

RESEARCH REPORT

Investment and the employment content of Indian growth

Indian employment outcomes depend on sector composition, hours, and the transition from investment to operating services. Official labor and industrial records and an original decomposition clarify the difference between output growth, formalization, and additional employment.

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Investment can increase employment during construction, expand the capacity of an operating business, and change the amount of labor needed for each unit of output. Those effects occur through different industries and at different dates. An employment assessment of Indian growth should therefore connect investment to the production and workforce it supports, rather than apply a single jobs-per-rupee assumption to every project.

The distinction is especially important where agriculture, manufacturing, construction, and services employ different kinds and quantities of labor. Strong output growth in a relatively capital-intensive activity can make a large contribution to GDP while creating a modest number of direct positions. Expansion in an activity with many workers per unit of value added can produce more employment but smaller productivity gains. Neither outcome can be judged adequately without considering earnings, hours, the durability of work, and the alternatives available to workers.

This report examines specific Indian labor, industrial, and employment-policy records and develops an original sector calculation. It does not estimate a new employment elasticity for India or assign causal effects to the programs discussed. Its purpose is to explain which observations are needed to connect infrastructure, investment, and growth with productive employment and to establish the boundaries of claims based on the available data.

The evidence needs several statistical boundaries

The PLFS annual report for July 2023-June 2024 records agriculture as accounting for 46.1 percent of workers classified by usual status, against 11.4 percent in manufacturing. Those shares describe a dated distribution of workers, not the value-added shares of the two activities or the proportion of full-time hours they supply. They show why the location of output growth matters to the employment question. [MoSPI, PLFS 2023-24, broad-industry distribution.](#)

The Annual Survey of Industries provides a different view. Its August 27, 2025 release reports a 5.92 percent increase in total persons engaged for 2023-24 within the ASI coverage. It reports value-added growth of 11.89 percent at current prices. These figures cannot be divided mechanically to obtain an employment elasticity to real manufacturing growth: the price basis, employment concept, survey perimeter, and accounting period need to be preserved. [MoSPI, ASI results for 2023-24](#).

The statistical design is also changing. An official January 28, 2026 account explains that the PLFS redesign from January 2025 supports monthly national indicators and extends quarterly estimates to rural areas. Earlier quarterly results covered urban areas. An increase in the frequency and geographical coverage of a release does not create an automatically comparable historical series. The same account describes national-accounts and enterprise-survey changes, reinforcing the need to identify the statistical vintage used. [PIB, strengthening India's economic statistics](#).

Administrative employment policy has its own boundary. The July 1, 2025 Cabinet approval of the Employment Linked Incentive scheme links benefits to eligible EPFO-registered employment, including first-time employees and additional employment meeting conditions. It specifies an eligible job-creation period from August 2025 through July 2027. The approval and its targets are a policy design, not a record that all projected jobs were created. [Government of India, Employment Linked Incentive approval](#).

These sources are complementary. A household survey describes people and their work; a factory survey describes establishments and production; an administrative record describes a covered transaction or relationship. Their results should inform one another without being treated as independent additions to a national employment total. A person counted in one source may also appear in another, while workers outside the administrative system remain economically active.

What an employment measure counts

A worker, a job, a paid employee, a person engaged, and a full-time-equivalent position are different units. One person can hold more than one job. A self-employed person can work few or many hours. A family member can contribute to an enterprise without a separate wage. The economic consequences of moving from one arrangement to another can be substantial even when the number of employed persons does not change.

The ASI definitions illustrate the distinction. Total persons engaged include employees and specified working proprietors and family members, while the survey also distinguishes workers and other employees. Its reported production values are based on the establishment framework and associated accounting definitions. That makes the ASI valuable for studying registered industrial production, but it does not turn its total into a census of every Indian manufacturing worker. [MoSPI, ASI endnote, concepts and coverage](#).

Hours are essential to understanding the intensity of employment. An increase in headcount can coincide with fewer average hours, leaving total labor input little changed. A stable headcount can conceal more days worked or reduced seasonal underemployment. For households, more regular hours and earnings can improve security without changing their classification as employed. An assessment centered only on the number of workers can miss that improvement.

The reference period matters for the same reason. A measure of usual work over a longer period and a measure of activity during a recent week can respond differently to seasonal production, temporary unemployment, and short spells of work. They should not be spliced into one growth calculation merely because both are published as employment indicators. The intended question determines which concept is appropriate.

Employment quality adds a further dimension. Wages, self-employment income, social protection, regularity, safety, and prospects for advancement affect the value of an opportunity. A rise in the employment rate can reflect access to better work, a need to supplement inadequate household income, or a combination. Evidence on earnings and working arrangements is needed before interpreting all additional activity as an equal improvement in welfare.

