

Rural Construction Employment Boom during 2000–12

Evidence from NSSO Surveys

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Amid (near) jobless economic growth during 2000–12, construction employment boomed at over 9% annually. It was part of a 10 percentage point rise in fixed capital formation rate in 13 years, to 35% of gross domestic product. The boom was rural, growing 2.5 times (at over 12%) as fast as in urban areas (at a mere 5%). National Sample Survey Office primary data reveals that a rise in rural private residential construction is the principal factor explaining the boom. This suggests improvements in rural housing status: conversion of *kutch*a houses into *pucca* houses. Decline in price-to-income ratio—of cement to rural wages—expanded rural construction demand. The popular perception (or explanation) for the rural construction employment boom in terms of rural–urban migration—of short-term, circular or seasonal—does not hold water.

Between 1999–2000 and 2011–12 (2000–12, for short) employment in India's construction sector boomed at an annual compound growth rate of 9.3%, compared to a mere 1.5% for the aggregate economy. During these years, though annual domestic output growth rate accelerated to over 7.3%, its employment elasticity was a mere 0.2, as against 1.03 for construction sector (Misra and Suresh 2014).

Hence, the sector's share in total workforce—as measured by National Sample Survey Office (NSSO) usual plus subsidiary status (UPSS)—more than doubled: from 4.4% in 1999–2000, to 10.5% in 2011–12. The boom is part of a sharp rise in fixed capital formation rate by 10 percentage points of gross domestic product (GDP), from 25.5% in 1999–2000 to 35% in 2011–12.

Over a longer period, the construction boom is a stark contrast to manufacturing. In 1980–81, as per population census, manufacturing sector employed about 11% of the workforce, whereas construction was a mere 1.6%. Three decades on, the construction sector's share rose to 9.4% of workforce, while manufacturing sector's share stagnated. In fact, the rise in industrial employment share (that is, mining, manufacturing, electricity, gas and water, and construction) is almost entirely on account of construction.

What explains the boom, and what are its welfare implications? This paper offers an answer.

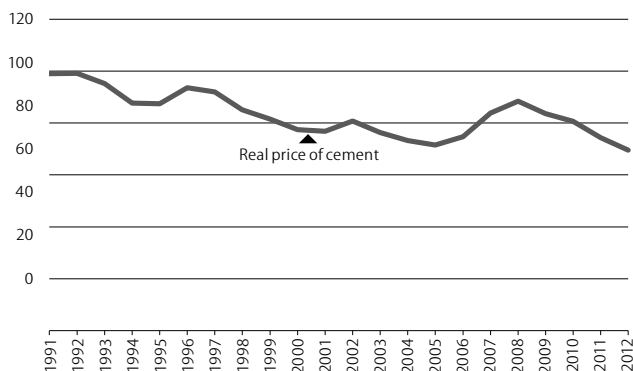
Understanding the Boom

Prima facie, the boom was initiated in 2000 by two major road construction (or redevelopment) programmes, namely (i) the Golden Quadrilateral programme connecting the metro cities, and (ii) the rural (all-weather) road connectivity programme to link villages with population over 500 people (Pradhan Mantri Gram Sadak Yojana or PMGSY). These public investment initiatives were meant to revive industrial growth that had decelerated for some years (Nagaraj 2013), which were continued after 2004, under Bharat Nirman.

In 2006, an ambitious rural employment guarantee scheme (National Rural Employment Guarantee Scheme, later "Mahatma Gandhi") was added to its title, and is known as MGNREGS) was initiated to boost public works (offering 100 days of guaranteed employment for rural labour). Information technology outsourcing and services sector boom also created a massive demand for high quality commercial real estate, met by private sector, mostly in and around the metropolitan cities. These

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Figure 1: Real Price of Cement (1991–2012)

Source: Whole price index, various issues; we have used averages for each financial year.

