induced by international donors. Even though the change to accrual accounting has been extensively observed in developing countries, studies concerning the reasons or motivation for the change are still limited.

From the literature from both developed and developing nations, there is a tendency that can be drawn. Research from developed countries suggested that the movement to accrual accounting was brought primarily by internal pressure, either from economic problems or from initiative of politicians, in order to enhance the public management system. On the other hand, limited studies from developing countries have shown that the same change in the less developed or emerging nations was mostly caused by external pressure from international donor organizations.

THEORETICAL BACKGROUND

The movement of countries toward adopting public sector accrual accounting can be explained with the new institutional theory. In this theory, accounting for government is seen as a legitimating institution, in which it may function as one factor to seek legitimacy from other countries, international organizations, its own nations, or other groups of interests. To pursue legitimacy from its stakeholders, a country might seek to change its accounting to achieve homogeneity. This process of legitimating activities, however, may possibly cause decoupling—a term used when the effects of a particular movement differ from its previously desired outcome. This section will further explain about accounting as a legitimating body, the different mechanisms of adapting to achieve homogeneity, and the risk possessed in the process of legitimation.

According to new institutional theory, one of the factors that may have influence on organizational success is the extent to which an organization is able to achieve and preserve legitimacy in its environment. Richardson (1987) suggested that accounting constitutes as a legitimating institution. Suchman (1995) tries to define legitimacy in a broad way that incorporates both evaluative and cognitive dimensions: "Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (p. 574). Organizations seek legitimacy for many reasons which are to enhance either continuity or credibility and/or to seek active support or merely passive acquiescence (Suchman, 1995). From the perspective of the public sector, legitimacy might be pursued from other national governments, international organizations, investors, groups of interest, and citizens of own country.

Neu (1992) suggests that management of an organization may mimic the accounting practices of other apparently successful organizations for legitimacy and technical reasons. In the public sector environment setting, government might seek legitimacy for its actions—including the decision to adopt accrual accounting—by following measures employed by the private sector, other governments, and even international organizations. When an organization adapts to certain measures thus resulting in homogeneity with other organizations within its environment, the legitimacy of this organizations will ultimately increase. According to new institutional theory, the process of adapting institutionally acceptable practices where organizations resemble each other both culturally and structurally is recognized as institutional isomorphism (DiMaggio & Powell, 1983).

DiMaggio and Powell (1983) identify three mechanisms through which institutional isomorphic change takes place: coercive isomorphism which stems from political influence and legitimacy problems, mimetic isomorphism which is standard response to uncertainty, and normative isomorphism which is associated with professionalization. While all three mechanisms intermingle in empirical setting, they tend to derive from different conditions thus leading to different result (DiMaggio and Powell. 1983).

According to DiMaggio & Powell (1983), coercive isomorphism results from "both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within the organizations function" (p. 150). The natures of how these pressures are felt in the organizations differ, might they be felt as forces, persuasion, or even invitation. In the context of public sector accrual accounting, a form of coercive isomorphism is when international lending agencies (such as the IMF, the World Bank, ADB, or UNDP) exert on the use of accrual accounting on developing countries as a required prerequisite to be able to exercise the loan.

Mimetic isomorphism emerges under the condition of uncertainty which acts as a powerful force encouraging organizations to imitate other successful organizations (DiMaggio and Powell, 1983). Enhancing legitimacy or avoiding loss of legitimacy has been the desired outcome of mimetic isomorphism. Related to mimetic isomorphism, Baker and Morina (2006) noted that "while these organizations may not be certain about what they should do when facing challenges, by adopting structures and processes used by similar organizations, they are at the very least being seen to be doing *something"* (p. 88). In the perspective of accrual accounting in the public sector, the concept of mimetic isomorphism can be perceived in the case of developing countries following the accounting measure used in developed countries where its application has been successful. The practice of accrual accounting in developed countries is perceived as legitimate, thus, by following the mentioned practice, developing countries hoped that they can enhance their legitimacy or at least avoid further loss of legitimacy.

According to DiMaggio and Powell (1983), normative isomorphism is derived from two aspects of professionalism. First is the resting of formal education and of legitimation of a cognitive base and the second one is the growth of professional network that cross organizations and between which new models are diffused (DiMaggio & Powell, 1983). Normative isomorphism represents the influences of what are perceived as normal standards and conduct. This type of isomorphism explains how professional networks facilitate information exchange across organizations and thereby diffusion of new practice is achieved, leading to similar behavior by members of distinguishable professional groups. In the context of public sector accrual accounting, NPM related reforms in governmental organizations can be perceived as one form of normative isomorphism. Adapting business management styles, which are seen as superior, means conforming to the practice of professions from the private sector. This action leads to the application of the same measures in both public and private sectors.

Coercive, mimetic, and normative isomorphism can result in increased homogeneity which is comprehended as a way to increase legitimacy within an organization. Where legitimating activities do occur, however, decoupling may exist. Decoupling happens when legitimating activities are done merely to seek legitimacy. Decoupling represents a divergence of legitimacy-seeking activities and technical activities. It means that even though legitimating formal structures are being maintained, actual activities will vary based on technical requirements. In the case that decoupling occurs, adopting accrual accounting as a legitimacy-seeking activity will not result in the changes it was intended to effect. The problem of decoupling in public sector accounting reform has been extensively summarized by Harun (2012). Harun (2012) identifies five different types of decoupling in public sector accrual accounting reform, which are:

1. Decoupling between the development of accounting regulations and the design of the system to facilitate their adoption and implementation;
2. Decoupling caused by inconsistencies across government agencies with respect to the extent of their implementation of the accounting system;
3. Decoupling between the production and the use of public sector accounting information;
4. Decoupling between the costs and benefits of accounting reforms; and
5. Decoupling between accrual accounting information produces in accordance with accrual-based public sector accounting standards and the accounting information needed by the user.

METHODOLOGY

The aim of this study is to identify the forces leading to transformation to a more accrual-based public sector accounting in Indonesia by presenting comprehensive and chronological evidence of the public sector accounting development as well as the issues surrounding such reform. The unit of analysis identified in this study is The Government of Indonesia, not a particular government agency, department, or a local government. The research is focused on understanding the change in respect to accounting policies in the Indonesian government as a whole unit.

To collect evidence on the accounting development in Indonesia, this study uses data from two sources:

1. Laws and regulations related to development of public sector accounting in Indonesia; and
2. Publicly available information including indexed journal periodical and publications from international authorities.

The laws and regulations are examined to heighten the knowledge on the government's policies underlying public sector accounting. Relying solely on these laws and regulations will not be sufficient to understand the information on the chronological evidence, key actors and the forces leading to the change. Thus, this study has also explored publicly available documents such as indexed publications, working papers and official reports from international financial authorities, along with published policy papers from government institutions.

PUBLIC SECTOR ACCOUNTING DEVELOPMENT IN INDONESIA

Period from the Dutch Colonial until 1980s

Since its independence in 1945 until 1980s, Indonesia implemented public sector accounting based on the 1864 Dutch Financial Administration Act which was inherited from the Dutch colonial. An Indonesian translation of this regulation was prepared in Indische Comptabiliteitswet (ICW) Staadsblaad 1925 No. 448 on State Treasury and a minor change on the reporting period for government budget (from January-December to April-March) was enacted in Laws 9/1968. Despite some insignificant modifications of the previous regulation, public sector accounting has failed to emulate the increasing and wide-ranging government's financial transactions (The World Bank, 1988).

During this period, the practices of governmental accounting solely focused on evaluating compliance of cash usage within the mandated budgetary allocation. The main characteristics of accounting practices at this time are:

1. Cash-based single-entry record. Revenues and expenditures were simply recorded on a list of cash income and cash disbursement.
2. Unharmonious reporting systems. Even though Ministry of Finance (MOF) was responsible for consolidation of financial reports for all central government's revenues and expenditures into a Budget

Calculation Report (PAN) presented to the Parliament, the prepared PAN was incompatible because a number of reasons: (i) there was no uniform chart of accounts; and (ii) revenues and expenditures were recorded in different points in the transaction cycle. As a result, the PAN contained significant amount of estimates and lacked of a uniform and consistent basis.

3. Dual classifications of investment and routine government activities in the Budget Report (PAN). The PAN was divided into two parts: routine activities and investment activities. Both parts were classified based on heavily fragmented sectors. Each sector in both routine and investment budget would contain capital expenditures and recurring expenses which therefore might lead to double recognition. As an example, industrial as one sector in both routine and investment budget would have fixed asset expenditures as well as personnel expenditures. As there were no specific standards on the classification of items, reconciliation between all sectors became unattainable.
4. No records of assets. Since accounting offices were not in charge of recording fixed assets and other inventories, such information could not be provided in the financial accounts. Insufficient regulations in recording of government's assets means that stated value and physical condition of the assets became unreliable.
5. Overdue reporting. Reporting of PAN to the Parliament was typically delayed two to three years after the ending of fiscal year in question (The World Bank, 1988). In its staff appraisal of Accountancy Development Project in Indonesia, the World Bank (1988) notes that PAN was delayed because of shortage of qualified accounting staff and bottlenecks in recording and consolidating accounts.

Period from 1980s until Reformation

The initiative to modernize public sector accounting started in the late 1970s when the World Bank and Indonesian government conducted a project named Polytechnic Project. This project was implemented because there was a concern on the lack of higher level specialists on several aspects of government activities as mentioned by the staff appraisal report of the World Bank (1978):

> *In response to growing shortages of higher level manpower the Bank conducted a subsector survey on higher technical education in 1977. This survey identified two priority areas for investment, viz. the need to introduce a system for training middle level technicians and to improve degree level technical training (mainly in engineering, science and the management sciences including accountancy).* (p. 21)

The field of public sector accounting in particular received a lot of criticism regarding inexperienced government accountants in dealing with public-sector-related practices. In regard to this, the World Bank (1978) observes:

> *The prevailing accountancy degree program in Indonesia emphasizes financial accounting and auditing but offers limited scope for intensive specialization..... The existing staff need upgrading: most have been theoretically trained and have had limited experience in the application of accounting methods, but few have specialized in such areas as controllership, accounting systems, budgeting, management and industrial accounting, computer accounting and auditing, and government and public enterprise accounting.* (p. 17)

Under the Polytechnic Project, MOF conjointly worked with the World Bank to commission an extensive study of needs for changes in government accounting practices. This project created certain awareness among the higher level officials that accountancy in Indonesia in general needed an upgrade.

Besides the new awareness of proper accounting needs in the late 1970s, a financial crisis experienced by Indonesia in the early 1980s had driven technocrats in the MOF to propose a change to modernize government accountancy. Prawiro (1987) who was the Minister of Finance, in International Financial Management Conference in Washington D.C. in 1996, argues that the old accounting systems inherited from the Dutch have been unsuccessful to keep up with the government needs. The financial crisis, caused by a drop in the oil price, significantly affected Indonesia which was an exporter of crude oil at the time (Harun, 2012). Government revenues, which derived mostly from oil exports, decreased considerably leading to Indonesian government seeking more financial aids from outside. During this time of fiscal crisis, the government was under scrutiny by the international financial authorities and as a result, transparency and better accountability of public funds is a must. An academic interviewee in a study conducted by Harun (2012) stated:

> *[During the 1980s] we simply needed a better recording system to ensure that public money was properly spent for a better result."* (p. 266)

In a response to the need for a better recording system and the demand of transparent and accountable use of public funds, a project to improve accounting practice was approved and fully funded by the World Bank (1988). The task, known as Accountancy Development Project 1988-1991 subsequently renewed by The Second Accountancy Project in 1994-2001, established a comprehensive program of projected changes to revolutionize public sector accounting. One of the primary objectives of this project is to improve accounting practices in the public sector, by supporting the introduction of modernized government accounting practices, initially in the MOF and three other ministries.

