Development Review

VOLUME 2, ISSUE 1, JANUARY-JUNE 2021

IN THIS ISSUE

ISSN: 2349-9915

Development Review

A Peer reviewed Bi-annual Journal of the Department of Economics, University of Calicut

Volume 2 Issue 1 January-June 2021

About the Journal

Development Review is a peer-reviewed bi-annual journal (ISSN: 2349-9915) published by the Department of Economics, University of Calicut. The journal publishes articles of high quality in the field of social sciences in general and applied economics in particular. It encourages disseminating the original research findings related to the development issues in the context of developing countries.

Published by : **Department of Economics,**
University of Calicut,
Dr. John Matthai Centre,
Aranattukara, Thrissur-680618

Printed at : Calicut University Press

Development Review

Volume 2, Issue 1
January-June 2021

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Note from the Editor

We are pleased to release the second issue of the journal 'Development Review'. This issue got delayed for some technical reasons. But, we shall be regular henceforth. The time we pass through is unique in history marked by a pandemic (COVID-19). Thousands of health workers, volunteers together with the state machinery work relentlessly to fight the virus and save human lives during the pandemic. We express our gratitude to all these good souls.

As we all know, there is a new narrative of praising the Kerala style of managing the pandemic. While, agreeing to the world-wide recognition due to the state for its achievements in health care delivery, it is also import to note that there are certain communities left out of these acclaimed model of development and also that there is still the syndrome of high morbidity-low mortality prevails in the state. The current issue of the journal contains two important article related to this issue. The issue of marginalization in terms of financial side of the economy is also a matter of concern in another article.

The unemployment and labour market issues are also live debates in the state. One article takes up this issue by giving a new dimension of the care economy of the state. The first article is a contribution to the discussion on outward flow of foreign direct investment, which again is relatively less researched area in the Indian context.

We wish that the readers will be benefitted.

We are also glad to announce that from this issue onwards the e-version of the journal will be available in our official website: www.economics.uoc.ac.in

Thrissur
10.08.2020

Dr. D. Shyjan
Associate Professor and Head
Department of Economics,
Dr. John Matthai Centre and Editor Development Review

Outward Foreign Direct Investment from India: An Analysis of its Trends, Pattern and Composition in the Post Liberalization Period

Kavitha P

Abstract

India's emergence as a source of FDI outflows is impressive for its level of development. It is argued that the destinations, sectoral composition of Indian investments have been changing with magnitudes. This paper tries to analyses the trends, patterns and composition of outward foreign direct investment from India in the post liberalization period, which has increased markedly since the onset of reforms. This growth in outward FDI is also accompanied by significant changes in locational as well as sectoral distribution and in ownership participation. During the 1970s and 1980s, Indian outward FDI activities were led by manufacturing firms, largely developing countries-oriented and overwhelmingly involving minority Indian equity participation. In the 1990s, the majority of Indian outward FDI projects originated from service sector and had become increasingly developed country –oriented, with majority ownership in most cases.

Key words*: Outward Foreign Direct Investment, post liberalization, magnitude, location, sectoral, mode of entry*

1. Introduction

In recent years, emerging market economies are increasingly becoming a source of foreign investment for the rest of the world. It is not only a sign of their increasing participation in the global economy but also of their increasing competence. India's outward foreign direct investment (OFDI) is one of the key outcomes of globalization and has been contributing significantly to the economic growth and development in recent years. The Indian government has encouraged outward investments by Indian companies as means of promoting exports of Indian capital goods, technology and consultancy services since 1974. In view of scarcity of capital resources in the country, cash remittances of capital to overseas ventures were

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discouraged but could be allowed in exceptional cases (Kumar, 1995). In 1991, the government has removed some of the restrictions on Indian outward FDI. The vast flow of OFDI from developing countries is relatively a new phenomenon; a few large Indian conglomerates have been investing in overseas countries from the early 1960's. Until the mid 1990's the full scale emergence of OFDI from India was limited because of the more restrictive foreign trade and investment policy regime (Rajan, 2009). The main objective of liberalizing Indian investment abroad is mainly to provide Indian industry the access to new markets and technologies with a view to increasing their competitiveness globally and helps the country's export efforts (EXIM Bank 2008). India has experienced a marked increase in OFDI, mergers and acquisitions in terms of both quality and magnitude since 2000.

Although a few Indian enterprises were investing abroad in the mid-1960s (Lall, 1983), OFDI activity became significant only since the beginning of economic reforms in 1991. After 1991, OFDI underwent a considerable change in terms of magnitude, geographical focus and sectoral composition of the flows (Kumar, 2004). It is argued that this change in the geographical and sectoral composition of OFDI has in line with the change in their motives from essentially market-seeking to more asset seeking one to support exporting with a local presence. In this context, this paper analyses the emerging trends, pattern and composition of outward foreign direct investment from India in the post liberalization period.

The paper proceeds as follows. Section 2 provides the government policies towards outward FDI from India. Section 3 explains the magnitude of OFDI from India. Section 4 examines the direction of India's outward FDI. Section 5 analyzes the sectoral composition of OFDI from India. Section 6 explains the mode of entry of India's OFDI. Section 7 discusses the important players in outward investment from India. Section 8 explains the impact of financial crisis on India's OFDI. Final section offers some concluding remarks.

2. Government policy towards outward FDI in India

Change in policy environment across the economies has greatly influenced the outward investment pattern in the global economy. In India, overseas investments in joint ventures and wholly owned subsidiaries have been recognized as important channels for promoting global business by the Indian entrepreneurs. Until 1950s, India pursued an open door FDI policy. The policy became increasingly restrictive and regulatory during the 1960s and 1970s. The Monopolies and Restrictive Trade Practices Commission (MRTP) set up in 1969 imposed severe restrictions on the size of operations and pricing of products and services of foreign companies. Foreign Exchange Regulation Act (FERA) was enacted in 1973 which required existing foreign enterprises to dilute foreign equity to 40 percent, if they wished to be treated as Indian companies. Besides a firm with 40 percent equity held in any foreign country was treated as foreign controlled. Companies having more than 40 percent

foreign equity require prior RBI approval for all major decisions. The industrial policy statement, 1977 transmitted initial signals of policy shift by providing some relaxations. In 1978, an Inter Ministerial Committee in the Ministry of Commerce was set up to clear proposals for overseas investment (Kumar, 2008). The industrial policy, 1980 further set the tone for progressive liberalization. However, inward looking regulatory regime continued until the early 1980s (Kundra Ashok, 2009).

"The government policy with respect to outward FDI also has been successively liberalized … The outward FDI policy that existed during 1974-91 was highly restrictive and intended to discourage outward FDI by Indian enterprises as the country itself was suffering from resource scarcity. Joint ventures with minority Indian equity were permitted. The policy had used outward FDI as a means of export promotion by prohibiting cash remittances towards equity participation and requiring that it should be in the form of exports of Indian made capital goods and know how. During 1990s government had instituted an automatic approval system for outward FDI and successively had raised the permissible investment limit and reduced other regulatory constraints in promoting Indian direct investment abroad." (Pradhan, 2003 pp.23-24)

During this period, government policy toward overseas investment was formulated on the basis of the foreign exchange earning capacity of proposed ventures. Overseas investment was permitted only in minority- owned joint ventures. As regards the mode of financing of the proposed project, the government severely restricted cash remittances for equity participation and only encouraged the export of capital equipment from India for that purpose. It was stipulated that all service fees and royalties, and 50 percent of declared dividends, should be remitted to the parent companies in India. All project proposals were screamed on a case-by-case basis and only those that promised quick payoffs in the form of exports were approved.

The approval criteria were somewhat liberalized in the 1980s, but the basic rationale remained largely unaltered until 1992.According to these revisions, the government allowed the capitalization of service fees and royalties to meet equity participation. Indian companies were permitted to raise foreign currency loans abroad and to grant loans to their foreign joint ventures with Indian parent companies. In some cases, direct cash remittances to joint ventures were also permitted. Cash remittances for outward investments have been allowed only since 1992 (Kumar & Chandha, 2009). The ceiling on the total amount and amount for automatic approval of OFDI proposals has been gradually raised, and the sectors in which Indian companies could invest were significantly expanded. The first increase in the upper limit automatic approval since 1992 took place in 1995.indian firms also started to have greater access to financial markets since the early 1990s.

Phase 1 (1992-1995)

As part of the economic reforms since 1991, policy governing outward investments was also liberalized in 1992 when an automatic approval system for overseas investment was introduced, and cash remittances were allowed for the first time. In 1995 a signal window was created in the Reserve Bank of India (RBI), a fast track route was introduced and investment limit was raised from $2 million to $4 million. The authority for approval of proposals up to $15 million was vested in the RBI, but proposals of more than $15 million still had to be approved by the Ministry of Finance (Athukorala, 2009).

Phase 11 (1995-2000)

In 1995, a comprehensive policy framework was laid down and the work relating to approvals for overseas investment was transferred from Ministry of Commerce to the Reserve Bank of India to provide a single window clearance mechanism. In terms of overseas investment a fast track route was adopted where the limits were raised from US$ 2 million to US$ 4 million. Beyond US$ 4 million, approvals were considered under the normal route approved by a Special Committee comprising the senior representatives of the Reserve Bank of India and the Ministries of Finance, External Affairs and Commerce. Investment proposals in excess of US$ 15 million were considered by the Ministry of Finance with the recommendations of the Special Committee and were generally approved if the required resources were raised through the global depositary route (GDR). The introduction of FEMA in 2002 brought about significant policy liberalization. The limit for investment up to US$50 million was made available annually without any profitability conditions. Companies' were allowed to invest 100 percent of the proceeds of their ADR/ GDR issues for acquisitions of foreign companies and direct investment in Joint Ventures and Wholly Owned Subsidiaries (RBI, 2010).

Phase 111 (2000 till date)

In 2002, the upper limit for automatic approval was raised to $100 million per annum, of which 50 percent could be obtained from any authorized dealer of foreign exchange. In 2004, firms were allowed to invest up to 100 percent of net worth under the automatic route. This limit further increased to 200% of net worth in 2005, then 300% of net worth in 2007 and finally to 400% of net worth in 2008 (Nayyar, 2008). Indian firms' access to international financial markets was also progressively liberalized and they were granted permission to use Special Purpose Vehicles in international capital markets to finance acquisitions abroad (Athukorala, 2009).

At present, any Indian party can make overseas direct investment in any bona fide activity except certain real estate activities and banking business that are specifically prohibited. For undertaking activities in the financial services sector, certain conditions are specified by the Reserve Bank. The impact of policy liberalization is now reflected in cross-border acquisitions by Indian corporate growing at an accelerated pace (RBI, 2012). Apart from liberalized policy environment for

overseas investment, India has gained ground as an important investor on the back of rapid economic growth, easy access to financial resources and strong motivations to acquire resources and strategic assets abroad.

3. Magnitude of Indian outward FDI

India's outward FDI activities before 1990s was limited to a small group of large family owned business houses like Birla, Tata, and Mahindra etc. Rising numbers and magnitudes of outward investments by Indian companies have made it an important aspect of increasing global economic integration of Indian economy. Kumar (2008) argued that the destinations, sectoral composition, motivations, and entry strategies of Indian investments have been changing with magnitudes. The first Indian venture was a textile mill set up in Ethiopia in 1959 by the Birla Group of companies. Sustained growth in Indian overseas investment could be seen starting around the late 1970s (Athukorala, 2009). The magnitudes of investment were quite small until mid-1990s. Since 2000 the magnitudes of outward FDI have suddenly swelled and there was a surge in outward investments from 2005. The number of approved projects increased from 220 in 1990/91 to 395 in 1999/2000 and to 1595 in 2007/2008 (Kumar, 2008).

The change in India's foreign investment policy in 1991 resulted in a substantial amount of FDI outflows from India during 1990's and 2000s. The stock of OFDI from India increased rapidly from US$0.12 million in 1990 to US$1.73 billion in 2000 and US$92.41 billion in 2010 (UNCTAD, 2011). The share of India in the total stock of OFDI from developing countries rose from 0.08 percent in 1990 to 0.21 percent in 2000 and 3 percent in 2010[1]. Indian FDI outflows have increased phenomenally to US $18.78 billion in 2010-11 from a minimal US $0.31 million in 1993-94 (see Table 1). India's share in total developing economy FDI outflows remained below 0.5 percent throughout the 1990s, yet increased continuously reaching 6.2 percent in 2008 and 5 percent in 2010 (UNCTAD, 2010; WIR, 2010). The gap between outflows and inflows was sharply narrowing over the past few years. In 1990, annual outflows, on average, amounted to 7 percent of inflows. This increased from about 33 percent to 58 percent between 2000-2005 and 2005-2011 (RBI Database). Growing outward FDI from India has attracted global attention not only for their expanding magnitudes but also their involvement in acquisitions of large global enterprises based in developed countries (Kumar and Chandha, 2009).The global crisis caused Indian outward FDI flows from $21.71 billion in 2007-08 to $15.09 billion in 2009-10, largely because Indian MNEs had borrowed heavily in dollars to finance mega cross- border M&As. They were thus hit badly by the sharp rupee depreciation and tightened international credit conditions (Satyanand & Raghavendran, 2010). According to UNCTAD's World Investment Report 2011, based on the magnitude of FDI outflows, India was placed 21st in the world.

Table 1: Indian Inward and Outward FDI flows (1990-1991 to 2010-2011)

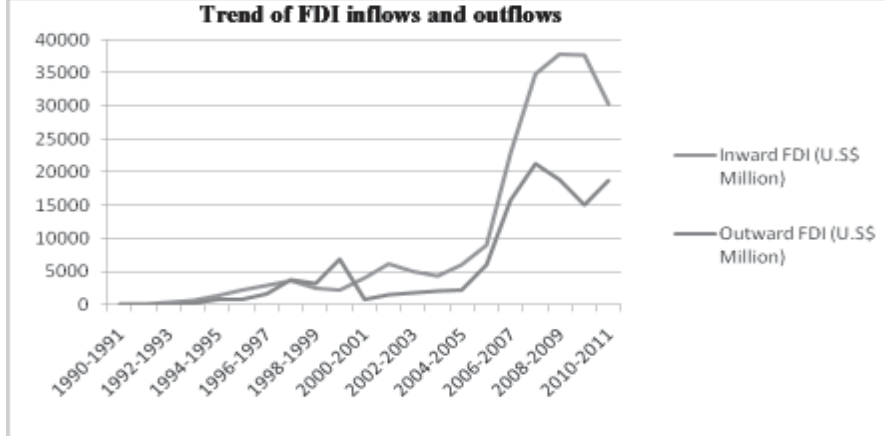
Year	Inward FDI (U.S$ billion)	Outward FDI (U.S$ billion)	Growth Rate of Outward FDI flows (%)
1990-1991	0.11	-	-
1991-1992	0.15	-	-
1992-1993	0.35	0.02	-
1993-1994	0.65	0.31	15450
1994-1995	1.35	0.82	164.63
1995-1996	2.17	0.79	-3.40
1996-1997	2.86	1.64	106.42
1997-1998	3.59	3.74	128.21
1998-1999	2.51	3.29	-12.07
1999-2000	2.17	6.92	110.36
2000-2001	4.03	0.82	-88.03
2001-2002	6.13	1.49	79.73
2002-2003	5.09	1.89	26.98
2003-2004	4.32	2.07	9.73
2004-2005	6.05	2.31	11.22
2005-2006	8.96	6.08	163.45
2006-2007	22.83	15.81	159.90
2007-2008	34.84	21.31	34.80
2008-2009	37.83	18.95	-11.04
2009-2010	37.76	15.09	-20.39
2010-2011	30.38	18.78	24.47

Source: RBI Database

However, the growth rate of outward FDI is fluctuated both during 1990s and 2000s. As is seen clearly from Table 1 the annual growth rate of FDI outflows is 164.63 per cent of total FDI outflows in 1994-95, but it fell down to -3.40 per cent

in 1995-96, -12.07 per cent in 1998-99 and again fell down in 2000-01 by -88.03 per cent. The FDI outflows, however, revived in the early 2000s and the trend is increasing with mild fluctuations. The growth rate of FDI outflows again recovered in 2005-06 and reached its highest 163.45 percent, then this trend starts to decline due to the global financial crisis because Indian MNEs had borrowed heavily in dollars to finance mega cross- border M&As. But in 2010-11 the growth rate of FDI outflows start increased by 24.47 per cent.

Figure 1: Trends of FDI inflows and outflows

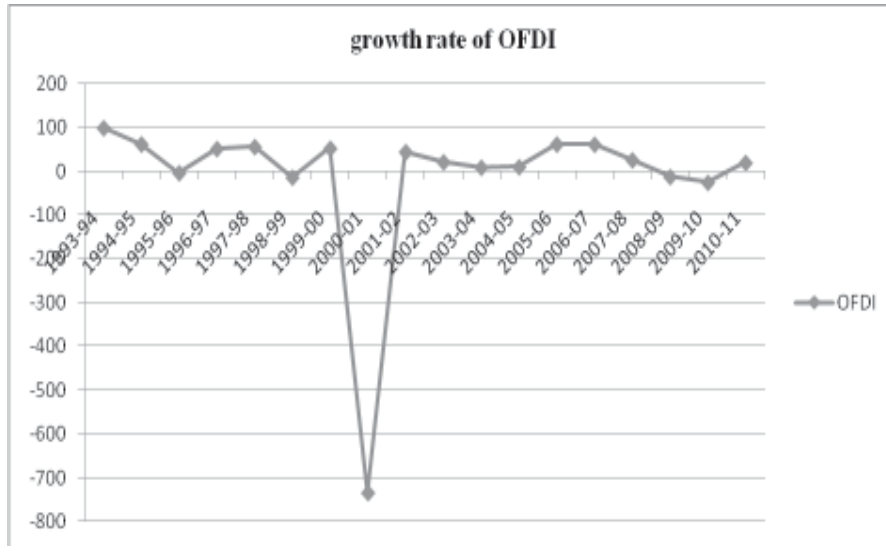


Source: RBI Databese.

Figure 1 reveals that the FDI inflows are volatile through out 1990s and 2000s, still the trend is incrasing with mid fluctuations up to 2009-10, then it start to decline in 2010-11. At the same time the FDI outflows trend also shows fluctuations. From 2004-05 to 2007-08 shows a big increase in outflows, then start decreasing due to financial crisis and recover it in 2010-11 period.

Figure 2 shows the growth rate of OFDI from india. In 2000-2001 there is a drastic decline in the growth rate of OFDI from India. Then it start to increase and reached at the highest level of growth (163%) in 2005-06 and then declines slowly and turn to negative growth rate during 2008-2010 periods. This happened because of the economic crisis. Then it pich up positive growth rate (24%) in 2010-11 period.

Figure 2 : Growth rate of India's OFDI



Source: own calculation based on RBI database

The data in Table 2 help in understanding India's relative position in the world as a source country of FDI. In the early 1990s, India's share in FDI outflows from developing economies was the lowest compared to South Africa, Mexico, Brazil and China. Over the years India's share has grown faster than those of other developing countries. In 2003-04, it surpassed that of South Africa and in 2008-09, it surpassed that of Brazil and Mexico.

Table 2: Foreign Direct Investment Outflows: India in a Global Context[2]

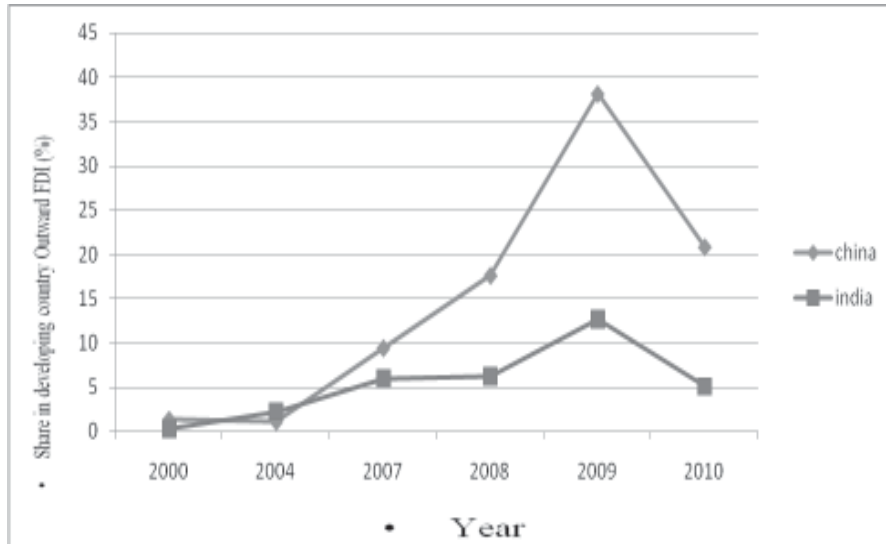
Measure Economy	1994-1995	1999-2000	2003-2004	2006-2007	2008-2009	2009-2010
a)$ billion						
World	324.7	1160	687.1	1659.8	1514.8	1246.9
Developed economies	273.0	1055	600.5	1389.7	1196.2	893.08
Developing Economies	51.3	101.7	74.2	232.7	131.34	299.17
South Africa	1.9	0.9	0.95	5.23	-0.78	0.80
Mexico	0.4	1.1	2.84	16.63	5.186	0.71
Brazil	0.9	2.0	5.02	7.01	4.38	10.68
China	2.0	1.3	0.82	21.81	50.07	62.26
India	0.1	0.3	1.67	13.25	16.7	15.27
(b) Share in total world outflows (%)						

Developed economies	84.1	91.0	87.4	83.72	78.96	71.62
Developing Economies	15.8	8.8	10.8	14.02	9.0	24.00
South Africa	0.6	0.1	0.13	0.32	-0.05	0.06
Mexico	0.1	0.1	0.41	1.00	0.342	0.05
Brazil	0.3	0.2	0.73	0.42	0.28	0.85
China	0.6	0.1	0.12	1.31	3.30	5.00
India	>0.05	>0.05	0.24	0.8	1.10	1.25
(c) Share in developing economy outflows (%)						
South Africa	3.6	0.9	1.28	2.25	-0.59	0.26
Mexico	0.8	1.1	3.9	7.15	4.00	0.23
Brazil	1.7	2.0	6.76	3.01	3.33	3.57
China	3.9	1.3	1.07	9.4	38.12	20.81
India	0.2	0.3	2.25	6.0	12.72	5.10

Source: UNCTAD, World Investment Report, various issues

Figure 3 compares the outward FDI from China and India in terms of the percentage contribution to total developing economy outward FDI. During 2006-07, on average, the China accounted for 9.4 percent of the total outward FDI from developing countries compared to 6.0 percent for India, although the gap has been narrowing over the years.