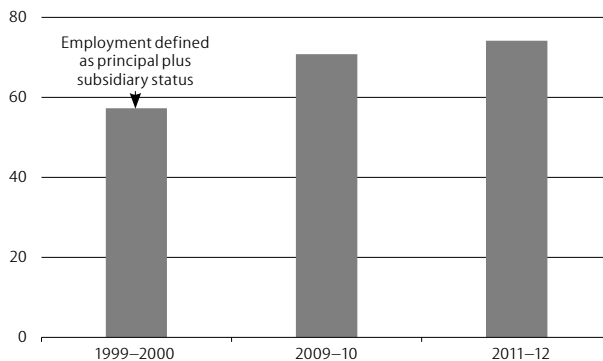
factors surely contributed to achieving unprecedented economic growth during the last decade.

Construction sector growth is associated with easing of supply constraints of the principal raw material, namely cement, which happened on account of decontrol on production, pricing and investment since 1981–82. Expectedly, output expansion with technical modernisation led to a fall in real (or relative) price of cement by 20 percentage points over three decades (Figure 1). Between 1999–2000 and 2011–12, cement output in India multiplied two and half times, from 100 million tonnes to nearly 250 million tonnes, to become the world's second largest cement producer after China (though a distant second). Construction activity as yet largely remains labour-intensive, despite visible signs of mechanisation at large construction sites.

Patterns in construction employment: Construction is principally a male occupation, as is manufacturing. An analysis of NSSO's published reports show the following: of the 51 million construction workers in 2011–12, only 11% are women, 7% children (aged 18 years or less); for 90% of the workers construction is the principal status, predominantly employed in the unorganised sector, with the remaining 10% as self-employed. The organised sector employs only 2.6% of workers (compared to 15% in manufacturing).

Contrary to popular perception, however, the construction boom is mainly rural. NSSO survey data show that rural construction employment has grown nearly 2.5 times (12% per year) as fast as in urban areas (5% per year) during 2000–12, raising the rural share from about 0.5 in 1999–2000 to three-fourths in 2011–12 (Figure 2).

Apparently, the rural employment boom is a puzzle: while construction activity seems mostly in urban areas, employment growth is mostly in rural areas. It may not be a puzzle though, if (as it is often believed) rural construction workers are mostly employed in urban construction sites.¹ But such an explanation could have many shortcomings. As noted above, a majority of the workers report construction as their principal status work in rural areas, so they are unlikely to be spending majority of their time in urban construction sites (in which case they would be counted as urban construction workers unless they are commuting from rural–urban areas on a regular basis).

Figure 2: Rural Share in Construction Employment (1999–2012)

Source: NSSO published reports: Report Nos 458, Vol 1, 537, and 554.

Contrary to popular belief and images, rural–urban migration, as per population census estimates, has remained modest: during 2001–11, urban population share rose just by 3 percentage points, from 28% to 31%, with rural–urban migration counting for just about 1 percentage point. Moreover within migration, those reported as working in the construction sector constitute a small fraction (Pradhan 2013; Chandrasekhar 2011).

As the census is claimed to capture only long-term (one year or more) migration, it is often contended that construction workers constitute short-term (circulatory, seasonal, or commuting) migrants who are enumerated as working in rural areas, but in fact work substantially in urban construction sites (Srivastava 2014): via the age-old labour contractor system.

Could the short-term rural–urban migration therefore explain the construction employment boom? Or, is it the case that the rural employment boom really represents rural construction growth?

Analysis of NSSO Primary Data

We analyse three Employment and Unemployment Schedules (EUS) of NSSO, namely 55th (1999–2000), 66th (2009–10) and 68th (2011–12).²

The data: NSSO records principal status and subsidiary status employment for each individual. Principal status employment rate in an industry is defined as the proportion of people working in principal status in industry “k” of the total principal status workers. For example, out of the total principal workers, the proportion of workers employed in the construction industry is defined as the proportion of the workforce in construction according to principal status. After the principal status is recorded, the economic activity on which a person spent 30 days or more during the reference period of 365 days preceding the date of survey is recorded as the subsidiary economic activity status of a person.³ In case of multiple subsidiary economic activities, the major activity and status based on the relatively longer time-spent criterion is considered. We define usual status employment rate as the proportion of people working in principal or subsidiary status in industry “k” of the total usual status workers.⁴ The proportion of workforce in the construction sector according to usual status refers to the total number of individuals who either work in construction as principal activity or subsidiary activity out of the total usual status workforce.

