International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume:04, Issue:02 "February 2019"

DIVERSITY AND EARNING DISSATISFACTION AMONG THE ELDERLY WORKFORCE IN INDIA

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ABSTRACT

The present study attempts to analyse the implication of workforce participation of the elderly population in India. The research is necessary due to increasing financial vulnerability of the aged people in India, as a result of ruptured traditional family support system and depleting social securities. Late-life workforce participation is often prescribed a possible solution for old age financial crisis; however, the pattern of the involvement of the aged is less reviewed in the literature. Therefore, the present study, using Nationally representative data for the period 2011-12, examines the pattern of economic activities, adopted by elderly individuals, and their income satisfaction from the job. Findings suggest that elderly, belong to lower social status, impecunious households, and small size households have higher tendencies to participate in casual wage employment. On the contrary, socioeconomically well-off elderly engage are more engaged in self- employment activities. The study also finds that income dissatisfaction is significantly associated with the geographical location, social position, household size, financial conditions of the household, sex, education, age-group, and marital status of the individuals. The findings drag attention towards policies for empowering the older adults in the labour market, especially, who participate with limited capabilities and social opportunities.

Keywords: Income dissatisfaction; workforce participation; elderly; India.

1. INTRODUCTION

In the past few decades, a radical reduction of mortality has dramatically increased the longevity of human, by prolonging the span of adulthood. Additional years in the late life surges the proportion of elders (60 years and older people) within the society, and consecutively, increases the financial burden on the shrinking working age population of the economy. Projection suggests that the developing world, especially, Asian population giants, will experience two-third of the total old people of the planet by 2051 (Rajan, Mishra, & Sarma, 1999), and India will be the most abundant resident of elderly, constituting 317

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million, population by 2051 (UN, 2017).

The huge increment of the elderly population, shortly in India, needs a well- structured safety net. In developed countries, old age support is usually provided by the government (Boskin, 1977), while, on the contrary, elderly care is preponderantly a family obligation in India (Croll, 2006; Medora, 2007). However, young migration has ruptured the traditional intergenerational families in recent years (Cohen, 1992), and almost abolished the traditional old-age support system (Pal & Palacios, 2011). Family support is inevitably crucial for elderly in India, mainly because of two reasons: Firstly, insufficient old age savings – this situation arises because earning capacity of working age, in most of the cases, is not sufficient enough to generate adequate savings for old age (Bhattacharya, 2005); and secondly, inadequate old-age social security from both government (Narayana, 2011), as well as, informal sector employer (Unni & Raveendran, 2007; Naik, 2009). Considering the above-mentioned financial constraints, workforce participation is often viewed as a solution to the old-age economic crisis.

Earlier literature, if not descriptive, have mainly examined the constituents of the economic participation decision of the seniors (Dhar, 2015; Reddy, 2016) and often have heterogeneity within the grey workers. Workforce participation characteristics should be understood in-depth because, it has a close connection with the earning possibility and hence, the income security – the primary reason for economic participation during old age. Few studies (Tamvada, 2010; Alam & Mitra, 2012; Singh & Das, 2015), although, have taken a closer snapshot of labour market diversification among elderly, but do not pay attention to the underlying employment structure and its connection with economic security. In-depth analysis of heterogeneity among the senior workers is critical because, it helps to identify the possibly vulnerable groups, who participate in poorly promising economic activities that might deteriorate their financial conditions instead of improving it. Therefore, the study attempts to stress on the subsequent questions:

- what is the participation pattern of the elderly workforce?
- how diversified is the labour force in the socioeconomic spectrum?
- how economic participation affects the earning?

2. BACKGROUND

2.1 Reasons behind heterogeneity in labour force participation

Theories argue heterogeneous labour force is the outcome of the countervailing paradigms of motivations – voluntary and distress-driven participation. The primary one is solely

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choice-based, and individuals participate only if a job is optimally rewarding, according to the expectation of the individual. On the opposite hand, distress-driven participation is forceful, where participants jostle, even for receiving a little return to manage his/her survival – here, the satisfaction of the expected earning is questionable because the participant is more inclined to adopt any available work that supports the minimum requirement.

2.2 Labourforce participation pattern in India

Workforce participation pattern, due to motivational divergence, might have a clearer understanding, through the lens of participants' characteristics. Economic participation for old, belong to the relatively higher socioeconomic position, is optional and characterised by non-economic reasons (Haider & Loughran, 2001), like financial independence (Vodopivec & Arunatilake, 2011), satisfaction (Chang & Yen, 2011) etc. So, the privileged old folks have greater inclination to adopt economically profitable job choices, for example, operating as a leader or regular salaried employee. However, a significant share of the old workforce in India belongs to the poor economic background (Balhotra & Umana-Aponte, 2010; Reddy, 2016), lower social caste (Singh & Das, 2012), and poorly educated groups (Selvaraj, Karan & Madheswaran, 2011; Alam & Mitra, 2012). Such poor endowments, among the seniors, may prohibit job alternatives, and accelerates the possibility of participation in vulnerable economic activities, or continue as unemployed (Irving et al., 2005). These elders are compelled to contend with young participants for low-competent, labour-intensive jobs, and often receive lower wage rate than the young peers (Ghosh, Goldar, & Mitra, 2010), mainly due to the social stereotype of "negative image" elderly (Asharaf, 2005). Selvaraj and his colleagues (2011) have found that significant share of the old workforce is self-employed, probably because discriminatory treatment in wage-employment force the deprived elders to choose self- employment that may not be rewarding enough but more appealing thanks to entry-level flexibility.