A sector calculation with explicit assumptions

The following original example is a hypothetical four-sector economy. It is not calibrated to India. Initial real value added totals 100 units and employment totals 100 workers. Constant prices and a fixed production boundary make the output values additive. Productivity in this example is real value added per worker, not per hour. The sectors are named to make their economic differences visible, while their numbers are deliberately illustrative.

Hypothetical sector	Initial real value added	Initial workers	Output growth	Output-per-worker growth
Agriculture	30	50	2%	2%
Manufacturing	25	15	8%	5%
Construction	10	10	10%	2%
Services	35	25	8%	4%
Total	100	100	Calculated below	Calculated below

The contribution to aggregate real output growth is the initial output share multiplied by the sector growth rate. Agriculture contributes 0.60 percentage points, manufacturing 2.00, construction 1.00, and services 2.80. Total output rises by 6.40 percent to 106.40. These contributions follow the fixed-price assumptions of the example; they are not calculated by adding actual Indian chain-linked components.

For each sector, workers after growth equal initial workers multiplied by one plus output growth, divided by one plus output-per-worker growth. Agriculture therefore remains at 50 workers. Manufacturing rises to $15 \times 1.08 \div 1.05 = 15.42857$; construction to $10 \times 1.10 \div 1.02 = 10.78431$; and services to $25 \times 1.08 \div 1.04 = 25.96154$. Total employment becomes 102.17442, an increase of about 2.17 percent.

Hypothetical sector	Output increase	Worker increase	Contribution to total worker growth
Agriculture	0.60	0.00000	0.00000 percentage points
Manufacturing	2.00	0.42857	0.42857 percentage points
Construction	1.00	0.78431	0.78431 percentage points
Services	2.80	0.96154	0.96154 percentage points
Total	6.40	2.17442	2.17442 percentage points

Manufacturing and services have the same output growth rate but different employment changes because their initial employment and productivity paths differ. Construction creates more additional workers than manufacturing despite contributing less additional output. Agriculture's output rises without a headcount increase because productivity grows at the same rate. These are accounting consequences of the assumptions, not judgments about which sector policy should favor.

Aggregate output per worker rises by 1.064 divided by 1.0217442 minus one, or approximately 4.14 percent. It would be incorrect to obtain the exact result simply by subtracting employment growth from output growth; subtraction is an approximation. The calculation separates growth in the number of workers from growth in average output per worker and shows how different sector paths combine into the national outcome.

The sector calculation also holds classification fixed. If a manufacturer outsources a support function to a service provider, the recorded distribution of workers can change without a comparable change in the tasks performed. Interpreting a movement toward services therefore requires evidence on the activity and contractual arrangement, alongside sector labels. A productive transition involves changes in capabilities, earnings, or resource use; a statistical reassignment alone does not establish those changes.

Hours can change the interpretation again

Suppose average hours per worker fall by 1 percent across the hypothetical economy, with the output and employment results otherwise unchanged. Total hours rise by approximately 1.15 percent because $1.0217442 \times 0.99 = 1.0115268$. Output per hour then rises by about 5.19 percent, compared with the 4.14 percent rise in output per worker. Both measures are correct for their respective denominators.

A business expansion that spreads a given workload across more people can therefore appear different in worker and hourly measures. The additional positions may be valuable, particularly if they allow people previously unable to work full time to participate. They do not necessarily represent the same increase in labor input as an equal number of full-time jobs. Reporting hours avoids an artificial choice between recognizing employment opportunities and measuring production accurately.

Seasonality adds a related issue in agriculture and construction. A worker may remain classified in the same broad activity while obtaining more days of work during the year. Infrastructure can improve market access or reduce weather-related downtime and thereby increase effective working time. The resulting income gain can be economically important even if the broad employment share changes little. A structural assessment should therefore examine both movements between activities and changes inside them.

The hypothetical growth rates also should not be treated as fixed employment elasticities. A ratio calculated over one period can change with capacity utilization, technology, demand, and the stage of an investment cycle. During a recovery, output can rise using existing staff; during expansion beyond existing capacity, recruitment may become necessary. A single historical ratio does not establish how the next project will affect employment.

Infrastructure has construction and service effects

A road, port, power connection, or water system employs resources while being built. Once operating, it can reduce transport time, interruptions, or other production costs. The initial jobs and the later effects arise through different channels. A construction workforce should not be described as permanent operating employment, and the later economic effect should not be inferred solely from the number of workers used to build the asset.

An illustrative project employing 1,000 workers for two years generates 2,000 worker-years of direct construction work if each is employed throughout that period. If it later employs 80 people annually for twenty years, it generates 1,600 operating worker-years over that horizon. These totals describe labor used over time. They are not 3,600 simultaneous jobs, do not account for changes in hours, and do not estimate employment elsewhere supported by the asset.