Individuals classified as working in a sector (apart from cultivators) in principal/subsidiary status are then asked about their location of work and other aspects like number of workers in the enterprise, contract type, mode of payment, etc, in each activity. The location of workplace can be broadly divided into three categories: in rural areas, in urban areas, and no fixed workplace. We make use of the questions pertaining to the location and the five-digit industry codes recorded for each activity in our analyses.

nssso records five-digit industry codes which allow us to distinguish between different types of construction work in 1999–2000 and 2009–10.⁵ It classifies the construction sector workers into those working in construction of residential buildings, construction of non-residential buildings (commercial buildings, mining, road, rail, ports, power plants, waterways, etc) or other works (building installations, including plumbing, electrical and masonry work). The last type of work cannot be classified into residential or non-residential type.

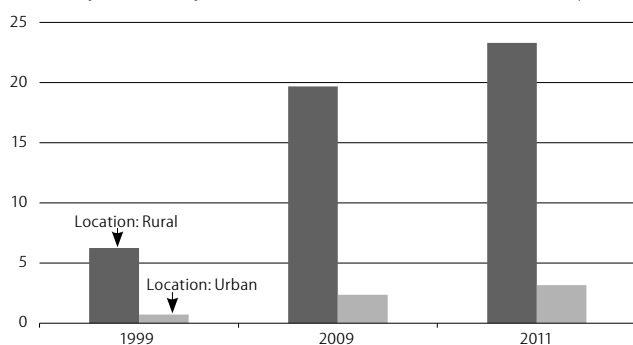
Changing nature of construction employment: There are two notable changes in construction sector employment during 2000–12. First is the rising share of subsidiary employment (22% in 1999–2000 to 41% in 2011–12), and second is the rising share of public works employment (6% in 1999–2000 to 34% in 2011–12), as a proportion of total workforce in construction sector using the usual status definition. These two discernible

Table 1: Proportion of Construction Employment in Principal Status by Public and Private Sectors, for All-India and Major States (%)

	1999–2000				2011–12			
	Private		Public		Private		Public	
	Principal	Subsidiary	Principal	Subsidiary	Principal	Subsidiary	Principal	Subsidiary
Andhra Pradesh	80	20	32	68	75	25	2	98
Assam	93	7	100	0	90	10	36	64
Bihar	74	26	64	36	83	17	69	31
Chhattisgarh	38	62	3	97	54	46	0	100
Gujarat	87	13	78	22	56	44	0	100
Haryana	92	8	–	–	97	3	59	41
Himachal Pradesh	86	14	81	19	90	10	18	82
Jammu and Kashmir	52	48	92	8	83	17	65	35
Jharkhand	74	26	13	87	82	18	53	47
Karnataka	76	24	51	49	78	22	4	96
Kerala	93	7	100	0	96	4	48	52
Madhya Pradesh	70	30	13	87	79	21	25	75
Maharashtra	74	26	57	43	74	26	26	74
Odisha	54	46	11	89	64	36	28	72
Punjab	97	3	–	–	95	5	21	79
Rajasthan	87	13	21	79	85	15	8	92
Tamil Nadu	87	13	42	58	81	19	12	88
Uttar Pradesh	80	20	29	71	83	17	30	70
Uttarakhand	75	25	9	91	80	20	17	83
West Bengal	80	20	4	96	65	35	11	89
All India	80	20	42	58	79	21	15	85

The figures refer to the proportion of workers, who are employed as principal status workers in the total workforce for a given sector, aged 15–60 years. For example, the All-India figure of 80% in 1999–2000 for the private sector shows that 80% of the workers in private sector in 1999–2000 were employed in construction as principal status workers. Source: NSSO, EUS (1999–2000 and 2011–12). Authors' own calculations.