Above discussion indicates that the Indian job market for senior age-group is proscribed notably for the socially disadvantaged people, who participate in the economy with restricted endowments and severe financial crisis. Socioeconomic positions, individual qualities, and available market opportunities decide how the economic activity is selected. Higher position in social hierarchy offers greater profitable economic activity.

Although in lack of old age benefits, economic participation is commonly prescribed as a solution for adulthood financial crisis, it might not be the same, if economic opportunities in the labour market are not age-friendly. Therefore, rather than considering the entire old

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workforce as a single cluster, understanding of inherent diversity is critically necessary, particularly to spot the vulnerable segments that adopt poorly rewarding economic activities in the late life.

3. METHODS

3.1 Data sources

The study uses the latest quinquennial cross-sectional surveys of 68th rounds of Employment and Unemployment Surveys of the National Sample Survey (NSS) of Government of India. NSS data is used, mainly, for two reasons: firstly, it collects nationally representative data set at unit-level instead of the aggregate level; and secondly, it provides information on economic activity status, along with the details of demographic and socioeconomic correlates. Initially, 456,999 individuals were surveyed from 101,724 households, and the study has extracted the information on 495016 individuals, who age 60 years or more.

3.2 Variable descriptions

Heterogeneity in the labour force is measured by the employment status of an individual, for the survey year. The information was recorded for two reference periods:

(i) most of the time during last 365 days (termed as Usual Principal Activity); and (ii) relatively shorter period than the earlier one but should not be less than thirty days (termed as Usual Subsidiary Activity). The study has combined the information on the above activities and constructed a new variable Economic Activity Status (EAS). Using existing definition (see, Bhalla, 2009), the study first identifies organized sector workers, and then define five categories of unorganized sector from the remaining elderly workforce: Self- employed (own account and family unpaid workers); employers (who hire workers but less than ten); wage-regular (who earn regular salary but receive no social benefits); and casual-private (who work as casual wage earners outside the public sector); and casual- public (who work as casual wage earners in public sector). Furthermore, an additional category, 'non-working' is added to represent the population to include the elderly people who do not participate in the workforce during old age. It is to be noted that the study has ignored unemployed elderly (who sought for employment), mainly because, it has a tiny share (0.9 %) of the total workforce and limits the study from doing any meaningful analysis. Unemployment is "less likely" phenomenon during old age (Gasparini et al. 2010), probably because, comparatively deprived individuals cannot afford to wait period to get a suitable job, while, on the other hand, for privileged elderly, economic participation is optional. Moreover, elderly

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individuals are more prone to depart labour force due to job insecurity (Vodopivec & Arunatilake, 2011).

To study the distribution of heterogeneity within elderly labour force across the socioeconomic positions, certain indicators are adopted. The indicator variables can be broadly classified into spatial, household, and individual characteristics. Spatial indicators are geographical region (North, North-east, East, South, Central, and West), and sector (rural/urban). Household characteristic includes socio-religious identity (Upper-Caste Hindu-H-UC; Schedule-Caste Hindu-H-SC; Schedule Tribe Hindu- H-ST; Other Backward Classes Hindu-H-OBC; Muslims; and Others), household size, and quantiles of Monthly Per Capita Consumption Expenditure (MPCE). The individual characteristics involve gender (male/female), marital status (It is used as a dichotomous variable of current marital status (= 1 if currently married; and 0 if never married/divorced/widow/widower)), general education (Not literate, Below primary (has no formal education/ below 5 years); Primary (completed 5 years); Middle (completed more than 5 but less than 10 years); Secondary (completed 10 years); Higher secondary & above (completed more than 10 years)), and age group (Young-old (between 60 and 70 years); Middle-old (between 70 and 80 years); Old-old (more than 80 years).