Figure 3: Outward FDI from China and India (as percentage of developing economy outward FDI)



Source: UNCTAD, World Investment Report, various issues

4. Direction of India's outward FDI

One of the important characteristic of developing countries emerging multinational has been its heavy concentration in developing countries in the late 1970 and 1980s. During the pre-liberalization period the Indian outward FDI was more concentrated in the developing regions of the world. The general trend of Indian enterprises to focus on developing countries in their internationalization process is that the Indian investors had not yet achieved the sophistication of firm specific ownership capabilities that can enable them to compete with companies in industrialized countries (Pradhan, 2009). According to Pradhan (2003) the changing locational distributions of OFDI from India indicate that the ownership advantages of Indian enterprises are increasingly finding larger role in advanced countries. Further advanced countries being service driven economies, are offering growing markets for service sector Indian MNEs particularly from software sector.

With in developing region the countries of South – East and East Asia emerged as the largest recipient of Indian outward FDI about 36 percent and the involvement of firms through OFDI was limited to a small group of large business houses like Birla, Tata etc because these enterprises were forced to seek trans-border market due to policy led barriers on their growth in the domestic market and overall slow economic growth of the home country (Pradhan 2008).

During the post liberalization period the Indian outward FDI has moved away

from developing countries to industrialized countries. Out of the total outward FDI from India 60 percent has gone in to developed countries namely the UK and USA. The changing locational distributions of outward FDI from India indicate that the ownership advantages of Indian enterprises are increasingly finding larger role in advanced countries. The advanced countries are, being service driven economies, offering growing markets for service sector Indian companies particularly from software sector (Pradhan, 2003). The developed economy share of approved investment of Indian MNEs increased from around 35 percent in the early 1990s to more than 53 percent by 2002-2006 and 81.4 per cent in 2007-2009. Table 3 clearly explains this trend.

Table 3

Geographical distribution of approved Outward FDI by India (%)

	Up to 1990	1991 1995	1996 2002	2002 2006	2007 2009	2000 2009
Developing countries	86.1	63.8	63.3	46.2	15.4	42.48
Developed countries	13.9	35.0	36.7	53.8	81.4	52.83

Kumar, 2008 states that, most of the outward FDI activity of Indian enterprises in the pre-1990 period was largely concentrated in developing countries. After 1990 most of these investments has directed to develop industrialized countries (Nayyar 2008). India's investments are seeking markets for their products in developed economies, in manufacturing sector and in mature industries, like machinery, automotives, textiles and pharmaceuticals (Nagaraj 2006). Among the top 10 countries that attracted India's OFDI flows, top four are Singapore, Mauritius, USA and Netherlands which together claimed nearly 51 per cent of total Indian OFDI flows during 2000-2009 periods (Table 4)

Table 4

Top 10 destinations for India's Outward FDI (April, 2000-March, 2009)

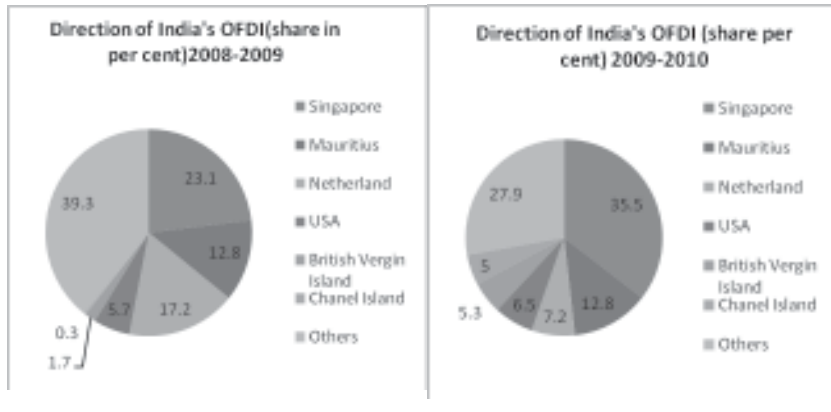
Host country ($ billion)	Outward FDI total flows	Percentage to
Singapore	14.29	19.6
Netherlands	10.66	14.6
USA	6.23	8.6
Mauritius	5.94	8.2

Channel Island	5.43	7.5
UK	5.35	7.4
Cyprus	4.67	6.4
Russian Federation	3.10	4.3
UAE	2.14	2.9
Sudan	1.19	1.6
Total	59.04	81

Source: Pradhan, 2009

During 2009-10, Singapore (35.5%), Mauritius (12.8%), the Netherlands (7.2%), the USA and the British Virgin Islands together accounted for 67% of the total outward FDI from India (RBI, 2009-10). But in 2008-09, Singapore (23.1), Mauritius (12.8), the Netherlands (17.2), the USA (5.7) and the British Virgin Islands (1.7) together accounted for 60% of the total outward FDI from India.

Figure 4: Direction of India's Outward FDI, 2008-09 and 2009-10



Source: RBI bulletin 2009 and 2010

5. Sector- Wise Composition of India's outward FDI

During the three decades beginning in the late 1960s, more than 80 percent of Indian outward FDI was in manufacturing. With in manufacturing Indian firms were spread over a much broader spectrum of activities. The largest sector was

textile and yarn, accounting for a quarter of capital held overseas. This was followed by paper and pulp, engineering of various type, food processing, and chemicals (Lall, 1982, 86, as cited in Athukorala, 2009). During this period Indian firms were predominantly engaged in import-substitution production, which reflected the nature of the Indian domestic policy regime, which is highly diversified and inward-oriented domestic manufacturing base (Athukorala, 2009)

The increasing geographical diversification of Indian outward FDI in the late 1980s coincided with sectoral diversification to cover more services and trading activities as compared to near total domination of manufacturing sector till the mid 1980s. The shift in terms of sectoral composition also came about in mid-1980s since when the share of manufacturing in total FDI outflow declined from nearly 75% in the early 1980s about 55% in the late 1980s. The fact is that bulk (nearly 70%) of FDI outflows to industrialized countries is in services and not in manufacturing. After 1991, service sector emerged as another important outward investor. The bulk of OFDI in pre 1990s was concentrated in manufacturing sector and in services sector in a nearly two thirds and one third proportion respectively. But in the 1990s especially in the second half of the 1990s, the proportion changed gradually in favour of services with IT and related services becoming very important sector.(Kumar, 2008). As for sector, manufacturing has a relatively high proportion of acquisitions, which mainly reflected large-sized acquisitions done by Indian companies from steel industry and related to relatively small value acquisitions by firms from other industries such as food processing, electrical machinery, chemicals etc. The structural shift in the Indian economy towards the service sector, Indian software and service providers have emerged as important players in the overseas expansion by Indian firms. Indian BPO firms are increasingly looking to expand their client base in overseas markets by catering to firms not very keen on outsourcing business to an offshore location. Indian companies such as Tata Consultancy, Infosys Technologies and Wipro have operations in many foreign countries ((Rakesh Jha, 2006)

The period from about 2004 to 2008 has seen a notable diversification in the sectoral composition of overseas activities of Indian firms. The share of manufacturing in total approved capital declined from 72.3 percent in 2004-05 to 43.7 percent in 2007-08. The major areas of concentration within manufacturing are pharmaceuticals, automotive, consumer goods, chemicals and fertilizer (Athukorala, 2009). The share of manufacturing in Indian OFDI flows thus fell, unsurprisingly, from 67.47% in 2005-06 to 42.47% in 2010 (see Table 5). The share of the primary and services sectors in Indian Brownfield (i.e., made through mergers and acquisitions) OFDI, on the other hand, grew to 20% and 31%, respectively. In the first half of 2009, the negative impact of the global slowdown spread to the services sector as well. Only the primary sector remained robust, led by ongoing increases in OFDI in the oil segment and the revival of OFDI in mining (Pradhan, 2010). During the year 2009-10, on a sectoral basis, out of the total FDI almost 43% was

in manufacturing but in 2008-09 it was 57 % (RBI, 2010).

Table 5: Sector-Wise Composition of India's outward FDI (in US $ Million)

Year	Manufac-turing	Financial services	Non-Financial services	Trading	Others
2000-01	23.84	0.85	66.3	7.33	1.7
2001-02	53.82	0.41	35.68	8.15	2.03
2002-03	70.63	0.167	22.47	4.62	2.11
2003-04	60.00	0.06	30.52	7.56	2.07
2004-05	65.88	0.48	17.12	10.81	5.63
2005-06	67.47	3.17	17.72	7.47	4.18
2006-07	30.11	0.20	54.16	4.74	10.78
2007-08	28.87	0.47	9.33	5.60	55.71
2008-09[3]	56.60	1.32	9.01	6.42	27
2009-10[4]	42.47	0.62	9.47	5.00	42.52

Source: RBI Annual Report, various issues and RBI Bulletin 2010

Figure 5 shows that the share of manufacturing has increased from 24% to 42% during 2000-2010 periods. The share of financial and trading has marginally come down. The share of other sectors (construction, wholesale and retail trade, financial insurance and business services and real estate) has gone up by almost 40% during the same period. During the 2008-09 period 50 per cent of the amount of outward FDI was in manufacturing, followed by financial insurance, real estate and business services (19.8 per cent), wholesale and retail trade and restaurants and hotels (5.5 per cent) and balance was others. But in 2009-10 period 43.1 per cent of the amount of outward FDI was in manufacturing, followed by financial insurance, real estate and business services (28.1 per cent), wholesale and retail trade and restaurants and hotels (11.4 per cent) and balance was others. From here we can observe that the share of manufacturing sector in total outward FDI start to

decline, but again it dominate among the other sectors. That means now also India's outward FDI was more from manufacturing sector.

Figure 5: Sector-Wise Composition of India's Outward FDI

Source: RBI Bulletin various issues

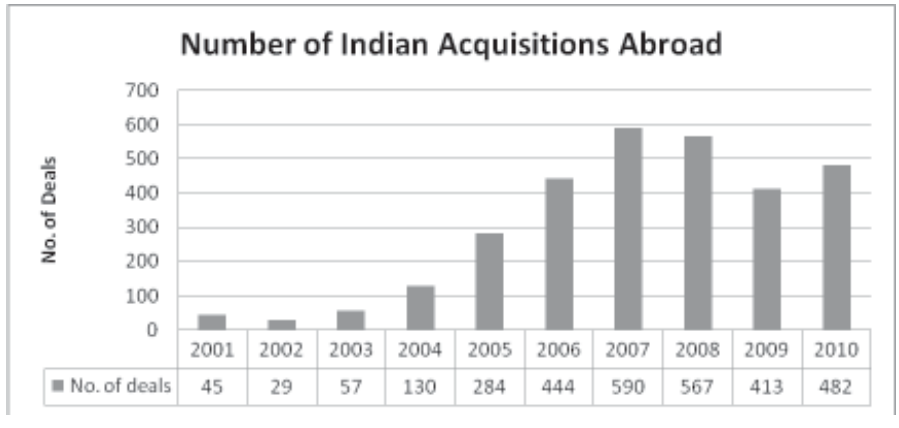
6. Mode of entry of India's outward FDI

Indian firms can undertake OFDI in the host country market through one of two entry modes. One route is the Greenfield investment, which refers to the creation of new enterprises and facilities, and to the development or expansion of existing production facilities in the host country. An alternative but more popular entry mode is M&A, where the firms acquire firms with existing technology or markets, rather than building them from scratch (Dasgupta, 2010). International involvement of Indian multinationals during the 1960-1980 was usually represented by cross boarder green field investments (Pradhan, 2008). All foreign affiliates formed during the period were joint ventures, usually with minority ownership (Athukorala, 2009). However Since the late 1990s and particularly the early 2010s Indian multinational began to use acquisition as a preferred expansion strategy in to the world market (Pradhan, 2008). The total number of acquisitions increased from 25 in 2000 to 277 in 2008 and 478 in 2010 (Beena, 2010). Also the ownership structure of foreign ventures has also shifted toward majority and full ownership.

Government policies as well as strong domestic growth are the some of the key factors which gave confidence to Indian firms to pursue acquisitions abroad through the FDI route (Subramanian 2010). FICCI, 2006 study (as cited in Athukorala,2008) shows that 68 percent of acquisitions by Indian firms during 2000-06 involved acquisition of full ownership; acquiring minority ownership took place only in less than 15 percent. In 2007-08, India ranked as the fourth largest overseas

business acquirer among developing and transnational economies after Singapore, United Arab Emirates, and Russia (Athukorala, 2009). The Indian companies recognize that they do not have the appropriate brands, product lines, or distribution networks. Thus, the relative focus of Indian companies' globalization has shifted from Greenfield operations in developing countries to taking controlling positions through acquisitions in developed countries (Kumar, 2009). The sharp rise in Indian FDI flows into developed region as reflected in the case of Greenfield investments by Indian companies to set up new overseas affiliates can only be termed as moderate when compared to FDI flows generated by their overseas acquisition activities. Since 2000s an increasing number of Indian companies are aggressively following the businesses strategy of overseas acquisition. Pradhan and Abraham 2005; Pradhan 2008, reveals that a combination of firm-specific factors is driving Indian acquisitions abroad.

Figure 6: Number of Indian Acquisitions Abroad from 2001-2010



Source: Beena (2010), page 18

In terms of numbers, Indian firms' overseas acquisitions has increased from 44 during 2001 to a peak level of 590 in 2007 and then slightly declined to 482 during 2010. However, Greenfield outward FDI remains an important market-entry strategy, but cross-border M&As have become increasingly popular, particularly for entry in to developed countries. Most Indian M&As in developing countries were in Asia and also taken place in all sectors (Sauvant, 2005). Developed economies accounted for over 80 percent of the total number of Indian acquisitions during 2000-2006. One third of these acquisitions were in the US and two thirds were in Europe. Yet India's largest M$As have tended to be in the metals sector (Tata Steel, Hindalco, Essar Steel). Tata Steel's US $ 12.2 billion takeover of Corus Steel in 2007 has been one of the largest Cross border M$A up to 2007, accounting for one third of the total Indian outward FDI in 2007 (Economist, 2007, as cited in Nagaraj 2006).

Barathi Airtel's US $ 13 billion takeover of MTN in 2009 and Barathi Airtel's US $ 10.7 billion takeover of Zain Africa BV in 2010 are the largest cross-border M$A in 2009 and 2010. The Table 6 presents the evidence of sale and purchase of the Indian companies in the form of mergers and acquisitions abroad during 1992-2010. It shows that the purchases made by Indian companies are larger than the sales.

UNCTAD provide statements of sale
form of cross-border mergers and acquisitio
Indian companies in the form of mergers an
sales during 2000 to 2010 was US$ 41541 m
of the order of US $87752 million during t
value of net purchases (i.e., cross border acc
2010, India was placed fifth in the world a
(RBI, 2012).

Table 6: Value of India's Cross-border
2010 (US$ Million)

Year	Sales	Purchase
1992	35	3
1993	96	219
1994	385	109
1995	276	29
1996	206	80
1997	1520	1287
1998	361	11
1999	1044	126
2000	1219	910
2001	1037	2195
2002	1698	270
2003	949	1362
2004	1760	863
2005	3754	4958

2006	4750	6586
2007	5580	30414
2008	10427	13482
2009	6049	291
2010	5537	26421

Source: UNCTAD, World Investment Report, various yearsNote: 2008, 2009 and 2010 data are available in net sales and net purchase

7. Players

Until the mid-1980s the Birla group of companies dominated the overseas investment. They accounted for 40 percent of shares of equity held in Indian firms. The Tata group of companies accounted for about 11 percent and Thapar group accounted for 7 percent (Lall 1986, as cited in the Athukorala, 2009). After the liberalization reform, several new players have entered in to overseas investment. Which includes the pharmaceutical giant Dr.Reddy's and IT companies such as Infosys, Ranbaxy, Reliance, and Wipro (see Table 7). The important players are ArcelorMittal, is the largest steel company in the world. The IT company Infosys, the poster child for the new India, being both global and technologically savvy. Bharat Forge, the world's second-largest forging company. The Essal Propack, the world largest laminated-tube producer. Hindalco is the one of the top five aluminum players in the world. Mahindra and Mahindra, one of the top three tractors manufactures in the world. Goderaj and Marico have the leading world position in the two specialist categories of powder hair dye and coconut oil, respectively. United Breweries Group is the world's third largest spirits marketer. Suzlon has come to become the world's fifth largest player in the wind energy sector. Tata Tea, Tata Steel, Taj Hotels, and Tata Motors are the major international players (Kumar, 2009).

Table 7: Major Acquisitions by Indian Companies, 2000-2010

Company	Target Firm	Country	Value ($Million)	year
Metal and Metal Products				
Tata Steel	Corus Steel	UK	12,100	2007
Tata Steel	Millennium Steel	Thailand	175	2005
Tata Steel	NatSteel Asia	Singapore	384	2004
Hindalco	Novelis	US	6,000	2007

(Aditya Birla)				
Ispat Industries	Finmental Holdings	Bulgaria	300	2005
Hindustan Zine Ltd	Anglo American Plc-Zinc business	UK	1,340	2010
Essar Africa Holding	Zimbabwe Iron and Steel Company	Zimbabwe	500	2010
Jindal Steel & Power Ltd	Shadeed Iron and Steel Co LLC	Oman	464	2010
Pharmaceuticals				
Dr.Reddy's	Betapharm GmbH	Germany	570	2006
Ranbaxy Laboratories	Terapia SA	Romania	324	2006
Matrix Laboratories	Docpharma NV	Belgium	235	2005
Fortis Healthcare Ltd	Parkway Holding Ltd	Singapore	685	2010
Chemicals				
Tata Chemicals	Brunner Mond	UK	177	2005
Reliance Industries	Trevira GmbH	Germany	95	2004
Automobiles				
Tata Motors	Daewoo Commercial Vehicle Co	Korea, Rep.of	102	2004
Tata Motors	Jaguar and Land Rover	UK	2,500	2008
Tata Motors	Hispano Carrocera	Spain	16	2005
Bharat Forge	Federal Forge	US	49	2005
Bharat Forge	Carl Dan Peddinghaus	Germany	8	2003
Mahindra and Mahindra	Jiangling Tractor	China, PRC	8	2004

Mahindra and Mahindra	Stokes Group	UK	15	2006
Consumer Goods				
Kraft Food Ltd	United Biscuits	UK	522	2007
Tata Tea	Tetley Group	UK	431	2006
Tata Tea	Good Earth	US	50	2006
Tata Tea and Tata Sons	Glaceau	US	677	2005
Tata Coffee	Eight O'Clock Coffee	US	220	2000
United Spirit	White and Mackay	UK	1,110	2006
Power Generation andElectronic Engineering				
Suzlon Energy	Hansen Transmission	Belgium	565	2006
Suzlon Energy	Repower Systems	Germany	1,700	2006
Videocon	Thomson SA International	Europe/ PRC/Mexico	289	2005
Opto Circuits India Ltd	Eurocor GmbH	Germany	600	2005
Information and Communication Technology				
Wipro Ltd	Infocrossing	US	600	2007
I-Flex Solutions	Mantas Inc	US	113	2006
Sasken Communication Technologies Ltd	Botnia Hightech	Finland	210	2006
Tata Consultancy Services	TKS Technosoft	Switzerland	80	2006
Seagate Technology Ltd	EVault Inc	US	185	2006
Citrix Software Pvt Lt	Sequoia Software	US	185	2001
Videsh Sanchar	Teleglobe	US	254	2005

Nigam Ltd	International			
Telecom				
Reliance Information	Flag Telecom	US	191	2003
Bharati Airtel	MTN	South Africa	13,000	2009
Bharati Airtel	Zain Africa BV	Africa	10,700	2010
Petroleum				
ONGC Videsh Nile Oil Project	Petrobras Greater Brazil	1,400	2006	
ONGC Videsh	Sakhalin-I Production Sharing	Sudan	766	2002
ONGC Videsh	Agreement Project	Russia	323	2000
NGC Videsh	Greater Plutonic Project	Anglo	600	2004
Others				
Ballarpur Industries Ltd	Sabha Forest Industries(pulp/paper)	Malaysia	209	2006
Tata Power	PT Bumi Resources (coal mining)	Thailand	1,100	2007
JSW Energy Ltd	CIC. Energy Corp (mining)	Canada	415	2010
Essar Mineral Resource Ltd	TrinityCoal Corporation LLC (mining)	USA	600	2010
Lanco Infratech Ltd	Griffin Coal (mining)	Australia	845	2010
Hinduja Group	KBL European Private Bankers (Banking and Financial services)	Belgium	1,863	2010

Source: Athukorala, 2009, Dealtracker, 6th Edition, 2010

8. Impact of Financial crisis on India's outward FDI

The current economic slowdown, uncertainty and the fragile financial systems are likely to affect Indian multinationals in different ways. As a result of the global

economic crisis the actual Indian FDI outflows, which rose to a historic levels of $21 billion in 2007, fell in 2008 to $18 billion and to $15 billion in 2009. This is its first absolute decline since 1999. Between 2007 and 2008, the acquisition led Indian FDI outflows in primary sector (9.5 percent) and services (19 percent) improved, while those in manufacturing sector (-78.9 percent) declined. These figures suggest that Indian OFDI in primary and services sector has been more resilient during the crisis than the OFDI in manufacturing activities. As a result the share of manufacturing in Indian OFDI flows has gone down from 83.5 percent in 2007 to 48.7 percent in 2008, largely because Indian MNEs had borrowed heavily in dollars to finance mega cross-border M&As. They were thus hit badly by the sharp rupee depreciation and tightened international credit conditions. Outward M&As dropped radically both in number and in size, resulting in a four-fifths drop in the value of manufacturing M&As and an overall drop in this sector's share (satyanand and Raghavendran, 2010).

9. Conclusion

For a fast growing emerging economy-India is still being second-fast growing major economy in the world after China. There is a dramatic growth of outward FDI activities by Indian firms during the 1990s. This growth in outward FDI is also accompanied by significant changes in locational as well as sectoral distribution and in ownership participation. During the 1970s and 1980s, Indian outward FDI activities were led by manufacturing firms, largely developing countries-oriented and overwhelmingly involving minority Indian equity participation. In the 1990s, especially after 2000, the majority of Indian outward FDI projects originated from the service sector and had become increasingly developed country –oriented, with majority ownership in most cases. The basic reason for investing abroad is not only seeking market for their products but also have to access to strategic assets like skills, enhancing non-price segment of global competitiveness through establishing trade supporting infrastructure. The economic crisis in 2008 badly affected the FDI outflows from India, because Indian MNEs had largely borrowed in dollars from outside to finance mega cross-border M&As.

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Notes

1 These percentages have been calculated as a proportion of the total outward stock for developing countries reported in UNCTAD (2011)

2 Two years average

3 Data is from RBI Bulletin 2010 (April- December)

4 Data is from RBI Bulletin 2010 (April- December)

Magnitude and Determinants of Unpaid Care Work in Kerala: Evidence from a Panchayat Level Study

Dr Anila Skariah

ABSTRACT

The unpaid care work that nourishes and replenishes human life and reproduces and maintains human capabilities contributes not only to economic production but also to social development of a nation. In most countries the provision of care in the family continues to lie unbalanced mainly with women on an unpaid basis, which is not economically or socially valued. Despite the fact that, unpaid care work has considerable economic value, it is not reflected in the economic indicators like Gross Domestic Product (GDP), labour force surveys etc. The failure to 'give visibility and economic value' to the essential work of family care giving leads to underestimation of the work of women and their contribution to national economy and provides inadequate information about the state of economy. This paper, using time use data attempts to explore the magnitude and analyze the determinants of unpaid family care work in Madappally panchayat of the Kottayam district of Kerala from a gender perspective.