Figure 3: Growth in Private Sector Construction Employment by Location (Rural Sector): All-India (millions)



The figures refer to the total number of principally employed workers in rural areas who report their location as rural or urban, aged 15–60.

Source: NSSO, EUS (1999–2000, 2009–10, and 2011–12). Authors' own calculations.

features must be understood in conjunction. The large contribution of subsidiary employment in rural construction and its further rise over time is due to expansion in public works employment in rural areas.

This can be largely attributed to the MGNREGS since 2006, and other government schemes like the PMGSY mentioned earlier. Among the principal status workers employed in construction sector, the proportion of those employed in public works has increased from 3% in 1999–2000 to 9% in 2011–12. On the other hand, for subsidiary status workers, the rise in public works employment has been from 14% to 67% over the same period.

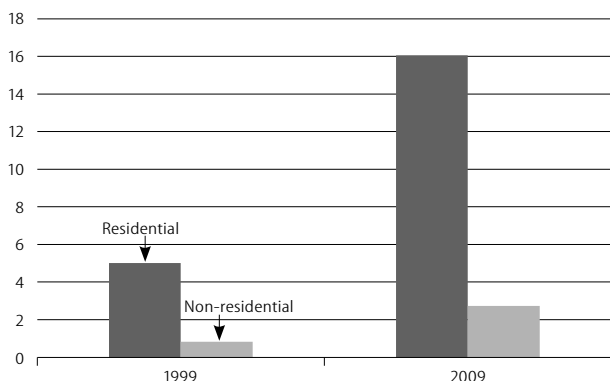
Table 1 shows the decomposition of construction sector employment by type of work (private or public) and further by the share of principal and subsidiary employment within each type. For all-India, share of subsidiary status employment in private sector is stable at 20% while in public sector it has increased from 58% to 85%. Excluding public works employment in construction sector, the contribution of subsidiary employment has been stable at around 17%. Thus, while public employment has gone up on account of MGNREGS and other public works programmes, it still forms a minority of workers, most of which is in subsidiary status.

To sieve the effect of increase in construction employment due to an increase in spending on the public works programmes, our further analysis includes only private sector construction employment. Further, principal status employment is considered within private sector since it forms the bulk of construction sector employment in private sector.⁶

Rural private construction employment: The analyses of nssso data show that rural construction workers mostly work in rural areas. Only a small fraction is employed in urban sites, hence short-term rural–urban migration is marginal. Conversely, most urban construction workers work in urban construction sites.

Figure 3 shows the total private sector construction workers by location in rural areas.⁷ In absolute terms, number of rural construction workers in rural location outnumbers those who report working in urban areas. The growth (compound annual growth rate or CAGR) of employment in rural construction workers who work in rural areas was 12% per

Figure 4: Growth in Rural Residential and Non-residential Construction Employment in Rural Location—All-India (millions)



The figures refer to the total number of principally employed construction workers in rural areas who report their location of work as rural, aged 15–60 years, in different types of employment (residential vs non-residential).

Source: NSSO, EUS (1999–2000 and 2009–10). Authors’ own calculations.

annum from 1999–2000 to 2011–12. This growth figure was the the same for rural construction workers who work in urban areas. Though, in terms of the absolute number of employment generated in the rural sector, job creation has been much larger in the rural locations (17 million) than in the urban locations (2.4 million).