3.3 Analytical strategies

Initially, descriptive statistics are computed to measure the labour market heterogeneity among the elders. However, the descriptive analysis does not estimate how a social component influence the selection of economic activities when other variables are controlled. So, we moved to econometric analysis. The dependent variable, EAS, is unordered categorical. Following McFadden (1973) and Cameroon & Trivedi (2005), we have adopted Multinomial Logit (MNL), because our explanatory variables are alternative invariant and categories of the dependent variable are distinct and independent. Finally, possible factors for 'earning dissatisfaction' (=1 if dissatisfied with earning, related to the corresponding economic activity; and =0 otherwise) are determined by using separate logistic regression models, for each category of EAS. Finally, Population Attributable Risk (PAR) is calculated for the EAS categories using the 'regpar' command in STATA (see, Newson, 2015).

4. FINDINGS

Descriptive statistics (Table 1) shows that ageing workforce is quite heterogeneous. According to the values of dissimilarity indices, ageing workforce is widely dispersed across geographical regions, sectors, socio-religious identities, expenditure groups, gender,

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age- groups, and marital status. The percentages of workforce participation is always (except, SEFLY) greater in the southern states than any other regions. Organised sector is dominated by the urban area, H-UC, very rich, young- old, and male-elderly. On the contrary, casual wage-employment revolves around the rural sector, backward social classes (like OBC), and illiterate elderly.

Table 1: Percentages of elderly in different economic activities

Correlates	Outside	ORG	SELFLY	EMPL	REG	CASPUB	CASPRI
Geographical region							
South	26.56	30.12	20.33	53.90	44.22	50.57	42.65
North	16.43	15.76	18.25	9.61	12.81	14.34	9.19
Central	15.53	14.12	21.10	12.95	12.81	6.42	13.82
East	17.07	12.71	15.83	10.58	10.80	6.42	16.59
North-East	9.45	12.71	12.62	1.39	2.76	18.49	4.63
West	14.97	14.59	11.87	11.56	16.58	3.77	13.11
Dissimilarity Index	0.10	0.14	0.10	0.37	0.28	0.36	0.26
Sector							
Rural	55.60	43.95	76.83	75.95	23.68	94.61	75.20
Urban	44.40	56.05	23.17	24.05	76.32	5.39	24.80
Dissimilarity Index	0.06	0.06	0.27	0.26	0.26	0.45	0.25
Socio-religious identity							
H-UC	30.21	30.72	24.89	33.51	25.60	8.75	8.87
SC	4.12	2.69	5.47	2.03	3.83	10.10	8.61
ST	12.04	10.54	11.11	4.73	10.77	17.85	25.56
OBC	31.12	26.01	35.15	30.41	35.17	41.75	39.11
Muslim	12.40	10.31	11.57	12.16	13.88	5.72	10.19
Others	10.11	19.73	11.80	17.16	10.77	15.82	7.66

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Dissimilarity Index	0.28	0.27	0.27	0.31	0.27	0.26	0.31
Household members							
Size (mean)	5.39	4.65	5.55	4.73	4.16	4.49	4.21
Dissimilarity Index[a]	0.20	0.23	0.21	0.24	0.24	0.22	0.23
Expenditure groups							
Poorest	16.65	10.76	16.48	2.30	16.75	20.54	24.08
Poor	17.76	15.02	18.38	5.27	18.90	19.87	24.92
Middle	18.38	15.25	20.41	10.27	24.88	20.88	22.08
Rich	20.62	21.08	20.81	20.54	17.94	23.91	17.93
Correlates	Outside	ORG	SELFLY	EMPL	REG	CASPUB	CASPRI
Very rich	26.59	37.89	23.92	61.62	21.53	14.81	10.99
Dissimilarity Index	0.07	0.19	0.05	0.42	0.06	0.05	0.11
Sex							
Male	35.45	80.94	75.70	89.05	73.92	31.65	72.14
Female	64.55	19.06	24.30	10.95	26.08	68.35	27.86
Dissimilarity Index	0.15	0.31	0.26	0.39	0.24	0.18	0.22
Levels of general education							
Illiterate	59.31	34.09	47.41	22.68	34.63	72.20	67.87
Below primary	11.52	10.06	14.57	14.40	14.47	13.56	13.47
Primary	9.45	13.96	12.78	17.72	17.57	10.51	8.95
Middle	7.80	15.91	11.34	18.87	16.02	2.03	6.79
Secondary	8.40	13.96	10.08	21.36	14.73	1.69	2.31
Higher secondary & above	3.52	12.01	3.81	4.97	2.58	0.00	0.61
Dissimilarity Index	0.43	0.17	0.31	0.14	0.19	0.56	0.51

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Age group							
Young old	57.47	86.10	79.95	67.57	88.28	85.86	87.50
Middle-elderly	30.33	12.56	17.69	27.30	11.24	13.13	11.55
Old-elderly	12.20	1.35	2.36	5.14	0.48	1.01	0.94
Dissimilarity Index	0.24	0.53	0.47	0.34	0.55	0.53	0.54
Marital status							
With spouse	45.08	17.04	18.27	15.95	26.32	40.07	25.22
Without spouse	54.92	82.96	81.73	84.05	73.68	59.93	74.78
Dissimilarity Index	0.05	0.33	0.32	0.34	0.24	0.10	0.25

Notes: Dissimilarity Index (DI) for categorical variables is calculated using (1 / 2) SUM | p - 1/S |. Here, S stands for number of categories of a variable and p implies the proportion (see, cox, 2016). In case of [a], DI is computed for continuous variable using the formula i.e. (1 / 2) SUM | p - 1 / n |, where, n is the number of values of the variable (see, Cox, 1999). However, in both the cases, greater the value of DI, larger is the heterogeneity among the individuals.