The project identified conspicuous deficiencies of the archaic accounting practiced in Indonesia. Single-entry accounting and the delayed reporting of PAN are thought to be the most crucial shortages. The World Bank (1978) in its staff appraisal report states:

> *The present government bookkeeping system is still the single entry system inherited from the colonial administration, which is inadequate for modern public administration. As an indication of the inadequacy of present accounting practices, summary financial statements lag by at least two years and have not been prepared for most fiscal years. The Government now plans to undertake a study to determine means to modernize the government accounting system and procedures.* (p. 19)

Comparisons between the public sector and the private sector were heavily mentioned in the assessment of previous accounting practices. The World Bank believed that governmental accounting is needed not only for its compliance function, but it also has to serve as an instrument to measure performance and to make decisions as it is used in the private sector. In this case, the World Bank (1988) discusses:

> *Government accounting practices in Indonesia have changed little since the 1864 Dutch Financial Administration Act on which they are based.... They have also fallen behind the private sector, where more modern accounting practices are being adopted. Moreover, government accounting practices have not developed beyond their historical role of measuring compliance with mandated budget allocations (a role which is in any event only incompletely discharged because of system deficiencies and delays). In particular, they have not evolved to reflect the newer functions of accounting as an*

instrument of performance efficiency and effectiveness, widely adopted elsewhere both in public administration and in the private sector. (p. 4)

In order to overcome the insufficiencies in government accounting, the program proposed changes to be introduced in the central government. The most important shift to a more accrual basis was the double-entry recording and introduction of balance sheet accounting. In the basis of recording, all revenues and expenditures are to be kept in the book on a double-entry basis, with offsetting debits and credits. Whereas double-entry accounts are employed "to improve accuracy and completeness of government accounts", balance sheet is introduced "to support accountability for state investments" (The World Bank, 1988, p. 12). In this regard the World Banks (1988) remarks:

To support enhanced accountability for state investments, the notion of government equity is to be introduced into government accounts by distinguishing capital items in government revenue and expenditure accounts, and carrying them in separate asset and liability accounts. (p. 12)

Another issue to be tackled by the project was the unharmonious reporting systems caused by a lack of standardized chart of accounts. The proposed change in this area was to introduce a uniform chart of accounts and to consolidate central government accounting. A chart of accounts was developed to assure consistency of recording and reporting, while the central government accounting was consolidated "to improve the timeliness, accuracy, and completeness of reports on overall government revenues and expenditures" (The World Bank, 1988, p.12). In addition, the project also addressed the need to improve agency accounting in which the responsibility for maintaining basic agency accounts is to be decentralized. This measure was hoped to bring more accuracy and less estimate-based reporting of PAN. In this case the World Bank (1988) states:

Expenditures will be classified in agency accounts by program/project and category of expenditure—introducing detail on program-level components which is not generally available under current classifications of agency accounts. At the same time, controls are to be applied by the agencies in extracting and reporting information for the consolidated budget report; this will strengthen financial control of the accuracy and completeness of reports on government revenues and expenditures. (p. 12)

During the implementation of the joint accountancy project, the government produced significant regulations to mark Indonesia's first steps to shifting to accrual accounting. The first regulation was Minister of Finance Decree 476/1991 which stated on the need of a modern governmental accounting system. To answer to this need, in 1992 the government established State Financial Accounting Agency (BAKUN) to develop the necessary system to revolutionize governmental accounting practices (see President Decree 35/1992). Aside from developing proper accounting standards, BAKUN was also responsible for maintaining and consolidating government-wide accounts of revenues and expenditures. However, the progress of BAKUN's work was evaluated as sluggish by the World Bank (2001a):

The modernization of the Government accounting system has not been realized after since 1988, 12 years of implementation. The old pre-GAS I manual system is still in use by BAKUN to produce the PAN (State Budget Realization) reports to the Government and the Parliament. (p. 6)

It was not until the year 2000 when President Abdurrahman Wahid issued President Decree 17/2000 on Government Financial Accountability. This decree stated that central government must issue financial reports comprised of budgetary report and a balance sheet. Subsequently, Minister of Finance Decree 1/2001 on Capitalization of Governments' Assets on Governmental Accounting System and Minister of Finance Decree 295/2001 on Bookkeeping and Reporting System for Ministries/Departments were published to answer to balance-sheet demand. Both of the decrees simultaneously regulated the recording of government's assets, liabilities, and equity to be presented in the balance sheet. Computerized government accounting systems had also been introduced for consolidation purposes.

Despite some progress made by the government, the joint accounting project of Indonesia and the World Bank was believed to be unsatisfactory. The World Bank (2001a) in its Implementation Completion Report of The Second Accountancy Project observes:

> *The overall rating for the Project is unsatisfactory because performance indicators relating to factors such as (i) outcome, (ii) sustainability, and (iii) institutional development impact are either unsatisfactory, unlikely, or modest, while the Bank's overall performance is unsatisfactory.* (p. 6)

The issues were mainly related to failure to include experts on developing sound governmental accounting systems, difficulty of the implementation due to insufficient institutional capability, resistance from higher-level officials and limited usage of accounting information for decision making. During the design process, insufficient staff who has the knowledge and practice in public sector accounting was one of the main problems that hampered the success of the accountancy project. Regarding this case, the World Bank (2001a) recommends:

> *There should be an appropriate mix of skills in the design and implementation monitoring teams, to ensure that project design is appropriate to the needs of users and the country environment and that it remains relevant throughout the project cycle. It appears that none of the team members at the various stages of the project had the requisite public sector experience and understanding that would have been helpful in realizing the ambitious design scope and the risks of implementation of such a project in a public sector environment.* (p. 6)

In the implementation level, institutional capability, including human resource capacity and information technology application, was also seen as not well-prepared to implement the relatively new system as stated by the World Bank (2001a):

> *Human resource capacity of the country should be carefully evaluated prior to the provision of Bank advice on modernization and reforms.* (p. 7)

> *Aside from bugs, implementation problems also arise because government staff implementing the system still have to learn and adjust to the new system. Unlike developed countries which have an abundant supply of well trained and skilled accountants and computer personnel, government staff in this country, especially in the regions are not as skilled.* (p. 36)

Another problem in the implementation level was that there was significant resistance and lack of participation from higher-level senior officials as stated by BAKUN in the World Bank (2001a):

The task which BAKUN had to accomplish to date was enormous. It was not just a case of developing, and implementing a government accounting system. It involved institution and capability building in an environment which for a long time was "unsympathetic" towards the idea of modernizing the accounting system. (p. 36)

High level government commitment is crucial for success in any major reform program. This commitment is needed not only from ministries but also from senior Government officials, who can make or break any reform efforts simply through their participation or lack of participation. (p. 7)

The accounting reform, ultimately hoped to bring new management practices in the government, failed to facilitate officials in the decision-making activities. In this regard, the World Bank (2001a) criticizes:

In spite of the success in introducing modern and computerized government accounting systems to government agencies and capturing financial data in 12 provinces, reports produced by the systems are still inadequate both in terms of quantity and quality in order for them to be used as the basis for sound economic decision making. (p. 5)

Post Reformation Period

The 1997 Asia-Pacific Financial Crisis hugely affected Indonesia's economic, political, and social situation. Subsequent to the collapse of Soeharto, Indonesia and several other countries received financial assistance from IMF in order to help restoring the economy. Attached to this aid package was the prerequisite to reform banking and fiscal systems, and to increase overall public sector management (Harun, 2012). Regarding this precondition, Barclays Economic Review (1998) remarks:

In return for the IMF-sponsored international multi-billion dollar rescue packages, the governments of South Korea, Indonesia, Philippines and Thailand have pledged to undertake a series of reforms aimed at removing the barriers to enhance efficiency, productivity, transparency and accountability. (p. 24)

One of the strings attached to the bailout package at the time was to adopt the new Government Financial Statistics (GFS) developed by IMF in 2001. In a series of Letter of Intent to IMF, the government stated that it will implement GFS as practiced by the IMF in order to achieve better transparency, accountability, and decision making. The new GFS, intended to serve the macro-level of whole-government accounting, employs double-entry accrual accounting as remarked by the Khan & Mayes (2009):

At the macrofiscal level, the importance of accrual accounting for macroeconomic policy arises from the fact that it measures assets and liabilities that are relevant to the overall stance of fiscal policy and fiscal sustainability, but which are not measured by cash accounting. In particular, whereas cash accounting measures only conventional debt, accrual accounting measures other quasi-debt liabilities such as accounts payable for the receipt of goods and services, and employee liabilities (e.g., for civil service pensions). (p. 3)

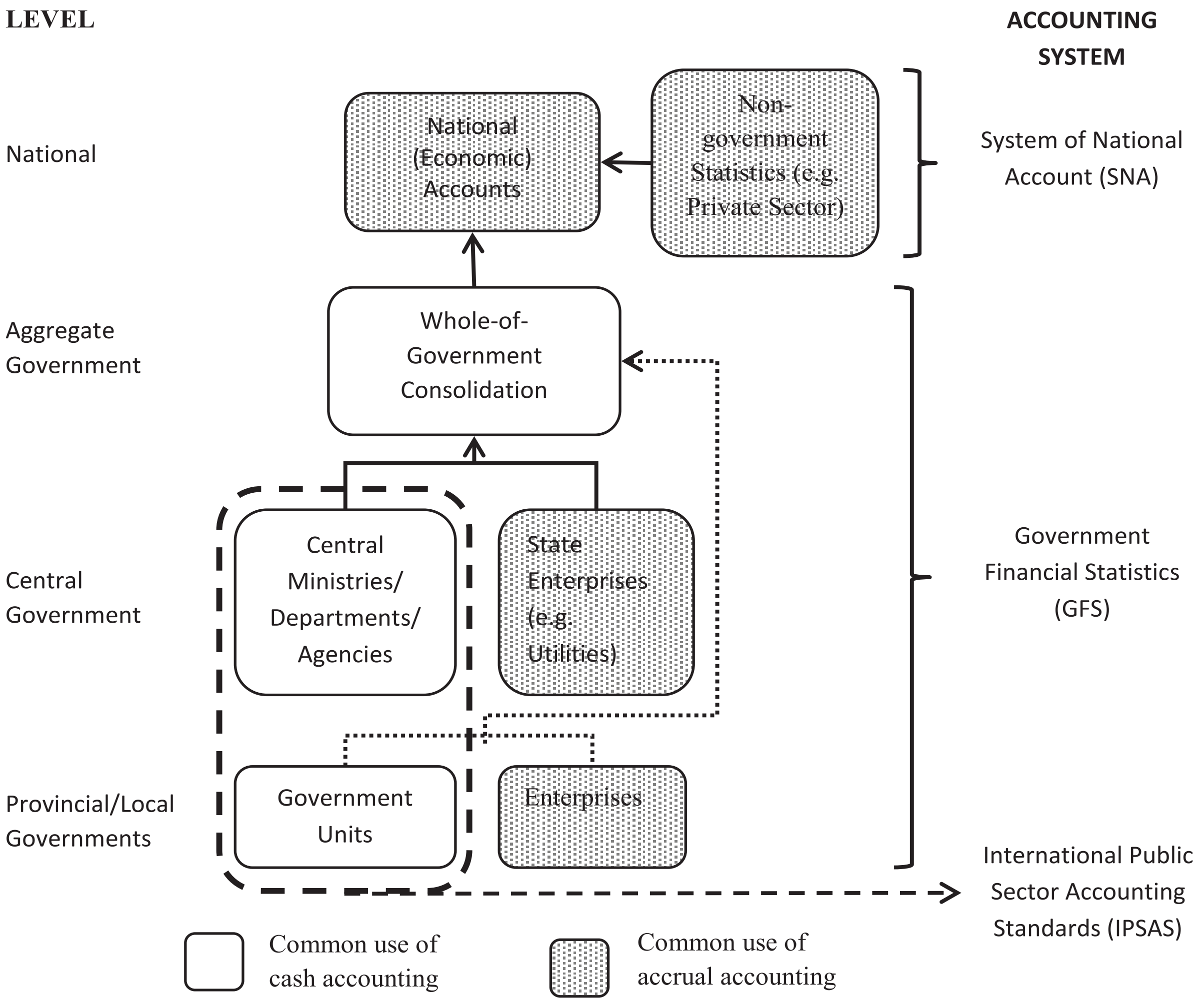
In order to support GFS and to be able to achieve harmonization between all government accounts, governmental accounting at the micro-level is also required to be based on accrual. The decision of government to adopt GFS, intertwined with the Second Accountancy Project, was reflected in the World Bank (2001a) report:

The adoption of the full GFS classification framework will necessitate changes to the system's coding and reporting formats. Despite the commitment given by the Government in its Letter of Intent to the

> *IMF, there has been no significant development work to implement the decision to adopt GFS with respect to the budgeting and accounting systems.* (p. 12)
>
> *The decision to develop an accounting system using double entry bookkeeping was made by the government at the urging of the World Bank. This was a requirement in the Terms of Reference for the initial study.... The decision to adopt double entry is more urgent now with pressure from the IMF and the WB for the government to adopt the new GFS (which calls for the use of double entry). We believe questioning the use of the double entry system for GAS I and GAS II is not appropriate at this time because it will only generate confusion and doubt in the minds of people about what really is the best practice. Moreover, it will simply throw back the criticism on the WB, since it was the original sponsor of this move.* (pp. 30-31)

The pressure to shift to accrual accounting also came from other international financial authorities such as Asian Development Bank (ADB) with its Country Assistance Plan in which the bank revealed serious concerns for accountability in the public sector (Harun, 2012). Furthermore, the United Nation (UN) called for the implementation of System of National Accounts (SNA) which is an integrated set of macroeconomic in the context of a set of internationally agreed concepts, definitions, classifications and accounting rules. Both GFS and SNA call for the use of accrual public sector accounting. To answer to the demand of an accrual public sector accounting, International Federation of Accountants (IFAC) with the funding from ADB, IMF, the World Bank, and the United Nation Development Program (UNDP) promulgated accrual-based International Public Sector Accounting Standards or IPSAS (Sutcliffe, 2003 and Hepworth, 2003). It is hoped that the IPSAS can be used as guidance for countries—especially developing nations—who wish to adopt accrual accounting. IPSAS was developed for the micro-level governmental accounting whereas GFS and SNA are intended to serve macro-fiscal related reporting. The relationship between governmental accounting based on IPSAS, GFS, and SNA is explained by ADB (2003) in Figure 1:

Figure 1: Relationship between SNA, GFS, and IPSAS



Source: ADB, 2003 with adjustments from author

The pressure to conform to the macro-level accounting proposed by the international financial authorities drove Indonesian government to shift to a more accrual-based governmental accounting. The enactment of Law 17/2003 on State Finance and Law 1/2004 on State Treasury was the culmination point of public sector accounting reform in Indonesia. In Law 17/2003, it is stated that Indonesian government will adopt full-accrual-based accounting by 2008. The willingness to adopt accrual accounting was clearly identified in the Law after the World Bank's (2001) assessment of the proposed draft of law:

> *The format of the accounting reports should be clearly defined either in the State Finance law that is presently being drafted or in the proposed audit law*. (p. 3)

The first step that the government took in the post-reformation period is to establish Committee on Accounting Standards for Central and Local Governments (KSAP) to develop accounting standards needed by the government by Minister of Finance Decree 308/2002. It is stated later in Law 17/2003 that KSAP is the body responsible for developing governmental accounting standards needed to fully adopt accrual basis.

In 2005, Government Regulation 25/2005 on Governmental Accounting Standards was published. This regulation covers the accounting standards to be implemented both in the central government as well as provincial and local governments. The standard employed a modified cash basis which was known as the "cash-toward-accrual" basis. Revenues and expenditures are recorded based on cash basis while assets, liabilities, and equity are recorded based on accrual basis. Even though the balance sheet produced on these standards is not fully accrual (in terms that it does not record accrued revenues and expenses), this period marked a significant shift in accounting practices in Indonesia. For the first time, the central government was able to produce a consolidated balance sheet for all ministries and departments. The implementation process of 'cash towards accrual' commenced in the 2007 financial year. The reports produced based on the standards are: (i) Budget Realization Report; (ii) Statement of Financial Position; (iii) Statement of Changes in Equity; and (iv) Cash Flow Statement. There is articulation—though minimum—between the Budget Realization Report and the Statement of Financial Position.

Even though Law 17/2003 mandated accrual accounting to be adopted by 2008, it was not until 2010 that the government finally announced Government Regulation 71/2010 on Governmental Accounting System to supersede the previous regulation. Government 71/2010, which heavily mirrors IPSAS, mandates governmental financial reports to be prepared on accrual basis. An addition to the previous financial statements is Operational Statement which presents government revenues and expenses on an accrual basis. The Budget Realization Report, on the other hand, will still be reported on a cash basis. The accrual-based standards are hoped to be implemented by 2015 and technical assistance regarding the implementation has not been published yet.

In an effort to fully consolidate governmental accounting with macro accounting, Minister of Finance Decree 5/2011 on Guidelines to Governmental Accounting System was promulgated in 2011. The decree calls for reconciliation between the central government's and local governments' financial reports as well as those of public enterprises (such as hospitals and universities) to provide whole-of-government financial reports. The whole-of-government accrual financial information will then be mapped and used as a basis for GFS. The implementation of this decree, however, has to wait until the whole line of governments is able to produce accrual financial statements as mandated by Government Regulation 71/2010.

The transformation to a full accrual basis in Indonesia is currently an ongoing process. At present, most of the government entities are still using the cash-toward-accrual based accounting as a transitional step toward a full accrual based accounting. There are several post-reformation empirical studies either on public management reform in Indonesia in general and its accounting reform in particular (Achmad, 2012; Akbar et. al., 2012; Harun & Kamase, 2012; and Mir & Sutiyono, 2013). Table 1 shows different studies on this area and their particular findings regarding public sector accounting reform in Indonesia.

Table 1: Studies on Implementation of Accounting-Related Public Sector Reform in Indonesia

Author(s)	Types of Study	Findings Related to Accounting Reform
Achmad (2012)	An empirical study to assess the public expenditure management reform in Indonesia (in which shift to accrual accounting is one of the agenda)	The present accounting system still focuses on presenting the reports for financial accountability reasons and fails to support managerial decision-making processes.
Akbar et. al. (2012)	A paper investigating the implementation of performance measurement systems in Indonesia local governments	Local governments developed performance indicators merely to fulfill regulatory requirements than to improve effectiveness and efficiency of organizations
Harun & Kamase (2012)	A study that examines reporting system change in a provincial government in Indonesia and its relation with institutional capacity	The policy to adopt the new accounting reform fails to recognize a low level of institutional capacity of local administrations.
Mir & Sutiyono (2013)	A study that investigates why the number of unfavorable audit reports for local governments has increased despite diverse governmental accounting reform agendas	There is pseudo demand for accounting information for decision-making but in reality, the public officials rarely use accounting information for decision-making purposes.

From Table 1, it can be understood that implementation issues in post-reformation are similar to those of the accounting reform attempt in the previous periods. The recurring problems are mostly in low institutional capability (Harun & Kamase, 2012) and that accounting information produced by the new system is not being used for managerial decision-making process (Achmad, 2012; Akbar et. al., 2012; and Mir & Sutiyono, 2013).

DISCUSSION

Forces Leading to Institutionalization of Accrual Accounting

Governmental accounting development to a more accrual basis in Indonesia has been marked by two periods of fiscal crisis. The first call for change in the late 1970s and early 1980s was made after a study conducted by the government conjointly with the World Bank on the need to improve capability of higher-level officials in the accountancy sector. As a result of this study, technocrats within the MOF felt the need to develop public sector accounting practices in Indonesia. The initiative reflects the normative isomorphism as the government officials felt that the archaic accounting practices inherited by the Dutch colonial were no longer suitable to portray more complex government transactions. The normative idea was also in time for NPM reforms in other countries which started in the early 1980s. Oil-price-driven fiscal crisis in 1980s further escalated the need for reform as Indonesia was being pressured by the international financial authorities to be more transparent and accountable as prerequisites for the financial aids received. The World Bank was heavily involved in the governmental accounting project as it insisted on the use of double-entry accounting for the accounting systems. The pressure from the World Bank and other international agencies led to the first accountancy reform piloted in several ministries in the central government. This pressure proves that coercive isomorphism happened in Indonesian government.

The second period for governmental accounting reform was ignited by a much bigger economic, fiscal, and political crisis beginning in 1997. The collapse of Soeharto was followed by bailout packages from international financial authorities. The financial aids came with strings attached in which Indonesia had to repair its corrupted public sector management. Moreover, donor organizations' own reform to introduce new accrual-based macro accounting such as GFS and SNA also influenced the aid recipient to follow the same path. The government in its Letter of Intent to the IMF, for example, has stated that GFS will be implemented in Indonesia. For reconciliation purposes, the accrual-based macro accounting needs micro accounting in the governmental level to be similarly prepared in the accrual basis hence the government's decision to employ a fully accrual-based governmental accounting. The pressure to conform to the need to adopt accrual-based macro accounting developed by international financial authorities proved that coercive isomorphism happened in this second stage. The summary the forces leading to accounting change for each period related with its type of isomorphism can be seen in Table 2.

Table 2: Forces Leading to Accounting Reform and Types of Isomorphism

Period	Forces Leading to a Change	Types of Isomorphism
From the Dutch colonization until 1980s	n/a	n/a
From1980s until before reformation	Awareness of proper governmental accounting needs by higher-level politicians in the late 1970s	Normative
	Oil-price-driven crisis in early 1980s leading to transparency and accountability pressures from international financial authorities	Coercive
Post Reformation Period	Asia-Pacific financial crisis in 1997 followed by bailout packages with strings attached from international financial authorities both for Indonesian government to: -Repair its corrupted public sector management; and -Comply with accrual-based macro accounting (GFS and SNA) introduced by IMF and the World Bank	Coercive

Transformation to More-Accrual Accounting Practices

Enactment of Law 17/2003 on State Finance in which it is stated that Indonesia will adopt accrual accounting was the culmination point of accounting reform in Indonesia. In theory, it appears like the decision was a rapid and dramatic agenda in public management reform, from a corrupt Soeharto era to a new reformation age. In reality, however, the governmental accounting transformation was a lengthy and endless project, which is still on-going. Indonesia. The history of accounting transformation in Indonesia can be distinguished into three major periods. The first period before 1980s was indicated by the government use of almost "pure" cash accounting. The only report produced during this time was the Budget Calculation Report (PAN) which was reported to the Parliament two to three years after the end of the fiscal year. The second period after 1980s marks the first attempt to modernize governmental accounting practices in Indonesia. With the help of the World Bank, Indonesia was able to produce a simple balance sheet to portray the government's assets, liabilities, and equity. Double-entry-recordings, uniform chart of accounts, and computerized governmental accounting systems were also introduced. The last post-reformation period points out government's commitment to adopt fully-accrual governmental accounting as well as a new attempt to consolidate the whole-of-government accounting using accrual basis as mandated by GFS. The central government also produced its first consolidated balance sheet for all ministries, departments, and agencies. The details of the transformation of governmental accounting in Indonesia can be seen in Table 3.

Table 3: Transformation of Governmental Accounting in Indonesia

Period	Situations/Improvements
From the Dutch colonization until 1980s	- Cash-based single-entry recording - Unharmonious reporting system due to lack of standard chart of accounts - Dual classifications of investment and routine government activities in the Budget Report which prone to double-recognition of expenses - No records of assets - Overdue reporting
From1980s until before reformation	- Cash-based double-entry recording - Introduction of balance sheet (including recording of governments' assets, liabilities, and equity) - Uniform chart of accounts - Establishment of State Financial Accounting Agency (BAKUN) to develop the necessary system to revolutionize governmental accounting - Introduction of computerized government accounting systems in pilot ministries

Period	Situations/Improvements
Post Reformation Period	- Commitment to shift to full-accrual with cash-toward-accrual basis as transitional method - Production of consolidated balance sheet for all ministries/departments/agencies under the central government - Commitment to reconciliate whole-of-government accounting (central government, local governments, and public enterprises) - Establishment of Committee on Accounting Standards for Central and Local Governments (KSAP) to develop accounting standards for central and local governments

Decoupling Issues

While the development to more accrual-based accounting is promoted as the proper tool to achieve better public sector management, implementation of accounting reform in both stages, however, has encountered similarly repeated problems. The problems are mainly related to low institutional capacity and insignificant impact for making managerial decisions. The needs of high-skill public sector accountants as well as complex information technology are the issues in the institutional level. The ultimate concern is that accounting information produced by the new governmental accounting is not actually used by the managers to make informed decisions (see for example the World Bank, 2001a; Harun, 2012; Mir and Sutiyono, 2013). The reform of public sector accounting in Indonesia has been used merely as a tool to seek legitimacy with the international practices. As a result, decoupling phenomenon is occurring where adopting accrual accounting as a legitimacy-seeking activities does not provide the results it was initially intended to achieve. Table 4 presents the problems arisen along with ggovernmental accounting transformation and their potential decoupling issues based on Harun (2012).