The figures for the proportion of private construction workers who report working in rural areas are provided in Table 2. Over 80% (and a rising share) of rural construction workers are employed in rural areas. Statewise analysis also shows that a majority of the states have at least 75% of principally employed workers in private construction reporting their location of workplace in rural areas. Just about 10% of rural construction workers work in urban areas (Table 3). West Bengal is an exception, where there is a discernible increase in urban sector

Table 2: Percentage of Rural Private Construction Workers Who Are Employed in Rural Areas

	1999–2000	2009–10	2011–12
Andhra Pradesh	79 (4)	90 (3)	79 (6)
Assam	81 (5)	82 (4)	98 (1)
Bihar	55 (7)	86 (3)	87 (3)
Chhattisgarh	79 (14)	81 (13)	82 (8)
Gujarat	83 (7)	89 (4)	91 (3)
Haryana	82 (4)	66 (5)	79 (5)
Himachal Pradesh	78 (5)	85 (4)	98 (1)
Jammu and Kashmir	92 (2)	89 (2)	88 (3)
Jharkhand	82 (6)	63 (5)	86 (4)
Karnataka	91 (4)	88 (5)	87 (4)
Kerala	81 (3)	82 (3)	92 (2)
Madhya Pradesh	80 (7)	87 (4)	94 (2)
Maharashtra	81 (4)	84 (5)	83 (4)
Odisha	81 (6)	89 (3)	91 (2)
Punjab	81 (5)	69 (6)	78 (3)
Rajasthan	89 (3)	92 (2)	92 (3)
Tamil Nadu	81 (5)	89 (2)	84 (3)
Uttar Pradesh	79 (3)	84 (2)	82 (2)
Uttarakhand	85 (9)	99 (1)	95 (3)
West Bengal	85 (4)	73 (5)	74 (4)
All India	81 (1)	84 (1)	86 (1)

Standard errors in parenthesis. Employment rates have been calculated using principal status definition for workers aged 15–60 years.

Source: NSSO, EUS (1999–2000, 2009–10, 2011–12). Authors’ own calculations.

proportion along with a corresponding fall in proportion of private sector workers in the rural sector.

Dominance of residential construction: The next question that arises is the nature of work done by these workers working in rural areas. Do they work on residential construction, or other types of construction work? In terms of growth, both the residential and the non-residential employment have grown at an annual compound rate of 12% between 1999–2000 and 2009–10, thus maintaining their proportionate shares in employment over time (Figure 4). But again, the absolute number of employment generated has been much larger in residential construction (11 million) than in non-residential construction (1.9 million) for the private sector.

In terms of proportions, around 80% of total private sector construction workers in rural areas are engaged in residential construction, not in commercial sites (Table 4, p 58). This is true both in rural and urban areas of work location (all-India proportion for urban areas is also approximately 80%, state-wise table for urban location is omitted for brevity). Among the states, the exceptions are only Jammu and Kashmir and Odisha, which have shown a discernible fall in the share of residential construction employment in rural areas over time.

As a bulk of the boom in rural construction employment is in private residential construction, this shows up in a sharp rise in conversion of *kutch* houses into *pucca* houses (Table 5, p 58).⁸ Census data show that for all-India, share of pucca houses increased from 41% in 2001 to 51% in 2011. The highest rise of 19 percentage points in pucca houses is in Andhra Pradesh which is also reflected in a large increase in residential construction employment in the state (Table 4).

Table 3: Percentage of Rural Private Construction Workers Who Are Employed in Urban Areas

	1999–2000	2009–10	2011–12
Andhra Pradesh	11 (3)	7 (2)	18 (6)
Assam	1 (1)	3 (1)	1 (1)
Bihar	8 (3)	8 (2)	7 (2)
Chhattisgarh	13 (12)	18 (13)	17 (8)
Gujarat	10 (4)	9 (4)	6 (3)
Haryana	9 (3)	26 (4)	18 (5)
Himachal Pradesh	2 (1)	6 (2)	1 (1)
Jammu and Kashmir	2 (1)	6 (2)	10 (3)
Jharkhand	2 (2)	12 (3)	7 (2)
Karnataka	6 (3)	11 (5)	13 (4)
Kerala	7 (2)	14 (2)	7 (2)
Madhya Pradesh	16 (6)	12 (4)	6 (2)
Maharashtra	12 (4)	14 (5)	13 (3)
Odisha	14 (5)	5 (2)	3 (1)
Punjab	14 (5)	24 (5)	20 (3)
Rajasthan	9 (2)	8 (2)	8 (3)
Tamil Nadu	17 (4)	10 (2)	16 (3)
Uttar Pradesh	6 (2)	7 (2)	16 (2)
Uttarakhand	10 (6)	1 (1)	5 (3)
West Bengal	8 (3)	17 (4)	22 (4)
All India	10 (1)	10 (1)	12 (1)