Value of Wald $\chi 2$ (in Table 2) suggests that the socioeconomic and spatial indicators, together, explain significant variation of ageing workforce. No significant regional difference is observed in the organised sector, except for east. For unorganised sector, elderly participation is significantly higher in the southern region, almost for all types of employment, except SELFLY, which is more likely to be practised by the elderly in the north, central, and the north-eastern states. Rural people have a significantly higher likelihood of participation in all kinds of unorganised economic activities, except regular- salaried employment. Elderly, belong to H-UC has considerably higher tendency to be employer during old age than other socially backward classes like H-SC, H-ST, and H- OBC. Backward social classes, including Muslims, however, have a higher likelihood of participation in casual wage employment. The economic condition of the household has a positive association with EMPL, but is negatively related with CASPRI. In all economic activities, married and male-elderly have greater inclination to participate than their spouseless and female counterparts. It is observed that higher educated older adults have a significantly greater likelihood to work in the organized sector, whereas, in contradiction, participation in casual wage employment is less viewed among higher educated elderly. The likelihood of participation in declines significantly for all economic activities in the advanced phases of old age.

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Table 2: Regression results for multinomial logit

Indicators	ORG		SELFLY		EMPL		REG		CASPUB		CASPRI	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Geographical region (Ref: South)												
North	0.07	0.19	0.45[a]	0.05	-1.46[a]	0.16	-0.44[b]	0.18	-0.54[a]	0.22	-0.69[a]	0.08
Central	-0.09	0.21	0.44[a]	0.05	-0.26	0.14	-0.50[a]	0.18	-1.89[a]	0.26	-0.92[a]	0.07
East	-0.61[a]	0.22	0.01	0.05	-0.82[a]	0.15	-0.99[a]	0.19	-1.86[a]	0.25	-0.83[a]	0.07
North-East	-0.16	0.20	0.36[a]	0.06	-2.63[a]	0.35	-1.69[a]	0.33	-0.32	0.21	-1.40[a]	0.11
West	-0.18	0.20	0.02	0.05	-0.81[a]	0.14	-0.33 [b]	0.16	-1.91[a]	0.33	-0.34[a]	0.08
Sector (Ref: Rural)	0.07	0.13	-1.00[a]	0.03	-1.27[a]	0.11	1.23 [a]	0.14	-2.49[a]	0.27	-0.82[a]	0.06
Socio-religion group (Ref: H-UC)												
SC	0.27	0.34	0.11	0.07	-0.83[b]	0.39	0.42	0.31	1.07[a]	0.30	1.04[a]	0.12
ST	0.37	0.21	-0.17[a]	0.05	-0.82[a]	0.21	-0.07	0.21	0.77[a]	0.26	1.19[a]	0.09
OBC	-0.03	0.18	0.14[a]	0.04	-0.31[a]	0.11	0.00	0.15	0.71[a]	0.22	0.77[a]	0.08
Muslim	0.05	0.22	-0.13[a]	0.05	-0.16	0.15	-0.03	0.19	-0.12	0.33	0.46[a]	0.10
Others	0.80[a]	0.19	0.15[a]	0.05	0.40[a]	0.14	0.38	0.20	0.98[a]	0.27	0.92[a]	0.11
Household size	-0.13[a]	0.03	-0.03[a]	0.01	-0.01	0.02	-0.2[a]	0.03	-0.15[a]	0.03	-0.24[a]	0.01
Expenditure groups (Ref: Poorest)												
Poor	0.10	0.20	0.03	0.05	0.79[a]	0.32	-0.11	0.18	-0.37	0.20	-0.15[b]	0.07
Middle	-0.34	0.23	0.10[b]	0.05	1.36[a]	0.30	0.04	0.17	-0.51[a]	0.20	-0.28[a]	0.07
Rich	-0.31	0.23	-0.04	0.05	1.84[a]	0.29	-0.57[a]	0.20	-0.51[a]	0.19	-0.65[a]	0.08
Very rich	-0.34	0.24	-0.08	0.05	2.47[a]	0.28	-0.70[a]	0.20	-1.23[a]	0.23	-1.29[a]	0.09
Sex (Ref: Male)	-1.88[a]	0.15	-1.90[a]	0.03	-2.75[a]	0.13	-1.9[a]	0.12	-0.48[a]	0.14	-2.21[a]	0.05
Levels of general education (Ref: Middle)												
Illiterate	-0.56[a]	0.21	-0.06	0.05	-0.64[a]	0.15	-0.32	0.17	1.45[a]	0.46	0.71[a]	0.09
Below primary	-0.57[b]	0.24	0.06	0.06	-0.27	0.16	-0.11	0.20	1.52[a]	0.48	0.33[a]	0.11
Primary	-0.20	0.22	0.04	0.06	0.00	0.15	0.15	0.18	1.46[a]	0.49	0.16	0.11
Secondary	-0.46[b]	0.23	-0.34[a]	0.06	-0.24	0.14	-0.44[b]	0.20	0.15	0.64	-1.22[a]	0.16
Higher secondary & above	0.20	0.23	-0.63[a]	0.08	-0.93[a]	0.22	-1.37[a]	0.35	-12.98[a]	0.46	-1.86[a]	0.29