Table 4: Potential Decoupling Issues in Governmental Accounting Transformation in Indonesia

Period	Issues	Source	Potential Decoupling based on Harun (2012)
From1980s until before reformation	Failure to include experts in the designing phase of the systems	World Bank (2001a)	Decoupling between the development of accounting regulations and the design of the system to facilitate their adoption and implementation
	Difficulty of implementation due to insufficient institutional capability (including human resource capacity and information technology application)	World Bank (2001a)	Decoupling caused by inconsistencies across government agencies with respect to the extent of their implementation of the accounting system;
	Resistance from higher-level officials (including lack of participation and inadequacy of decision-making function)	World Bank (2001a)	Decoupling between the production and the use of public sector accounting information; and

Period	Issues	Source	Potential Decoupling based on Harun (2012)
Post Reformation Period	Low institutional capability (lack of skilled accounting staffs as well as low level of understanding from higher-level officials)	Harun & Kamase (2012)	Decoupling caused by inconsistencies across government agencies with respect to the extent of their implementation of the accounting system;
	Accounting information is not used for managerial decision-making processes	Achmad (2012); Akbar et. al. (2012); Mir & Sutiyono (2013)	Decoupling between the production and the use of public sector accounting information; and

In addition to the decoupling issues, studies by Achmad (2012) and Akbar et. al. (2012) indicate that the implementation of public sector accounting was merely to fulfill regulatory requirements as mandated by Law 17/2003 and its bylaws. This finding points out that governmental accounting transformation is more of a symbolic, rather than a functional reform.

CONCLUSION & FURTHER RESEARCH

Law 17/2003 marked Indonesian government attempt to move to a full accrual-based governmental accounting by 2008. The process toward more accrual-based accounting, however, was a lengthy and difficult journey. The development of public sector accounting can be observed at two points of time during which each period of reform was ignited by Indonesian government suffering through a financial crisis. The enormous pressure to transform public management practices as well as heavy involvement of international financial authorities in developing sound accounting standards and practices in Indonesia prove that the institutionalization of accrual accounting is caused by coercive pressures from these donors. The implementation of the reforms, however, has experienced significant difficulties related to low institutional capacity and low impact on managerial decision makings. Both imply that decoupling phenomenon occurs in the execution period. Moreover, there is a conflict between what is symbolic and what is functional in terms of public sector accounting practices. The symbolic accrual requirement exerted by outside pressures does not match the functionality needed within the managerial levels. The limited capacity to employ full accrual accounting versus the overly ambitious measure to conform with international practice supports Guthrie's (1998) and Carlin & Guthrie's (2009) claim that sometimes the shift toward accrual accounting is just a rhetoric of a much bigger financial reform.

This study shows that coercive isomorphism is experienced by the government of Indonesia. Even though this result supports prior research conducted in other developing countries (see for example Adhikari & Mellemvik, 2011; Abu, 2009; Alam & Namdan, 2008; Sharma & Lawrence, 2008; and El-Batanoni & Jones, 1996), the experience of accrual accounting reform is unique to Indonesian government's situation therefore cannot be generalized with other developing nations.

This study contributes to the accounting literature in the public sector in several ways. First, the paper delivers comprehensive and chronological evidence that explains the major sources of accrual accounting institutionalization in Indonesian government. Second, it contributes to the public sector accounting literature by providing an understanding into less-known accounting reforms in a developing country. In the practical context, this study draws the call for policy makers to conduct a prior study regarding institutional capability and information needed by managerial-level officials before attempting to make a complex and costly reform such as a shift to full accrual accounting.

Further studies should be conducted on the different areas of decoupling that government may experience regarding the undertaken reform. Moreover, the concept of whole-government accounting and its harmonization with macro-accounting should be addressed deeper. These intertwined accounting spheres need to be explored in theory as well as in practice particularly with regard to implementation issues. Finally, as the study points out that fiscal crisis and bailout financial packages with string attached are the main impetus for governmental accounting reform in Indonesia, studies in countries with similar issues would conducted in order to highlight this international phenomenon.

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INNOVATION AND FINANCIAL PERFORMANCE OF ELECTRONICS COMPANIES: A CROSS-COUNTRY COMPARISON

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ABSTRACT

Innovation plays a central role in the sustainable operations of electronics companies considering the fast product life cycles and rates of obsolescence. Conventional theories point to the impact of innovation on financial performance; where these innovations take the form of marketing, product design and functionality and from within a company's organizational structure.

On the other hand, firm size and prior financial performance were deemed as possible determinants of innovation. The relationship between these constructs may be bi-directional and hence, we attempt to present that in this research. We aim to meet to following objectives: (1) determine the impact of innovation on financial performance; (2) explore the reversal relationship if financial performance controls innovation; (3) and substantiate differences in country scenarios.

For purposes of this study, we limit the sample companies to the segment of personal computing electronics (i.e., tablets, smartphones and personal computers) manufacturing companies. It has been observed over the recent decades that short technological life cycles are sustained through their introduction of enhanced features and functionalities. American, Japanese, Korean, and Taiwanese companies are regarded as the giant players in global electronics. With a comparative period of 11 years (2002-2012), we perform a panel data regression with random effects on Acer, Apple, Asus, Dell, Fujitsu, Hewlett-Packard, HTC, LG, Panasonic, Samsung, Sony and Toshiba. Innovation as a construct is operationalized using research and development (R&D) costs and intangibles. Financial performance measures used are: market value in terms of one year high stock price, profitability ratios, compound growth ratios, cash flows ratios, accounts from the statement of financial position and income statement.

Our findings point to the positive impact of R&D and intangibles on financial performance; but there is also a reversal relationship. Our cross-country comparison reveals that Japanese and Korean electronics' innovation affect their stock price. American and Taiwanese companies in lieu of their outsourced manufacturing processes, depend on and protect their patent rights because it has a positive impact on their financial performance. More specifically, this leads to the acquisition of intangible assets.

Our cross-country comparison for the companies reveal that innovation impacts the financial performance of American and Taiwanese companies. Likewise, it is the other way around for Japanese and Korean companies – financial performance leads to innovation.

Keywords: innovation, financial performance, electronics

INTRODUCTION

Fierce rivalry among companies, regardless of their industry, encourages novelty in ideas, products and services in boosting the financial performance and therefore their survival in the market. The recent statistics from the International Monetary Fund (IMF) indicates that global spending on R&D as a percentage of World Gross Domestic Product (GDP) has increased (2013 Global R&D Funding Forecast). In 2011, it was 1.76 percent of the world GDP and increased to 1.77 percent in 2012. The high technology industry has been one of the fastest growing industries in the world and it is attributed to the increased spending on R&D to develop new products.

For the purpose of this research we limit our discussion to four major players in the electronics industry which are America, Japan, Korea and Taiwan. We choose these companies purposively for the clear representation of innovation in the segment of personal computing electronics (i.e., tablets, smartphones and personal computers). We adopt the definition by Baragheh, Rowley & Sambrook (2009) with innovation being "a multi-stage process whereby organizations transform ideas into new/improved products, service or process, in order to advance, compete and differentiate themselves successfully in the market place". Therefore, innovation plays a central role in the sustainable operations of these electronics companies.

The theory of resource advantage (Hunt, 2000) states thatfirm size and prior financial performance are deemed as possible determinants of innovation. The relationship between these constructs may be bi-directional and we attempt to present that. Thus we aim to meet to following objectives: (1) determine the impact of innovation on financial performance; (2) explore the reversal relationship if financial performance controls innovation; (3) and substantiate differences in country scenarios.

REVIEW OF LITERATURE

Studies on Innovation

There is no common definition of innovation considering that it is being used in various industries. Roger (1995) defines innovation as "new things applied in the business of producing, distributing and consuming products or services". Meanwhile, Baragheh, Rowley & Sambrook (2009) defines it as "a multi-stage process whereby organizations transform ideas into new/improved products, service or process, in order to advance, compete and differentiate themselves successfully in the market place". Furthermore, the World Intellectual Property Organization (2011) refers to innovation as "The design, invention, development and/or implementation of new or altered products, services, processes, systems, organizational structures, or business models for the purpose of creating new value for customers and financial returns for the firm". Therefore, we adopt innovation as concept that applies not only for new products with new features but for existing products with enhanced features as well. However, the definition of innovation by Baragheh et al. (2009) and the World Intellectual Property Organization (2011) shows much relevance to our research as it signifies its importance in generating financial performance.

Organizational Inertia and Financial Performance

Organizational inertia is described as the tendency of a mature organization to continue on its current trajectory. The two factors that describe the stimulus of an event in a firm and how it impacts the structure and routine related to that particular event are *resource rigidity* and *routine rigidity*. Resource rigidity is the reluctance to invest in further innovation. On the other hand, the insistence on the same framework and logic than streamline the way business is done or processes executed is referred to as routine rigidity. So if the firms maintain the status quo with resource and routine rigidity while the competition grows in the market, it could be considered as a drawback in organizational inertia, hence, described as incumbent inertia (Gilbert, 2005).

Studies on Electronics, Industry Life Cycles and S-Curve Theory

The technology developed by the electronics industry determines the life cycle of their products in the market. Consequently, Marian, Francisco, & Fernando (1998) related performance analysis of technology using the S-curve model to graphicaly illustrate this behavior. They compared the diffusion and life cycle models and suggested that S-curve framework best reflects the evaluation of technology performance. This is because it allows for the evolution model of the performance of any technology. It is also useful tool in assisting the technological strategies developed by the firms. It has been recognized “(1) about the magnitude of effort necessary to obtain a determined increase in the productivity of a technology; and (2) about the existence of natural limits in its performance” Marian et al. (1998) based on our adopted definition of innovation, which for most electronics companies takes the form of technology, plotting both technology lifecycle and financial performance curves on a single graph based on the S-curve model would, therefore, best describe the trend between these two variables over time.

Studies on Relationship of Innovation and Financial Performance

First mover advantage can be seen as a company ability to outperform competitors by being first to enter the market (Fernando & Gianvito, 2005) thereby, gaining market advantage in the industry. As a result, it boosts sales, increases profitability and capacity utilization, which are indicators of financial performance (Izabela, Dale, Kare, 2014). The electronics industry, a notably volatile market, is more likely to have market advantage through innovative products hence, improving the financial performance of the company.

Alternatively, resource advantage theory illustrates that “competition is the constant struggle among firms for comparative advantages in resources that will yield marketplace positions of competitive advantage for some market segments” (Shelby D. 2000). This theory declares that innovation is naturally the result of the process of resource advantage competition. Therefore, it can be stated that financial performance, through resource advantage, can lead to innovation (Shelby D. 2000). Nonetheless, D. Hunt, and M. Morgan, R (1995) demonstrates that resource advantage not only leads to competitive advantage through innovation but to financial performance and thereby, creates a loop where it returns back to resource advantage.

Research Design and Methodology

This cross comparative case study aims to capture firm specific factors as well as country specific factors for the selected companies in our research. We generated secondary data using Business Insight Compustat and S & P Capital IQ for the comparative period of ten years from 2002 to 2012 in the form of panel data.

We focus on twelve personal computing and electronics companies from America, Japan, Korea and Taiwan which are regarded as the giant players in the global electronics. The selected firms are Acer, Apple, Asus, Dell, Fujitsu, Hewlett-Packard, HTC, LG, Panasonic, Samsung, Sony and Toshiba. The companies were purposively chosen for their worldwide recognition rating by agencies such as *best global brands* by Interbrand and *100 world's most valuable brands* by Forbes. Moreover, these electronics companies are representatives of their countries in the global electronics industry.

For the purpose of operationalizing innovation as a construct we used quantitative data to gather information on R&D costs, intangibles and financial performance. Measures used for financial performance includes market value in terms of one year high stock price, profitability ratios, cumulative growth ratios, cash flows ratios, and accounts from the statement of financial position and income statement.