Standard errors in parenthesis. Employment rates have been calculated using principal status definition for workers aged 15–60 years.

Source: NSSO, EUS (1999–2000, 2009–10, 2011–12). Authors’ own calculations.

Making sense of foregoing trends: If the foregoing reasoning is correct and evidence credible, then the argument that construction employment boom as mostly an urban phenomenon does not hold. In reality—invisible to urban eyes—the boom seems to consist of widespread minor (incremental) construction by farm households, such as converting mud walls to brick and cement walls, and thatched roofs replaced by concrete roofs, and cement lining of irrigation channels, etc. These minor investments by rural households are now possible with easing of supply constraints of cement and steel, with better market integration.

Rural demand for construction has increased with a fall in price-to-income ratio of construction. Real price of cement (as shown in Figure 1) has declined, especially in the last decade. Further, rural wages also saw a sustained increase in real terms perceptibly after 2005 (Figure 5), thus improving purchasing power of rural masses.

Summary and Conclusions

Construction sector employment, constituting 4.3% of total workforce in 1999–2000, grew annually at 9.3% for 12 years until 2011–12. With an employment elasticity of output of 1.03—as against 0.2 for the aggregate economy—construction is the sole bright spot for job creation when annual economic growth accelerated to over 7.3%. Evidently, the boom is part of a steep rise in fixed investment to GDP ratio, from 25.5% in 1999–2000 to over 35% in 2011–12. During the period, quantity of cement production grew annually at 7.4%, compared to manufacturing sector growth rate of 6%; and, cement output

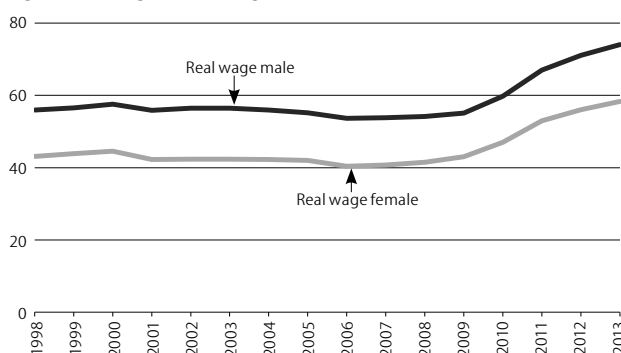
Table 4: Type of Employment of Rural Private Construction Workers Who Are Employed in Rural Areas

