

ON QUESTIONS OF FACTORS DETERMINING INFORMAL SECTOR EMPLOYMENT IN INDIAN STATES

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Abstract

Informal sector in India has been a source of converting explicit open unemployment to implicit underemployment by hiring workers in units that operate at the fringe. It acts a survival strategy for countries with high unemployment rates and inadequate social security benefits.

NSSO (National Sample Survey Organization) 66th (2009-10) and 68th (2011-12) rounds conducted in India to enumerate and look into the working conditions of informal sector workers indicate that there has been a steady increase in the number of labour employed in this sector for the period under consideration. Moreover the top five and the bottom 13 out of 28 Indian states have retained their ranks in the overall employment table. This paper finds out that the number of people in a particular state living below the poverty line and the state domestic product with a lag of a year have acted as the push and pull factors behind the trend in Indian informal employment.

Keywords: Informal sector, unemployment, poverty

Introduction

Keith Hart, a social anthropologist, introduced the term of informal sector while he was conducting a multi-disciplinary survey in Kenya in 1971. The study was part of an interdisciplinary pursuit conducted by the International Labour Organization (ILO) floated as a response to fact find the working conditions of people employed at the fringe. Informal sector was assumed to be a temporary phenomenon, a fall out from the rural-urban migration process and was expected to decline or disappear with sufficiently high rates of growth.

But the informal economy continued to expand unabated, particularly in countries undergoing economic transition - so much so that it came to be recognized as a feature of economic transition. The job creation rate happened to be much slower than the job seeker rate.

The Indian informal sector registered a steady growth during the 1984-85 --- 2011-12 period, both in terms of number of units and labour employed therein. The manufacturing part of the informal sector was employing about 92% of the total work force of 457 million (as of 2004-2005). A committee, popularly known as the Arjun Sengupta Committee was appointed by the then UPA government to look into the working conditions of the informal sector. The commission submitted its first report on 16th may 2006 and suggested national minimum social security for all unorganized worker in the country.

Literature Review

The informal sector increases the chances of employment, production and income generation in developing and less developed countries. This sector tends to absorb the growing labour force and is a survivor project where safety nets are unavailable.

The genesis of the informal sector can be rooted to the concept of rural-urban migration. When a rural migrant enters the urban labour force, he is technically ill-equipped to enter the formal job market. As has been stated in the Harris-Todaro Migration model, urbanization causes overcrowding and unemployment in cities as migration rates exceed urban job creation rates,

with a substantial part of the population ending up in unproductive or underproductive employment in the informal sector. The mode of production adopted in the sector, use of technological inputs, scale of operations in terms of employment and/or capital size, organizational structure position regarding state's regulatory, supportive and promotional mechanisms are low and marginal.

This sector either produces finished goods for direct consumption or strives indirectly as a subcontracting agent producing intermediate goods and services for its formal sector counterpart (Sethuraman 1981, Hugon 1991 and Kabra 1995). However, this formal-informal relationship is not a relationship between two equals. Sub-contracting is actually an agreement between a big formal sector firm and many smaller firms operating in the informal sector fringe, with the bigger unit having considerable control over the smaller firms through input and market linkages (Nagraj, 1984). The control is further exercised in sharing of risks, with the parent unit being able to transfer the entire risk to its informal sector counterpart in the form of delayed payment of bills, postponement of inspection of products and dumping in case of a change in requirement. On the other hand the informal sector firm has the advantage in its ability to supply the order just-in-time (JIT), in its flexibility in influencing the designs of specification and the use of labour intensive techniques. In many cases the demand for informal sector products is derived and depends on how the formal sector goods are selling. An upswing in the formal sector is often matched by an upswing in the informal sector output, though the degrees of the movement seldom match. The upswing is sharper for the formal sector, but the downswing is sharper for the informal sector often causing towards its wiping out.

As per NSS survey 1999-2000 about 370 million workers constituting 92% of the total workforce in our country were employed in the unorganized sector. The contribution of this sector to the total NDP at current prices has been over 60%.