In addition, we derived qualitative data from the Notes to the Consolidated Financial Statements in the Annual Financial Reports of these companies. The level of disclosure and discussions on R&D and intangibles were also influenced in the choice of these companies. Similarly, innovation is discussed in the intangibles section of the disclosures leading us to operationalize the construct with a measurable variable.

Finally, for qualitative analysis, we used descriptive statistics with table and charts of comparative information.For quantitative analysis, intangible assets and R&D were set in both dependent and independent positions to compare it with other variables using panel data regression with random effects and firm specific factors.

CONCEPTUAL FRAMEWORK

In the foregoing discussion of the theoretical perspectives of innovation and financial performance, we developed a framework that illustrates the relationship between innovation and financial performance and vice versa.

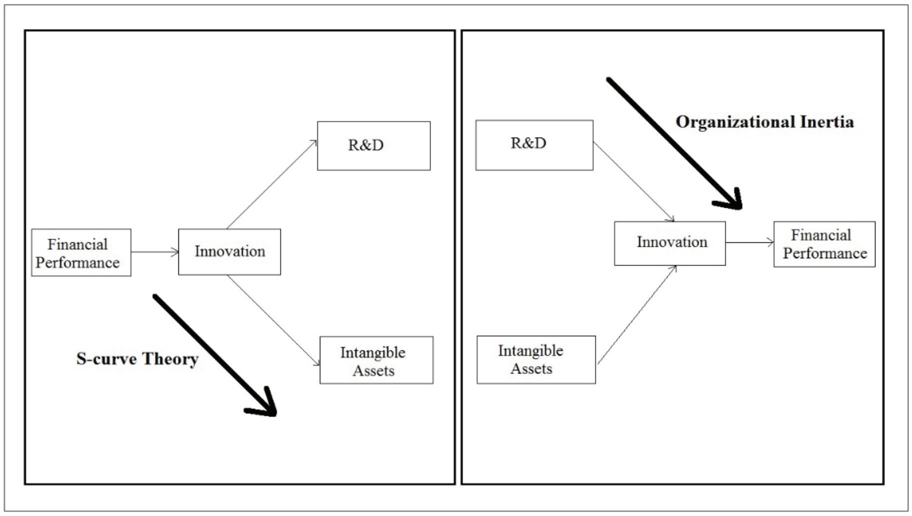

Figure 1 *Conceptual framework with the theories of S-curve and Organizational Inertial*

The left side of the model demonstrates the idea of financial performance leading to innovation. Innovation can take the form of R&D and intangible assets (patent rights, copyrights, license and trademarks). We assume that an innovation result in an increase in the intangible assets and this is supported by the S-curve framework. This framework implies that the degree of effort required by the firms to increase the productivity of the technology being developed could take the form of intangible assets. We therefore hypothesize:

H1a: financial performance positively impacts innovation measured in terms of R&D costs.

The resource advantage theory explains the link between financial performance and innovation (Hunt. D, 1995). Certain conditions such as high sunk cost for individual project and economies of scale should be met for innovation to take place. Therefore, financial performance is required to fund these R&D expenses of the firm (Symeonidis, 1996).

H1b: financial performance positively impacts innovation measured in terms of intangibles.

The right side of the model demonstrates the idea of innovation in terms of R&D and intangible assets leading to financial performance. Innovative firms are seen to enjoy improved financial performance if they would not succumb to organizational inertia – resource and routine rigidity (Gilbert, 2005). Hence we hypothesize:

H2a: Innovation measured in terms of R&D positively impacts financial performance.

First mover theory by Fernando & Gianvito (2005), explains that having market advantage through innovation allows firms to outperform competitors by being the first to enter the market. The initial investment in R&D boosts sales and increase financial performance. Therefore, we hypothesize:

H2b: Innovation measured in terms of intangible assets positively impacts financial performance.

Patents, brands and retaliatory capability are intangible assets that act as barriers to entry to the other firms in the industry. This promotes industry attractiveness resulting in rates of profit in excess of the competitive level; thus, increase the financial performance of the firm (Grand, 1991). Literature establishes the above relationships between innovation and financial performance. Likewise, there may be a virtuous cycle if we interchange the dependent and the controlling variables. Moreover, country scenarios may provide opportunities for qualitative analysis. Hence, we hypothesize:

H3a: American and Taiwanese firms illustrate the S-curve cycles.

The origin of modern electronics dates back to the invention of transistors in 1948 in America (Bowden, 2004). Since then, the American electronics have been following the S-curve framework to determine the performance limit from the time of its innovation until its maturity (et al. 2004). Taiwanese sub-contractors of American electronics have become vital strategic partners for major computer and IT companies, and recently expanded its global production networks to compete with those of the American electronics manufacturing business. This suggests that American and Taiwanese firms illustrate the S-curve cycles.

H3b: Japanese and Korean firms follow the patterns of organizational inertia.

In Japanese firms, organizational inertia is with concealed routines, knowledge, potential and agency to draw on when they needed which demonstrates path-dependency and limited flexibility (Simon Collinson, 2006).Organizational inertia also exists in Korean firms due to lack of co-operation between group affiliates where the root of the problem was embedded in the organizational culture (Chris Rowley, 1998). So it can be seen that Japanese and Korean firms seems to follow the patterns of organizational inertia in their business culture.

We can therefore state that financial performance leads to innovation and vice versa. Thus, it is clear that this framework creates a loop.

RESULTS & DISCUSSION

Data Presentation

Based on our conceptual framework, we identify innovation as R&D and intangible assets. For the purpose of determining the impact of these two variables on the other financial measures, we placed them against these financial measures in the form of dependent and independent variables. We analyze this relationship based on the criteria that, the significance of R&D and intangible assets increase against these financial measures, if the p-value is small (typically ≤ 0.05). In contrast, a higher p-value (typically > 0.05) indicates that R&D and intangible assets are insignificant against the financial measures. Inversely, in order to corroborate the bi-directional relationship between intangible assets and financial performance, the variables were interchanged and tested financial measures against R&D and intangible assets.

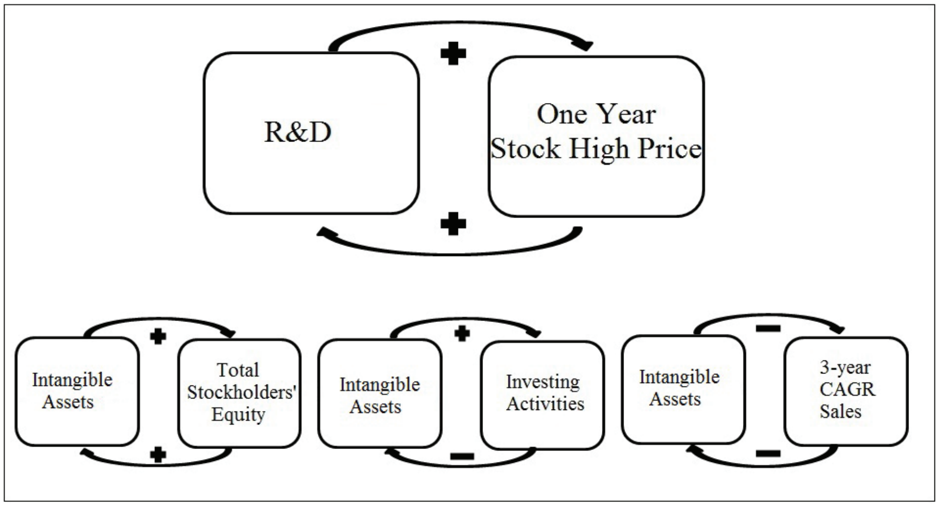

Figure 2 *Discussion Result*

Panel Data Regression Results

Table 1.1a The Panel Data Regression Results Dependent Variables: R&D				
Firm	P Value	Adjusted R-squared	Independent Variables	P Value
Fujitsu	0.000	0.9934	One Year Stock High Price	0.009
LG	0.000			
Panasonic	0.000			
Sony	0.018			
Toshiba	0.006			

Table 1.1b The Panel Data Regression Results Dependent Variables: Intangible Assets				
Firm	P Value	Adjusted R-squared	Independent Variables	P Value
Apple	0.041	0.9561	Gross Profit Margin	0.017
			EBITDAM	0.029
Dell	0.015		Return on Assets	0.061
			3-Year Average ROA	0.013
Hewlett – Packard	0.098		3-Year Average ROI	0.049
			Cash Equivalent	0.000
HTC	0.094		Total Current Assets	0.000
			Total Stockholders' Equity	0.099
Samsung	0.092		Investing Activities	0.026
			3-Year CAGR Sales	0.037

Table 1.1b (Continued) The Panel Data Regression Results Dependent Variables: Intangible Assets
*EBITDAM: Earnings Before Interest, Income Taxes, Depreciation, Amortization and Management Fee ROA: Return on Assets ROI: Return on Investments CAGR: Compounded Annual Growth Rate

Table 1.2a
The Panel Data Regression Results
Independent Variables: R&D

Firm	P Value	Adjusted R-squared	Independent Variables	P Value
Fujitsu	0.000	0.9934	One Year Stock High Price	0.009
LG	0.000			
Panasonic	0.000			
Sony	0.018			
Toshiba	0.006			

Table 1.2b
The Panel Data Regression Results
Independent Variables: Intangible Assets

Firm	P Value	Adjusted R-squared	Independent Variables	P Value
Apple	0.036	0.9561	Gross Profit Margin	0.014
Dell	0.012		EBITDAM	0.025
Fujitsu	0.096		Return on Assets	0.053
Hewlett - Packard	0.091		3-Year Average ROA	0.001
HTC	0.088		3-Year Average ROI	0.041
Panasonic	0.056		Cash equivalent	0.000
Samsung	0.085		Total Current Assets	0.000
			Total Stockholders' Equity	0.092
			Investing Activities	0.022
			3-Year CAGR Sales	0.032

*EBITDAM: Earnings Before Interest, Income Taxes, Depreciation, Amortization and Management Fee
ROA: Return on Assets
ROI: Return on Investments
CAGR: Compounded Annual Growth Rate

The regression results forms two groups in which one includes Japanese and Korean firms having a significant relationship to the R&D expense of the company. The dependent variable affecting the R&D is the one year high stock price of these firms. It also has a positive bi-directional relationship.

The second group of consisting of American and Taiwanese companies shows significance towards the intangible assets of the company. The dependent variables affecting intangible assets for these companies are the figures of total stockholders' equity, cash flows from investing companies and the 3 year compound annual growth rates (CAGR) of sales of the companies. Total stockholders' equity has a bi-directional positive relationship with the intangible assets. Investing activities has a negative relationship with the intangible assets. On the other hand, intangible assets have a positive relationship with the investing activities. In the case of 3-year CAGR sales it has a negative bi-directional relationship.

The outline of these variables and its relationships for both groups in our statistical results, suggests a valid outcome in which innovation and financial performance could be interrelated in any possible way.

DISCUSSION

Our analysis highlights the positive bi-directional relationship between innovation and one year stock high price due to the increased spending on R&D by the Japanese and Korean firms. The higher spending on R&D results in an increased product portfolio, which in return, boosts sales and therefore, improves financial performance. The initial increase in financial performance may result in viral speculation leading to an increase in the demand for the company's shares and stock prices. Based on the statistics of Price Waterhouse Coopers (PwC), Samsung, Sony and Panasonic rank among the top 20 R&D spenders of the world (The Top Innovators & Spenders, 2013). Additionally, our review on the annual reports of Japanese and Korean firm indicates that they have an increased product portfolio compared to American and Taiwanese firms in the electronics industry. On the other hand, an increase in stock price would lead to an increase in spending on R&D. This is because an increase in stock price could attract further investors to invest in the company.

R&D expenses positively affect the one year high stock price and also the regression shows a reversal relationship between these two variables. Further analyzing these variables showed that investment in R&D for both Japanese and Korean companies attract more investors resulting in high stock price which eventually increases the financial performance of the companies. Organizational inertia theory is being applied into these companies as they clearly demonstrate resource and routine rigidity in continuing to invest in R&D. Additionally, being irresponsiveness to any other changes prove to have a more rigid structure in dealing with its product and technological lifecycles.