	1999–2000		2009–10	
	Residential	Non-residential	Residential	Non-residential
Andhra Pradesh	82 (5)	91 (2)	12 (4)	2 (1)
Assam	74 (8)	68 (10)	16 (6)	14 (4)
Bihar	85 (7)	83 (4)	6 (3)	16 (3)
Chhattisgarh	82 (11)	95 (3)	4 (5)	2 (2)
Gujarat	87 (7)	73 (10)	13 (7)	11 (5)
Haryana	97 (2)	92 (2)	2 (2)	5 (2)
Himachal Pradesh	63 (5)	71 (4)	35 (5)	27 (4)
Jammu and Kashmir	90 (4)	64 (9)	10 (4)	34 (9)
Jharkhand	83 (8)	78 (4)	16 (8)	21 (4)
Karnataka	76 (6)	87 (6)	19 (7)	6 (2)
Kerala	60 (3)	71 (3)	17 (3)	8 (2)
Madhya Pradesh	76 (8)	72 (9)	22 (8)	28 (9)
Maharashtra	67 (7)	77 (5)	22 (7)	17 (4)
Odisha	78 (8)	52 (5)	20 (8)	48 (5)
Punjab	83 (5)	91 (3)	10 (5)	4 (2)
Rajasthan	94 (2)	92 (2)	6 (2)	7 (2)
Tamil Nadu	79 (6)	79 (3)	11 (5)	12 (3)
Uttar Pradesh	85 (3)	90 (2)	12 (3)	8 (2)
Uttarakhand	.	73 (4)	.	24 (4)
West Bengal	69 (8)	75 (5)	16 (5)	19 (4)
All India	80 (1)	82 (1)	13 (1)	14 (1)

Employment proportions in different types of employment have been calculated using principal status definition for construction workers aged 15–60 years, who report working in rural areas in rural location. Uttaranchal (now a separate state, Uttarakhand) has missing information for 1999, due to a very small number of observations. Standard errors in parenthesis.

Source: NSSO, EUS (1999–2000, 2009–10). Authors’ own calculations.

Figure 5: Real Agriculture Wages, 1998–99 to 2013–14



Consumer price index for agricultural labour is used to deflate the wages. Source: Wage data from labour bureau (<http://www.indianstatistics.org/wrri.html>).

multiplied two and half times from 100 million tonnes to about 250 million. In popular perception, the employment boom in construction is an outcome of a massive infrastructure drive, topped up by an unprecedented services sector growth in big cities requiring high quality commercial real estate and high-end housing.

But, surprisingly, the employment boom is mostly rural, witnessing an annual 12% growth compared to a mere 5% in urban areas. This led to an increase in share of rural construction workers in total construction employment from over 50% in 1999–2000 to over 70% in 2011–12. So, the puzzle is this: while construction is supposedly taking place in urban (more so metropolitan) areas, employment growth is reported in rural areas.

The answer to the puzzle is presumed to lie in rural–urban migration, which is not captured by standard surveys. This

Table 5: Share of Pucca Houses as a Proportion of Total Census Houses Used for Residential and Other Uses in Rural Areas, 1991 to 2011 for All-India and Major States

State	% 1991	% 2001	% 2011	1991–2001	2001–2011
Andhra Pradesh	29	47	66	18	19
Gujarat	43	50	62	7	12
Haryana	41	58	71	18	13
Himachal Pradesh	49	62	75	13	13
Karnataka	30	43	55	13	13
Kerala	51	65	79	13	15
Maharashtra	35	40	53	5	13
Odisha	13	22	37	9	15
Punjab	72	83	86	12	2
Rajasthan	47	57	65	10	8
Tamil Nadu	34	47	60	13	13
West Bengal	16	25	36	9	11
Uttar Pradesh	32	48	61	16	13
Madhya Pradesh	21	27	30	6	3
Bihar	24	33	41	9	8
India	30	41	51	11	10

Figures in this table are calculated as a percentage of permanent houses as a proportion of total number of census houses used as residence and residence cum other use in rural areas. Data for Jharkhand, Chhattisgarh and Uttarakhand are clubbed with Bihar, Madhya Pradesh and Uttar Pradesh respectively.

Sources: (i) 2011- H-4 Table- Census houses used as residence and residence cum other use by predominant materials of roof and wall; (ii) 2001- H-4 Distribution of Census Houses Used as residence and residence cum other use by their type of structure* Note- In 2001, the numbers were aggregated across permanent and temporary houses and the definition of permanent and temporary houses in 2001 are similar to the pucca and kutcha houses in 1991 and 2011; (iii) 1991- H-2 Part-A Distribution of Census Houses by predominant material of roof, wall and floor of Census Houses- Urban and H-2 Part-B Distribution of Census Houses by predominant material of roof, wall and floor of Census Houses- Rural.

paper investigated this proposition, mainly using NSSO household survey data for 1999–2000, 2009–10 and 2011–12.