Objective

A look into the disaggregated state-wise informal sector employment data (NSSO 66th and 68th rounds) revealed that Uttar Pradesh, Maharashtra, Andhra Pradesh, West Bengal, Tamil

Nadu remained the top five employers, the bottom thirteen: Jharkhand, Haryana, Manipur, Chattisgarh, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Tripura, Mizoram, Meghalaya, Nagaland, Sikkim and Goa maintained their respective positions in the state-wise employment table. The states in between the upper and lower boundaries changed position.

On the basis of this trend, we aimed to question and identify the factors determining the state-wise labour employed by the informal sector for the period under consideration.

A survey of the existing literature in this regard stated that informal sector is normally a fall out factor of poverty. As a poor person cannot afford to remain unemployed for long, he joins work anywhere he gets, irrespective of the kind of job contract handed over to him. Lack of any specific skill and education leads him to the sector that is small-scale, labour-intensive and provides easy access. Thus the informal sector serves as a cushion by converting explicit unemployment into implicit under-employment (Sethuraman,1991). As poor people in most developing countries has resorted to informal sector activities as an escape route, we expected that number of people living below the poverty line in each state to be one of the determining factors behind informal sector employment for any Indian state under consideration.

Most segments of the informal economy have direct production, trade or service links with the formal economy and is affected by the policies that govern it. We could take up the case of industrial outworkers who produce under subcontracts for formal firms, the street vendors who sell on commission for formal firms, the janitors who clean the offices under a subcontract (Nagraj, 1984). The demand for goods and services produced by this sector is derived from the demand of final goods and services produced by the formal sector. Thus the informal sector economy is expected to flourish with the pull from the formal sector and dwindle when the formal sector upgrades to a new technology and the informal sector fails to keep pace with it.

If poverty could be attributed to the push factor responsible for informal sector employment, we propose that the state domestic product could be treated as a dummy of the prosperity of the formal sector, to act as a pull factor to informal sector employment for any Indian state under consideration. As the informal sector employment would take some time to adjust to the derived demand factor of the formal state economy, we expected that labour employed in the informal

sector to respond to previous years' SDP (State Domestic Product). That is, we expected the labour in informal sector adjusted to the pull of formal sector with a lag of one year.

Data Source

The 66th (2009-10) and 68th (2011-12) Rounds of the National Sample Survey Reports were used to generate state wise labour employment in the informal sector. We looked for any hint that would allow us to convert the head-count labour data into man-days or man-hours for more meaningful data-base. But the search was fruitless. So head-count data was used for our purpose. The State Domestic Product data for all years that we used for our study was available at: <http://planningcommission.nic.in/data/datatable/0814>. We took help of the Reserve Bank of India website to report the number of persons (in lakh) living below the poverty line for our two rounds of data set under consideration. This data has also been compiled in http://en.wikipedia.org/wiki/Poverty_in_India.

The assorted data from three data source for 2008-09 and 2011-12 are enumerated in Tables I and 2.

Table 1: People employed in informal sector, number of people below poverty line (in lakh), domestic product for 2009-10, State Domestic Product 2008-09

States	Labour employed in informal sector (in '0)	People below poverty line (in lakh)	SDP for 2008-09	SDP for 2009-10
Andra Pradesh	26182	176.6	237,383	476,835
Arunachal Prdesh	7932	3.5	5,687	7,474
Assam	16221	116.4	81,074	95,975
Bihar	23489	543.5	142,279	162,923
Chattisgarh	10467	121.9	96,972	99,364
Goa	1907	1.3	25,414	29,126
Gujarat	16162	136.2	367,912	431,262

Haryana	13134	50	182,522	223,600
Himachal Prdsh	8802	6.4	41,483	48,189
J&K	14278	11.5	42,315	48,385
Jharkhand	13149	126.2	87,794	100,621
Karnataka	17674	142.3	310,312	337,559
Kerala	18061	39.6	202,783	231,999
Madhya Pradesh	23730	261.8	197,276	227,984
Maharashtra	35475	270.8	753,969	855,751
Manipur	12675	12.5	7,399	8,254
Meghalaya	6347	4.9	11,617	12,709
Mizoram	6876	2.3	4,577	5,260
Nagaland	5065	4.1	9,436	10,527
Orissa	17257	153.2	148,491	162,946
Punjab	14563	43.5	174,039	197,500
Rajasthan	21310	167	230,949	265,825
Sikkim	2964	0.8	3,229	6,133
Tamil Nadu	23973	121.8	401,336	479,733
Tripura	7508	6.3	13,573	15,403
Uttarakhand	8203	17.9	56,025	70,730
Uttar Pradesh	49524	737.9	444,685	523,394
West Bengal	25250	240.3	341,942	398,880