Group two consisting of American and Taiwanese companies shows significance of intangible assets against total stockholders' equity, investing activities and 3-year CAGR sales vary over time. In the case of, total stock holder equity, patents result in an increase of intangible assets which in turn adds value to the firm's equity. This relationship becomes bi-directional when the company reinvests the extra profits on the intangible assets. Therefore, there is a positive bi-directional relationship (Conard, 1959).

For investing activities, payments for acquisition of intangible assets increase the expenditure on them. On the contrary, a decision for reduction in investing results in the reduction of patents acquisition and intangibles. Therefore, we can state that there is a positive relationship between intangibles and investing activities and a negative relationship between investing activities and intangibles.

In the case of 3-year CAGR sales, an increase in intangible assets (patent, copyrights, license and trademarks) signals the competitors to produce similar products in the market. As a result, the average sales of the initial innovator will decline over time regardless of the increase in patents. This was pointed out by the statistics of NPD Research Group. According to them, the sales of iPads declined from 17.1 percent in the year 2012 to 15.8 percent in the year 2013 while, the sales of android tablets and Windows tablets increased from 4.2 percent to 8.7 percent and from 0.8 percent to 2.2 percent in 2012 and 2013, respectively. Conversely, when 3-year CAGR sales decline, the ability of the firm to spend on R&D falls. This results in a decline in the ability to invest in the intangible assets showing its bi-directional relationship.

Intangible assets positively significant to total stockholder equity are supported by the fact that patents increase the intangible assets of the company which adds value to the equity stake of the investors. A reversal relationship also exists between these factors where the extra profit in equity is being invested to increase the patents of the companies. Investing activities has a positive impact on the intangible assets and has a negative reversal relationship. Further descriptive analysis shows that payments for acquisition of intangible assets increases the expenditure on investing activities, on the contrary a decision for reduction in investing results in reduction of patents acquisition. Intangibles having a negative relationship to 3-year CAGR sales which demonstrates that amortization of patents and its obsolete nature results in long-term negative growth of sales. Then sales decline it in turn affects profitability hence ability to create patents due to financial constraints.

The above variables affecting the intangible assets of the company are valid for both Taiwanese and American electronics companies. The theoretical perspective behind these companies could be exhibited with the S-curve theory. As patents have an obsolete nature, in order to sustain it the companies develop patents or increase the life time of it which forms the small S-curves in the graph showing the technological life cycle of both American and Taiwanese companies. The long term prospect of them is reflected through a single S-curve which depicts the financial performance of the company in relation to the improvements in the technologies developed by these companies and its revenues in its short term.

CONCLUSION

In conclusion, we identify that innovation impacts financial performance. Innovation takes the form of R&D and intangible assets. In the case of R&D being successful, it creates a market advantage for the innovator as exhibited by the first mover advantage theory, thus, resulting in increased financial performance. On the other hand, increase in intangible assets has a positive impact on stockholder equity. However as sales decline over time due to the rising intensity of competition in the market, it could have a negative impact on the financial performance (Fernando & Gianvito, 2005).

Further analysis shows that a reversal relationship exist between innovation and financial performance. The panel data regression results show that all significant variables have a reversal relationship with the respective financial measures either negatively or positively. Resource advantage theory also suggests that innovation is endogenous to the resource advantage competition (Hunt, 1995).

When substantiating the results on country based scenarios it could be seen that the impact of innovation on financial performance of Japanese and Korean electronics companies are narrowed down to the R&D of the company. Investment in R&D has a positive impact on one year stock high price eventually resulting in increased financial performance. Japanese and Korean electronics having a major share in the electronics industry gives them the ability to inject more money into R&D. However, this continuous injection in investments on R&D together with increase in firm size could result in routine rigidity as explained by the theory of organizational inertia. This is because, as a firm increase in size its ability to be flexible to the changes in the market declines. It could be also said that if the relationship between R&D and one year stock high price is negative, it could result in resource rigidity. In other words when stock prices fall there could be an unwillingness to invest in R&D. In summary the overall direction for Japanese and Korean electronics firms is financial performance leading to innovation.

On the other hand the U.SA and Taiwanese companies' innovation depends on the patent rights developed through its R&D. This adds value to stock holder equity which leads to acquisition of intangible assets thus having an overall positive impact on financial performance. However, a decline in sales in the long run could be seen due to the fierce competition in the market. Hence for the purpose of survival, these firms continue to produce new or improved products which mainly include patents, copy rights and trademarks. This form of survival could be explained with the S-curve the theory.

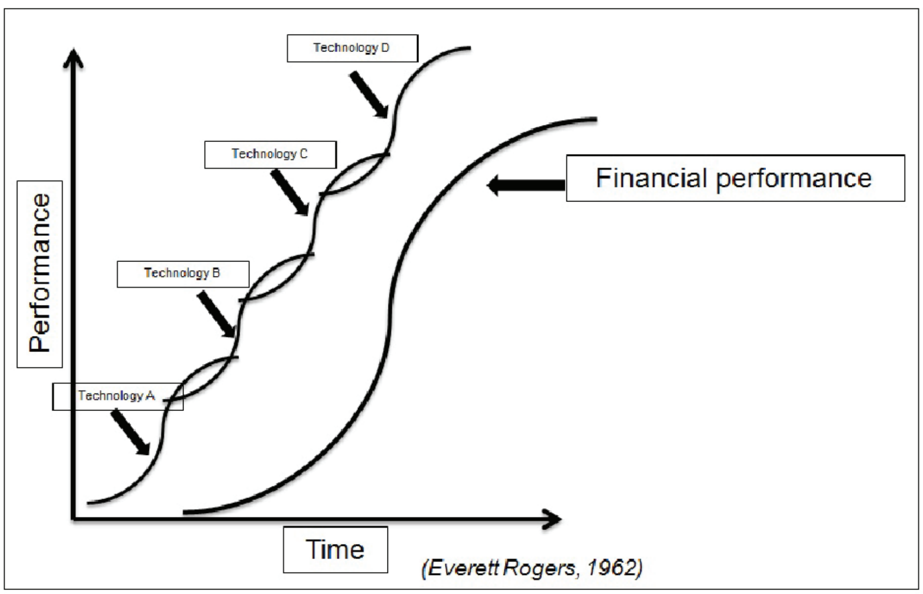

Figure 3 *Modified S-Curve Theory with Financial Performance*

Due to the competition in the market and also as patents have an obsolete nature, in order to sustain it, the companies develop patents or increase the life time of it which forms the small curves in the graph showing the technological life cycle of both American and Taiwanese companies. The long term prospect of these small S-curves is reflected through a single S-curve which depicts the financial performance of the company in relation to the improvements in the technologies developed and its revenues in its short term. So in the case of American and

Taiwanese companies, the overall direction was proved to have been innovation leading to financial performance.

RECOMMENDATION

It has been observed that American and Taiwanese companies are manufacturing a narrow product portfolio as they focus mainly on intangible assets to boost their financial performance. On the other hand the Japanese and Korean electronics firms are manufacturing wider product portfolio as they mainly focus on increased spending on R&D which is also due to routine rigidity in these firms. In the perspective of the firm size, the bigger it becomes in size, higher the tendency to be trapped in resource rigidity which is evident with the Japanese and Korean firms. However the recent trends show that these firms are narrowing down their product portfolio. This can be illustrated by the example of Sony Corporation when it sold its VAIO business in the year 2014 (Bloomberg, 2014). In addition, the Annual report of Samsung shows that it is focusing on a narrow range of products as well. This suggests that these firms are moving gradually towards the approach of the S-curve. On the other hand, as the Apple incorporation in America increases in size, it is drifting away from the concept of S- curve towards routine rigidity and increasing the variety of products which may not be successful in the market. This can be explained by the example of the introduction of 5c and 5s smartphones by Apple Incorporation. Increase in the firm size and the ability to invest in R&D resulted in the production of 5c mobile phone which later on proved to be an unsuccessful product in the market (New York Post, 2014).

We therefore recommend that, in the long run with the increase in firm size it is necessary to control the product portfolio appropriately to be successful in the market.

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IMPACT OF CAREER CHANGE ON EMPLOYEE–ORGANIZATION RELATIONSHIP: A CASE OF JAPANESE COMPANY

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ABSTRACT

In this paper, we examine the evolving nature of employee–organization relationship (EOR) in a Japanese company from the perspective of psychological contracts and organizational commitment, using empirical methods on data from 3,789 employees of a large Japanese pharmaceutical company.

The results show that how affective commitment, continuance commitment, and psychological contracts change differ. On the one hand, psychological contracts and continuance commitment can change both incrementally and discontinuously.

On the other hand, employees' affective commitment can change only when they experience discontinuous career change (vertical movement, functional movement, and radial horizontal movement). Implications for Japanese organizations managing EOR and perspectives on future research are discussed.

INTRODUCTION

Recently, employment relationship has gained popularity in Japan, in large part due to changes in the employee–organization relationships (EOR) in Japanese organizations. Confronted with the low productivity of white-collar employees and Japan's low economic growth, many Japanese organizations were forced to examine their own EOR. According to a 2001 survey conducted by the Japanese Ministry of Health, Labour and Welfare, 62.3% of organizations have adopted pay-for-performance schemes for their middle and senior managers. Further, a survey by the Institute of Labor Administration revealed that the proportion of organizations that have introduced demotion systems has also been increasing. The externalization of employment has also been increasing at a considerable rate in Japan, as it has in other industrialized nations. According to the Japanese Statistics Bureau, the ratio of part-time, temporary, and other limited-contract employees has been on the rise. Japanese organizations have begun to sort employees into various categories with different levels of employment protection.

Although the abovementioned changes have been occurring widely, there are strong appeals for long-term employment, which constitutes Japanese management (Abegglen, 1958). The fact that long-term employment still enjoys long-standing importance in Japanese organizations has been clarified by many theoretical and empirical studies (Clegg and Kono 2002; Jacoby 2005).

The EOR theories include both macro perspectives such as transactional cost theory and micro perspectives such as psychological contract (PC) and OC (Coyle-Shapiro and Shore 2007). Research on long-term employment, however, has mainly been conducted from the perspective of economic theory and human resource management (i.e., macro perspectives). Although several views exist, there is consensus among theorists that long-term employment enables organizations and employees to make a relation-specific investment with low risk. On the other hand, there are few researches concerning long-term employment from the micro perspective. Then, the purpose of this paper is to examine the evolving nature of EOR from the perspective of OC and PC. In more detail, this paper examines the effects of several career change variables such as tenure, vertical, functional, and horizontal career change in organization on OC and PC.

REVIEW

Economic Rationality of Long-Term Employment

The most researched topic in Japanese EOR is the economic rationality of long-term employment. The assumptions of transaction cost theory (TCT) and agency theory (AT) lie at the heart of this line of research. Because it is difficult for contract parties in the market to monitor each other, this raises the possibility of opportunistic actions (Williamson 1975). In order to reduce such actions, TCT argues that the each party's incentives need to be aligned with the other party's. Further, this can be accomplished by developing an employment contract (Williamson 1975). Long-term employment enables organizations to avoid losses in their investment toward human resources and to have a stable and predictable stock of capabilities (Pfeffer and Baron 1988). For employees, long-term employment reduces their risk of unemployment and enables them to invest more in firm-specific abilities.

Although such findings have yielded important insights, they have overlooked the fact that EOR could change over time as employees develop their career and they and organization improve their knowledge of each other. As employees' careers develop, their understanding of what their organizations require of them and their benefits as employees changes (Schein 1978). Thus, EOR can change with time.

Organizational Commitment and Psychological Contract

This paper investigates the evolving nature of EOR from the perspective of OC and PC. As micro concepts concerning EOR, both concepts have gained significant popularity among researchers and practitioners. However, although both concepts are closely related to each other, they are conceptually and empirically different (Millward and Hopkins 1998; Rousseau 1989).

Meyer, Allen, and Smith (1993) defined OC as "a psychological state that (a) characterizes the employee's relationship with the organization and (b) has implications for the decision to continue or discontinue membership in the organization" (p. 539). OC describes an individual's belief about the "strength" of the EOR. Although OC research has been conducted in various topics, there is consensus among theorists that it impacts the employee's intention to remain a member of the organization.