The main findings are the following:

For most workers, construction forms the principal employment status. It mostly consists of wage work for males. Employment trends based on UPSS or principal status, yield identical results. Majority of rural construction workers are employed in the private sector though the proportion is decreasing over time. Share of public employment, including MGNREGS, is increasing, but is mostly of subsidiary status. Inclusion of public sector employment has no effect on the main results.

A large proportion (80% approximately) of principal status workers in rural construction are employed in rural areas itself. Similarly, for most urban construction workers, their location of work is urban areas. In terms of number of jobs created in the private construction sector, the jobs within the rural location outnumber the jobs created in the urban location

for rural sector workers. Further, 80%–90% of rural construction workers employed in rural areas are engaged in residential construction.

In short, the employment boom consists of rural private residential construction. This seems to have resulted in a perceptible rise in the share of rural pucca housing and a corresponding decline in the share of kutcha housing during the period. The popular perception or explanation for the construction boom as short-term, circular or seasonal migration to urban construction sites does not find empirical support in the primary surveys.

The foregoing trends implies an expansion of rural demand for housing for two reasons: price-to-income ratio of construction has fallen with a decline in real price of cement (the principal raw material), and real rural wages have risen since the middle of the last decade. This suggests an improvement in rural welfare.

NOTES

- Mehrotra et al (2014) said, "Increase in employment in construction sector along with increased infrastructure investment gave a major boost to total employment attracting agricultural workers, contributing to a rise in rural wages. The biggest increase in non-agricultural employment has been in construction, both rural and urban, from a total of 17 million in 2000 to 50 million in 2011–12, with a doubling in total employment in a matter of seven years since 2004–05."
- We have skipped using 2004–05 EUS data due to unusual behaviour shown by employment variables in that round. See Ghosh (2013) for a critical analysis of the 2004–05 NSSO data. The total number of households surveyed in the 55th, the 66th and the 69th rounds are 1,20,578, 1,00,957 and 1,01,724, respectively.
- This definition was introduced from the 61st round onwards which corresponds to 2004–05 EUS, prior to that there was no lower limit on the number of days worked in the subsidiary activity.
- This definition differs from the industry level usual status employment definition used by NSSO which calculates usual status employment rate in industry "k" as the proportion of workers working in principal status in industry "k," and workers in subsidiary status in industry "k" whose principal status is not working, as a proportion of the total usual status workers.
- Here we do not use 2011–12 EUS because the five-digit industry classification was changed in this round. Classification of construction sector employment into residential and non-residential is not possible using the new classification. Therefore results are presented for 1999–2000 and 2009–10 EUS rounds.
- In the NSS data for 1999–2000, the question on location has a large proportion of missing values for the subsidiary status. The data constraint also compels us to look at the principal status employed workers in construction sector.
- Standard errors are provided in Table 2, Table 3 and Table 4 along with the proportions to allay any concern that sample size may not be large enough to draw suitable conclusions. All-India figures are reliable as the standard errors are very small. For state-level analyses, while the standard errors are larger, but still for most states are within the desirable limits so as not

to invalidate any of the conclusions.

- A house is classified as *kutcha* or *pucca* according to the material of wall and roof:
Kutcha house: Predominant material of wall of dwelling room can be made of grass/thatch/bamboo etc; plastic/polythene; mud/unburnt brick; wood; stone not packed with mortar and predominant material of roof of dwelling room can be made of grass/thatch/bamboo/wood/mud etc; plastic/polythene and hand-made tiles.
Pucca house: Predominant material of wall of dwelling room can be made of stone packed with mortar; G I/metal/asbestos sheets; burnt brick; concrete and predominant material of roof of dwelling room can be made of Machine made tile; burnt brick; stone; slate; G I/metal/asbestos sheets and concrete.

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