The study reveals the unequal sharing of unpaid care work between men and women; that women spend an average of 9.5746 hours and men spend only 0.5238 hours per day. The analysis shows that the unpaid care work is highly skewed towards women that, 73 percent of men do not spend any time for unpaid care work while 95.87 per cent of women spend more than four hours a day only for the house work component of the unpaid care work. The care dependency ratio of the locality is also estimated. Tobit Model estimates that gender, age of the care providers, employment status, income of the households, availability of home technology, fuel and water facility, social community and number of elderly members in the household are significant determinants of unpaid care work. Surprisingly, number and age of children do not

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affect the magnitude of unpaid care work. The study is significant as it suggest the need for the measurement of unpaid care work using time use statistics and highlight the need for the compilation of gender disaggregated data, one of the most important prerequisite for gender budgeting.

Key Words : Unpaid care work, time use survey, care dependency ratio, Tobit model, gender budgets

1. Introduction

The unpaid care work that nourishes and replenishes human life and reproduces and maintains human capabilities contributes not only to economic production but also to social development of a nation. However, the cost of reproducing and maintaining the labour force in a given society remains unrecognized and undervalued as long as the scope of economic activity does not include unpaid care work. In all societies, regardless of whether developed or developing, women concentrate in unpaid care work more than men, and this leads to economic invisibility and statistical underestimation of women's work (Beneria 1995). "This has an impact on the status of women in society, their opportunities in public life and the gender blindness of development policy" (United Nations HDR 1995).

2. The Problem

We need to recognize the fact that, the cost of providing care are unequally borne across gender and class (UNRISD Research and Policy Brief 9 2007). In most countries the provision of care in the family continues to lie unbalanced mainly with women on an unpaid basis, which is not economically or socially valued. Thus the burden of providing unpaid care falls heavily on those who are vulnerable, have less choice and less decision making power. Unpaid care work has a crucial dimension of well-being, not only for those who benefit from the care received but also as a cost for those who provide care, mostly women (Esquivel 2013).

Although unpaid care work has considerable economic value, it is not reflected in the economic indicators like Gross Domestic Product (GDP), labour force surveys etc. (Hirway 2005). The failure to 'give visibility and economic value' to the essential work of care giving leads to underestimation of the care work of women and their contribution to national economy and provides inadequate information about the state of economy. Men received the lion's share of income and recognition for their economic contribution -while most of women's work remains unpaid, unrecognized and undervalued (United Nations HDR 1995). This inequitable situation is allowed to continue and government continues to set economic and social policies using such incomplete information.

The unequal distribution and invisibility of unpaid care work has a major impact

on women's life, the material cost in terms of time, energy, health and other resources, which can undermine their quality of life, their opportunities, capabilities and human rights. This could have tremendous influence on their well-being (Skariah 2014). A major objective of this paper is to measure the magnitude and analyze the determinants of unpaid family care work from a gender perspective. The framework of analysis is based on the new home economics approach developed by Gary S Becker (Becker 1965) and extended by Reuben Gronau (Gronau 1977).

3. Methods and Sample

The study is conducted in the Madappally panchayat of Kottayam district of Kerala, which stands one among the first ten panchayats of Kottayam district in the HDI ranking. Multi stage random sampling procedure was used to collect primary data from the selected wards of the panchayat. 315 households are studied, which are spread in the four regions of the study area. From each household, only the primary family caretaking men and women were selected for the analysis.

It was a small scale exploratory study utilizing cross-sectional face to face recall interview schedule and focus group discussions. The survey instrument had three components the first one a background schedule, to retrieve a range of information on household characteristics, demographic, human capital, and other personal level information; second a light time activity matrix to obtain detailed information about every episode of time use over the duration of 24 hours of the day; and to gain more insights about the caring responsibilities and the well-being of the primary care givers, stylized questions were included in the third part of the schedule.

The activities were prelisted as rows and time line in one hour increments starting from 4 am to 5 am ending at 3 am to 4 am as columns. Contextual variables were also used for enhancing the utility of the information collected about the activities. The exhaustive list of activity categories were grouped into three broad categories (United Nations 2005): i) work included in the calculation of GDP (SNA) ii) unpaid care work (Extended SNA) and iii) non- work activities (non SNA).The subcategories are remarkably similar to high-level categories of the International Classification of Time Use Activities (ICATUS) developed by the United Nations Statistical Division.

4. Empirical Results

4.1 Demographic and Socio-economic Background of the Family Care Givers

The study focuses on 315 male and 315 female family care givers. Demographic profile of the respondents indicates that majority (67.7 percent of women and 58.4 percent of men) belongs to 30-50 age groups. Their household

size ranges from a minimum of 2 members to a maximum of 9 members and majority (65.4 percent) of households have 4 to 5 members in their families. Social profile confirms Kottayam district- Panchayat Level Statistics of 2006 that 14.9 percent households belongs to the scheduled caste community, 1.6 percent to scheduled tribe, 32.7 percent other backward communities and 50.8 percent to general category. Religious composition indicates that Hindus come to 46.3 per cent, Muslims 10.5 per cent and Christians 43.2 per cent, which confirms that the Madappally panchayat also reflects the same trend of the Kottayam district.

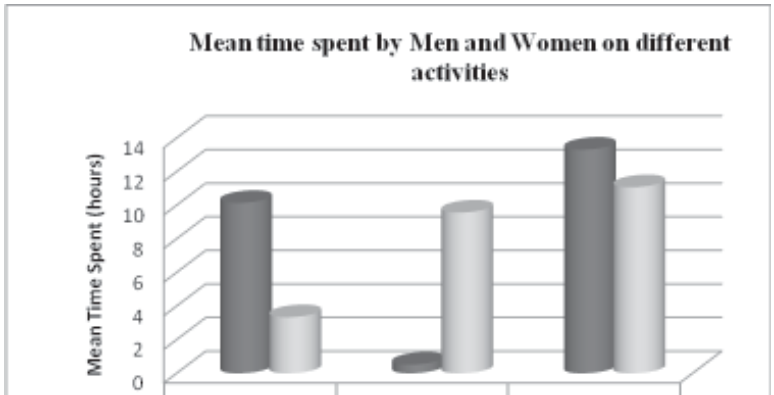
The education level of respondents shows that 45.7 per cent of women care givers have secondary education, 20.3 per cent have higher secondary education, 14 per cent have primary education and 12.7 per cent has university education. At the same time, 43.5 per cent of men have secondary education, 21 per cent has primary education, 15.9 per cent has higher secondary and 12.7 per cent has university education. Better educational attainment from the part of women is not reflected in their paid employment rate, as 34.3 per cent of women are only into paid work and the remaining 65.7 per cent of women just remain as unpaid family workers. In the case of men, 89.85 per cent are employed and only 9.15 per cent are unemployed / not in labour force. The economic status of the surveyed population shows that the monthly income of 55.9 per cent of the households lies below ¹ 5000, while 15.60 per cent is between ¹ 5000 and ¹ 10000 and 28.6 per cent have income above ¹ 10000.

4.2 Time Use Inequalities by Gender

The activities that the people are engaged in can be classified in three broad categories namely SNA activities (paid work), ESNA activities (unpaid care work) and personal activities. The SNA activities consist of primary production activities and unpaid GDP work. House works, child care, elderly care, collection of water/fuel are categorized as Extended SNA activities. Personal Activities include learning, social and cultural activities, mass media use, sleeping and other personal care. Figure 1 gives a broad picture of the time use pattern of men and women in three different types of activities.

Figure 1

Average time spent by Men and Women on SNA, ESNA and Personal Activities by Gender



Source: Survey Data

Analysis of time use pattern reveals that mean time spent for paid work by men is 10.146 hours and that of women are 3.346 hours per day. However, on the average men spend only 0.5238 hours for unpaid care work, and women spend 9.5746 hours for the same. Furthermore, women spend about nine times more time in unpaid care work, indicative of the fact that the gender inequality is much higher in the distribution of time in unpaid care work than in the paid work. It may be due to the fact that the society is rooted in strong patriarchal structure and the prevalence of gender role is so strong in the society. In personal activities men spend more time (13.3175 hours) while women spend only 11.0794 hours a day. It can be observed that, irrespective of men and women, the amount of nonmarket work is higher than market work. The findings prove Becker's Theory of Allocation of Time, which states that the amount of time for paid work is never be greater than time spent on other activities.

Further, in the percentage share of unpaid care work to total work also there is a wide disparity between men and women care providers. Men spend significantly large portion of their total work time (95.09 per cent) for paid work, but only a fraction (4.91 per cent) for unpaid care work. On the contrary, women spend only 25.90 per cent of the total work time for paid work, while they engage 74.10 per cent of their productive work time for unpaid care work. A striking finding of the study is that 230 (73 per cent) out of 315 men do not spend any time for unpaid care work, were as all women, both employed and unemployed do some kind of unpaid care work and 95.87 per cent of women spend more than four hours a day only for the house work component of the unpaid care work. In contrast only 109

(34.60 per cent) women participate in paid work and large portions (65.40 per cent) of women are engaged only in unpaid care work. All these findings are reflective of the unequal distribution of paid work and unpaid care work between men and women. Still gender differences were more pronounced in unpaid care work than in paid work.

Moreover, if we take the total mean time spend for paid and unpaid works together; men spend 10.67 hours and women -12.92 hours a day. On an average, women work 2.25 hours more than men a day. This reflects the fact that contribution of women to total work time in the economy is higher than that of men, which is often invisible and excluded from national statistics, which underestimate women's contribution to the economy.

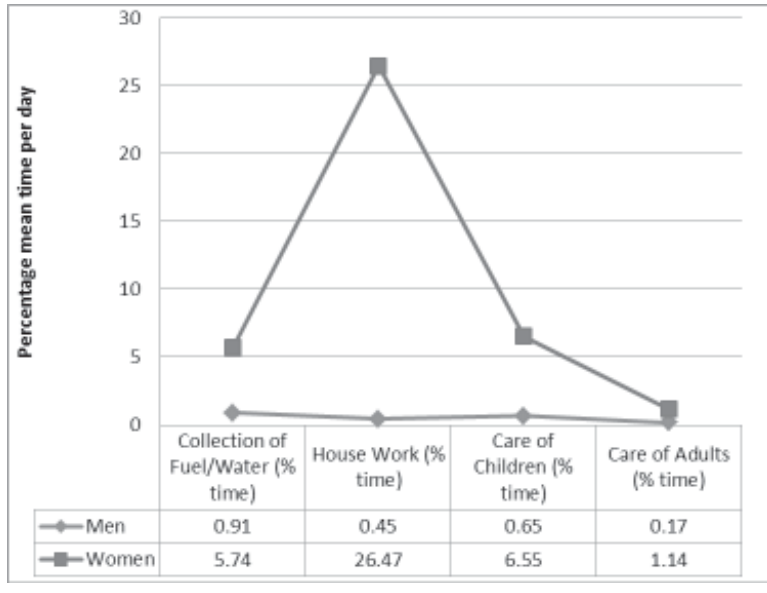
4.3 Percentage Distribution of Components of Unpaid Care Work

To get better understanding about the time spend on each categories of unpaid care work, it is disaggregated into four main components namely, house work, collection of water/fuel, care for children and care for adults. Women spend 80 per cent of their total unpaid care work time for indirect care work, namely house work and collection of water/fuel but direct care work like child care and adult care accounts only 20 per cent of their total unpaid care work time. However, it is observed that men spend 62 per cent of their total unpaid care work time for indirect care work and 38 per cent for direct care work.

As expected, women spend remarkably more time in all the subcategories of unpaid care work when compared to men. Among the total unpaid care work time, women spend 5.74 per cent of time for collection of fuel/water, while men spend only 0.91 per cent. In house work it is 26.47 per cent of time for women and that of men is only 0.45 per cent. Considering child care and adult care women spend 6.55 per cent and 1.14 per cent respectively and that of men it is only 0.65 and 0.17 per cent of total unpaid care work time. Thus, time spend on all these four components of unpaid care work is skewed towards women. On the average, women spend larger part of the day in unpaid care work than men do. This heavy and unequal sharing of care responsibilities among men and women are quite visible in Figure 2.

Figure 2

Percentage Distribution of Different Subcategories of Unpaid Care Work



Source: Survey data

4.3.1 House work

House work is an important activity that most women spend a large portion of their total work time. On average, women spend 66 per cent of their total unpaid care work time, were as men spend only 20 per cent time. The analysis reveals that per day women spend an average of 6.35 hours on house work while, men devote only 0.11 hours for it. It is found that all women (99.37 per cent) except two are engaged in household maintenance, while 300 men (95.2 per cent) do not do any house work. Per day, 95.87 per cent of women do house work for more than four hours a day. On the contrary, only 1.6 per cent of men are engaged in house work for more or less the same time. No men does house work for more than six hours, while 66.03 per cent of women spend more than six hours for the same. Thus in housework, the gender gap is very sharp and it is skewed towards women.

While comparing men to men and women to women of different groups, it is observed that there are inequalities not only between groups but also within group. There are significant differences in the time spend on house work by employed and unemployed women, that on average, unemployed women spend 7.2427 hours for house work and at the same time employed women spend only 4.6697 hours for the same. As could be expected, every time women took on paid work, they were relieved of some household work. Furthermore, it is observed that unemployed men

spend more time on house work than that of employed men.

4.3.2 Collection of fuel / water

Among different subcategories of unpaid care work, women tend to spend 14.38 per cent of total time for collection of water/ fuel. It is observed that 48 per cent of women spend at least one hour of water collection a day, while, 86.7 per cent of men do not spend any time for water collection. A few women are found to spend even more than 5 hours a day for water collection. It is observed that women residing in settlement colonies have to walk long distance to collect water. They opined that they are spending at least 3- 4 hours to collect water and it adversely affects their well-being. The drudgery of water collection is high during summer season and it adds much to their unpaid care work burden. Intra group inequalities are also observed in collection of water that a low income household woman spends more time (2.125 hours) than the middle and higher income groups (0.8367 and 0.211 respectively). Moreover the same trend is observed in the case of men also.

4.3.3 Child care

Child care involves activities like meeting the basic needs of children, educational and recreational child care and travel related activities. Out of the 315 households, 201 (64 per cent) households have children below 15 years of age. Among them, 12 per cent households have only infants (0-6years) and 39 per cent of households have only school going children (6-15 years) in their families. There are both infants and school going children in 13 per cent of households. And the rest 114 (36 per cent) of households have only adult persons in their family.

It is worth noting that the mean time spent on unpaid care work of women remains more or less the same in the household, with one to three children and households without young children. A similar trend is observed for men also. It is also observed that women spend only 16.41 per cent of their total unpaid care work time for care of children and men spend 30 per cent of their unpaid care work time for care of children. The low amount of time spent for care of children may be due to the fact that child care is such an activity often performed simultaneously with other house work, so women do not consider it as a work and often failed to report the exact number of hours they spend for this activity. Another reason might be due to the perception of women that it is not a ‘ work’ and as is performed simultaneously with other domestic work and women regard this as a labour of love.

Not only the total amount of time devoted for child care but also the kind of child care activities differ between men and women care givers. From the discussions it is found that majority of the women devote most of their time for physical care, such as feeding, dressing, bathing etc. and supervising, helping them in doing school home work and the like; while men spend most of their time playing with children.

Young children, particularly those under six years of age demand a lot of

unpaid care work like feeding, dressing, bathing, supervising etc. Children are time-intensive, and very young children are the most time-intensive. Child care responsibilities demand a substantial amount of mother's time, which otherwise could be spent in gainful employment or other activities. Thus it acts as a constraint to other activities too. The young productive ages of women which could be spent for paid work is spent for doing unpaid care work which further decreases their chances for future employment.

4.3.4 Adult care

In the study area 57 (18 per cent) households have elderly persons in their family. In such 57 households, 35 women devote one hour, 17 women spend 2 hours and 4 women spend 3 hours and one woman spend 5 hours a day for elderly care. But at the same time only 6 men spend one hour and 2 men spend two hours and one man spend three hours daily for elderly care work. Thus on average women spend more time for the care of adults than men, but the difference is much smaller when compared to childcare.

Adult care is a major subcategory of unpaid care work that consumes the time of unpaid caretakers. It is noted that when there is only one elderly person in the household, women spend in average 0.6145 hours a day and men spend 0.1512 hours and if the number of elderly people are two, women spend 2.1875 and men do no adult care. In adult care also the unequal sharing of caring responsibilities between men and women can be noticed.

4.4 Care Dependency Ratio

In order to reflect the relative burden placed on care providers in the study area the 'demand' for care and the potential 'supply' of care by using a proxy "care dependency" ratio was estimated (Budlender 2007). The care dependency ratio is defined in terms of age groups. Those with intense care needs (infants and older in the age group 0-5 and 75 +) are given full weight, while those with less intense care needs (school going children and elderly in the age group 6-15 and 65-75) get half-weights. Potential care givers fall in the age category of 15-65 years.

Those needing care:

A = Infants (0 - 5 years); weight: 1

B = School going (6- 15); weight: 0.5

C = old people (65-75); weight: 0.5

D = Very old people (above 75); weight: 1

Potential care givers: E = 15-65 years

Care dependency ratio = (A+B+C+D) / E

The care dependency ratio of Madappally panchayat is estimated to be 0.4365. This is higher than the care dependency ratio of India which is found to be 0.39.

The study gives a vivid picture of the high care dependency ratio which is an indicator of the society's huge demand for care provision from the part of children and elderly persons. If the care demands are not met with state level provision of affordable health care, child care and care for older people, it will escalate the care burdens of the care providers, especially women. The higher care dependency ratio implies that higher investments need to be made in child-care and elderly-care from the part of the government.

Focus group discussions reveal that qualitative variables like cultural norms, gender power relations, strong familialism, patriarchal form of society, male breadwinner and female caretaker orientation etc are highly influential in determining people's attitudes and perception about task divisions in the family.

4.5 Econometric Analysis: The Tobit Model

In the present study it is observed that a sizeable number of men are not doing any unpaid care work and a good number of households do not have any child care / elderly care, hence have 0 values for those who are not doing unpaid care work, child care and old care which cause the dependent variables to truncate and bound to zero. Therefore in this case, a Maximum Likelihood Tobit method is used to estimate the factors that affect the unpaid care work. The Tobit model is also capable of estimating the relative strength of relationship between different determining variables and time spend on unpaid care work. Table 1 presents the determinants of unpaid care work identified by Tobit model.

Table 1

Tobit Estimation Results for Time Spend on Unpaid Care Work

	Coefficient	***Std. Error***	***z***	***p-value***	
Const	4.76078	28.2796	0.1683	0.86631	
Income<5000	-29.4062	11.1499	-2.6373	0.00836	***
Income<10000	-46.8674	11.326	-4.1380	0.00004	***
Gender	267.201	7.85111	34.0335	<0.00001	***
Age	-1.49387	0.371489	-4.0213	0.00006	***
Other Backward	-19.1664	8.17622	-2.3442	0.01907	**

General Category	-12.1211	8.47996	-1.4294	0.15290	
Household Size	4.17684	2.57912	1.6195	0.10534	
No of children	-34.0588	54.3911	-0.6262	0.53119	
Children <6	75.6696	54.6697	1.3841	0.16632	
Children<15	45.2806	54.5048	0.8308	0.40611	
No of elderly	14.704	6.77462	2.1705	0.02997	**
Employment	103.439	7.0053	14.7659	<0.00001	***
Home Technology	-13.6563	7.84907	-1.7399	0.08188	*
Fuel facility	18.0316	7.93201	2.2733	0.02301	**
Water availability	21.4323	7.41934	2.8887	0.00387	***

Tobit model estimates found that gender is the most influential factor in determining the time allocated for unpaid care work. Women spend relatively high amount of time for unpaid care work than men, which is highly significant (p =0.00001). The estimates also found that care providers age, employment status, level of income of the household, availability of water at residence are highly significant (1 per cent level) factors that determines the time allocated for unpaid care work. The numbers of elderly people in the household, social community, availability of fuel facility, access to home technology are also determinants of time spent for unpaid care work at five to ten per cent significance level.

Furthermore, family caretakers belonging to socially marginalized communities allocate significantly more time for unpaid care work than the general communities. Among sub-categories of unpaid care work, women of SC/ST communities spent significantly high time for the collection of water/fuel category of unpaid care work. In the case of men also, the above trend is observed. However, the most striking finding of the Tobit estimate is that the number and age of children are not a significant determinant of the time allocated for unpaid care work. It might be due to the perception of women about work that they consider child care as a labour of love rather than a work. Household size of the care providers is not at all a significant determinant of the time allocated for unpaid care work.

5. Conclusion

The present study makes it visible the contributions of women to the economy through their unpaid care work. The analysis discloses the unequal sharing of family caretaking between men and women and also variation in the magnitude of unpaid care work by age, social community, household income, employment status etc. Furthermore, care dependency ratio is also calculated in order to stress the care dividend aspect of the study area. Estimating the contributions of women by accounting only market activities provides inaccurate information about the state of the economy. Hence the inequitable situation is allowed to continue and government continues to set economic and social policies using inadequate information. Recognizing and measuring unpaid care work through regular collection of time use statistics is indispensible for policy makers and the development practitioners to maintain a keen eye on this highly gendered issue. Gender statistics are needed to monitor and evaluate the effectiveness and efficiency of policy developments. Gender-responsive public financial management reforms / gender budgets, legal reforms that recognize the rights of unpaid care workers, quantifying time use within national statistical surveys and incorporating it in satellite accounts are needed to recognize, reduce and redistribute unpaid care work. Thus development policies should recognize the centrality of care for human wellbeing and the budgetary policies need to keep into considerations the gender dynamics operating in the economy. "Development: if not engendered, is endangered" (United Nations HDR, 1995 p 23).

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Kerala's Health Care Transition: Manifestations on Marginalised Communities

Shabeer. K.P.

The Context

The role of health care in economic development has received increasing attention in recent years. It is widely acknowledged that health is an important component of effective human development. Empowerment of people comes from the freedom they enjoy and this includes, among others, freedom from poverty, hunger and malnutrition and freedom to work and lead a healthy life (Sen 1999).Our ability to learn, work and achieve our full potential and enjoy our lives depends on our health condition. Thus, adequate health care becomes fundamental necessity for human wellbeing. Healthy labour force increases the participation rate as well as hours worked and health is a prominent factor in determining labour productivity. With the poor economic indicators, the state of Kerala has achieved health indicators which are comparable with most advanced economies of the world. Kerala model of "good health at low cost" is characterised by superior health and demographic indicators with comparatively low investments. The traditions of the government support for health development, high level of education especially female education, greater health consciousness were the important contributory factors for the advancement of health care in the state. However, there has been growing conviction that the health care sector of the state is at crossroads. In such a scenario, this paper takes an analytical look at the health care transition of the state and its repercussions on marginalised communities by focussing on scheduled tribe population. Such an analysis is of pivotal importance because the contributory factors that led to Kerala's health miracle have played only a limited role in the case of scheduled tribes of the state.