Rousseau (1989) defined PC as "an individual belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party" (p. 123). The four key concepts—individual belief, agreement, terms, and obligation—that characterize Rousseau's concept of a PC are delineated in this definition. Rousseau (1989) did not view PCs as one involving the perspectives of two interconnected parties. Instead, she posited it as an individual-level, subjective phenomenon. This holds true irrespective of whether or not the contract is legal/written or unwritten. All types of promises are deemed PCs. Consistent with this view, Rousseau (1989) suggested that "agreement exists in the eye of the beholder" (p. 123). Further, although agreements are not general concepts such as OC, they are comprised of concrete contents (e.g., high pay, training). Finally, she emphasized the binding power of PCs, suggesting that parties are bound by a set of reciprocal obligations when agreements are signed.

In short, OC focuses on the "strength" of EOR and PC focuses on the "contents" of EOR.

Impact of Career Changes on Organizational Commitment and Psychological Contracts

Incremental Career Change Effect

In this paper, we examine the career change effects on EOR. For this purpose, we begin with distinguishing several types of career changes. First, we distinguish two types of effects―incremental change effect and discontinuous change effect (George and Jones 2000). For detecting incremental change effect, we incorporated organizational tenure. Increase in organizational tenure occurs only with the passage of time (i.e., it occurs in an incremental manner).

In many studies, OC was conceptualized through the use of a multidimensional perspective of commitment (Bentein et al. 2005). As many researchers suggested, OC consists of at least two distinctive dimensions―affective and continuance commitment. Affective commitment represents the idea that one's commitment to the organization is due to his (her) emotional attachment to and identification with the organization. Continuance commitment, on the other hand, represents the perceived costs of not continuing with employment. It develops as a function of the magnitude of investments employees make in an organization.

Several studies revealed that continuance commitment and affective commitment change differently throughout employee's career. Results of several studies concerning continuance commitment are consistent. Many researchers suggest that continuance commitment increases with tenure (Ritzer and Trice, 1969; Hrebiniak and Alutto 1972; Alutto, Hrebiniak, and Alonso, 1973; Stevens et al. 1991). Findings obtained in these studies suggest that tenure are one of the most efficient and direct predictors of continuance commitment. Then,

H1a Tenure will positively relate to continuous commitment.

For affective commitment, however, the results of several studies are inconsistent. Although some researchers suggest that affective commitment decreases with tenure and career stages (Beck and Wilson 2000; Bentein et al. 2005; Lance et al. 2000), other researchers suggested that affective commitment increases with tenure (Allen and Meyer 1993; Gregersen 1993). In the Japanese context, Kanai, Suzuki, and Matsuoka (1998) examined the change in employees' affective commitment in the initial few years in a large retailing organization. They found that affective commitment increases only discontinuously with several career event such as promotion and functional change. Although we could not find consistent pattern about affective commitment changes across studies, many researchers agree that among several variables the strongest and most consistent correlations with affective commitment is positive work experiences (Mathieu and Zajac, 1990). This may implies that the way affective commitment change is discontinuous one rather than incremental.

H 1b Tenure will not relate to affective commitment

PCs between employees and employers will change incrementally with tenure. This can be better understood by considering it on a schema of an EOR (Rousseau, 1995). As Rousseau (2001) suggested, "psychological contracts themselves can form schema" (p. 515). A schema is a cognitive organization or mental model of conceptually related elements. We gradually develop a schema from past experience, and it subsequently guides the manner in which information is processed. And once a schema is formed, we tend to maintain it and new information tends to be interpreted in light of the schema (Rousseau, 2001). For example, gathering information about organization and their jobs, employees with initial few years try to establish and clarify their identity within organization (Schein, 1978). They may use several types of information to fine-tune their understanding of PC regarding what they can expect and what they need to contribute. Within few years, PC can evolve from discrete perceptions of many obligations to elaborately organized schemas (Schein, 1978). Employees with long tenure will develop stable and fine-tuned PC.

And once a stable PC is formed, employees gradually do not actively seek information and are unconcerned about EOR (Ashford, 1986). This is because employees' awareness of luck of change. As organization socialization theorist suggest, for employees with long tenure it is likely that everything will eventually seem routine and habitual, which result in a sense of lack of change in everyday work (Schein, 1978). Such an awareness of "career routine" (Hall, 1988) give rise to the employees' no longer thinking about employer and their own obligations. Accordingly,

H 2 Tenure will negatively relate to employees' perceptions of psychological contracts.

Discontinuous Career Change Effect

For detecting discontinuous change effects (George and Jones, 2000), we used three types of career movement according to Schein (1978) — (1) vertical movements, (2) functional movements, and (3) radial or horizontal movements. Vertical movement means advancing people on vertical or upward ladders. In many Japanese organizations, career structures in an organization traditionally focused on advancing people on vertical ladders, in line with the belief that a successful career involves successive movement up the organizational career ladder. Functional movement involves a change in function (e.g., sales to research and development [R&D]) but not necessarily a change in rank. Finally, radial or horizontal movement means change in degree of inclusion in the organization. For example, an employee with knowledge of or access to classified information and with high responsibility is highly included in the organization.

As discussed above, continuance commitment can develop as a result of increasing in the cost of leaving the organization. As many researchers suggest, continuous commitment develop as a function of investments that an employee makes in organization such as tenure and age. This implies that the way continuance commitment change is mainly incremental rather than discontinuous. Thus,

H3a. Vertical movements will not relate to continuance commitment
H3b. Functional movements will not relate to continuance commitment.
H3c. Radical / horizontal movements will not relate to continuance commitment.

As mentioned above, among several variables the strongest and most consistent correlations with affective commitment across studies is work experiences (Mathieu and Zajac, 1990). Specially, across many different samples, affective commitment has been positively related with individual's role in focal organization. For example, Kanai et al. (1998) suggested that affective commitment increases only discontinuously change with several career event such as promotion and functional change. In line with this, positive career movements discussed above may have positive impact on affective commitment.

H4a. Vertical movements will positively relate to affective commitment.
H4b. Functional movements will positively relate to affective commitment.
H4c. Radical / horizontal movements will positively relate to affective commitment.

Finally, PCs between employees and employers will change discontinuously. Although employees gradually do not actively seek information with time passes, active information gathering will be triggered when an individual feel the need for it (Ashford, 1986; Rousseau, 1995). As many researchers said, several role changes in organization involve re-socialization into the new role and setting (Ashford, 1986). For, example, becoming a manager forces an employee to rethink their identity within organization (Schein, 1978). Also, changing their function and having more and more high responsibility may involve re-socialization process. Accordingly,

H5a. Vertical movements has positively related to employees' perceptions of psychological contracts.
H5b. Functional movements has positively related to employees' perceptions of psychological contracts
H5c. Radical / horizontal movements has positively related to employees' perceptions of psychological contracts

METHOD

Sample

The population sampled for this study consisted of employees in a large Japanese pharmaceutical company. We conducted a web-based survey of all employees in this company in July 2008. A total of 3,789 employees responded to the questionnaire. The average age of the participants at the time of the study was 39.81 years (S.D. = 8.716), their average tenure (length of employment with current employer) was 12.46 (S.D. = 9.14), and the percentage of women was 17 percent. Because our data represent only a cross-sectional view of what has been presented as longitudinal phenomena, we must be cautious when interpreting the results of this study.

Measures

Psychological contracts. Hattori (2010) developed Japanese version of PC scale consisting of 39 items (24 items related to an organization's obligations and 15 items pertaining to an employee's obligations). In this scale, with regard to the employer's obligations, participants were asked to indicate the extent to which their employer was obligated to provide them with a set of items. With regard to the employee's obligations, participants were asked to indicate the extent to which they were obligated to provide a set of items to an employer. Participants were provided with a five-point Likert-type scale, ranging from "not at all obligated" to "highly obligated" for each item.

An exploratory factor analysis of the items was conducted to reduce the item pool and to assess the factor structure in this company. First, a factor analysis (the principal factor method with promax rotation) for 24 items related to an organization's obligations was conducted. Items with loading less than .40 were deleted. Variables with eigenvalues less than one were not included in the factor structure. When items were reduced, there were no longer any cross-loadings. Two factors emerged from the items (see Table 1). The first factor was comprised of items such as "good career prospects," "support for personal problems," and "good work atmosphere." These patterns were consistent with the notion that employment can be characterized by relational issues involving the creation and maintenance of a relationship between an employee and employer; in other words, a "relational contract" (Rousseau 1995). The second factor was comprised of items such as "performance-based pay," and "high pay." Because these items reflect high extrinsic inducements (Rousseau 1995), they were termed "transactional contract." These patterns were consistent with the notion that distinct types of employment relationship can be discerned from the patterns of employee and employer obligations (Robinson et al. 1994; Millward and Hopkins 1998).

Then, a factor analysis (the principal factor method with promax rotation) for 15 items related to an employee's obligations was conducted. Items with loading less than .40 were deleted. Variables with eigenvalues less than one were not included in the factor structure. When items were reduced, there were no longer any cross-loadings. Three factors emerged from the items (see Table 2).

Table 1
Result of Factor Analysis for Organization's Obligations

Items	Factors	
	Relational contract	Transactional contract
Good career prospects	0.87	−0.05
Participation in career-related decision making	0.85	−0.02
Support with personal problems	0.81	0.01
Development of marketable skills	0.80	−0.02
Job assignments based on my experience	0.74	0.10
Good work atmosphere	0.70	0.12
Benefits for my family	0.69	0.07
Participative decision making	0.66	0.15
Adequate job support	0.65	0.23
Adequate opportunity for on-the-job training (OJT)	0.60	0.29
Frequency of feedback	0.59	0.14
Flexibility in working hours	0.58	0.05
Interesting work	0.55	0.30
Provision of adequate training	0.50	0.31
Significant task for society	0.50	0.33
Adequate job status	0.48	0.23
Adequate allocation	−0.03	0.89
Adequate difficulty of work	−0.02	0.85
Performance-based pay	−0.03	0.83
Meaningful tasks for me	0.19	0.68
High pay	0.18	0.63
Career development	0.28	0.47
Eigenvalue	12.36	11.10

Correlation among factors was 0.80.

The first factor was comprised of items such as “voluntary refrain from pro-competitor behavior,” “following instructions,” and “minimum length of employment.” Therefore, this factor was termed “loyalty.” The second factor was comprised of items concerning deviation from formally assigned roles. To put it concretely, it included items such as “behavior that is not recognized by the reward system,” “willingness to go beyond the job description,” and performance of a “nonrequested task on the job.” Therefore, this factor was termed “nonreward work.” The third factor was comprised of items such as “association with clients outside work,” “acceptance of change in occupations,” and “association with supervisor outside work.” All of these items were related to the maintenance of relationships inside and outside the organization. Therefore, this factor was termed “maintenance of relationship.'' Results of the factor analysis were contrary to the findings of previous studies (Millward and Hopkins 1998.) Employees' obligations in Japanese organizations did not emerge as a simple dichotomy (transactional/relational), but rather as a combination of such contracts.

Table 2
Results of Factor Analysis for Employees' Obligations

	Factors		
Items	Loyalty	Nonreward work	Maintenance of relationship
Loyal to management by objective sheet	0.79	−0.06	0.02
Voluntary refrain from pro-competitor behavior	0.74	0.08	−0.21
Voluntary acquisition of skill	0.66	0.10	0.01
Following instructions	0.64	0.03	0.03
Minimum length of employment	0.47	0.04	0.12
Behavior that is not recognized by the reward system	0.01	0.92	−0.05
Willingness to go beyond the job description	0.11	0.69	−0.02
Nonrequired task on the job	0.07	0.59	0.13
Association with clients outside work	−0.13	0.08	0.62
Acceptance of change in occupations	−0.12	0.01	0.56
Acceptance of transfers	0.22	−0.15	0.55
Association with superiors outside work	0.15	0.16	0.45
Eigenvalue	3.91	3.68	2.56

Correlation between Loyalty and Nonreward work was 0.71, Loyalty and Maintenance of relationship was 0.51, and Nonreward work and Maintenance of relationship was 0.54/.