The later effect depends on what constraint the infrastructure removes. A more reliable power supply can permit longer operating hours, reduce spoilage, or enable equipment that was previously impractical. A transport improvement can expand the market a firm can serve. Either can support additional employment, but firms may also use the improvement to produce the same output with fewer inputs. Demand and competitive responses determine how the released resources are used.

The timing and location of complements matter. A transport connection may deliver limited immediate benefit if land access, power, skills, or finance remain binding. A firm may postpone recruitment until several conditions are met. Conversely, a local supplier may expand before a large project opens because construction demand is already material. Following the sequence of constraints gives a more useful employment account than attributing every nearby job change to the largest announced investment.

For a public appraisal, the counterfactual should include the workers' alternative activities. Hiring a worker from another productive project differs from providing regular work to someone with substantial underemployment. The wage bill is a financial cost to the project and an income flow to workers; counting the whole bill again as an additional net economic benefit would double-count resources. The welfare assessment needs opportunity cost, distribution, and the services created.

Industrial expansion and connected services

Manufacturing activity supports logistics, maintenance, design, finance, distribution, and other services. Some are performed inside the factory and others purchased from separate firms. A change in outsourcing can move workers across industry classifications without changing the complete production process. Direct factory employment therefore provides an important but incomplete measure of industrial capability and its labor demand.

The distinction affects comparisons between capital-intensive and labor-intensive projects. A capital-intensive plant can have few direct operators while requiring substantial maintenance, engineering, and supplier activity. A labor-intensive assembly facility can employ many workers while purchasing much of its equipment and inputs abroad. Neither description establishes the domestic income or skill effect without tracing the associated production relationships.

Employment multipliers can help organize that tracing, but their assumptions should be explicit. An input-output model describes relationships in a particular benchmark period. It may assume fixed input proportions and sufficient capacity to meet additional demand. A new project can instead change suppliers, import content, technology, or prices. Applying an old multiplier to a large announced value can therefore produce a precise-looking job total without evidence that the required domestic supply response is feasible.

The meaning of a job total must also be specified. Gross jobs supported by expenditure differ from net jobs attributable to it after displacement. Direct, indirect, and induced effects can overlap if the model boundaries are inconsistent. A household's additional spending financed by wages may be a channel of demand, but it does not create resources independently of the financing and capacity constraints facing the wider economy.

An empirical industrial assessment should connect establishment employment with supplier entry, local purchasing, skills, and output. It should identify whether activity is new, transferred from another location, or reclassified. That evidence can support a stronger account of capability development without requiring every investment to maximize direct headcount. The relevant objective is productive and sustainable opportunity, not the largest unsupported employment claim.

Formalization and additional employment

The Employment Linked Incentive approval provides a concrete setting for the distinction between administrative entry and economic additionality. Its eligibility rules operate through specified formal employment relationships. A first registration can represent a person entering work, a person moving from uncovered work, or another change within the recorded system. Determining the scheme's economic effect requires more information than the gross number of eligible registrations.

The policy's retention conditions are relevant because a short registration and a sustained position have different meanings. They can also affect employer timing and reporting. An evaluation should distinguish the worker benefit, the employer incentive, the duration of the employment relationship, and subsequent earnings

or mobility. The July 2025 approval establishes the intended design; it does not supply those realized outcomes. [Government of India, ELI approval and sustained-employment conditions](#).

Additionality requires a counterfactual. Some hiring would have taken place without support; some may be accelerated; some may substitute for hiring at another firm or of another worker. Comparing recipients with all nonrecipients can be misleading because participating firms differ in growth prospects, size, and administrative capacity. A credible evaluation should address the selection and timing of participation rather than interpret every supported position as newly created by the program.

Formalization can still produce benefits where total employment is unchanged. Social protection, enforceable terms, regular payment, and access to training or finance can improve. Those benefits should be measured directly. Calling them employment creation can obscure a worthwhile result by assigning it to the wrong category. The reverse is also true: an increase in registrations does not by itself establish that the quality of the underlying work has improved.

For business planning, the incentive should enter the cost comparison with its eligibility, timing, duration, and administrative requirements. It should not replace the underlying assessment of demand and worker productivity. A position that is viable only during a temporary payment may not remain after support ends. A training or matching effect can persist, but its persistence needs evidence about skills and employment after the supported interval.

Workforce characteristics and the feasible response

A growing working-age population does not automatically provide every skill required by an expanding industry. Education, experience, location, language, and the capacity to learn on the job affect matching. A vacancy and an available worker can coexist when the necessary training or relocation is costly. Capital investment can increase the demand for particular skills while reducing the need for other tasks.