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Age group (Ref: Young old)												
Middle-elderly	-1.19[a]	0.17	-1.07	0.04	-0.61[a]	0.10	-1.62[a]	0.17	-1.32[a]	0.18	-1.75[a]	0.07
Old-elderly	-2.27[a]	0.42	-2.22	0.07	-1.29[a]	0.19	-3.69[a]	0.72	-2.96[a]	0.58	-3.39[a]	0.21
Marital status (Ref: Without spouse)	0.31[b]	0.14	0.58[a]	0.03	0.31[a]	0.11	0.06	0.12	0.30[b]	0.14	0.35[a]	0.06
Constant	-2.13[a]	0.38	0.40[a]	0.09	-2.76[a]	0.35	-1.55[a]	0.33	-3.28[a]	0.57	0.45[a]	0.15
Indicators	**ORG**		**SELFLY**		**EMPL**		**REG**		**CASPUB**		**CASPRI**	
	β	**S.E.**	**β**	**S.E.**	**β**	**S.E.**	**β**	**S.E.**	**β**	**S.E.**	**β**	**S.E.**
Observations	35,830											
Wald χ^2	41953.98[a]											
Pseudo R^2	0.21											

Notes: 'a' and 'b' stand for 1% and 5% level of significance, respectively. Reference categories for the categorical variables are given in the parentheses. S.E. stands for robust standard error.

Results of predictive margins (in Figure 1) suggest that SELFLY is most common across all socioeconomic status, probably because, wage-based labour market is very restricted for the mature workers. It can be observed that SELFLY employment is more confined to the north-eastern states, rural-sectors, socially backward classes, middle-income households, male-elderly, young-old age group, and currently married elderly. However, self/family employment follows a declining trend if individuals completed, at least, middle-level education, whereas, chances of work in the organized sector increases for the elderly with the highest level of education.

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Figure 1: Predictive margins of workforce participation among elderly