Methodology and Data Source

The study is based on both primary and secondary data. Primary data was collected through a sample survey among selected schedule tribe (ST) households

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of three districts of Kerala. Schedule tribe households have much higher deprivation index as compared to any other caste and community groups in the state as per the Human Development Report of Kerala (Government of Kerala, 2006) and are the most disadvantaged one among the outlier communities (Kurien 1996, CSSEIP 2009 and Rajasenan et al 2013). The selected districts for the study are Wayanad, Idukki and Palakkad because they have a significant concentration of STs of the state. Wayanad (31.24%), Idukki (11.51%) and Palakkad (10.10%) accounts for over fifty percent of total tribal population in the state (Census 2011). Further, these three districts have the high deprivation indices above 40 per cent. The tribal community in Kerala is largely heterogeneous and each community has different traditions, social customs, beliefs, rules and practices (Rajasenan 2013). It has also been observed to have considerable differences in the health, education and living standards among forward and backwards tribes in the state (CSSEIP 2009). Census (2011) identified 36 tribal communities in Kerala in which 12 constitutes around 90 percent of their population. The study was conducted among eight such communities. The selected tribal communities were Paniyan, Adiyan, Kuruman, Kurichiyan, Uraly, Mala Arayan, Muthuvan and Irular. By employing the principle of 'maximum percentage of tribal community as a percentage of the total population of the district', Wayanad was chosen for studying five communities (Paniya, Adiyan, Kuruman, Kurichiyan and Uraly), Idukki was chosen for two communities (Mala Arayan and Muthuvan) and Palakkad was chosen for the study of one tribal community (Irular). Multistage stratified random sampling with the aid of structured interview schedule was undertaken for gathering information from the selected households. The reports of Directorate of Health Services, Govt of Kerala, reports of NGOs working in tribal area, SRS bulletin and census records of the country were the major sources of secondary data.

Status of Kerala's Health Care Sector

In any country, the state of health is measured in terms of population based health indicators like crude birth rate, crude death rate, fertility rate, life expectancy, infant mortality rate etc. Kerala has achieved better health indicators despite its economic backwardness. The status of selected population based health indicators of Kerala and India is shown in the following table.

Table 1: Selected Health Indicators of Kerala and India

Health Indicators	Kerala		India	
	2007	2012	2007	2012
Birth rate	15	14.8	23.8	22.1
Death rate	6.4	7	7.6	7.2

Infant mortality rate	14	13	58	47
Child mortality rate	3	2	17	15
Maternal mortality rate	110	81	300	212
Total fertility rate	1.7	1.7	2.9	2.6
Life at birth (Male)	70.9	71.4	61.8	62.6
Life at birth (Female)	76	76.3	63.5	64.2
Life at birth (Total)	73.45	74	62.7	63

Source: Directorate of Health Services, Government of India

Though the birth rate per thousand population has declined, there is a noticeable increase in the crude death rate from 6.4 to 7 per thousand population during the period. The death rate of Kerala was only 6 per thousand population in 1989. The Infant Mortality Rate (IMR) is a sensitive indicator of not only the health status of the population but also the level of human development. IMR of Kerala which reached 10 per thousand live births now stood at 13 while national average is 47. The child mortality rate (0 to 4 years) per thousand population of the state is only 2 in 2012 and maternal mortality rate (per lakh live births) is 81. The Total Fertility Rate (TFR) defined as the average number of children a woman would have if she were to pass her reproductive years bearing the children at the same rate as she has in each age group, stood at 1.7 in 2012. The life expectancy at birth or longevity is an overall indicator of the social, health and economic wellbeing of the people. As a society advances, the life expectancy of its people also increases. The same happened in the case of Kerala as well, as the life expectancy of the people showed an improvement from 73.45 in 1991 to 74 in 2012 while national average is only 63. The performance of Kerala in terms of health indicators is much better compared to other states of the country. The following table provides a comparison of health outcome of Kerala with other selected states of India.

Table 2: Health Indicators of Selected States (2011)

Indicator	Assam	Bihar	UP	Gujarat	West Bengal	Kerala
% decadal growth of population	16.93	25.07	20.9	19.17	13.93	4.86

(2001-11)

Sex Ratio	954	916	908	918	947	1084
Birth Rate	22.8	27.7	27.8	21.3	16.3	15.2
Death Rate	8	6.7	7.9	6.7	6.2	7
IMR	55	44	57	41	32	12
Life Expectancy (Male)	61	65.5	61.8	64.9	67.4	71.5
Life Expectancy (Female)	63.2	66.2	63.7	69	71	76.9

Source: Sample Registration System (SRS) Bulletin

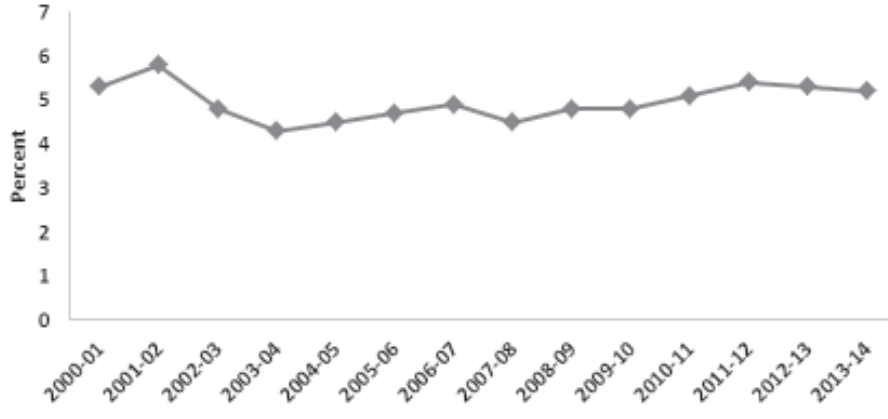
The state of Bihar has the highest decadal growth rate of population (25.07 per cent) while Kerala has the lowest (4.86 per cent) in India in 2011. Kerala has the highest sex ratio with 1084 females for 1000 males, followed by Tamil Nadu (995) while Haryana is at the bottom (877). Interestingly, the sex ratios of some of the economically well better off states like Gujarat are also low. Birth rate is lowest in Kerala (15.2) and highest in Uttar Pradesh (27.8) against the national average of 21.8. Death rate is lowest in West Bengal (6.2) and highest in Odisssa against the national average of 7.1. The infant mortality rate is lowest in Kerala and highest in Madhya Pradesh (59) against the national average of 44. Again, Kerala is the best performer in terms of life expectancy at birth for both males (71.5 years) and females (76.9 years). Assam is the worst performer for both males and females (61 and 63.2 years).

Kerala's achievements in health care have been accompanied by an increasing coverage by medical care institution. This wide coverage has contributed to greater physical access to health care (George 2005, Panikar 1992). Kerala has a well developed health infrastructure and services. There is at least one government health institution in every village. The Health infrastructure of the State consists of 1281 institutions with 38400 beds. Out of the total institutions 46.87% are under Allopathy, 32.01% under Ayurveda and 21.12% under Homoeopathy Department. Medical services are also provided through the Co-operative sector and the Private sector. There are 65 Hospitals with 6297 beds under the Co-operative sector in the State. There are 852 Primary Health Centres (PHCs), 230 Community Health Centres (CHCs), 79 Taluk Head Quarter Hospitals, 16 District hospitals, 18 General hospitals and 11 medical colleges. The bed population ratio in Kerala is 873 and the

average doctor-bed ratio is 7.56. (Kerala State Planning Board 2016).

Despite the efforts of the state government to provide affordable access to decentralised public health system, its expenditure on medical and public health as a percentage to aggregate disbursement has declined over the years. The average share of health expenditure was 10.45 during 1960-65 fell to 8.6 during 1991-95 (Sadanandan 2001) fell further to 5.2 during 2013-14 (budget estimate). In spite of the fact that the state is facing serious threats of communicable, a non-communicable and traumatic disease, the government's health expenditure as a ratio to aggregate disbursement is stagnant. This is revealed in the following figure which presents expenditure of state government on health and family welfare after 2000.

Figure 1: Expenditure on medical,public health and family welfare



Kerala's Health Transition: Issues and Challenges

Health sector of Kerala is at a cross road. Health indicators of Kerala mask the less obvious unhealthy features. Though there are improvements in many population based health indicators, the crude death rate in Kerala have shown a steady increasing trend. It was only 6 per thousand population in 1989 increased to 7.1 in 2012. Infant mortality rate in Kerala which reached 10 per thousand live births in mid 1990s increased to 13 in 2012. The percentage of fully vaccinated children in the age group 12 to 23 months in Kerala came down from 80 per cent in 1998-99 to 75% in 2006. These tell a dismal story of degenerating public health system in the state (Ommen 2008).

The Kerala "health miracle" was built on the solid foundations of active public support in the health and educational sectors (Kunchikannan et al 1996). But a

change is rapidly occurring in the state. On the one hand, there is a weakening of public health institutions. The entire public health infrastructure from the PHC to medical college hospitals are no longer able to cater to the increasing demands from a population which is conscious of quality of care. The government is reducing its investments in health and educational sectors due to fiscal crisis and pressure from funding and lending agencies. While public domain of health care declined, private hospitals, nursing homes, scanning centres, diagnostic units etc registered a phenomenal growth unleashing a high cost health regime. The poorest patients who are in pressing needs of health services are forced into the arms of private sector because of the non availability of such services free of charge in the government hospitals. The PHCs and sub centres which historically have been the key institutions for the delivery of primary health care are not increasingly utilised by the Kerala public. Even the low income categories use only 30-40 per cent of government health care services and this includes PHCs (Kunchikannan 2000, Nair 2004). This is obviously due to poor quality of health care and public sector institutions. No wonder while the poor spends over 40 per cent of their income on health care, it is as low as 2.4 per cent among the rich (Kunchikannan et al 2000). This is clearly because of what has come to be widely referred to as "mediflation" or inflation in medical expenses. A number of studies show that the impact of mediflation is most severe for lower economic groups who have been pushed to poverty line and into deep indebtedness. With increasingly poor patients resorting to private health care institutions and cost of medical expenses are mounting, poor borrow heavily for survival and run fast in indebtedness. There is an extreme situation of non-affordability of health care due to unaffordable expenses of health care in the state.

George (2005) in a study based on NSSO 55th round data confirms that Keralites spend a disproportionate share of their total expenditure on health and poor population in the state bear a larger share of their total expenditure on health. In Kerala out of pocket payments (OOP) constitute bulk of health expenditure and the burden invariably is upon the poorest strata of the state. This goes against the egalitarian tradition of the state and its distinction in terms of achievements in health and education.

Some of the earlier studies on health care sector of Kerala have demonstrated a peculiar situation with a "low mortality – high morbidity syndrome". But Krishnan (1991) point out that the health situation in Kerala does not present any paradox because of high morbidity compared to other states is due to human and natural environment, the high utilisation of health care facilities in Kerala, changes in the health perception brought about by education and excessive concern with the health of children and pregnant women. Thus, the high morbidity rate in the state can be attributed to consciousness of people to utilise health facilities soon after a disease occurs. A larger percentage of people seeking private health care facilities by paying money indicate the type of services Keralites expect and importance they show in

health matters.

At the same time, having abandoned the public health strategies that helped the state to control communicable diseases in the past, the state is now witnessing a re-emergence of these diseases. In fact, the state is now facing twin challenges of communicable and non communicable diseases. Kerala has been successful in controlling communicable diseases such as Dengue, Aids, Malaria, Leptospyrosis, Hepatitis, Chikungunya, H1N1 in the past. In recent years, there is a resurgence of these diseases leading to considerable morbidity and mortality in the state. Early success in reducing mortality has led to ageing population suffering from many non communicable diseases associated with demographic shift occurred in the state. Common non–communicable diseases causing great threat to life of Keralites are cancer, diabetes, cardio vascular diseases and lung diseases. Unless interventions are made to prevent and control non-communicable diseases, their burden is likely to increase substantially in future, due to ageing population and change in the life style of people. Considering the high cost of medicines and longer duration of treatment, this constitutes a greater financial burden to low income groups.

Living Conditions of STs

The Scheduled tribe population of the state has better demographic and health indicators compared to their counterparts in the other states and that of national average (Table 3).

Table 3: Demographic and Health indicators of Scheduled Tribe (2011)

	India	**Kerala**
Percentage to Total Population	8.6	1.45
Decadal Growth Rate	23.7	33.1
Child Population to Total Population	16	11.2
Literacy Rate	58.96	75.81
Female Literacy	49.35	71.1
Male Literacy	68.53	80.76
Sex Ratio (Rural)	991	1031
Sex Ratio (Urban)	980	1070

Sex Ratio (Total)	991	1035
Infant Mortality Rate (Rural)	85	60
Infant Mortality Rate (Urban)	61	44
Infant Mortality Rate (Total)	84	60

Source: Census (2011)

This study covered 300 households among eight major tribal groups in the three tribal dominated districts of Wayanad, Idukki and Palakkad comprising a population of 1341 (650 males and 691 females). Eighty percent (N=239) of the households are male headed. The source of income of the ST households does have an influence on the affordability off health care. Table 4 brings out that a major proportion of ST households work as agricultural labourers for their livelihood followed by non-agricultural work (daily wage labour or coolie). However, this general pattern is altered in the case of Mala Arayan community whose main source of livelihood is government/semi government jobs.

Table 4: Sources of Livelihood of Scheduled Tribe (in percentages)

Main Source of income	Paniyan	Adiyan	Kuruman	Kurichiyan	Uraly	Mala Arayan	Muthuvan	Irular	ST (combined)
None	1	0	0	2	0	5	4	0	1.67
Land and related	3	7	27	17	23	30	11	18	14
Forest related	0	0	0	0	8	0	7	0	1
Non agricultural labour	37	14	23	17	8	0	14	39	23.7
Employment Scheme	4	0	7	2	8	0	14	14	Gurantee 5.33
Govt/semi govt job	0	7	10	5	0	35	4	7	7.67

Agricultural Labour	54	71	33	51	38	18	43	18	42.3
Animal Husbandry	0	0	0	2	15	0	0	4	1.33
Small Vendor	0	0	0	0	0	3	0	0	0.33
Private Service	1	0	0	2	0	8	4	0	2
Others	1	0	0	0	0	3	0	0	0.67
Total	100	100	100	100	100	100	100	100	100

Source: compiled from primary survey

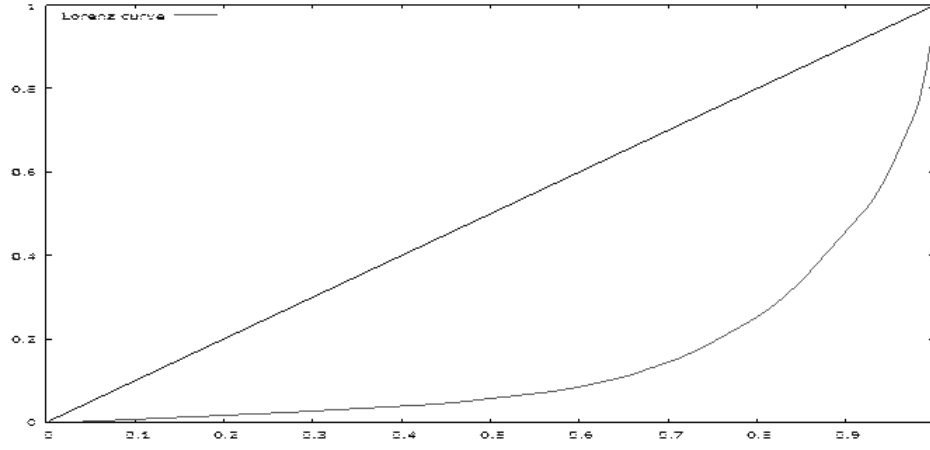
Land is a key productive asset and the landholdings of the household can be used to trace out the economic status of the household. The landholdings of the household are measured in cents. The descriptive statistics and estimated Lorenz curve shows that there are high inequalities in household landholdings with the mean landholdings being 41.89 cents (95% CI =31.87-51.83) with high variance. At the same time, average landholding of paniya is only 4.6 cents (95% CI =4.34-4.87).

Table 5: Descriptive Statistics of Landholdings among Tribal Households

Descriptive Statistics									
Mean	4.60	51.00	32.87	44.56	23.08	104.09	50.54	95.57	41.89
95% CI	Lower Bound	4.34	12.52	19.66	32.23	2.79	45.52	32.81	48.27
	31.87								
	Upper Bound	4.87	89.48	46.06	56.89	43.36	162.67	68.26	142.88
	51.93								
Std. Deviation	1.38	66.64	35.34	39.08	33.56	183.17	3002.2	121.99	88.26
Skewness	4.80	1.54	1.78	1.15	1.75	3.66	.632	1.37	6.01
Range	12.00	195.00	150.00	155.00	100.00	1000.00	13000.00	400.00	1000
Minimum	3.00	5.00	0.00	5.00	0.00	0.00	2000.00	0.00	0.00
Maximum	15.00	200.00	150.00	160	100.00	1000.00	15000.00	400.00	1000

Source: compiled from primary survey

Figure 2: Lorenz Curve of land holding



(Sample Gini coefficient = 0.705671; Estimate of population value = 0.708031)

The analysis of monthly income of the households also indicates high degree of inter-tribal inequality. The average monthly income is the lowest for Uraly while it is highest for Mala Arayan households. It is evident that Mala Arayan community who are major beneficiaries of the reservation policy of the central and state government in education and government jobs were able to render it into higher income (Table 6)

Table 6:

Descriptive Statistics of Monthly Income of Tribal Households

	Mean	95% CI		Standard Deviation	Skewness	range	Minimum	Maximum
		Lower Bound	Upper Bound					
Paniyan	7135.38	6345.23	7925.53	4102.8	0.81	19400	600	20000
Adiyan	8107.14	5707.28	10507.01	4156.45	0.32	13000	2000	15000
Kuruman	11876.67	8804.96	14948.37	8226.19	2.14	36000	4000	40000
Kurichiyan	7890.24	6587.63	9192.86	4126.91	0.49	17000	0	17000
Uraly	4430.77	2626.74	6234.79	2985.35	1.32	12000	0	12000
Mala Arayan	17500.00	14594.00	20405.99	9086.48	0.357	38000	2000	40000
Muthuvan	6571.43	5407.29	7735.56	3002.20	.63	13000	2000	15000
Irular	7907.14	5627.42	10186.86	5879.21	2.16	28000	2000	30000
ST (combined)	9042.17	8287.89	9796.43	6638.59	1.87	40000	0	40000

Source: compiled from primary survey

Health Status of Scheduled Tribe

The analysis of the health status of the scheduled tribes shows that 79 per cent of the households did experience one or more type of disease during the reference period of past 30 days (Table 7). It is highest in the case of Uraly community and lowest among Muthuvan households. Similarly, Uraly household reported highest incidence of acute and chronic episodes during the reference period. It can also be observed that the presence of chronic episodes is high among the economically well off community of Mala Arayan. The presence of physically disadvantaged persons is negligible among the tribal households.

Table 7: Health Profile of Tribal Households

Morbidity Profile	Paniyan	Adiyan	Kuruman	Kurichiyan	Uraly	Mala Arayan	Muthuvan	Irular	ST (combined)
Presence of chronic episodes (%)	35	21	37	24	61	60	46	32	38
Presence of acute episodes (%)	11	21	17	21	23	20	0	17	15
Presence of physically/ mentally challenged member (%)	4	7	3	2	0	5	0	3	3
Ailment during last 30 days (%)	85	79	77	73	92	80	57	82	79

Source: compiled from primary survey

The morbidity prevalence rate or rate of ailment is often cited as an important indicator of the health status and sometimes it is referred as an indicator of health consciousness (Verghese 2009). The prevalence of morbidity has been defined as the number of reported disease prevailing in a population during the reference period to the total population exposed to the risk of that disease (Navaneetham et al 2009). Thirty days prior to the date of survey has been used as the reference period for computing the morbidity prevalence rate. The computed rate confirms that Uraly

tribal community are the most vulnerable group to ailment while Muthuvan is least vulnerable (Table 8)

Table 8: Morbidity Prevalence Rate in 30 days reference period

Sub caste	Number of Male	Number of Female	Total	Ailment Persons	Morbidity Prevalence Rate (per 1000)
Paniyan	245	274	519	126	242
Kurichiyan	83	89	172	54	313
Kuruman	70	69	139	44	316
Uraly	26	22	48	23	479
Adiyan	33	31	64	20	312
Irular	52	59	111	45	405
Mala Arayan	81	85	166	44	265
Muthuvan	60	62	122	23	188
ST (combined)	650	691	1341	379	282

Source: compiled from primary survey

The reported ailment with sub caste break up is presented in Table 9. It reveals that among all tribal communities the highest percentage of reported ailment is fever of unknown origin followed by high/low blood pressure. The cases of sickle cell anaemia were reported among Adiyan, Paniyan, Kuruman and Muthuvan households.

Table 9: Type of Ailment in 30 days reference period (in percentage)

Ailment	Paniyan	Adiyan	Kuruman	Kurichiyan	Uraly	Mala Arayan	Muthuvan	Irular	ST (combined)
Fever of unknown Origin	35	43	33	20	23	25	25	36	30.33
Asthma and other respiratory diseases	8	14	0	5	8	5	0	18	7
Cardio-vascular ailments	8	0	3	5	8	10	0	0	5.33
Blood Pressure	8	7	17	12	8	20	21	11	12.33
Skin Diseases	1	0	0	0	0	0	0	7	1
Ear/throat/ eye ailments	4	0	0	0	0	0	0	0	1.33
Kidney/urinary system related	5	0	0	2	0	5	0	0	2.67
Cancer/tumor	0	0	0	2	0	3	0	4	1
TB	1	0	0	2	0	0	0	0	0.67
Chicken pox	0	0	0	0	0	5	0	0	0.67
Diseases of mouth/teeth/gum	0	0	3	2	23	0	0	0	1.67
Accident/ injury/fractures	2	0	0	2	0	3	0	0	1.33
Diarrhoea/	2	0	0	0	0	0	0	0	0.67

decentry

Gynaeco-logical disorders	3	0	7	2	0	0	0	0	2
Sickle Cell Anaemia	1	7	3	0	0	0	4	0	1.33
Diabetics	6	7	3	10	0	3	4	0	4.67
Not Applicable (No ailment	15	21	20	24	8	20	43	18	20.33 reported)
Epilepsy	1	0	0	0	0	0	0	0	0.33
Anemia	1	0	0	0	8	3	4	0	1.33
Mental disease	1	0	0	0	0	0	0	0	0.33
Celebral parsy	0	0	0	2	8	0	0	4	1
Arthrities	0	0	7	7	0	0	0	4	2
Gastro enteric disease	0	0	3	0	0	0	0	0	0.33
Liver sirosis	0	0	0	0	8	0	0	0	0.33
Total	100	100	100	100	100	100	100	100	100

Source: compiled from primary survey

Following Mukherjee et al (2011) we classified the level of health care need based on two characteristics, namely, the number of members who were elderly (aged 60 years and more) and the number of members with chronic illness. A household having neither elderly member nor any member with chronic illness was categorised as 'low health care need household'. A household having either, (a) no elderly member but one or more members with chronic illness or (b) no member with chronic illness but one or more elderly members was categorised as 'high health care need'. A household with at least one or more elderly members and one or more members with chronic illness were categorised as 'very high health care need'. The analysis demonstrated that majority of tribal household belongs to low health care need category (Table 10). At the same time, forty three percent Mala

Arayan tribal community fit into very high health care category due to presence of elderly households (58 per cent) and prevalence of chronic illness (60 per cent).