The relevant complement is often more specific than a national training target. A production line may need reliable maintenance technicians, supervisors, quality control, or logistics coordination. Increasing the number of general certificates may not resolve that bottleneck. Employers and training providers should connect course content with demonstrated tasks, evaluate retention and earnings, and distinguish a qualification from the ability to perform safely and consistently in an operating workplace.

Geographical access can limit labor supply even where suitable workers live nearby. Travel time, shift schedules, housing, safety, and care responsibilities affect whether a worker can take or retain a position. Infrastructure that improves those conditions can expand the feasible workforce without changing the technology inside the factory. Its effect should be examined through access, participation, and sustained employment rather than inferred from a road's physical length alone.

The same considerations matter to women and other groups facing constraints on paid work. Flexible hours or reliable transport can change the set of jobs they can accept. An evaluation should distinguish a preference from a constraint and examine the quality of the opportunity available. A higher participation figure without information on earnings and work arrangements is an incomplete account of the change.

A matched observation of output and labor

A useful empirical decomposition would match sector output and labor over the same reference period and industrial definitions. The PLFS July-June period and the ASI April-March accounting year are not identical. National-accounts series can have their own revisions and price bases. A comparison should either reconcile those differences or state the remaining mismatch, rather than calculate an exact national elasticity from convenient published totals.

It should then separate price changes from volume. The ASI release's current-price value added is an income and production value measure; it is not automatically real output growth. Deflating it requires a suitable price treatment and an understanding of output and input prices. A rise in nominal value added per person can reflect price or margin changes as well as more physical or quality-adjusted production.

Employment changes should likewise be decomposed into entry, exit, expansion, and contraction where evidence allows. Aggregate employment can grow even while some continuing establishments reduce staff. New businesses can provide an important route into work, while surviving firms can become more productive. The distribution matters to workers and regions and can affect the appropriate policy response even when the national total is unchanged.

Finally, the observation should identify the horizon. Construction jobs during an investment surge, recruitment after commissioning, and longer-term supplier development are different stages. A near-term labor-market release can inform the first stage while leaving the others unresolved. A credible account preserves those open questions and follows them with subsequent evidence rather than treating an announcement or one survey observation as a completed employment outcome.

Sensitivity to the investment path

The sector example can test a different manufacturing path without changing the other sectors. Keep manufacturing output growth at 8 percent but reduce its assumed output-per-worker growth from 5 to 3 percent. Manufacturing employment becomes $15 \times 1.08 \div 1.03 = 15.72816$, rather than 15.42857. Approximately 0.29958 more workers are required for the same output. That result is not a recommendation to reduce productivity. It shows that more workers per unit of output and a more productive opportunity are different objectives.

A higher-productivity process may instead lower costs and expand demand beyond the original assumption. If that happens, the fixed-output calculation will understate employment. Whether the additional demand occurs depends on prices, market size, competition, and the distribution of the gain. A complete business case should examine both the technical labor requirement and the feasible sales response. Neither can be selected simply to produce a desired job total.

The timing of recruitment can also distinguish an investment that is still installing equipment from one operating at normal capacity. Early employment may include construction, commissioning, and training workers who are later replaced by a smaller permanent team. Another project may start with few workers and expand as orders

arrive. Following named stages and comparable worker categories prevents a temporary peak from being presented as a stable employment commitment.

For a regional assessment, workers' movements must also be reconciled. A new factory can draw employees from nearby establishments, encourage return migration, or attract people previously outside paid work. Local payroll growth alone does not identify those origins. The net regional effect depends partly on what happens to the activities workers leave and whether new entrants fill the resulting vacancies. Housing and transport can influence that adjustment as much as the original factory's hiring plan.

An evaluation that follows these transitions can recognize several worthwhile outcomes: more output from the existing workforce, higher real earnings, more regular hours, broader participation, and additional positions. They need not move in the same direction in every period. Reporting them separately makes the tradeoffs explicit and provides a firmer basis for judging whether investment expands the range of productive opportunities available.

Conclusion

The employment content of Indian growth depends on sector expansion, productivity, hours, and the movement of workers into more regular and productive opportunities. Official household, industrial, and administrative records cover different parts of that process. Their definitions and periods should be maintained when they are brought together.

The original sector example shows why the same output growth can support different employment changes and why worker and hourly productivity can tell different stories. Infrastructure and formal employment incentives add further stages whose effects require evidence on operating services, retention, earnings, and the counterfactual. Following those relationships gives business and policy readers a more useful assessment than a single employment elasticity applied to every investment.

For the electricity and operating-capacity relationship, see [Energy reliability in the economics of industrial location](#). For the distinction between investment and productive output, see [The composition of American economic growth](#).

Source addresses

The links below retain the source addresses cited in the analysis. References should be read within their stated periods and scope.

https://www.mospi.gov.in/sites/default/files/publication_reports/AnnualReport_PLFS2023-24L2.pdf

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2161192&lang=2®=3>

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