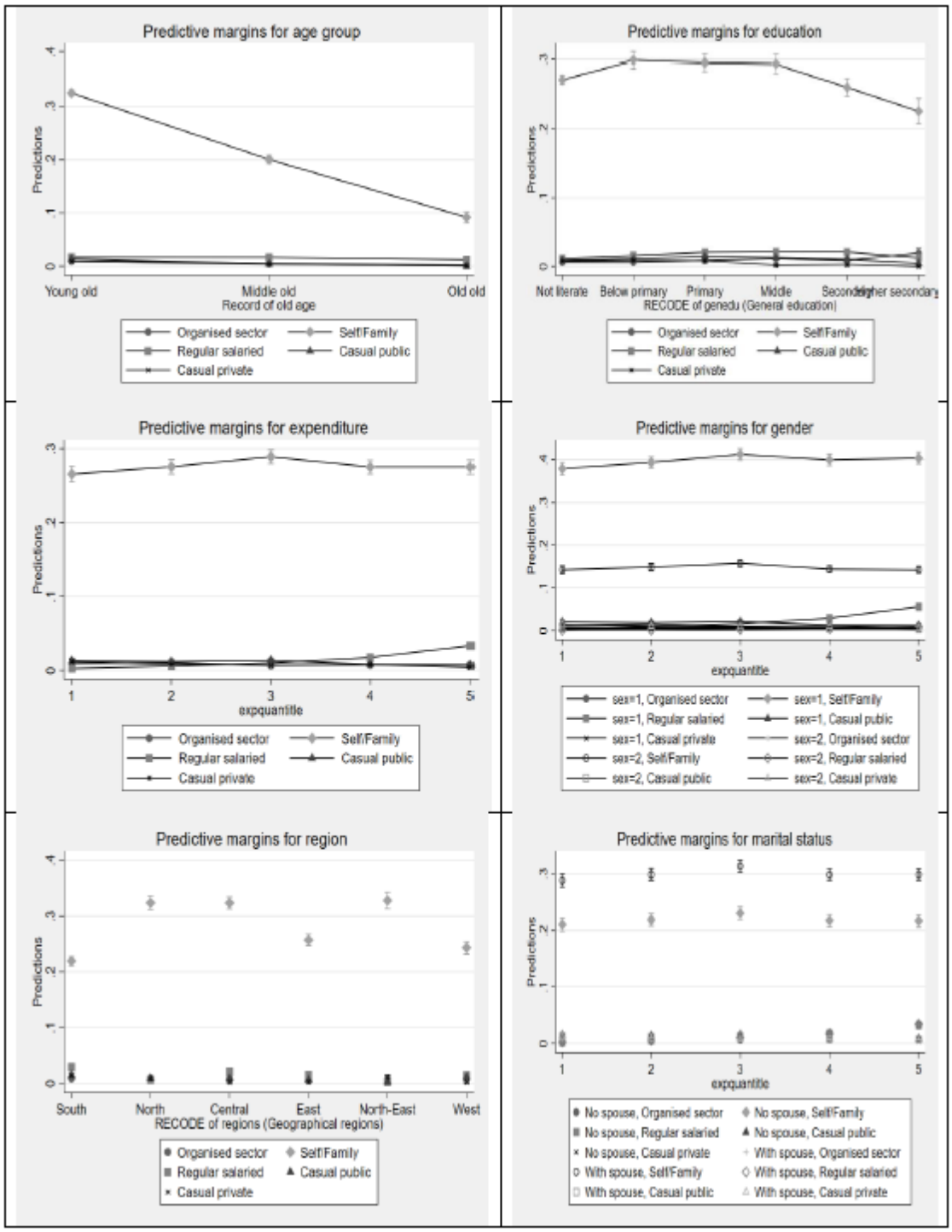

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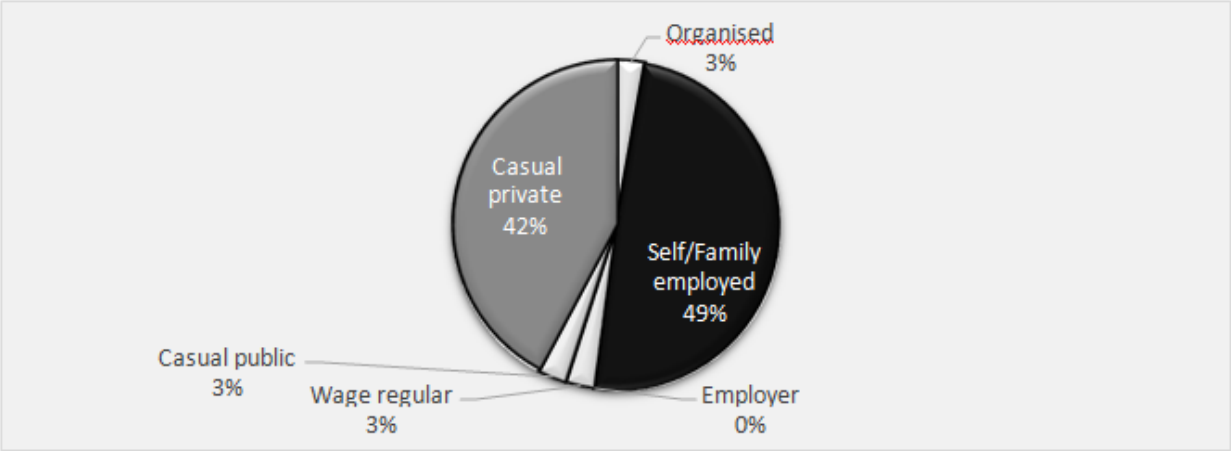
Figure 2, demonstrates that income dissatisfaction is the highest among the self- employed elderly, followed by casual wage-earners in the private sectors. However, elderly employers have not expressed any dissatisfactions related to their income earnings. Taking controls for the spatial, household and individual characteristics, the study has computed risk ratios (reported in Table 3), to estimate the possibility of being dissatisfied with a particular economic activity, along with computation of statistical significance. The significant negative risk ratios suggest that chances of earning dissatisfaction is higher among the casual wage earners. The risk of income dissatisfaction reduces significantly if elderly individuals get engaged in the organised or, work as employer and regular salaried employee. However, the risk of income dissatisfaction can be avoided only marginally, if the elderly individuals are engaged in self-employment.

Figure 2: Percentages of dissatisfied elderly about their income earning by EAS



Source: Author's calculation from NSS data.

Table 3: Risk of dissatisfaction

Economic activity status	β	S.E.
ORG	1.94[a]	0.01
SELFLY	0.80[a]	0.00
EMPL	2.71[a]	0.00
REG	1.64[a]	0.01
CASPUB	-1.87[a]	0.01
CASPRI	-3.16[a]	0.00

Notes: 'a' and 'b' stand for 1% and 5% level of significance, respectively.