Table 10: Level of Health Care Need (in percentages)

Level	Paniyan	Adiyan	Kuruman	Kurichiyan	Uraly	Mala Arayan	Muthuvan	Irular	ST (combined)
Low	42	36	50	44	23	30	39	54	41.33
High	32	43	20	39	46	28	46	32	33.67
Very High	25	21	30	17	31	43	14	14	25
Total	100	100	100	100	100	100	100	100	100

Source: compiled from primary survey

Health status of the population can also be measured using self assessed health as an outcome measure. Here, an attempt is made to assess self reported health status of tribal household using a five point Likert scale. Respondents were asked to rate their overall perceived health as very bad, bad, good, very good and excellent (Table 11).

Table 11: Self Reported Health Status

	Very Bad	Bad	Good	Very Good	Excellent
Paniyan	12.26	33.96	41.51	12.26	0
Adiyan	14.29	14.29	42.86	28.57	0
Kuruman	3.33	30	30	36.67	0
Kurichiyan	14.63	21.95	29.27	34.15	0
Uraly	30.76	30.77	38.46	0	0
Mala Arayan	10	15	5	40	30
Muthuvan	0	35.71	3.57	46.43	14.29

Irular	0	25	25	42.86	7.14
ST (combined)	10	27.67	28.67	27.67	6

Source: compiled from primary survey

It can be noted that more than half of the tribals are perceived to have good or very good health. Here we can see instance of "perception bias" since 80 per cent of households reported at least one ailment during the 30 days reference period. Sen (2002) has pointed out that perception bias may emerge among the people who lack the informational base to assess their own health status. It seems that tribal households have underreported their ill health status.

Conclusion

To sum up, available evidences do suggest that there are serious emerging challenges to Kerala model of health. While on the one hand, public health care system has weakened, there occurred stupendous growth of private health care sector resulting in runaway increase in health care costs. While it is the poor and marginalised people, such as scheduled tribes, who are more vulnerable to ill health, Kerala's highly praised health success story at such high prices, calls for introspection. Otherwise, Kerala's good health will be at the cost of impoverishment of low income groups of the state. With high morbidity prevalence rate a large majority of tribal population is susceptible to catastrophic health spending. Though the state has made noteworthy progress in health indicators, the scheduled tribe population of the state still suffers from both communicable and non communicable diseases. Further, there are large inequalities among different sub caste of tribes. While the Mala Arayan community enjoys a better livelihood and health indicators, communities such as Uraly and Paniyan reveal a dismal picture.

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FINANCIAL INCLUSION, ACCESS TO CREDIT AND INDEBTEDNESS:A STUDY OFAGRICULTURAL HOUSEHOLDS IN KERALA

Akhila P &Vipitha V

Abstract

The paper is an attempt to understand the role of formal financial institutions in the rural economy of Kerala, the dependence of rural households on informal credit sources and how these two simultaneously impact the rural indebtedness in the state which has implications on the financial inclusion policies of the state. The study reveals that even though financial inclusion was successful in the state, there exist a substantial number of informal-money lenders also . In case of indebtedness too, the farmer households in Kerala are facing severe setback. The loan indebtedness in terms of high outstanding cash loans compared to other Indian states substantiates the debt plight of agricultural households in Kerala.

1. Introduction

The indebtedness prevailing in the economy is considered to be a major factor that determines the poverty and inequality in the country. The high indebtedness among the agricultural labour is one of the serious threats for the rural India and it is recognised as a significant obstacle for rural development. It will increase the inequality in accessing socio-economic opportunities and also retards the economic growth of the rural economy (Desai and Salawade 2008). The interlink ages in the rural-credit is considered to be an important factor for the existence of rural indebtedness in the country (Gill 2003). This inter-linkage exists in the form of interdependence of the formal and informal financial institutions. In addition to it, there are other factors such as negative effect of trade liberalisation (Nair & Thampi 2005), shifting of the crops (ibid.), stagnant agricultural income, cropping rigidity, stagnant productivity, low agricultural prices (Prakash 2008) which leads to

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agricultural distress and it finally ends up with high indebtedness among the farmer households in rural economy. The outstanding debt of about 31 per cent of the rural households shows the prevalence of high indebtedness among these destitute groups (AIDIS 2013). Moreover, the growth literature corroborates the role of financial development in promoting economic growth which will be a front-runner for reducing the rural indebtedness and thereby reduces poverty and inequality. In this context the requirement of more efficient financial services emerges in rural economy. More clearly, easily available financial services were seen as a requirement for the income growth and it also leads to the socio-economic development. But these polices on financial inclusion adopted by the governments moderately failed to cope up with the high indebtedness in many states, particularly in Kerala.

Kerala often claim as a state with 100 per cent financial inclusion but the prevalence of high indebtedness is prominent among farmer households in rural Kerala. The rural economy of Kerala has some peculiar features. The farmer households constitute lesser number in the state. But their share in the total debt is higher than the other groups. The non-institutional firm's role in providing credit was another drawback. Therefore, the present study discusses the role of formal financial institutions in the rural economy of Kerala, the dependence of rural households on informal credit sources and how these two simultaneously impact the rural indebtedness in the state which has implications on the financial inclusion policies of the state. Here, the study considers one of the broad dimensions of financial inclusion, *i.e., improving access to finance from the formal financial institutions*" (Chandrashekhar 2014), which may facilitate us not only to differentiate between informal and formal money market but also to identify the level of access to credit from the formal money market in the rural economy.

2. Financial inclusion policy

Availing of credit plays a vital role in the lives of the rural poor in a developing country (Ramakumar and Chavan 2002). This credit is mainly availed from two sources. One is the institutional sources and the other is the non-institutional sources of finance. The financial inclusion policy formulated by the government plays a vital role in providing adequate credit facilities to the poor and marginalised sections of the society. Hence a detail analysis of the financial inclusion policy can give a detail account on the bottlenecks in the implementation process of financial inclusion

The financial inclusion policy is considered as a tool for achieving the financial development. It aims at delivering the basic financial services to the people at lower and affordable cost which validates the issue of equitable distribution of income. The commercial banks were raised as important catalyst for this policy implementation because they considered this as their primary concern. Hence to satisfy the objectives of wider penetration of banking services to the rural areas and to protect them from the meagre of informal money market it is essential for the commercial banks to

extend their operation to wider areas. Therefore how far the benefits of financial inclusion process reached the marginally excluded sections is a matter of concern. Moreover, financial inclusion is important for improving the living conditions of the marginalised sections of the society (Dev 2006). The thrust of the financial inclusion process was to cover the financially excluded population; this can be achieved with the help of the development of formal financial system.

An overview of the literature[2] shows that there is no universally accepted definition for the financial inclusion[3]. While various studies recognised the importance of the financial inclusion in India in many dimensions emphasizing both success achieved (Rangarajan 2008; Planning Commission 2009; Chandrashekhar 2014) and the challenges faced (Dev 2006; Kamath 2010; Srinivasan 2009; Pradhan 2013), the studies on financial inclusion lacks a comprehensive study on the role of financial inclusion in reducing the rural indebtedness in Kerala. Also the analysis of the progress of financial inclusion in Kerala helps in giving a detail picture of the flaws in its implementation process and this will help to adopt suitable policy actions for its successful implementation. Therefore the study addresses the question of financial inclusion, access to credit and the indebtedness of the rural households in Kerala.

3. Role of formal financial institutions in Kerala

The network and operation of formal financial institutions is very prevalent in state. The formal financial institutions particularly commercial banks provide financial services to the people. Hence the performance and attitude of these institutions towards the people matters a lot in the success of the policy. Their role will be predominant in reducing the indebtedness of the rural households. This is in terms of providing adequate credit facilities at nominal interest rates.The formal financial institutions include public sector banks, private sector banks, cooperative banks etc. in the state. Therefore the analysis of the role of financial institutions helps us to identify the bottlenecks in the process and thereby formulate appropriate policy regulations for its successful implementation. Even though the formal financial institutions are very prevalent the informal money institutions also plays a nominal role in the economy of Kerala. The most prevalent economic activities which was found in Kerala was found as a catalyst for the growth of informal sector in Kerala. Their activities and operations were deep rooted in rural Kerala, particularly among the rural agricultural households. Informal credit markets taken the form of financiers, chit funds, gold loan etc. In 2005 there exist 5996 money lenders in Kerala (Jeromi 2007). Aalapuzha district records first with 956 money lenders operators (ibid.). Even though many of them are registered firms there exist many other unregistered firms who operates from their houses

Lack of easy credit delivery by the formal financial institutions to the financially excluded class is one of the major issues in the banking industry. Even though a wide spread expansion of the banking infrastructure can be noticed during the last few decades, a substantial number of populations particularly residing in the rural areas were financially excluded. The performance of the formal financial institutions seems to be unsatisfactory. Hence people started to depend upon the informal sources for availing the banking facility. They face a number of constraints in their performance. In this situation the new economic policy changed the objective of the banking from social banking to market based banking. Studies by Kurup (1976) and Saradamoni (1981) shows the increased dependence for credit on the informal money lenders in Kerala. Jose George (1992) explained the relatively low dependence of peasants and agricultural workers of Kannur, Palakkad and Alappuzha on the informal money lenders. Moreover, credit delivery by the formal financial institutions even now failed to meet the demands of the rural household's particularly non-agricultural rural households(Pradhan 2013).Thus the money lenders acts as important source of finance for the rural households and they are likely to borrow less from the formal institutional sources (Chandrasekhar 2014; Kamath 2010; Dev 2009).Hence, a major indicator of measuring financial services to the poor is the institutional debt outstanding to the rural households (Kamath2010).

The data collected by NSSO as part of survey of employment and unemployment conducted in 2004-05 and 2009-10 estimated that 22.3 million out of nearly 66 million rural households reported as being debt in India. At the same time, the indebtedness is very high in Kerala particularly among the agricultural rural households and it is one among the four states (other states are Maharashtra, Orissa and Karnataka) with the highest outstanding institutional debt rates (*ibid.*). When we consider the share of money lenders the total dues of rural households has increased from 17.5% in 1991 to 25.17% in 2003 and the outstanding debt on account of borrowing from the money lender increased by 1.7% (Chandrashekhar 2014). In 2005, there exist 5,696 registered money lenders in the state which was more than 3,376 bank branches (State Planning Board 2005;Jeromi 2007).

The state wise analysis reveals that Kerala ranks high in its financial inclusion performance. In the state the financial inclusion process were carried out under the monitoring of SLBC. They had undertaken a massive programme to achieve total financial inclusion. Opening up of no frill accounts and GCC were made available. The total financial inclusion plan was completely accomplished by 2007. Palakkad was the first district to achieve the total financial inclusion and Ernakulam is declared as the 100 per cent completely financially included district by Reserve Bank of India. Even though no-frill accounts were opened many of these accounts operations continue to be in a dormant condition. As a part of Financial Inclusion Policies, the formal financial institutions provide an easy access to credit at considerably lower interest rate. At the same time, the informal money sources in the rural economy

still impose usurious rate of interest. Therefore, the rural households may get attracted to the formal financial system and they also become indifferent towards informal money sources, which may get reduce the rural indebtedness.

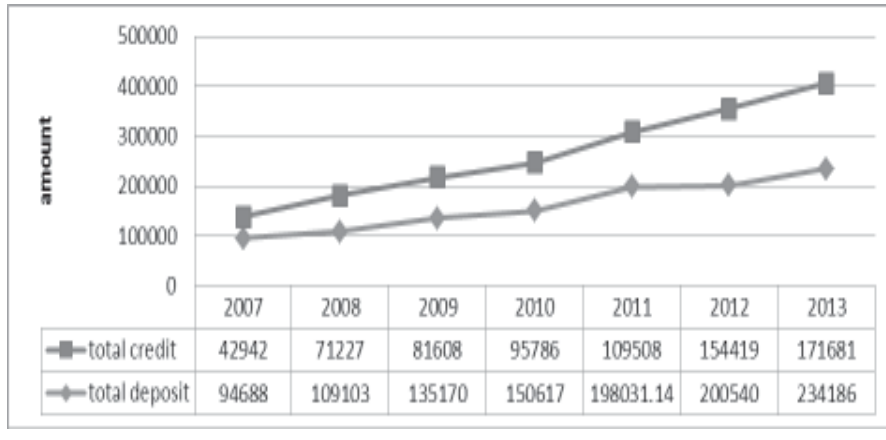
As per 2011 census, Kerala has a total population of 3. 33 billion. Kerala claimed as a state with strong banking infrastructure and also high literacy rate. The service sector contribution to GDP is high in Kerala. The number of banking outlets has increased considerably during the years. The number of commercial banks increased from 3667 in 2006 to 5279 in 2013. 31 per cent increase in the number of branches. The increased number of banks shows the reachability of the financial inclusion process and also the strength of the formal financial institutions in the state. SLBC had taken concerted effort to open at least one bank in every village. This helps the rural people to access the basic financial services from the banks. Higher growth rate is observed in the year 2013 (Economic Review, various issues). Around 10 districts shows the increased number of bank branches and also the credit and deposit of the commercial banks also shows a high performance after the initiation of the financial inclusion policy of the government. Even though formal banking structure is very strong in the state, 47% of the people still depend on informal sources for meeting their credit demands. This is one of the serious outflow faced by these institutions.

From period 2011 to 2013 the rural branch expansion was only 15 per cent whereas the semi-urban braches increased up to50 per cent but urban banks increased only by 8.79 per cent . This shows that branch expansion has not reached the rural masses. But according to the census 2011 most of the villages in the Kerala belongs to the category of semi-urban area. Therefore the rural branch expansion is not that significant in the state. The bank can increase their performance when the branches are opened in the semi-urban area than the rural area. This shows that the state has largest number of semi-urban banks compared to higher number of rural bank branches in India. District wise distribution of commercial banks in the state reveals that Ernakulam stands first in the number of commercial banks in the state(818 branches). This expansion is because Ernakulam is considered as the business capital of Kerala. Ernakulam is followed by Trivandrum with 599 and Wayanad has the least number of bank branches in the state (103). Wayanad's least number is an indicator of low financial inclusion in the district.Wayanad is one among the district in which large number of farmer suicides can be seen. This is due to the high indebtedness prevailing in the district. Idukki and Kasargod also have least number of branches compared to other districts. These districts also show very low financial inclusion in terms of banking penetration

The financial inclusion measure shows that the total bank deposits in Kerala increased from Rs.94, 688 lakhs to Rs.2,34, 186. A substantial growth rate of 14.36 per cent can be observed during the year 2013. This is due to the adoption of the total financial inclusion Policy of SLBC in the state. The same marginal increase

can also be noticed in case of credit accounts of the commercial bank too. But the cash deposit ratio shows an increase from 2007 to 2012 but in the last year it declines to 73.13 from 77.52 (fig 1).

Fig:.1 Growth of total deposits, total credit



	2007	2008	2009	2010	2011	2012	2013
total credit	42942	71227	81608	95786	109508	154419	171681
total deposit	94688	109103	135170	150617	198031.14	200540	234186

Source: Economic Review Various Issues

Kerala has very low cash-deposit ratio compared to other states which indicates that banks in Kerala have idle funds for which there is inadequate demand. This inadequate demand for the funds shows the inefficiency of the banks. The demand for credit is low among the rural households and other marginal sections of the society. The formal banking sector has a remarkable lack of specialised knowledge on the needs of the rural poor. The worsening of agricultural and other priority sector lending by banks were also considered as an obstacle for the rural masses to demand adequate credit from the banks which is a reason for lower C-D ratio and also low financial inclusion. High growth rate in the C-D ratio occurred only in the year 2012, but in the same year the growth rate of deposit is very low (1.25 per cent). This indicates high performance of banks in credit delivery which is an important indicator for the total financial inclusion. In terms of no-frill account general credit card scheme etc. the formal financial institutions shows appreciable performance

4. Analysis of Credit, Indebtedness and the role of formal & informal money institutions

Informal credit market occupies a prominent role in Kerala economy. The most prevalent economic activities which was found in Kerala was found as a catalyst for the growth of informal sector in Kerala. Their activities and operations

were deep rooted in rural Kerala, particularly among the rural agricultural households. Informal credit markets taken the form of financiers, chitfunds, gold loan etc. In 2005 there exist 5996 money lenders in Kerala (Jeromi 2007). Alappuzha district records first with 956 money lenders operators (ibid.). Even though many of them are registered firms there exist many other unregistered firms who operates from their houses.

The indebtedness is wide spread among the cultivator households. At all-India level 46 per cent and 29 per cent of the cultivator and non-cultivator households were indebted.The agricultural households constitute 27.3 per cent of the total rural households in kerala. In Kerala among the agricultural and rural households the incidence of indebtedness is higher than the national average .This high indebtedness is due to various reasons like concentration of cash crops, higher value of assets per households and availability of credit through the good network of both formal and informal credit agencies (Jeromi 2007). The skewed distribution of land holdings among the rural poor is considered as a factor for the increased credit demand (Ramkumar and Chavan 2002). This prompt the rural poor to depend on the institutional sources for availing the credit. At the same time there exist large number of landless or near landless farmers in the state. Their credit demand was mostly satisfied by the non-institutional as well as informal sources of finance because these institutions can provide credit without any collateral.This shows that the capability of a household to borrow either from the formal credit system or from the informal market, hang on to a large extent on the security or collateral that household is able to provide to the loaning agency. The positive association between size distribution of debt and of landholding confirms this fact (Nair and Thampi 2005). The farmer households depends on in-formal agencies was much lower than the national average. But their prevalence still exist strong in the state. In Kerala the farmer households borrow mostly for non-agricultural purposes (Suran and Narayana 2006). They mostly borrow for marriage expenses, house construction etc. The credit flow mainly directed to their household expenditure activity than the farming activity. This shows the lack of production with the credit availed. This is considered to be the major reason for the high indebtedness among the farmer households.

The high interest rate charged by the non-institutional agencies stands to be major reason for the indebtedness. This is because when the interest rate is higher it becomes impossible for the farmer to repay even the interest rate. When the farmer households fails to repay the interest rate the informal money lenders started to exploit these people by either in the form of physical trauma or in other ways. The debt asset ratio is higher for farmer households compared to the national average (Table 1). This high debt-asset ratio was also higher among high asset holding class which leads to high farmer suicides (Jeromi 2007; Ramakumar 2005)

Table 1 Average amount of the outstanding loans (00) per agricultural households by the size of land possessed

	<0.01	0.01-0.40	0.41-1.00	1.01-2.00	2.01-4.00	4.01-10.00	10	All classes	Proportion of indebted HH
Kerala	1690	1592	1947	3467	6070	750	15726	2136	77.7
India	311	239	354	548	949	1827	2903	470	51.9

Source:- AIDIS (2013)

The incidence of indebtedness is higher for the cultivator holds and it is also higher than the national average. The incidence of indebtedness was 68.07 were as all-India average its only 45.94 per cent (Table 1) The indebtedness of the farmer households and the suicides of farmers was concentrated mainly on six districts which was mainly hilly districts and they were located in the northern parts of Kerala. Among this prominent are districts like Wayanad, Idukki ,Palakkad and Kannur. Especially in Wayanad and Idukki agricultural indebtedness is very severe because the cultivation in these districts was mainly depends on the export oriented crops. There are many field survey studies which focused on the indebtedness of the farmer households in Kerala. Wayanad was the most affected district of farm distress and indebtedness. The high accumulation of the debt beyond an existing level of repayment capacity during past years was considered to be the prior reason for the farmer suicides in the wayanad district (Mohanakumar and Sharma 2006) , Where as in a survey in the Palakkad districts about the indebtedness among the farmers reveals that they had a reluctance in availing loan from co-operative banks as the bank demands joint personal security from the farmers. (Parakash 2007).

Table 3: Incidence of Indebtedness

	AVA	IOI	AOD	AODL	DAR
Kerala	9992295	68.07	441589	648734	4.42
India	2872956	45.94	459470580	153640	2.46

Source:- AIDIS (2013)

At the same time only few farmers in the Palakkad district availed loan from the institutional and informal sources. This is the condition in almost all districts. But when they require nominal and small amount for emergency they mostly depend upon the informal sources. This is because of the easiness in the availability of the credit.

All this analysis shows that indebtedness is severe in Kerala. The increased number of Non-Banking Financial Intermediaries in the state showcases the predominant role of non-institutional sources in meeting the credit demands of the rural households. The dependency of rural people on such sources led to the rural indebtedness in Kerala particularly in districts such as Wayanad, Idukki and Palakkad (Prathap and Sangeetha 2011). The prevalence of chit funds, gold loans and other kinds of money financing activities were very prelevant in Kerala. The recently held operation Kubera also explains the widespread existence of informal money lenders in Kerala. By the operation kubera 2,663 cases were registered and 1,577 persons were arrested in the state. This shows the strength and depth of the informal financing in the state. The informal money market that operates in Kerala works with the help of many intermediaries. This intermediaries includes friends, relatives etc. They were considered as better persons to attract customers. This will bring rural customers into the informal money lenders who will charge exorbitant rate of interest. The interest charged by them exceeds more than 20 per cent. This exorbitant high interest rate puts heavy burden on the borrowers. Even though the formal financial institutions were exist in Kerala, the simultaneous setting up of these institutions thus questions the success of formal financial institutions.

5. Conclusion

The entire discussion on financial inclusion and rural indebtedness in the Kerala state reveals that even though financial inclusion was successful in the state there exist a substantial number of informal-money lenders in the state. In case of indebtedness too, the farmer households in Kerala are facing severe setback. Their loan indebtedness in terms of high outstanding cash loans compared to other Indian states substantiates the debt plight these groups. Their indebtedness is mainly attributed because they availed credit mostly for non-productive activities like house construction, marriages, medical expenses etc. Also their dependency on the informal credit sources is a matter of concern. The farmers who are landless or marginally landless are the people who mainly depend upon the informal sources. This shows the positive association between property and the debt of the people

Moreover, the entire discussion shows the strength and depth of the financial inclusion policy in the state in terms of number of branches, GCC accounts etc. This shows that banking networks had reached even the rural pockets which protects the rural masses from the exploitation of the rural farmers from the informal sources. The operation Kubera shows the depth of the informal money market in Kerala. The farmer households now started to depend upon other occupations for their livelihood. This necessitates their need for credit from the formal sources.