Source: 66th and 68th NSSO Rounds, Government of India. Planning Commission, GoI website, RBI website

Table 2: People employed in informal sector, number of people below poverty line (in lakh), domestic product for 2011-12, State Domestic Product 2010-11

States	Labour employed in informal sector (in '0)	People below poverty line (in lakh)	SDP for 2010-11	SDP for 2011-12
Andhra Pradesh	25658	78.78	319,864	662,592

Arunachal Prdsh	7600	4.91	9,013	10,619
Assam	15803	101.27	<u>112,688</u>	125,820
Bihar	23508	358.15	204,289	247,318
Chattisgarh	10075	104.11	119,420	132,872
Delhi	3981	16.96	252,753	296,957
Goa	1813	0.75	33,605	36,025
Gujarat	15710	102.23	521,519	594,563
Haryana	12623	28.83	<u>260,621</u>	301,959
Himachal Prdsh	8612	5.59	57,452	64,957
J&K	17691	13.27	58,073	65,759
Jharkhand	12992	124.33	<u>127,281</u>	143,891
Karnataka	18092	129.76	410703	458,894
Kerala	17957	23.95	263,773	307,906
Madhya Prdsh	21869	234.06	263,396	311,670
Maharashtra	35364	197.92	1,035,086	1,199,548
Manipur	12567	10.22	9,137	10,504
Meghalaya	6246	3.61	14,583	16,412
Mizoram	7002	2.27	6,388	7,198
Nagaland	4879	3.76	11,759	13,203
Orissa	17149	138.53	197,530	214,583
Punjab	14380	23.18	226,204	256,430
Rajasthan	20172	102.92	338,348	403,422
Sikkim	2967	0.51	7,412	8,616
Tamil Nadu	24281	82.63	584,896	665,312
Tripura	7197	5.24	<u>17,868</u>	20,982
Uttarakhand	7884	11.6	<u>83,969</u>	97,696
Uttar Pradesh	49513	598.19	600,164	679,007
West Bengal	25521	184.98	460,959	538,209

Source: 66th and 68th NSSO Rounds, Government of India., Planning Commission, Gol, RBI websites

Methodology

We proposed that informal sector should have a direct relationship with the number of people below the poverty line, as informal sector is more a survival strategy for the poor people than a profitable business initiative. We identified this as a push factor.

We also proposed that the previous year's GDP would also act as a pull factor towards informal sector employment for the particular state under consideration. A substantial part of informal

sector units act as a sub-contractor to formal sector units. A flourish or downturn in formal sector output has a direct transmission effect on the prospects of informal sector units.

In order to check our proposition we run two separate correlations for 2009-10. The correlations are carried out between (i) the state-wise informal labour employment and the number of people below the poverty line in same year (ii) the state wise informal labour employed with the state domestic product of the previous year. This exercise is repeated for 2011-12.

The Pearson's correlation coefficients are reported in the adjoining table. The degree of association between the two sets of variables for the two study periods under concern have been found to be positive and close to 1. The results are tested for significance. This result is reported in the following Table 3.

Table 3: Correlation coefficients between informal sector employment, number of people below poverty line, SDP for financial year prior to informal sector survey year

Year		Number of persons below poverty line (In lakh)	SDP for financial year prior to informal sector survey year
2009-2010	Labour employed in informal sector	0.857907	0.815471
2011-12	Labour employed in informal sector	0.838692	0.780832

Having established that the two sets of data for two NSS rounds are associated strongly, we proceed to find out whether the causal relationship exists as well. In order to find the casual relationship between independent and dependent variables, two multivariate regressions are run for two periods of study. SPSS 10 software has been used for this purpose.

Regression analysis is actually testing a causal relationship to adjudge how strongly the dependent variables affect the independent variable. The dependent variable in our case is the labour employed in informal sector whereas the independent variables are number of persons below the poverty line and the SDP for the previous year for which the regression is being run.