The multinomial logit results, although, indicates the economic participation pattern of the elderly individuals across the spatial, household, and individual spectrum, it remains silent

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about whether the earning from such participation is satisfactory, at least, in terms of income. Logistic regression results (in Table 4) suggest that earning dissatisfaction significantly varies due to the sector, socio-religious identities, economic condition of the household, age, education levels, and existence of the spouse. Likelihood of income dissatisfaction is significantly higher in the eastern and western geographical regions, rural sectors; and among the backward social classes, economically weaker household members, young-old elderly, males, and married individuals.

Table 4: Logistic regression result of earning dissatisfaction

Correlates	β	S.E.
Geographical region (Ref: South)		
North	0.05	0.21
Central	-0.16	0.18
East	0.71[a]	0.16
North-East	-0.08	0.21
West	0.94[a]	0.17
Sector (Ref: Rural)	-0.56[a]	0.13
Socio-religion group (Ref: H-UC)		
H-SC	0.86[a]	0.22
H-ST	1.02[a]	0.18
H-OBS	0.47[a]	0.17
Muslims	0.82[a]	0.19
Others	0.99[a]	0.21
Household size	-0.13[a]	0.02
Expenditure groups (Ref: Poorest)		
Poor	-0.67[a]	0.15
Middle	-0.41[a]	0.14
Rich	-0.93[a]	0.16
Very rich	-1.78[a]	0.23
Sex (Ref: Male)	-0.91[a]	0.12
Levels of general education (Ref: Middle)		
Illiterate	-0.38[a]	0.17
Below primary	-0.03[b]	0.17
Primary	0.10	0.17
Secondary	-0.43	0.23
Higher secondary & above	-0.83	0.43
Age group (Ref: Young-old)		
Middle-old	-0.83[a]	0.15
Old-old	-2.47[a]	0.58
Marital status (Ref: Without spouse)	0.54[a]	0.13
Constant	-3.59[a]	0.27
Observations	9649.00	

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Wald $\chi^2(24)$	161.11[a]
Pseudo R^2	0.08

Notes: 'a' and 'b' stand for 1% and 5% level of significance, respectively. Reference categories for the categorical variables are given in the parentheses. S.E. stands for robust standard error.

5. DISCUSSION

Economic participation is often viewed as a solution for old-age poverty in India. Although there are multiple reasons of economic participation in late life, like financial independence (Vodopivec and Arunatilake, 2011), satisfaction (Chang and Yen 2011) etc. nearly 71% of aged people continue working due to poverty (Bhalotra and Umana- Aponte, 2010; Reddy, 2016). Indian Government has already recognised the need for financial security for the aged population and introduced few support schemes like National Old Age Pension Scheme and Indira Gandhi National Old Age Pension Scheme. However, the schemes are criticised for providing very negligible amount (Patnaik, 2012), that even, falls short to meet the basic consumption needs of the individuals (Kumar & Anand, 2006). Employment Report (GOI, 2010) has identified the problem of demographic transition but lacks suggestion to provide the solution for financial insecurity among the vulnerable section of the elderly, especially, the worst sufferers of inefficient old age support system (Dharmalingam, 1994). Therefore, the characteristics of the aging workforce are required to be critically reviewed in India.

The present study reviews the elderly workforce participation in India closely, with a particular focus on labour market heterogeneity and earning prosperity of the various economic activities, to identify the vulnerable elderly individuals, who need policy attention, at least to secure required earnings.

Based on 2004-05 NSS data, Alam & Mitra (2012) have found that elderly with at least middle level of education, have larger tendency to adopt self- employment than the illiterate; however, the present study confirms result even for the lower levels of education. Alam & Mitra (2012), suggest that currently married, male and comparatively younger elderly individuals have a higher likelihood of being self-employed, but the current study finds that it is right for wage- employment as well - might indicate that over- time the labour market opportunity have deteriorated in India, particularly for lower educated, female, and spouseless elderly.

It helps to evaluate the effectiveness of economic participation regarding alleviation of late-life economic scarcity (Barrientos, 2011), and this is vital because, little remuneration, along with the poor financial background, might impose greater economic burden during old-age (Benjamin, Brandt, & Fan, 2003).