Hence there is a need for suitable policies which reduce the prevalence of informal credit market like money lenders regulation act should be strengthened, nominal credit should be given to rural farmers, agricultural credit should be given

with lesser procedures etc. The debt waiver scheme can also be implemented which will protect the poor farmers from the chronic indebtedness particularly in the districts of Wayanad and Idukki.

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(Footnotes)

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[2]A world bank report defines financial inclusion “as an absence of price or non-price barriers in the use of financial services” Literature on financial inclusion defined it more in terms of social exclusion as well as financial exclusion. Leyshon and Thrift (1995) define financial exclusion as referring to

those processes that serve to prevent certain social groups and individuals from gaining access to the formal financial system

. Carbo et al. (2005) have defined financial exclusion as

broadly the inability (however occasioned) of some societal groups to access the financial system

. According to Conroy (2005),

financial exclusion is a process that prevents poor and disadvantaged social groups from gaining access to the formal financial systems of their countries

. According to Mohan (2006)

financial exclusion signifies the lack of access by certain segments of the society to appropriate, low-cost, fair and safe financial products and services from mainstream providers.

These definitions show the various dimensions on which the financial inclusion definition depends such as breadth, focus and degree of financial exclusion. Among these three dimensions, degree of dimension

[2] seems to be very narrow (Sreejith 2009).

[3]The definition of financial inclusion takes into consideration many considerable factors like financial development across countries and geographies, the level of social, economic and financial development, socio-economic characteristics of the financially excluded population etc. Broadly financial inclusion/ exclusion is the inability to access necessary financial services.

In Indian context the definition for financial inclusion is formulated by taking into considering its various dimensions (breadth, focus and degree of financial services) and the Government committee under C Rangarajan defines financial inclusion as

the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as the weaker sections and low income groups at an affordable cost

(Rangarajan Committee 2008).

An Empirical Examination of the High Morbidity Syndrome in Kerala

T.D. Simon

Abstract

*While Kerala has been hailed for its developments in social sectors, the available data show a startling finding that Kerala's morbidity was one of the highest in India. The morbidity rate is reported as highest in Kerala both in persons reporting ailment (PAP) and reporting commencement of any ailment (PPC). Literature reveals two major streams of argument for this, one questioning the comparability of the reported rates of morbidity and the other admitting that the higher rates of morbidity actually represent the situation. The present study analyses the pattern of morbidity in Kerala giving emphasis to chronic ailment and lifestyle diseases and tries to find out the effect of selected background characteristics on reported health status of the population using the unit level data of National Sample Survey Organisation s 71st Round„*Key Indicators of Social Consumption in India: Health*. The major variables to examine the relationship between morbidity pattern and background variables were education, size of the household, age, Monthly Per-capita Consumption Expenditure (MPCE), place of residence, sex and caste. The study identifies different factors which determine morbidity in Kerala such as MPCE, age and size of household. The educational status and the available health care facilities are also crucial in determining morbidity rate. The other factors might be due to the prevalence of the rising lifestyle related diseases in Kerala.*

Key words: *Morbidity, MPCE, Chronic ailment, Lifestyle diseases*

I. Introduction

Kerala's development experience has been differentiated by the dominance of the social sectors as reflected in the high levels of education and health indicators. Crude death rate, infant mortality rate and life expectancy at birth in Kerala are

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comparable even to those of the developed regions. The health development of the state is generally attributed to the spread of basic education, public awareness through specific state programmes and advances in the sphere of infrastructure facilities. The availability of medical care facilities at easy access helped the state in attaining a higher rate of health care utilization than other parts of India (CDS-UN 1975; Nag 1983; Krishnan 1985; Navaneetham and Dharmalingam 2003). The region was subsequently viewed as an exemplary state that could be invoked to demonstrate the general possibility of achieving high levels of social development even with very little economic advancement and the so-called 'Kerala model' eventually became part of global development discourse (Government of Kerala 2006).

Even when the arguments in favour of the pattern of development followed in Kerala were strong, there were some disturbing questions raised with regard to its sustainability and replicability (Tharakan 2006; Veron 2000). Although mortality remains at low levels, the state has a higher rate of morbidity (those suffering from diseases) compared to other Indian states. Hence the Kerala situation is described as having 'Low Mortality High Morbidity Syndrome" (Panicker and Soman 1985 cited in Ekbal 2006, p.38). The infectious diseases like dengue fever, diarhoea, leptospirosis etc and the so called lifestyle diseases are both prevalent in Kerala. More over the incidence of many lifestyle diseases are more than the national average (Ekbal 2006).

There are two major streams of argument for the high morbidity in Kerala – one questioning the comparability of the reported rates of morbidity and the other admitting the higher rates of morbidity as actually representing the situation. In other words, the former argument highlights that the higher rate of morbidity is mainly arisen through higher reportability of cases of sickness which in turn is indebted to the higher educational levels and health care institutions prevailing in the state. On the contrary the latter argument holds that there are ill-health conditions prevailing in the state which in turn causes the higher morbidity.

The low mortality levels of Kerala first received its major blow in 1973-74 when a National Sample Survey reported that the state's morbidity rate was one of the highest in India – 71 per 1,000 persons in the case of acute illness and 83 per 1,000 persons in the case of chronic illness (Government of Kerala 2006). Subsequently, surveys conducted by KSSP (Kannan *et al.* 1991; Kunhikannan and Aravindan 2000), National Council of Applied Economic Research in 1992-93 at the all-India level and the 52nd round of NSS data collected during 1995-96 confirmed high levels of acute and chronic morbidity in Kerala.

In an important study, conducted by KSSP in 1987 based on a survey of 10,000 households, they argued that Kerala's high morbidity was to a large extent due to two reasons: First, infections constitute a large share of morbidity, which can

hardly be attributed to perception alone. Second, poor people reported more illness than the rich, which also goes against the argument that the perception factor is the major contributor of high reported morbidity in the State (Kannan *et al.* 1991). Regarding the trends of morbidity Duraisamy (2001) comments that morbidity is high among the illiterates than the educated persons in rural India. According to Ashokan and Ibrahim (2007) the poor are exposed to a relatively higher morbidity load compared to the non-poor. There are also observations that the occurrences of most chronic diseases and disabilities are more frequently associated with among people with a lower level of education (Pincus *et al*. 1987; La-Vecchia *et al*. 1987; Leclerc *et al*. 1992). Another study analysed that educational attainment was inversely associated with long term limitation of activity, number of chronic conditions, number of bed days and days of short hospital stay (Liao et al. 1999).

The other group of studies, that considered higher morbidity as a positive indicator, also tried to relate it with the educational system in Kerala. Sen (1987) was of the opinion that a more literate population, with access to medical attention and health care, is likely to report illness more thoroughly. He added that there are evidences that people in states that with higher educational attainments and with better medical and health facilities are in a better position to diagnose and perceive their own particular illnesses than are the people in less advanced states, where there is less awareness of treatable conditions (Sen 2002). It is considered that universal literacy, coupled with extended medical facilities has resulted in earlier diagnosis and detection of diseases than ever before and this is often cited as a reason for the higher morbidity in Kerala (Kannan et al. 1991; Gumber and Berman 1997). Krishnaswami (2004) found out that the morbidity rate tends to increase with educational and economic levels and there is also an indication that it tends to decrease with household size. As people in Kerala are highly educated and more aware, the ailments are easily diagnosed and these are often cited as reasons for high morbidity (Murray and Chen 1990, Kannan et al. 1991; Gumber and Berman 1997). In the recent period/ or just recently lifestyle related diseases are on the rise in Kerala.

However, both the schools of thought failed to substantiate their arguments with necessary grass root empirical evidence. It is in this context, the present study tries to analyse the pattern of morbidity in Kerala and to find out the effect of selected background characteristics on reported health status of the population. The present study is based on the unit level data of National Sample Survey Organisation's 71st Round,, *Key Indicators of Social Consumption in India: Health*. The sample includes 11229 respondents from Kerala

II. Discussion

The direct association between morbidity reporting and level of health consciousness is a well-established one (NSSO 2006). An ailment may not

necessarily cause for hospitalisation, confinement to bed or restricted activity. It also includes (i) cases of visual, hearing, speech, locomotor and mental disabilities (ii) injuries will cover all types of damages, such as cuts, wounds, haemorrhage, fractures and burns caused by an accident, including bites on any part of the body (iii) cases of spontaneous abortion – natural or accidental. But this will not include (i) cases of sterilization, insertion of IUD, getting MTP, etc. (ii) cases of pregnancy and child birth.

The morbidity pattern of Kerala during the 52nd and 60th round of NSSO is given in Table 1. The morbidity rate is reported as highest in Kerala both in persons reporting ailment (PAP) and reporting commencement of any ailment (PPC). PAP was reported as 255 in rural Kerala as against 88 in rural India in 2004. In urban area also Kerala reported highest PAP of 240 as against 99 which was the all India average at that time. PPC was reported as 103 in rural Kerala and 240 in urban area as against 45 in rural India and 44 in urban India. The rate of PAP from the year 1995-96 to 2004 is higher (116 per cent) in Kerala when compared to the all India change (60 per cent). In 2014, the rural PAP in Kerala increased to 310, while urban PAP was 306. But all India picture shows that there is not much increase in PAP in rural India, but there was 19 per cent increase in Urban India and the PAP was reported as 89 and 118 in rural and urban India respectively.

Table 1Number (per 1000) of Proportion of Ailing Persons (PAP)during last 15 days, for Kerala and India

Year	Area	Kerala	India*
1995-96	Rural	118	55
	Urban	88	54
2004	Rural	255	88
	Urban	240	99
2014	Rural	310	89
	Urban	306	118

** Excludes NagalandSource: NSSO Reports Nos. 441, 507&NSS KI (71/25.2)*

III. Morbidity and its determinants: A macro view

In this section, an attempt is made to examine the relationship between morbidity and background variables like educational, size of the household, age, Monthly Per-

capita Consumption Expenditure (MPCE), place of residence, sex and caste. Many authors have analysed the relationship between these background variables and morbidity. For having an idea about this relationship, some of the studies are cited below:

Educational status: A positive association between educational index of a locality and the morbidity rate implying that with increase in educational level the perceived morbidity tends to increase (Krishnaswami 2004). The level of education remains the most important determinant of lifestyle risk factors (Leclerc *et al*. 1992).

***Size of family*:** As household size increases the perceived morbidity rate tends to decrease (Krishnaswami 2004). Similarly, it is reported that ailments in larger households are underreported (Dilip 2002).

Age: The extent and variety of morbidity rise with increasing age (Munro 1990). It was also reported that the risk of morbidity is greater among the children compared to pre adolescents, adolescent, and young adults (Navaneetham *et al*. 2009).

Monthly Per-capita Consumption Expenditure (MPCE): Dilip (2002) was of the opinion that MPCE and prevalence of ailments were positively related. Similarly, Krishnaswami (2004) established a positive association between morbidity and economic level. Likewise, Ghosh and Arokiasamy (2009) were of the opinion that MPCE has a positive relationship with prevalence of morbidity.

Place of residence: Urban areas appear less healthy than the more rural areas (O'Reilly *et al.* 2007). But, Suryanarayana (2008) reported morbidity is higher in rural area than in the urban sector.

Sex: Morbidity is higher among women than men (Suryanarayana 2008). Similarly, the level of morbidity is high in Kerala especially among females. Females are at greater risk of morbidity than males. Females are more likely to report ailments compared to the males (Navaneetham *et al*. 2009).

Caste: Caste is a prominent determinant in deciding the health status of a society (Iyer 2005). Iyer examined the relationship between the social patterning of women's self-reported health status in India and their caste structure. Low caste and lower socioeconomic position are associated with worse reported health status, and associations between socio-economic position and reported health status vary across castes and found out that women from lower castes, i.e., Scheduled Castes/Scheduled Tribes (SC/ST) reported a higher prevalence of poor health than from forward castes (Mohinidra *et al.* 2006).

The above cited studies show that there definitely exists relationship between

the morbidity and selected background variables. But, at the same time, there are also differences in opinion pertaining to the direction, whether there is a direct or indirect relationship, between morbidity and background variables. An attempt is made in the following sessions to find out the effect of selected background characteristics on reported health status of the population,

IV. Relationship between morbidity and socio-economic characteristics

The unit level data of National Sample Survey Organisation's 71st Round 'Key Indicators of Social Consumption in India: Health' (2014), with special reference to Kerala is analysed in this section. The information from 11229 respondents have been used for analysing the pattern of morbidity and chronic ailment in Kerala while the information from 4469 respondents have been used for analyzing lifestyle diseases.

Morbidity Pattern:

30.8 per cent of the respondents in Kerala reported morbidity, while all India picture shows 9.8 per cent of morbidity (Table 2). Among the caste groups, 'Others' group showed the highest morbidity (33.5 per cent) followed by 'Other Backward Sections' (30.3 per cent) and least morbidity was reported for Scheduled Tribes. Some specific pattern of changes can be seen in morbidity pattern from backward castes to forward castes. MPCE classification showed that low consumption group has low morbidity (31.9 per cent) and with an increase in consumption class the morbidity also increases, having highest MPCEgroup with 32 per cent.

As expected, old age group showed highest morbidity. Females reported more morbidity when compared to males. Household size and morbidity showed an inverse relationship. The highest morbidity rate was reported in lowest size group while the lowest morbidity was reported in highest household size group.Morbidity was higher in rural area when compared to urban area.

It is to be noted that the relationship between the morbidity pattern and monthly percapita consumption expenditure (MPCE) shows two different pictures. On the one hand, it is reported that highest level of morbidity (32 per cent) is among highest MPCE group, who can be considered as highest income group, but, on the other hand, the lowest morbidity rate (23.3 per cent) is reported among Scheduled Tribe group, who are considered to be the poorest of the poor. So, in this context, it is the time to find out the various reasons for this paradox in morbidity.

Table 2

Morbidity status of respondents among different socio-economic groups in Kerala and India - 2014 (percentage)

Background variables	Attributes	Morbidity (Percentage)	
		Kerala	India
Caste	ST	23.3	6.9
	SC	28.4	9.2
	OBC	30.3	9.8
	Others	33.5	11.1
MPCEGroup	Low MPCE	31.9	7.4
	Medium MPCE	28.4	9.8
	High MPCE	32.0	14.0
Age group	0 – 4	25.8	10.6
	5 – 14	15.8	5.5
	15 – 34	13.1	5.0
	35 – 59	37.7	12.8
	60 & above	67.2	30.2
Sex	Male	29.2	8.7
	Female	32.3	11.0
Household size	3 & below	41.4	15.5
	4 – 5	28.3	9.9
	6 – 7	28.3	7.9
	8 & Above	24.2	6.8
Area	Rural	31.0	8.9

	Urban	30.6	11.8
Total		30.8	9.8

Source: Estimated from the unit level data of NSS 71st Round, Key Indicators of Social Consumption in India: Health, 2014

Chronic ailment:

Chronic ailment: As far as reporting chronic ailment, 20.8 per cent of the respondents in Kerala suffered from chorionic ailment as against 4.8 per cent in India with a 69.7 percentage difference (Table 3). Caste group analysis shows that the 'Other' caste group had the higher rate of chronic ailment (25.9 per cent) followed by OBC groups. Similarly, higher MPCE groups have a higher tendency to have chronic ailment. As expected, higher age group suffer more from chronic ailment (58 per cent). Females had more chronic ailment rate (22.9 per cent) than males (18.5 per cent). Low household size group had higher chance to report chronic ailment (30.7 per cent). There is not much difference in rural-urban pattern in reporting chronic ailment.

Table 3

Chronic ailment of respondents among different socio-economic groups in Kerala and India - 2014 (percentage)

Background variables	Attributes	Chronic ailment (Percentage)	
Kerala		India	
Caste	ST	6.4	2.0
	SC	20.1	4.0
	OBC	19.2	4.8
	Others	25.9	6.4
MPCE Group	Low MPCE	19.7	2.7
	Medium MPCE	17.5	4.7
	High MPCE	22.7	8.7

Age group	0 – 4	2.1	0.5
	5 – 14	3.3	0.7
	15 – 34	5.4	1.5
	35 – 59	29.6	8.0
	60 & above	58.1	23.7
Sex	Male	18.5	4.2
	Female	22.9	5.5
Household size	3 & below	30.7	9.2
	4 – 5	18.8	4.6
	6 – 7	17.8	3.7
	8 & Above	14.5	2.9
Area	Rural	20.0	4.0
	Urban	21.8	6.7
Total		20.8	4.8

Source: Estimated from the unit level data of NSS 71st Round, Key Indicators of Social Consumption in India: Health, 2014

Lifestyle diseases

Lifestyle diseases are permanent and require long periods of excessive care and hence they are termed chronic diseases by medical practitioners, "which is putting pressure on the health care system. If uncurbed, a new generation of 'diseases of comfort' (chronic diseases caused by obesity and physical inactivity) will become a major public health problem in this and the next century" (Choi et al., 2005, p.1030).

For the sake of analysis, I have selected seven lifestyle diseases from a list of 61 in the NSSO Report. They are; (i) hypertension, (ii) diabetes, (iii) heart disease: chest pain, breathlessness, (iv) stroke/ hemiplegia/ sudden onset weakness or loss of speech in half of body, (v) bronchial asthma/ recurrent episode of wheezing and

breathlessness with or without cough over long periods or known asthma), (vi) obesity, and (vii) cancers

The occurrence of lifestyle diseases is very high in Kerala compared to all India. Among the morbid persons in Kerala, 42.9 per cent of them were suffering from lifestyle diseases, while the rate is comparatively lower at the all India picture with a percentage difference of 35.4 points. The occurrence of lifestyle diseases is high among highest MPCE group (44.8 per cent) while it is lowest in low MPCE group (36.7 per cent. The caste wise analysis shows that lifestyle diseases are least among ST respondents (13.9 per cent) when compared to non-ST morbid persons (Table 4).

Table 4

Distribution of morbid persons having lifestyle diseases among different socio-economic groups in Kerala - 2014 (Percentage)

Background variables	Attributes	Chronic ailment (Percentage)	
Kerala		India	
Caste	ST	13.9	10.7
	SC	47.0	22.9
	OBC	40.7	28.7
	Others	47.1	32.1
MPCE Quartile Group	Low MPCE	36.7	15.6
	Medium MPCE	40.0	24.8
	High MPCE	44.8	40.4
Age group	0 – 4	2.3	1.2
	5 – 14	5.0	3.0
	15 – 34	10.3	5.9
	35 – 59	44.2	34.5

	60 & above	61.6	51.0
Sex	Male	45.6	29.2
	Female	40.8	26.5
Household size	3 & below	46.6	34.4
	4 – 5	39.7	25.9
	6 – 7	44.8	26.5
	8 & Above	41.1	20.9
Area	Rural	43.9	21.9
	Urban	41.8	37.5
Total		42.9	27.7

Source: Estimated from the unit level data of NSS 71st Round, *Key Indicators of Social Consumption in India: Health,* 2014

The other background variables show that the lifestyle disease is high among the age group of 60 & above (61.6 per cent), males (45.6 per cent) lowest household size members, i.e., 3 & below (46.6 per cent) and persons from rural area (43.9 per cent) when compared to their counterparts.

V. Multivariate analyses: Logistic Regression

In order to discover the effect of selected background variables on reported morbidity, chronic ailment and lifestyle diseases of the morbid population, the logistic regression analyses have been carried out. In these three logistic regression analyses, morbidity, chronic ailment and reported lifestyle disease has been taken as dependent variables, respectively, while other variables such as caste, MPCE, age group, sex, size of household and area as independent variables. The odds ratio (exp (b)) shows the odds of reporting morbidity, chronic ailment and lifestyle disease respectively compared to the reference category, by considering the other variables constant. Here, reference category is the one with odds ratio being 1.

The relationship between the combinations of independent variables and dependent variable is based on final model's statistical significance of chi-square in the table. The probabilities of the model chi-squares 2057.133, 2996.235 and 950.646

respectively were <0.001 (Table 5). The null hypothesis (i.e., there was no difference between the model without independent variables) has been rejected, and the relationship between the dependent variable and independent variables has been confirmed.

Logistic regression analysis for morbidity shows that high income group has comparatively a higher chance to report morbidity when compared to low MPCE group. The highest MPCE group was 26 per cent more likely to report an ailment than those of lowest MPCE group. As far as age group is concerned, 60 and above age group has 7 times more chance to be morbid when compared to lowest age group. The age groups, '5-14' and '15-34' have less likely to be morbid than the lowest age group. Females had 22 per cent more likely to report an ailment than males. The smallest size of household had higher probability to be morbid and highest household size group had less likely to report morbidity.

Table 5

Determinants of Morbidity, Chronic ailment and Lifestyle Disease:

Logistic Regression Results – Odds Ratio (Exp(B))

Independent variables	Attributes	Morbidity	Chronic ailment	Lifestyle diseases
Caste	ST	1.000	1.000*	1.000
	SC	1.365	2.053*	1.772
	OBC	1.391	1.909*	1.644
	Others	1.244	1.994*	1.661
MPCE	Low MPCE Group	1.000*	1.000*	1.000*
	Medium MPCE	1.172	1.314*	1.231
	High MPCE	1.257*	1.555*	1.389*
Age Group	0 – 4	1.000*	1.000*	1.000*

	5 – 14	0.627*	1.850*	3.065*
	15 – 34	0.492*	2.925*	4.254*
	35 – 59	1.972*	20.252*	31.148*
	60 & above	7.626*	77.332*	57.320*
Sex	Male	1.000*	1.000*	1.000*
	Female	1.222*	1.308*	0.752*
Household size group	3 & below	1.000*	1.000*	1.000
	4 – 5	0.788*	0.842*	1.050
	6 – 7	0.724*	0.766*	1.216*
	8 & Above	0.642*	0.750*	1.261
Place of Residence				
	Rural	1.000	1.000	1.000
	Urban	0.960	1.059	1.036
constant		0.218	0.008	0.014
Number of observations		11229.000	11229.000	4469.000
Omnibus Tests of Model Coefficients Chi-square (Sig.)		2057.133 (0.000)	2996.235 (0.000)	950.646 (0.000)
-2Log Likelihood	11687.485	8401.294	5174.749	
Cox & Snell R Square		0.167	0.234	0.192
Nagelkerke R Square		0.237	0.367	0.257

*Note: * - Significant at 5% level*

Source: Estimated from the unit level data of NSS 71st Round, *Key Indicators of Social Consumption in India: Health,* 2014

As far as chronic ailment is concerned, SC group had two times more chance to have chronic ailment when compared to ST group. Highest MPCE group had 55 per cent more likely to report a chronic ailment than the lowest MPCE group. As expected, the highest age group had more chance to have chronic ailment; they had 77 times more chance to have chronic ailment when compared to smallest age group. Females had 30 per cent more likely to report chronic ailment than males. In chronic ailment case also, smallest size households had more chance to have chronic ailment.