As a regression can be run meaningfully only for a large sample, we have treated data for an individual state as data for the i^{th} unit. This is a classical linear regression model that is linear in the parameter and linear in the explanatory variables.

Our model stands as follows: $Y_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + U_i$

Where Y_i is the dependent variable: Number of people employed in the informal sector (state-wise, each state data is treated as an unit level data), X_{2i} is the first independent variable: number of people below the poverty line, X_{3i} is the second independent variable: GDP for financial year prior to informal sector survey year and u_i is known as stochastic error. In a technical sense, u_i is known as the stochastic error or the stochastic disturbance term, that stands as the surrogate or proxy for all the omitted or neglected variables that may affect Y but that the model has not been able to incorporate.

The result arrived at is then tested for significance. The overall significance of the two variable regressions is checked by making the use of the F -test. The F value that adjudge the overall significance of the model shows that model is significant in its lowest level. The model assumes the null hypothesis to be $H_0: \beta_2 = \beta_3 = 0$ (all slope coefficients to be simultaneously zero) as against H_1 that assume that β_2, β_3 are not equal to zero. If the observed value of $F >$ than the critical value of F at α level of significance (Table 4), the null hypothesis is rejected. As the result indicates statistical significance of model at the lowest level of significance, we reject the null hypothesis. The D-statistics was reported to be 1.461 and 1.685, less than the rule of thumb value of “d” that is specified to be 2, indicating absence of serial correlation among independent variables.


Table 4: R, R² F values, Durbin Watson for the model

Descriptives of the model	2009-10	2011-12
R-value of the model	0.922	0.944
R-Square of the model	0.850	0.890
F-value of the model	73.748	101.394

Durbin-watson of the model	1.461	1.685
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The Student's t-tests for all independent variables with corresponding levels of significance are presented in Table-5. An α level of 0.01 was used for check the statistical significance of the coefficients. It has been found to statistically significant at the lowest confidence level (T statistic is statistically significant at 0.000 for number of number of people below poverty line and SDP for the year previous to the informal sector survey year) ($p < 0.00$). As the test statistic lies in the critical region, it is said to be statistically significant with 99% confidence ($p < 0.01$). In this case, the null hypothesis is rejected. This result helps us to reject the null hypothesis which states that all coefficients are simultaneously zero and that number of people below the poverty line and the SDP with a lag are determine the magnitude of informal sector employment.

Table 5: T values and p values for coefficients of the independent variables

	2009-2010	2011-2012
Dependent variable 	Labour employed in informal sector	
Independent variables 	T-values	
Number of persons below poverty line (In lakh)	6.459($p < 0.00$)	7.163($p < 0.00$)
SDP for financial year prior to informal sector survey year	5.046($p < 0.00$)	5.962($p < 0.00$)

Conclusion

The informal sector is an important part of the economy and certainly of the labour market in developing as well as developed nations. The magnitude of the problem has been so vast that an International Conference of Labour Statisticians assembled in Geneva in 1993 to discuss and formulate a definition of the informal sector and systemize its identification.

In our study we have proved the claims made in the literature that (i) informal sector employment is a direct fall out of the poverty of that region and (ii) strength of the linkage factor

between the formal and the informal sectors in the form of sub-contracting and “putting out” is another determinant for informal sector employment.

To round up our discussion we could say that any policy which would try to “formalize” the sector by collecting taxes or registering them forcefully would not be effective for the system as a whole. “Informalization” is an integral part of an economic process and thus will have to be regarded in its totality with the development procedure.

The basic structure of the economy is the “continuum” where there is a slow and gradual transition of the informal sector to the formal sector. As the USP of the informal sector lies in its labour-intensiveness, cheap production, quick adoption to new techniques and flexibility, steps to correct the distortions in access to markets and resources, most notably, factor and financial markets would be helpful towards betterment of working conditions of this sector.

Introduction of effective and sustainable Social Risk Management (SRM) strategies would enable the sector to realize its potential and adjudge the effectiveness of an individual situation in dealing with risk and converting it to an opportunity. Though policy makers have begun to realize the importance of such an approach, they would have to go a long way in terms of developing appropriate policy responses for the informal sector.

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