Organizational commitment. Affective commitment and continuance commitment were measured using the measure designed by Allen and Meyer (1990) and translated into Japanese by Suzuki (2002). The affective commitment scale consisted of six items and yielded a coefficient alpha of .90. The continuance commitment scale consisted of four items and yielded a coefficient alpha of .63.

Tenure. For the incremental change of EOR, we used organizational tenure and asked each participant to state how many years he (she) had been working for the organization.

Vertical movement. We also incorporated three types of career development variables. First are vertical movements. Organizational records were used to code the respondents' ranks into binary codes. For vertical movement, an employee with promotion in past three years is coded as one, and employees with no promotion as zero.

Functional movement. Functional movement also facilitates career development (Schein 1978). To determine the employee's functional movement, we directly asked the respondents "How often have you experienced functional change in this organization until today?" Participants were provided with a five-point Likert-type scale, ranging from "not at all" to "very frequently."

Radial or horizontal movement. Radial or horizontal movement in an organization means change in the degree of inclusion in the organization. For this, we used two items: "In past three years, I moved to a position that influences an important decision at work" and "In past three years, I moved to a position that can access important information in this organization." We calculated the mean value of these items.

Other control variables. Several variables were controlled to rule out alternative explanations. For all analyses, employees' functions were controlled because they may strongly influence the employees' perceptions of the obligations. Organizational records on the job were used to code the respondents' functions into binary codes. For eight variables, we controlled two functions—the medical representative (MR) section (MR_d) and the R&D section (R&D_d). In the pharmaceutical industry, the mobility of MR and R&D staff is relatively high because of their portable skills. Thus, instead of a linear progression of upward moves or predictable regular career patterns, these employees prefer a more flexible, mobile career course, and they actually move from one employer to another. It is possible that MR and R&D staff think of employment quite differently. Then, we also controlled job-change experience (Midway_d), and asked respondents to indicate whether they have changed employers. Employees with job-change experience are coded as one, and those without job-change experience are coded as zero.

RESULTS

Table 3 presents the descriptive statistics and inter-correlations for all measures in the equation. The simple correlations' results show that there is a positive relationship between tenure and any PC. Similarly, there is a positive relationship between OC and tenure. However, these results do not consider the effects of organizational level or rank, and function. Thus, we use ordinary least squares (OLS) to consider the effects.

Table 4 shows the result of the OLS estimation for two types of commitment. All the dependent variables' estimators indicated that there was a positive association between *Tenure* and continuance commitment (β = 0.01, $p < 0.001$), which support hypothesis 1a. Supporting

Table 3
Means, Standard Deviations (SD), and Inter-correlations for the Study Variables

Variables	Mean	SD			
Tenure	13.46	9.14	1		
MR_d	.50	.50	.23***	1	
R&D_d	.20	.40	-.01	-.50***	1
Midway_d	.25	.43	-.03	-.03	-.027*
Vertical movement	.27	.44	.06***	.10***	.01
Functional movement	2.95	.89	.02	.06***	-.13***
Radical/horizontal movement	3.08	.84	.07***	.06***	-.05***
Relational contract	3.71	.83	.04**	.15***	-.032**
Transactional contract	3.73	.90	.05**	.14***	-.01
Loyalty	3.89	.65	.08***	.10***	.04**
Nonreward work	3.73	.79	.08***	.16***	-.02
Maintenance of relationship	3.15	.68	.07***	.31***	-.17***
Affective commitment	3.63	.81	.11***	.11***	-.02
Continuance commitment	2.86	.81	.12***	.012	-.00

Variables				
Tenure				
MR_d				
R&D_d				
Midway_d	1			
Vertical movement	-.01	1		
Functional movement	.01	.05**	1	
Radical/horizontal movement	.02	.10***	.18***	1
Relational contract	-.03	.08***	.13***	.42***
Transactional contract	-.03	.10***	.11***	.40***
Loyalty	-.02	.12***	.11***	.37***
Nonreward work	.01	.13***	.12***	.34***
Maintenance of relationship	-.02	.12***	.47***	.33***
Affective commitment	-.02	.13***	.15***	.58***
Continuance commitment	.01	.08***	.10***	.18***

*, **, *** denote two-tailed significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

hypothesis 3a, Vertical movement did not have significant impact on continuance commitment (β =-0.05, $p > 0.05$). Functional and radical / horizontal movement, however, did have significant impact on continuous commitment (β =0.07, $p < 0.001$ for functional movement; β =0.16, $p < 0.001$ for radical / horizontal movement). Thus, hypotheses 3b and 3c was not supported.

As shown in Table 4, we could find that *Tenure* is not significantly related to affective commitment (β = 0.00, $p > 0.05$). Therefore, hypothesis 1b was supported. Hypotheses 4a, 4b, and 4c stated that three types of movement (vertical, functional, and radical) would positive effect on affective commitment. Supporting these hypotheses, coefficient of these variables were significant (β =0.09, $p < 0.05$ for vertical movement; β =0.05, $p < 0.001$ for functional movement; β = 0.54, $p < 0.001$ for radical / horizontal movement).

Table 4
OLS Estimation Results: Organizational commitment

	Affective Commitment		Continuance Commitment	
	Coefficient	t-statistics	Coefficient	t-statistics
Intercept	1.68	30.82 ***	2.04	30.83 ***
Tenure	.00	.81	.01	5.72 ***
MR_d	.15	6.03 ***	-.04	-1.38
R&D_d	.14	4.32 ***	.01	.29
Midway_d	-.05	-1.87 *	.02	.77
Vertical movement	.09	2.73 **	-.05	-1.20
Functional movement	.05	3.93 ***	.07	4.58 ***
Radical/horizontal movement	.54	41.92 ***	.16	10.19 ***
R2	.35		.05	
adj_R2	.35		.05	

*, **, *** denote two-tailed significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 5 and 6 shows the result of the OLS estimation for employee's perception of employer and employee obligations (i.e. psychological contract). As shown in table 5 and 6, there was a negative association between *Tenure* and any contract obligations (β = -0.01, p < 0.001 for relational contract; β = -0.01, p < 0.001 for transactional contract; β = -0.00, p < 0.05 for loyalty; β = -0.01, p < 0.05 for nonreward work; β = -0.01, p < 0.001 for maintenance of relationship). Therefore, hypothesis 2 was strongly supported. Hypotheses 5a, 5b, and 5c predicted that vertical, functional and radical / horizontal movement would have positive effect on PC. Supporting these hypotheses, coefficient of these variables were significant in relational contract (β =0.14, p < 0.001 for vertical movement; β =0.05, p < 0.001 for functional movement; β = 0.40, p < 0.001 for radical / horizontal movement), transactional contract (β =0.20, p < 0.001 for vertical movement; β =0.04, p < 0.05 for functional movement; β = 0.42, p < 0.001 for radical / horizontal movement), Loyalty (β =0.15, p < 0.001 for vertical movement; β =0.02, p < 0.05 for functional movement; β = 0.28, p < 0.001 for radical / horizontal movement), and Nonreward word (β =0.21, p < 0.001 for vertical movement; β =0.09, p < 0.001 for functional movement; β = 0.29, p < 0.001 for radical / horizontal movement), and Maintenance of relationship (β =0.16, p < 0.001 for vertical movement; β =0.31, p < 0.001 for functional movement; β = 0.19, p < 0.001 for radical / horizontal movement).

Table 5
OLS Estimation Results: Employer obligation

	Relational contract		Transactional contract	
	Coefficient	t-statistics	Coefficient	t-statistics
Intercept	2.22	35.62 ***	2.21	32.30 ***
Tenure	-.01	-4.07 ***	-.01	-4.20 ***
MR_d	.29	10.07 ***	.32	10.06 ***
R&D_d	.17	4.77 ***	.24	6.18 ***
Midway_d	-.06	-2.10 **	-.06	-2.08 **
Vertical movement	.14	3.82 ***	.20	4.95 ***
Functional movement	.05	3.55 ***	.04	2.37 **
Radical/horizontal movement	.40	27.21 ***	.42	25.66 ***
R2	.20		.19	
adj_R2	.20		19	

*, **, *** denote two-tailed significance, the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 6
OLS Estimation Results: Employee obligation

	Loyalty		Nonreward work		Maintenance of relationship	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
Intercept	2.81	56.67 ***	2.42	39.86 ***	1.47	32.54 ***
Tenure	-.00	-2.10 **	-.01	-2.89 **	-.01	-5.12 ***
MR_d	.19	8.11 ***	.28	9.96 ***	.42	19.87 ***
R&D_d	.22	7.62 ***	.18	5.30 ***	.08	3.16 **
Midway_d	-.03	-1.37	.02	.87	-.03	-1.38
Vertical movement	.15	4.84 ***	.21	5.72 ***	.16	5.73 ***
Functional movement	.02	2.99 **	.09	6.40 ***	.31	30.76 ***
Radical/horizontal movement	.28	23.62 ***	.29	20.01 ***	.19	17.87 ***
R2	.17		.15		.36	
adj_R2	.17		.15		.36	

*, **, *** denote two-tailed significance, the 10 percent, 5 percent, and 1 percent levels, respectively.

DISCUSSION

We investigated the effects of several career change variables such as tenure, vertical, functional, and horizontal career change in organization on OC and PC. The findings described in this paper suggest that how employees' perceived affective commitment, continuance commitment, and PC change differ from each other.

Continuance commitment changes both incrementally and discontinuously. Continuance commitment incrementally increases over time. According to Marsh and Mannari (1971), in Japanese organizations, the perceived costs of not continuing with employment for employees increase with time. The results of this paper support this notion. In addition, continuance commitment also changes discontinuously through functional movement and radical / horizontal movement. The way PC change is also both incremental and discontinuous. The direction, however, is opposite that of continuous commitment. As tenure increase, perceived obligations incrementally decrease. As time passes, employees gradually do not intentionally seek information and become less concerned about employer and their own obligations. A decrease in PCs, however, could disrupt this process. Discontinuous career changes such as vertical movement, functional movement, and radical / horizontal movement increase the perceived strength of employer and their own obligations. Contrary to continuance commitment and PCs, affective commitment can change only in discontinuous manner. As Kanai et al. (1998) and Suzuki (2002) suggested, emotional attachment to and identification with the organization may change only with career movement.

Present findings shed light on the development of EOR. As socialization theorists suggest, employees in initial few years in employment actively gather information about organization and their jobs to establish and clarify their identity within organization. They may use several types of information to fine-tune their understanding of PC regarding what they can expect and what they need to contribute.

The employee's perceived obligation, however, decreases with time and increases only when they experience discontinuous career development. Simultaneously, the employee's perceived sunk cost (i.e. continuance commitment) increases with time. They think the magnitude of their investments increases and they do not have employment alternatives. The employee's perceived attachment to organization does not change with time. It can change only when they experience discontinuous career movement. In other words, employees without vertical movement, functional movement, and radical / horizontal movement does not experience an increase in affective commitment toward the organization. As indicated above, career movement such as vertical movement, functional movement, and radical / horizontal movement increases perceived obligations and affective commitment. In this viewpoint, the frequent use of functional movement and hierarchy in Japanese organizations may imply a frequent experience of career movement. Therefore, for employees' perspective, specializations in career tracks and removing layers in hierarchy in Japanese companies may imply lack of career change experiences in their careers. Since these trends (specialization and removing layers) are inevitable for Japanese employers, a critical issue for them is to investigate in alternative factors triggering increase in their sense of obligations and attachment.

This paper has several limitations. Since the findings reported here are not based on panel-type data but rather on cross-sectional data, we do not know what happens to employees as their tenure extends over a long period. Longitudinal studies are thus needed to address this issue. In addition, because this study is conducted within a single organization, it has certain limitations related to site specificity. Because the firm is relatively mature, well established, and has high performance, their employees can have a relatively stable career path with good prospects. Moreover, as is often the case with Japanese organizations, their employees' basic wages are partially based on their seniority. Consequently, they do not need to seek information at the start of their careers. Future research should thus examine whether the findings here can be replicated in other organizations. Finally, in this study, processes by which career changes influences EOR are not part of the empirical design. Such approach cannot rule out alternative explanations for the relationship between independent variables and dependent variables. In the future, several mediators in the relationship should therefore be clarified.

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