In the case of lifestyle diseases, high MPCE group had 38 per cent more chance to have lifestyle diseases than the lowest MPCE group. As against morbidity pattern and chronic ailment patterns, males had more chance to have lifestyle diseases than females. Females have 25 per cent less likely to have lifestyle diseases than males. The '6-7' household size group had 21 per cent more chance to have lifestyle diseases than smallest household group.

The foregoing logistic regression analyses show that the background variables like MPCE, age, sex and size of household have statistically significant effect in determining Morbidity. Except place of residence, almost all background variables in the analysis have significant effect in determining chronic ailment. In case of lifestyle diseases, MPCE, age and gender have statistically significant effect in lifestyle diseases. One of the notable points in this analysis is that the lifestyle diseases are more prominent in highest MPCE groups, while lowest in ST groups.

The previous discussions show that the morbidity is higher among higher MPCE group (or rich group) and lower among ST group (the poorer group). This finding supports the findings of the first school of thought pertaining to the morbidity pattern, which was mentioned in the introduction that the higher rate of morbidity is mainly arisen through higher reportability of cases of sickness which in turn is indebted to the higher educational levels and health care institutions prevailing in the state. As per the present study, one of the reasons for this phenomenon is the prevalence of type of diseases. Majority of the highest income group (or rich group) was experiencing lifestyle diseases, but the ST (poorer) group was suffering from respiratory diseases. Moreover, it can be confirmed that the higher morbidity rate in Kerala is mainly due to the higher percentage of lifestyle diseases, which are experienced mainly by higher MPCE groups, and on the other hand, the respiratory and epidemic diseases are on the rise in Kerala, especially in recent period, which are experienced mainly by ST and poor income groups.

VI. Conclusion

The 'Low Mortality High Morbidity Syndrome' designates one of those crucial

questions posed at the model followed by the state in this context. It is in this context, the present study tried to analyse the pattern of morbidity in Kerala and to find out the effect of selected background characteristics on lifestyle diseases of the morbid population. Morbidity is highest in Kerala among the Indian states. Highest morbidity is seen among highest MPCE group, while lowest is seen among ST households, who are considered to be the poorest of poor. The reasons for the lower morbidity in ST households and high morbidity in highest MPCE groups are due to the characteristics of the ailments. One of the reasons for the highest morbidity in Kerala is due to the occurrence of lifestyle diseases.The logistic regression analysis showed that the background variables like caste, MPCE, age, sex and place of residence have statistically significant effect in determining lifestyle diseases. The lifestyle diseases are more prominent in highest MPCE groups, while lowest in ST groups. It can be confirmed that the higher morbidity rate in Kerala is mainly due to the higher percentage of lifestyle diseases, which are experienced mainly by higher MPCE groups, and on the other hand, the respiratory and epidemic diseases are on the rise in Kerala, especially in recent period, which are experienced mainly by ST and poor income groups. This situation invites the need of the active government intervention.

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CASH HOLDING AND TAX EVADED INCOMES IN INDIA: ANANALYSIS

D. Shyjan and R. Mohan

Abstract

The study makes an attempt to statistically test the association between cash holdings, tax effort and government spending in the Indian context. The results show that the ratio of cash holding to nominal GDP does not have a statistically significant association with tax-GDP ratio, but has with government spending. This finding rebuts the monetarist hypothesis of taking cash holding as a proxy for tax evasion. Besides, the study also estimates the size of the tax-evaded-incomes at aggregate level by analysing data on factor incomes and gross total income declared, published by Central Statistics Office and Income Tax Department respectively. Our estimate of tax evaded income works out to 26.97 percent of the Gross Value Added at current basic prices.

Key Words: *Cash Holding, Tax Effort, Government Spending, Income tax, Tax Evaded Incomes.*

JEL Codes*: E410, H20, H50, H240, H26*

General Backdrop

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The demonetisation of High Denomination Notes of Rs 500/- and Rs 1000/- on November 8, 2016, brought the discussion on tax evasion into focus. The generally advanced hypothesis is that tax evasion has strong association with value and volume of cash transactions and demonetisation would help to substantially reduce the amount of tax-evaded-incomes in India.

Even prior to this, the discussion on undisclosed money, corruption and tax evasion had got wide attention since 2011-12, when the movement for enactment of Lok Pal Bill, was launched after a number of corruption scandals had rocked the Nation. The Government of India brought out a White Paper on Black Money in 2012. Efforts for sharing information on bank accounts of Indian citizens abroad were also made. Later, in 2014, a Special Investigation Team (SIT) was appointed with a retired judge of the Supreme Court of India, chairing it, to monitor cases and give recommendations so that generation of tax evaded incomes is eliminated. Schemes for declaring undisclosed wealth held abroad and Income Disclosure Scheme (IDS) for tapping unaccounted income within the country were also announced. Post- demonetisation, another immunity scheme for deposits in Pradhan Mantri Garib Kalyan Yojana (PMGKY) was made operational till 31st March 2017.

In India, rates of direct taxation have come down considerably since the 1960s. Despite this, the evasion of taxes is estimated to be substantial at 21-22 percent of the Gross Domestic Product (GDP) , as can be seen from NIPFP(1985) and Schneider et al (2010). At the Policy making level also, there has been appreciation of the existence of high level of tax evaded economy resulting in granting of amnesty six times since the 1970s[1], for declaration of tax evaded income. During the presentation of Union Budget for 2017-18, the Union Finance Minister stated in the Lok Sabha that there is high level of tax non-compliance in our society and cited examples of high spending patterns and low level of incomes disclosed. In this context, it is felt that there is need for an empirical enquiry into the following issues:

a) Is there a significant association between cash holding as a proportion of nominal GDP and tax GDP ratio? In other words, does the hypothesis that higher cash holdings are a proxy for higher tax evasion, as in Monetarist Approach, holds good in the Indian context?

b) What could be the probable estimate of tax-evaded-incomes in India? and

c) The possible strategies of the tax administration for checking tax evasion

The first issue is relevant due to the prevalent assumption (which perhaps was behind policy demonetisation too) that there is close association between cash holding (especially of high denomination currency) and tax evasion. The second and third ones are pertinent as there is no recent official estimate of the tax evaded incomes and several strategies for tackling it, including through the recent schemes mentioned above, have not yielded the desired result.

There had been several attempts in the past to estimate the extent of tax-evaded-income, by Government of India appointed committees and other researchers. The major problem faced by all these studies was the need for making several restrictive assumptions, due to non-availability of reliable published data[2]. This study is also compelled to make a few such assumptions for the same reason.[3]

2. Cash Holdings and Tax Evaded Income - A Overview of Monetarist Approach

The most simple and popular methodology of estimating tax-evaded-incomes is the monetarist approach, as it uses readily available data though with certain assumptions. In this part we briefly overview the monetarist approach to estimate tax-evaded-incomes.

Fiege (1979) assumes a benchmark year in which cash to bank deposit ratio is normal and considers excess over this ratio in later years as a proxy for underground or parallel economy. Guttman (1977) also employed monetarist approach and assumed that high cash to deposit ratio is only influenced by high tax taxes and regulations, cash is the only mode of transaction in parallel economy and there is a point in the past when no parallel economy existed and cash-bank deposit ratio of that period can be used to measure the size of parallel economy in future years, which is proxied by higher cash-bank deposit ratio.

Tanzi (1983), proposed a regression model, in which cash- bank deposit ratio is the dependent variable and a) weighted average tax ratio b) share of wages and salaries in national income c) interest paid on savings deposits and d) per capita income are the explanatory variables. In this model, it is assumed that there is a significant positive association between cash - bank deposit ratio and weighted average tax ratio on the basis that a higher tax rate induced more parallel economy transactions which is proxied by an increase in cash- bank deposit ratio.

A second model is also estimated in which the value of dependent variable, cash-bank deposit ratio is arrived at without the explanatory variable, weighted average tax ratio. The income velocity (nominal GDP divided by cash in circulation) in official economy is computed. Assuming the same velocity of cash circulation in parallel economy, as in official economy, output in the former is arrived by multiplying the cash in circulation in parallel economy, (arrived at by subtracting from cash holding in the first regression model, in which average tax ratio is an explanatory variable, the cash holding in the second regression model, in which average tax ratio is not an explanatory variable) with the velocity of money circulation in the official economy. Ahmed and Hussain (2008) estimated the size of parallel economy in Pakistan using the Tanzi approach and found that tax reforms and lowering of tax rates had reduced the size of parallel economy. In the recent demonetisation, the underlying assumption is that cash holding, especially high value currency notes, is

the primary indicator and reason for tax-evaded-income. Before examining the validity of this hypothesis in the Indian context, let us first analyse the trends in cash holdings and whether it has been a preferred mode of holding by public in the last fifty-year period.

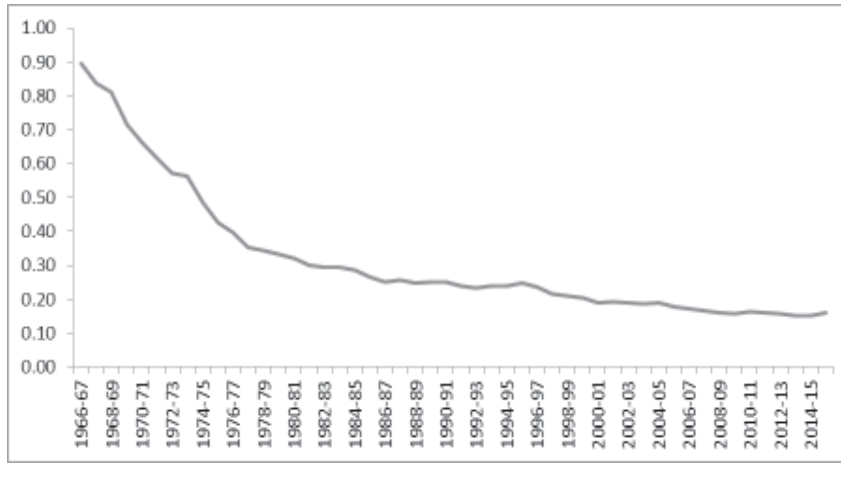
3. Cash Holding and Bank Deposits in India- Trend during 1966-67 to 2015-16

Table 1 Cash- Bank Deposit Ratio- 1966-67 to 2015-16

Period	Cash/(Demand + Time Deposit Ratio)
1966-67 to 1969-70	0.82
1970-71 to 1979-80	0.47
1980-81 to 1989-90	0.28
1990-91 to 1999-2000	0.23
2000-01 to 2009-10	0.18
2010-11 to 2015-16	0.16[4]

Source: Computed from Hand Book of Statistics on Indian Economy, Reserve Bank of India

FIGURE 1 CASH to BANK DEPOSIT RATIO 1966-67 TO 2015-16



Source: Computed from Hand Book of Statistics on Indian Economy, Reserve Bank of India

The cash held by public as a ratio of demand and time deposits has shown a discernible downward trend in the last 50 years, that is 1966-67 to 2015-16, (Table 1& Figure 1). This period witnessed a substantial expansion in banking, since the nationalisation of banks in 1969 and later with the focus on rural priority sector lending. Despite this, huge gaps in spread of commercial banking still remain. It is incidental that during this period, the tax rates also came down from expropriatory ones to moderate. If Guttman's monetarist method is adopted, the measure of parallel economy in India will have to be estimated as a very minor proportion or one which has been eliminated, given the continuous fall in the cash- bank deposit ratio.

To get a better picture, we also look at proportion of nominal GDP to cash holding and the trends in velocity of cash circulation in the economy.

4. Ratio of Nominal GDP to Cash Holdings in India – Trend during 1966-67 to 2015-16

In a growing economy in which monetisation takes place, it is natural to witness a growth in currency holdings with the public. But as currency substitutes[5] become available and technology spreads, cash holdings would tend to be less. In such a situation, as nominal GDP grows velocity of currency circulation, which is the ratio of nominal GDP to currency holding, would rise. In the Indian economy, the size of GDP has expanded faster since the 1980s and still faster in the later periods (Table 2). In this situation, the nominal GDP to cash-holding or velocity of cash circulation has declined due to cash holdings growing faster than nominal GDP. This aspect has been highlighted in Nachane et al (2013)[6].

Table 2 Trends in Nominal GDP to Cash Holdings

Period	Nominal GDP/ Cash Holding	Cash Holding Growth Rate	Nominal GDP Growth Rate
1966-67 to 1969-70	7.78	7.69	10.98
1970-71 to 1979-80	7.40	11.44	10.74
1980-81 to 1989-90	7.92	14.84	14.87
1990-91 to 1999-2000	7.36	15.16	15.08
2000-01 to 2009-10	6.03	15.05	12.68

2010-11 to 2015-16	5.98	13.04	13.05

Source: Computed from Hand Book of statistics on Indian Economy, Reserve Bank of India

Intuitively, the higher cash holding since the 1990s cannot be attributed to higher tax rates, as during this period, tax rates were consistently lowered and the lower rates have stabilised since the second half of the 1990s. A probable reason could be higher government spending, especially in the second half of first decade of 2000s, in the wake of global economic slowdown and initiation of programmes like those under Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)[7]. In the recent period, 2010-11 to 2015-16, the growth rate of cash holding has come down to 13.04 percent, which could be due to return to fiscal correction path by containing expenditure on social sector schemes, as can be seem from allocation to MGNREGA.

From 1970s, there was increasing monetisation of the economy and spread of banking. This resulted cash- bank deposit ratio to fall (Table 1), but also gave easier access for public to withdraw and hold cash for transactions and precautionary purposes. When the two phenomena of cash- bank Deposit ratio having secularly fallen and cash-nominal GDP ratio showing a rise, are viewed together, it can be inferred that due to economic growth and increased monetisation, cash in circulation has grown, but among modes of saving, cash is not the preferred mode. In other words, it implies that cash is not held with the main motive of hoarding. A clearer conclusion can be drawn if cash held by different income groups can be analysed, but there are serious data limitations to do this.

To test the hypothesis of whether tax effort or higher government spending is a better explanatory variable for the trend in cash- nominal GDP ratio, we use a model in which currency holdings with public as a ratio of nominal GDP is the dependent variable and the tax-GDP ratio and total government spending as independent variables. The tax and expenditure of the centre and the States are included. We test the hypothesis using both revenue spending and total spending of by Central and State governments separately, as independent variable. The time period chosen is 1970-71 to 2015-16. Before proceeding to the interpretation of the results of the Model 1 and Model 2, an explanation of why more explanatory variables were not used would be in order.

Regressions (Ordinary Least Squares, OLS) were attempted using explanatory variables like total spending of centre and States, total tax collections of centre and States, interest rate of bank deposits of 1-3 year maturity, percapita Income and dummy variable for the high tax period up to 1997 and the stable moderate tax period from 1997 to 2016. The overall time period for all the models was 1970-71 to 2015-16. The logarithmic form of the variables and all variables as ratios of GDP

were used. While testing for stationarity, it was seen that interest was stationary at levels (I (0)) and all other variables were stationary at first differences (I (1)). Hence, interest rate was omitted and other explanatory variables were considered. Except for Model 1 and Model 2 reported below, no other model could satisfy the residual properties of normality, hetroscedasticity, Auto Regressive Conditional Hetroscedasticity (ARCH) and Regression Equation Specification Error Test (RESET). Hence, only the results of Model 1 and Model 2, which satisfy all these tests are reported.

Model 1

Currency with Public/GDP (C/Y) = f [Tax GDP ratio (T/Y), Total Government Spending (EXP/Y)]

Model 2

Currency with Public/GDP (C/Y) = f [Tax GDP ratio (T/Y), Revenue Spending (REVEXP/Y)]

Since the dependent and independent variables are time series, the test for stationarity was done using Augmented Dicky-Fuller (ADF) test. It was found that the variables are not stationary at levels, but become stationary at their first difference.

Hence regression is done in Model 1 and Model 2 at first difference.

Table 3 Results of Model 1

	Co-efficient	Std Error	t-value	t-probability	Part.R^2
Constant	0.000321630	0.0006180	0.520	0.605	0.0064
Total Expenditure/ Nominal GDP	0.107154**	0.03723	2.88	0.006	0.1647
Tax/ Nominal GDP	0.0769843	0.07772	0.991	0.328	0.0228

** *Statistically significant at 1 percent level*

R^2 0. 210157

F(2,42) = 5.588 [0.007]**

DW 1.72

No. of observations 45

no. of parameters 3

AR 1-2 test: F(2,40) = 0.59325 [0.5573]

ARCH 1-1 test: F(1,40) = 0.28850 [0.5942]

Normality test: Chi^2(2) = 9.6464 [0.0080]**

hetero test: F(4,37) = 0.83649 [0.5108]

hetero-X test: F(5,36) = 0.65112 [0.6625]

RESET test: F(1,41) = 0.54026 [0.4665]

Table 4 Results of Model 2

	Co-efficient	Std Error	t-value	t-probability	Part.R^2
Constant	5.95938 e-005	0.0006450	0.924	0.927	0.0002
Revenue Expenditure/ Nominal GDP	0.14945**	0.05741	2.60	0.013	0.1389
Tax/ Nominal GDP	0.102278	0.07744	1.32	0.194	0.0399

** *Statistically significant at 1 percent level*

R^2 0.185775

F(2,42) = 4.791 [0.013]*

DW 1.68

No. of observations 45

no. of parameters 3

AR 1-2 test: F(2,40) = 0.47283 [0.6267]

ARCH 1-1 test: F(1,40) = 0.018430 [0.8927]

Normality test: Chi^2(2) = 9.5077 [0.0086]**

hetero test: F(4,37) = 0.86021 [0.4968]

hetero-X test: F(5,36) = 0.68475 [0.6380]

RESET test: F(1,41) = 2.2142 [0.1444]

The results clearly reveal that both total government spending revenue spending as a ratio of nominal GDP have statistically significant relationship with cash holdings as a proportion of nominal GDP, while tax- GDP ratio does not have a statistically significant relationship with cash holdings as a proportion of nominal GDP[8]. This is contrary to the Monetarist hypothesis that higher cash holding is a good proxy for tax evaded income[9], with the implicit assumption that higher Taxes induce more tax evasion and to avoid detection of transactions, higher levels of cash is held[10].

The assumption behind measures like demonetisation is that currency holding, especially of high denomination currency notes is a proxy for tax evasion. Our empirical examination fails to substantiate this.[11]

5. Estimation of tax Evaded Incomes- Why and How?

Since fundamental hypothesis of the monetarist measurement of tax evaded incomes, does not seem to hold in the Indian context, we proceed to estimate extent of tax-evaded-incomes by an alternate method. But there are many alternate methods and no method can be stated to yield the best estimate of tax-evaded-income as there are data gaps necessitating assumptions and extrapolations. Tanzi and Shome (1993) have discussed four methods of estimating tax evasion. They are a) the use of National Accounts b) use of direct controls c) use of household budget surveys and d) use of direct surveys. These four are called direct methods. The indirect method largely relates to estimates of the underground economy. The study states that National Accounts method is the commonest and most often used method for assessing the size of tax evasion and it is done by comparing the base made by the National Accounts authorities and the base reported to the tax authorities after making appropriate adjustments. In the second method, a random sample of tax payers is selected from data available to the tax authorities and the sample is examined for possible tax evasion. The average tax evasion of the sample is then used to obtain results for the whole population. The third method uses survey data of household spending and compares it with the declared income. The fourth method is the direct tax payer survey by asking questions to describe their tax reporting behaviour. The indirect method uses quantification methodology for underground economy. According to Tanzi and Shome (1993), in a country with progressive taxes and when most of the incomes earned in underground economy is low and below taxable limit, it would not be a good proxy for tax evasion.

We use the direct method of estimating potential tax base from National Accounts by making certain adjustments and subtracting it from the income reported to the tax authorities to estimate the tax-evaded-income, as this is the best method from point of view of official data availability, even though it necessitates some

assumptions, which every other method would also require. Potential tax base is estimated from published National Accounts Statistics of the Central Statistics Office after making suitable adjustments. Before proceeding to the estimate the tax-evaded-incomes in India, a brief overview of the earlier estimates is done.

6. Estimates of Tax Evaded Income in India – A Brief Review of Earlier Studies

In this study, we are using the term tax-evaded-incomes, instead of black economy, parallel economy or shadow economy. All these terms can be differentiated and distinguished. The term "black" has been subject to criticism for its apparent racist overtones. The word 'parallel" is incorrect as the part of the economy which is tax non-compliant is closely inter wined with the tax complaint sector and does not run parallel to the latter. 'Shadow' Economy is used to denote that part of the economy, whose transactions do not form part of the official economy. But only a part of it can be tax-evaded-incomes, as shadow economy would also include incomes below the taxable limit. In the Indian economy, there is a large share of informal sector within the reported or official economy besides unreported or shadow economy. Tax-evaded-incomes, which we attempt to measure comprises a) part of the official economy, which consists of organised and informal sectors and b) part of the unreported economy. The estimates would exclude the estimated share of incomes which are exempt (like that from agricultural sector) and that part of the non-exempt income which is below taxable limit.

The scope of tax-evaded-incomes here, includes, incomes which are part of reported Gross Value Added on which tax has been evaded and that part of incomes in unreported part of Gross Value Added which is not captured in the tax net. There could be omissions of totally illegal incomes and undisclosed moneys stashed abroad, as they do not get reflected in reported or unreported part of Gross Value Added.

The White Paper on Black Money (2012), published by Government of India gives an overview of the study by Kaldor in 1956, which had utilised the data from National Income and estimated the non-salary income above the exemption limit. The difference between this and the non-salary income assessed to tax was treated as "black" income. The Direct Taxes Enquiry Committee (Wanchoo Committee 1970), had followed the method adopted by Kaldor with some modifications. After making rough adjustments for exemptions and deductions, the Wanchoo Committee found that 'the estimated income on which tax has been evaded (black income) would probably be Rs 700 crore and Rs1000 crore for the years 1961-62 and 1965-66 respectively'. Projecting this estimate further to 1968-69 on the basis of percentage increase in national income from 1961-62 to 1968-69, the income on which tax was evaded for 1968-69 was estimated at Rs 1800 crore.[12]

The sector wise study of 'Black Money' in India was done by National Institute

of Public Finance and Policy (NIPFP) in 1985 on behalf of Government of India. The study cites a number of reasons like leakage in public expenditure, unaccounted component of real estate transactions and export and import duty evasions. The study estimated the size of 'black' economy in India at 21 percent of the Gross Domestic Product for 1983-84.

A study by Schneider, Buehen and Montenegro (2010) estimated the size of the shadow economy for 162 countries. Shadow Economy is defined in the study as not only illegal economy but activities to evade taxes, labour market regulations, social security contributions and other administrative procedures[13]. The size of shadow economy in India is estimated at 22.4 percent of the official economy. In Mukherjee and Rao (2015), it is estimated that 25.40 percent of Gross Domestic Product is unreported. The study uses the supply and demand of transport sector as the basis. Kumar (2016a) uses a regression model with size of service sector, size of trade sector and reported crime rate as explanatory variables and estimates the size of parallel economy at 62 percent of the GDP. But the study states that there can be issues of misspecification of explanatory variables[14].