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To measure the participation pattern, the study has adopted a computed variable (EAS) that elaborately explain the economic activities of the older workforce, as well as, have extended reference period (Dhar, 2015). Initially, the descriptive statistics suggest that elderly labour force participation is quite heterogeneous across the spatial, household, and individual characteristics. Therefore, the entire elderly workforce should not be taken as a uniform cluster. Main implications of the study are as follows. Firstly, regional difference, concerning elderly participation, is quite prominent, which seems, labour market opportunities, other than southern states, are still very restricted for the old workforce. Secondly, the sector plays an essential role in determining economic activity. It is observed that regular wage-employment is more common in the urban areas, whereas, rural residents mostly adopt low rewarding casual wage- earning or self/family employment and end-up with significant income dissatisfaction, probably because, job opportunities for elderly is limited in the urban sectors. Thirdly, social ladder proliferates heterogeneity among the old labour force, for example, traditionally privileged social class (like upper-caste Hindu) has a higher likelihood of self-employment (including working as an employer), while, on the other hand, individuals from lower social class mostly adopt casual wage employment. Earning dissatisfaction is also more familiar among the socially backward classes. It indicates that socially privileged individuals are equipped with better endowments, which in turn, posit them on advantageous positions, especially, if they continue economic participation during old age. Singh & Das (2015) have urged that deforestation increases the casual wage employment among STs, as most of the individuals were located in the forest areas. Fourthly, elderly females have significantly lower participation of in all economic activities; however, they have reported less about income dissatisfaction. It might imply that discriminatory labour market and limited endowments not only restrict females from participating in economic activities, it also curtails down their expectations about earning. Fifthly, similar to Singh & Das (2015), the study also finds that casual wage employment is more common among the comparatively poor and lower educated elderly individuals. These individuals most of the time remain unsatisfied with their income, might because, low level of endowment induces them to participate in low paid jobs. Sixthly, labour force participation as well as earning dissatisfaction decreases in the advanced age group. It might indicate that comparatively aged seniors, in general, withdraw their economic participation due to health problems, but if they continue, expect less remuneration from the economy. Finally, participation in casual-wage employment, whether public or private, has a greater risk of the possibility of earning dissatisfaction, might because rewards in such activities are quite low, and who participate the casual wage employment are mostly belong to poor socioeconomic backgrounds. Therefore, the casual wage earnings for such deprived people might be incompatible with their old age needs.

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The study, however, suffers from a handful of limitations, which if overcome, might suggest some future extensions of the existing work. Firstly, information on reasons for participation during old age or the contribution of the elderly individuals to household income is missing in the dataset. Secondly, the study could not focus on how diversely self-employment is remunerative due to lack of data. Thirdly, health status might be an important indicator of workforce participation, especially, during old age, is also excluded from the analysis owing to data constraint.

6. CONCLUSION

The study indicates limited opportunities for economic participation of the elderly population, particularly among the socially, economically and geographically disadvantaged individuals in India. It increases the challenges to society because the unprivileged people mainly participate in the labour market in the old age due to the precarious financial situation. The study also identifies that the unprivileged segment in the ageing workforce mostly adopts the economic activities that even cannot satisfy their income need – indeed, further put them in a greater vulnerable situation.

Based on the findings, the study provides three policy suggestions: Firstly, labour market opportunities should be created more in numbers for the elderly. Secondly, employment generating schemes should target the socially backward classes, who mostly engage in low-paid economic activities. Thirdly, incentives should be given to the female elderly to participate in the economy because they generally have a longer lifespan but lower access to financial resources. Fourthly, lifelong learning should be encouraged, so that poorly endowed elderly can participate in better-paid jobs instead of involving in individuals comprising employment conditions that further emanate their vulnerabilities.

Finally, social assistance should be provided to the eldest old group, who is unable to participate in the economic activity.

Acknowledgements: I am thankful to Indian Institute of Technology Kharagpur, India, for allowing me to access the STATA software in their lab to conduct my econometric analysis.

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Appendix 1: Multinomial logit model for selection of economic activity

MNL basically measures the probabilities (Páez, Scott, & Volz, 2008; Zeithammer & Lenk, 2009), that is, how explanatory variables affect the probability of choosing one alternative over the reference category. Considering organized sector[i] as the reference category in our analysis (and following Cameron & Trivedi, 2005; Wooldridge, 2010), the probability of i^{th} elderly of choosing j^{th} ($j, m \mathcal{E} J$) economic activity over m alternative can be written as:

$$Prob_{ij} = Prob\left(U_{ij} > U_{im}\right) \quad \forall\, j \neq m \text{ and } (j, m \in J) \ldots\ldots\ldots\ldots\ldots Eq.1$$

$$\text{Or, } Prob_{ij} = Prob(Y_i = j) = \frac{e^{B_i \Pi_i}}{\sum_{j=0}^{6} e^{B_i \Pi_i}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots Eq.2$$

Therefore, the probability of choosing organized sector is expressed as follows:

$$Prob(Y_i = 0) = \frac{1}{\sum_{j=0}^{6} e^{B_i \Pi_i}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots Eq.3$$

Applying Maximum Likelihood (ML) method, the regression coefficients of the determinants can be expressed by the following equation:

$$\frac{Prob(Y_i = j)}{Prob(Y_i = 0)} = e^{B_i \Pi_i} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots Eq.4$$

Here, the categories of economic activity are as follows: (i) organised; (ii) self/family employed; (iii) employer; (iv) wage-regular; (v) casual-private; (vi) casual-public; (vii) outside labourforce (reference category).