As there is no recent official estimate of the tax-evaded-incomes[15] in India, this study makes an attempt to estimate of tax-evaded-incomes, based on potential tax base derived from data published in National Accounts Statistics, for the recent period. Any approach to estimate the size of tax-evaded-incomes faces the problem of data gaps and the need for estimation to fill in the gaps, using certain assumptions. No study in this area has been able to circumvent this. How reasonable the assumptions can be, is the question to be looked at.

The estimate of tax-evaded-incomes is made for the financial years 2011-12, 2012-13 and2013-14, by estimating the size of the potential tax base derived from share of 'Operating Surplus' in National Accounts Statistics, published by the Central Statistical Office (CSO). The estimation is done only at the aggregate level as an attempt to estimate Tax Evaded Income at sectoral levels, would require more and more restrictive assumptions due to data gaps.

6.1. Estimation of Potential Tax Base- Methodology

In this paper, estimation of tax-evaded-incomes is made at the aggregate level, that is, for both corporation tax and personal income tax.

To estimate the extent of tax-evaded-incomes, we need a measure of potential tax base. In this study, potential tax base is derived from the factor incomes hares in Gross Value Added (GVA)[16], published by the CSO. Factor income shares are the incomes paid to labour and capital and are classified as Compensation to Employees (CE) and Operating Surplus (OS) respectively. OS comprises profits, rents, interest and all income other than wages.

At the aggregate economy level, OS is mentioned as OS/MI (Operating Surplus/ Mixed Income), as a portion of OS in the unorganised sector comprises Mixed Income (MI). In the entities of unorganised sector, proprietors' wage and profit cannot be segregated. It is assumed that in such cases, near complete portion would be OS, as wage share in MI would be negligible.

Data used in this study to derive potential tax base are from National Accounts Statistics for Financial Years 2011-12, 2012-13 and 2013-14, in which suitable adjustments are made as stated below. As already stated, due to data gaps, certain restrictive assumptions are necessary in this regard.

1. To exclude the tax-exempt sector, the CE and OS in agricultural sector are reduced as they are exempt from Union income tax.

2. The CE includes the wages earned by foreign nationals working in India. As per Double Taxation Avoidance Agreements (DTAAs), the CE of foreign nationals is taxed in their countries and tax paid in India is allowed as credit in their respective conditions. The net factor income from abroad is a negative figure (as per the Balance of Payments Statistics published by the Reserve Bank of India), implying that the CE of foreign nationals remitted abroad exceeds the CE of Indian nationals working abroad. Considering this and also taking note of the fact that CE is difficult to evade in organised sector, due to third party reporting and its eligibility of being claimed as expenses by the business and professional entities, the entire CE in the organised sector is excluded.

3. Many of the entities in unorganised sector have income below taxable limit, but some do have income above taxable limit. Most of them are jointly run by individuals (as there is contravention of many laws, the businesses need collaboration of more than one individual to deal with the multiple issues arising) and do not have any registration. The individuals have come together with the common volition to earn income and the status of these entities would be Association of Persons (AOP) as per the Income Tax Act, 1961. There is no basic exemption for profits from business for this category of persons. Enterprises run by sole proprietors are relatively small and in most of the cases are likely to earn incomes below taxable limit. Since no demarcation of the income earned by enterprises of various legal statuses in the unorganised sector is possible based on data available, 40 percent of the OS in unorganised sector is assumed as earning incomes above taxable limit. Share of unorganised sector in GVA is taken at 45 percent[17] and share of OS within it is taken at 0.6 as in the organised sector[18]. Since, unorganised sector includes a large proportion of enterprises earning less than taxable income, 60 percent of OS in this sector is deducted as falling below taxable limit.

4. For exempting incomes below taxable limit in the organised sector, a 20 Percent for OS is made. As the income below exemption limit cannot be estimated

from aggregate data in National Accounts Statistics, we prefer the side of caution as is required while making an estimate. Hence a higher deduction of 20 percent is made for OS, which is above the percentage of exempt income of 16 percent, according to All India Income Tax Statistics (AIITS).

5. For including part of CE and OS in unreported GVA, we rely on the estimate made by Mukherjee and Rao (2015), which estimates underreporting at 25 percent. By blowing up the reported GVA by factoring in the proportion of underreporting and apportioning the difference between the estimate thus obtained and the reported GVA, at 0.4 and 0.6 respectively (which is the share of CE and OS in reported GVA), the share of CE and OS in the unreported GVA is computed. Considering the fact that there is share of income below taxable limit in the unreported part of GVA also, 40 percent is deducted. This would exclude the entire CE in the unreported part. As most of the OS in unreported part of GVA is earned by joint effort of more than one individual, they would be classified as Association of Persons (AOP) under the Income Tax Act, 1961 and there is no basic exemption for this category of persons. Giving an estimated 10 percent deduction for a small share of individual business in unreported part of GVA, 90 percent of OS in unreported GVA is included.

6. Factor incomes in the National Accounts Statistics, after adjustments described above are made, is considered as the potential tax base for the economy for Financial Years 2011-12, 2012-13 and 2013-14. When Gross Total Income returned by the assessees for these financial years[19], as reported in AIITS, is reduced from the potential tax base derived, we get the extent of tax-evaded-incomes[20] for the respective financial years (see Table 5).

The proportion of tax-evaded-incomes, estimated after factoring in downward bias in estimation of GVA, is at 25..92, 26.97 and 27..87 percent for Financial Years 2011-12, 2012-13 and 2013- 14 respectively. The median percentage of income on which tax has been evaded is estimated at 26.97 percent of official Gross Value Added at Basic Prices[21]. In absolute size, tax-evaded-incomes has been estimated at Rs.21,01,245 crore, Rs 24,83,945 crore and Rs 28,93132 crore for Financial Years 2011-12, 2012-13 and 2013-14 respectively (See Table 5 and Table 6).

Table 5 Factor Income Shares from National Accounts Statistics and Estimation of Potential Tax Base

Financial Year	CE (Rs Crore)	OS (Rs Crore)	Total
2011-12	2651435	4531631	7183066
2012-13	3028461	5108299	8136760
2013-14	3412331	5772989	9185320

Agricultural Sector	CE (Rs Crore)	OS (Rs Crore)	Total
2011-12	230442	1218341	1448783
2012-13	255259	1364318	1619577
2013-14	286957	1539840	1826797

Less Agricultural Sector	CE (Rs Crore)	OS (Rs Crore)	Toral
2011-12	2420993	3313290	5734283
2012-13	2773202	3743981	6517183
2013-14	3125374	4233149	7358523

Income from, Unorganised Sector after Deducting Exemption of 60 of Operating CE (Rs Crore)	OS (Rs Crore)		Portion percent Surplus
2011-12	0	619302.6	
2012-13	0	703855.8	
2013-14	0	794720.5	

Income from, Unorganised Sector after Deducting Exemption of 20 of Operating CE (Rs Crore)	OS (Rs Crore)		Portion percent Surplus

	0	1513851
	0	1720536
	0	1942650

Share from Unreported of GVA	CE (Rs Crore)	OS (Rs Crore) Portion
2011-12	0	1459198
2012-13	0	1657806
2013-14	0	1868546

Potential Tax Base	CE (Rs Crore)	OS (Rs Crore)
	0	3592351
	0	4082198
	0	4605917

Source: Computed from NAS published by CSO and Methodology elaborated in paragraph 3

Table 6 Estimate of Tax Evaded Income and its Proportion to official GVA (Rs crore)

Financial Year (Assessment Year)	Potential Tax Base (Rs crore)	Gross Total Income as per AIITS (Rs crore) less salary income	Extent of Tax Evaded Income (Rs crore)	GVA at current Prices (Rs crore)	% of (4) to (5)
(1)	(2)	(3)	(4)	(5)	(6)
2011-12 (2012-13)	3592351	1490734	2101617	8106656	25.92
2012-13(2013-14)	4082198	1598517	2483681	9210033	26.97

2013-14(2014-15)	4605917	1713122	2892795	10380813	27.87

Source: Computed as per Methodology elaborated in Paragraph 3

7. Conclusion

As already stated, the twin objectives of this study are to a)empirically test the hypothesis that cash holding and extent of tax-evaded-incomes are strongly associated or not and b)to estimate the size of the tax-evaded-incomes in India. The first hypothesis, which is fundamental to the Monetarist approach to measure tax evasion, also formed the basis for withdrawal of high denomination currency notes in India.

Empirical analysis reveals that there is no statistically significant association between currency holding as a proportion of nominal GDP and tax - GDP ratio. But, there is a statistically significant association at 1 percent level between currency holding to nominal GDP ratio and total as well as revenue spending of centre and the States. This finding goes against the basic tenet of Monetarist approach that cash holding to nominal GDP is a very good proxy for extent of tax-evaded-incomes.

Monetary route to contain economic slowdown is by quantitative easing. It is often called 'Helicopter Money", by which liberalising money supply by the Central Bank can help to tide over economic recession. Stiglitz (2016) has criticised the effectiveness of this argument. Likewise, to cleanse the economy of tax-evaded-incomes[22], a "monetary vacuum cleaning", has been resorted to by withdrawing 86 percent of the cash holding. Given the past trends in cash holding and the statistically insignificant relationship between cash holding and tax -GDP ratio, it is clear that something much more in streamlining the administrative and statutory machineries are required for tackling the high level of tax-evaded-incomes in the economy, rather than attempting to a sudden truncation of cash in circulation.

What could be the probable attempts in this direction? The very existence of such a large extent of tax-evaded-incomes, even allowing sensitivity analysis variation of the estimate, calls for serious thinking, as technology based tools have entered direct tax administration in a big way[23] and legal provisions being brought in to disincentives cash transactions.

The Income Tax Act, 1961, has several anti- evasion provisions. These include sections which stipulate disallowance of expenditure incurred, if the mode of payment is by cash in excess of Rs 20000/- (reduced to Rs10000/- in Finance Act, 2017) per day per person (section 40A(3)). The Income Tax Act, 1961, also provides for penalty, which is equivalent to the sum borrowed or repaid in cash and for transactions above Rs 2 lakh (in Finance Act, 2017). How effective these provisions have been, needs to be analysed, especially when there is admission by policy makers at the highest level that there is lot of undisclosed money hoarded and circulated in cash,

despite such provisions to discourage cash transactions already existing in the Income Tax Act, 1961. Besides, unaccounted money in assets and foreign bank accounts are difficult to trace. The extra payments in real estate deals are another example. Section 50C of the Income Tax Act, 1961, treats the stamp duty value as deemed sale consideration while computing capital gains from sale of immovable properties. But scientific and timely revision of stamp duty values needs to be the basis, if this provision is to be effective.

Statutorily, there are provisions for scrutiny of selected returns, powers of discovery and inspection as is available to a civil court, power to conduct survey in business premises and to conduct searches in business and residential premises to unearth undisclosed income and bring it to tax, under the Income Tax Act, 1961. Tax audits or scrutiny of assessments have not proved to be an effective deterrent as there is a substantial amount of tax arrears (around Rs 6 lakh crore) which has been raised in these assessments and remaining unpaid.

Effectiveness to prevent tax evasion is based on; a) higher probability of detection of evasion and b) levy of penalty as a consequence to detection. Allingham and Sandmo (1972) have discussed the theoretical model based on the above and got ambiguous results. This was due to the assumption that at a higher income, a risk-averse individual would tend to evade less if on detection a higher tax would have to be paid. At the same time, if penalty on evaded income is fixed and marginal tax rate goes up, the gap between penalty rate which is levied on evaded income, if detected, narrows down creating incentive to evade. The former is negative income effect and the latter is positive substitution effect. The results become ambiguous as it is difficult to predict, which one outweighs the other. Yitzhaki (1974) further elaborated and stated that if penalty is based on tax rate, instead of on incomes, at higher rates of taxes, there will be less evasion, if there is a high probability of detection. This is counter intuitive, as it is hypothesised that there is more incentive to evade taxes at higher marginal rates of taxation. Sandmo (2004) discusses the limitations of the earlier model and analyses the societal behavioural norms influencing decisions of individuals to evade taxes. Rao and Tandon (2016) have discussed the intention to evade by pointing to certain thresholds of income in the Indian context. Presently, the marginal rates of taxation have substantially come down in India and penalty is linked to tax which is sought to be evaded, except in specific classes of cases. The higher evasion could be due to low probability of detection, which should increase as technological tools are used to a larger extent.

Kelkar Task Force on Direct Taxes (2003) has stated that though there are success stories which are put in the public domain through official channels and by informal channels by innovative journalists. But a lot needs to be done on the quality of additions made in the assessment orders, to check corruption at various levels, to stream line selection of cases and method of evidence gathering during searches and surveys. The Task force has questioned the efficiency of the most intrusive

tool of investigation, the search and seizure operations stating that overall contribution of searched cases to revenue is less than 1 percent.[24] The effectiveness of post-demonetisation scrutiny attempts like Operation Clean Money etc. can be evaluated only after the assessments get a concrete shape and appellate decisions come.

More than any of the above tools, there is need for real time information exchange between Union and the States and between countries. The complex procedures required for information exchange need to be simplified. Having a 360^0 profile of an assessee by all the tax departments is the best tool for checking tax evasion than any intrusive action.

It is correct that more transactions getting digitalised would help in tracking transactions as against cash transactions which have anonymity and difficult to trace. But movement towards digitalisation requires sustained efforts. If it is forced by actions like demonetisation, there can be shift backwards to cash transactions[25]. Riley and Kulathunga (2017) find that three South Asian countries, India, Bangladesh and Pakistan account for 30 percent of the World's financially excluded population. According to the study, in 2014, only 0.5 percent of population paid utility bills through mobile phones. The percentage of population receiving prices for agricultural products and wages were 84.5 and 86,2 respectively. This indicates that Universal Financial Access is an aim which is a long way off and conscious steps rather than sudden actions are required for this.

Separate and disjointed by actions by different agencies with long gaps of time in sharing information is a major cause for tax leakage. The information network for Goods and Services Tax and sharing of the same by the direct tax authorities would substantially strengthen the information base. Timely information is not only an actionable tool but also a very effective deterrent. But there is also undisclosed money generated through systemic channels require a much larger remedy than through tax reforms per se, although importance of tax administrative reforms can never be understated.

What emerges clear is that the size of tax-evaded-incomes in India in the recent period is very substantial. By different methods of estimation, its size is between 21-28 percent of the officially estimated output. This has remained at this level in the estimates of NIPFP (1985), Scnider et al (2010) and in this study. Based on this, we can take a median figure of 25 lakh crore as the approximate absolute figure. The maximum expectation of detection of tax evaded and other illegal money as a consequence of withdrawal of high denomination currency notes from circulation was Rs 3 lakh crore. Even if this is achieved, it would take out of the system only 12 percent of the tax-evaded-incomes, perceived to be in held as cash.

In our view, though less cash economy leaves more trails of transactions in the economy, the problem of tax-evaded-incomes need to be addressed by

administrative, governance and enforcement strategies in a holistic manner and any one in isolation would not be enough.

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NOTES

1 The declaration scheme launched during the mid 1970s, the Bearer Bonds Scheme 1981, the Voluntary Disclosure of Income Scheme (VDIS), 1997, Declaration of Income from Foreign Sources (2014), Income Disclosure Scheme (IDS), 2016 and Pradhan Mantri Garib Kalyan Yojana (PMGKY), 2017.

2 See Pyle (1989) for a discussion on assumptions in estimating Tax Evaded Incomes due to data gaps.

3 Since the estimation is based on data from National Accounts Statistics, it is the

total of Corporation and Personal Income Tax together and no bifurcation of estimation between the two is attempted in this paper.

4 Post- Demonetisation, this ratio declined to 10.93 percent as on March 31, 2017 and later picked up to 12.91 percent in July, 2017.

5 Examples are bank deposits with cheque facility, credit and debit cards and internet banking

6 See also Kohli and Ramakumar (2016) for a discussion on cash holdings and black money with international comparisons.

7 The predecessor programmes like Integrated Rural Development Programme (IRDP), Indira Awaas Yojana, Jawahar Rozgar Yojana, Pradhan Mantri Swarna Jayanthi Swarozgari Yojana were a few of the many which were implemented since the 1980s. With all the corruption and leakages, the implementation of these programmes did in all probability put more cash in the hands of various segments of the population.

8 It is to be taken note of that the explanatory power of both the models are not very high as is evidenced by low R^2.

9 According to Kohli and Ramakumar (2016) "To begin with, there is no clear relationship between the currency-to-GDP ratio and what we call as the "shadow economy," which is a more appropriate concept to use than informal economy. India had a currency-to-GDP ratio of 12.5% in 2015 (Rogoff 2016). The size of India's shadow economy—using one definition—is estimated at about 21%of its GDP (Schneider et al 2010). Let us take three countries where the currency-to-GDP ratio was either higher or comparable to India's: Japan at 18.6%, Hong Kong at 14.7% and Switzerland at 11.1%. The size of the shadow economy relative to GDP in 2012 was only 8.8% in Japan, 15% in Hong Kong and 7.6% in Switzerland (Schneider et al 2010; Schneider 2011). Now, let us take five countries that had lower currency-to-GDP ratios than India in 2015: South Africa and Brazil at 3.4%, Chile at 3.6%, Indonesia at 4.1% and Mexico at 5.7%. All these countries had a large-sized shadow economy relative to GDP in the second half of the 2000s: 26.8% in South Africa, 38.5% in Brazil, 18.5% in Chile, 19.1% in Indonesia and 28.5% in Mexico."

10 It needs to be tested whether, which decile of the population holds more cash in India, and see whether when cash is demonetised, whether it affects, the tax evading section of the rich or the poorer classes, whose income is below the taxable limit. This is, however, beyond the scope of this study.

11 The Economic Survey (Vol I 2016-17) has stated that the time taken for return of high denomination notes as soiled ones from the time of issue is at a slower rate than other denominations and this could be an indication of hoarding and therefore undisclosed incomes being generated. This proposition, however, ignores

the difference in quality of printing of different denominations of notes. The emphasis on rising proportion of high denomination currency in overall currency holding without taking into consideration inflationary trends eroding the purchasing power of the erstwhile higher denominations also leads to not very valid conclusions.

12 For a detailed discussion of the earlier studies and Ranganekar's and Chopra's estimates which differed from Wanchoo Committee's recommendations, see White Paper On Black Money, Published by Government of India (2012)

13 In this study, the size of the Shadow Economy is estimated using Multiple Indicators Multiple Causes (MIMIC) Model. Certain explanatory and indicator variables are used to estimate the size of the Shadow Economy, which is directly unobservable. This is a widely used method in psychometry. Its use to measure Shadow Economy has been criticised by Breusch (2005)

14 For summary of various studies on estimation of 'black money' in Indian economy, see Walia & Walia (2017)

15 This has been stated by the Government of India in the Indian Parliament.

16 Gross Value Added (GVA) at basic prices is the present equivalent of erstwhile Gross Domestic Product (GDP) at factor cost.

17 The National Commission for Enterprises in the Unorganised Sector (NCEUS) has estimated that the share of unorganised sector in GVA has fallen from 55.42 percent in 1999-2000 to 49.94 percent in 2004-05. It is assumed at 45 percent in 2011-12.

18 Intuitively, the portion should be higher as wages represented by CE is much lower in unorganised sector than in organised sector. For want of reliable information, we are not adopting a higher share of OS in unorganised sector.

19 IN AIITS, Assessment Year is mentioned. Income of one financial year is disclosed in the return of income filed during the next year, which is called Assessment Year. For Financial Year 2011-12, the Assessment Year is 2012-13.

20 In this study, we estimate the extent of Tax Evaded Economy by using data of direct taxes. Evasion of direct taxes will also result in evasion of indirect taxes of the Centre and the States. The direct taxes are evaded by under reporting sales, over reporting expenditure and not disclosing income altogether. The same will be the basis for evasion of indirect taxes also.

21 Our estimate based on adjustments in Factor Income Shares from National Accounts Statistics and adding share of Factor Incomes from unreported portion of GVA, is not wide off from the estimate of Schneider (2010), (using the econometric methodology of Multiple Indicators and Multiple Causes (MIMIC), in which size of shadow economy in India is estimated at 23 percent. NIPFP

(1985) using sector wise assumptions had estimated the size of black economy in India at 21 percent of Gross Domestic Product.

22 Though this stated as the main objective, other goals like neutralising the impact of Fake Indian Currency Note (FICN) and digitalisation of the economy have also been stated.

23 Another suggested by some experts as a solution to the existence of tax evaded income in the economy, is abolition of income tax and imposition of transaction tax. But, all developed countries have got a system of direct taxes along with indirect tax on consumption. Recently, the issue of exacerbating wealth inequality, at the global level has come to be highlighted (Piketty (2013) and Atkinson (2015)) and it would be difficult for India to move totally away from progressive direct taxes to a retrogressive flat rate transaction tax, as it increasingly gets into the group of developed countries.

24 Paragraph 2.9 of Kelkar Task Force on Direct Taxes State that "Income tax department, in public perception, is identified with 'raids'. That is its identity. That is its most visible enforcement activity. Raid is conducted with the help and in the presence of police force. The search and seizure activity is immediately reported in the press, highlighting "big names" and big amounts of undisclosed income. It also provides publicity to the concerned officer. The objective of the search is to ascertain facts and collect evidence of concealed income and to give a message that tax evasion will not go undetected or unpunished. But, in the course of the search as they are conducted, the main objective of the search team is to obtain a declaration of undisclosed income from the person searched. It confirms success of the raid.

Further investigations are slowed down or abandoned. Often such declarations are obtained under pressure. They are retracted in subsequent proceedings. After the raid, the officers of the investigation in charge of the raid, call to their office the persons searched to understand from them the seized accounts and documents. They record further statements. Mostly, the objective of this exercise is to obtain declaration of undisclosed income. The officer, in charge of the raid, prepares a report on seized material in about 60 days, giving their own appraisal of the search and seizure, without any accountability for what he says or omits to say in the report. This report is the basis for assessment in the searched case. The assessing officer does not independently investigate the case. He neither has time nor inclination for doing so. The assessment is one sided, high pitched, completed in a hurry when it is getting barred by limitation, ignoring the contentions of the assessee. About half the arrears are accounted for by Search & Seizure assessments. When the case goes through first and second appeal, the additions are knocked off. In a search case there is no "real" investigation. As a result, the assessment does not stand the test of judicial scrutiny in appeals. There is nominal revenue gain from the searched case.

Overall, the contribution of searched cases to total revenue collection is less than 1% "

25 The slowdown in digitalisation trends is visible as stated in the Economic Survey, Volume II.

ISSN: 2349-9915

Development Review

A PEER REVIEWED BI-ANNUAL JOURNAL OF THE
DEPARTMENT OF ECONOMICS, UNIVERSITY OF CALICUT