Addressing the Jobs Crisis

Ideas for Creating 20 Million Jobs for Indians

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Executive Summary

1. 18 million Indians turn 18 years of age every single year and India has over a 100 million people by some estimates who are surplus in agriculture. Unless India creates 20 million jobs each year starting soon, this could spiral into a huge humanitarian crisis.

2. To create 20 million Jobs every year, India needs to have a GDP growth of at least 10% and an employment elasticity of over 0.4.

3. We propose the following ideas and recommendations for creating 20 million Jobs every year.
    a. Career impact bonds to finance upskilling
    b. Creating new cities
    c. Facilitating emigration
    d. Increasing women's labour force participation rate
    e. Improving access to credit
    f. Facilitating the gig economy
    g. Besides these, tackling structural issues like improvements to infrastructure, rationalising labour laws, and creating modern insolvency laws

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1. Introduction

Eighteen million people get to job-seeking age every year in India.[1] In addition, the agriculture sector is estimated to have at least 100 million more people employed than is required. Thus, there is an urgent need to reduce the number of people involved in agriculture to lower the disguised unemployment in that sector. Eight million people exit the agricultural occupation each year, which will mean at least 20 million new jobs need to be created in India annually. The economic survey released in Jan 2020 claims that India created 4.36 million jobs a year[2] before the pandemic, while other studies peg this number as way below a million net new additions each year.

Job creation is most urgent and relevant now. While short-term impact of the pandemic has been severe, the long-term implications are no less. Millions of people may never go back to productive work. The types of jobs on offer will change, and the skill shortages may exacerbate things further. Some of the changes that were already afoot, like remote working, e-commerce, and the gig economy, has accelerated. Learning has been widely disrupted, and the digital divide has become a deep chasm.

What can policymakers do to help create an ecosystem where 20 million jobs can be created every year in India?

The milestones are manifold. As are the aspirations. How different will an India that generates 20 million jobs a year look like? How can India move from the current state to 20 million jobs created every year? While a single policy cannot create these jobs, what are the policy initiatives that can encourage such a mega shift or remove existing bottlenecks? What investments are required in infrastructure? What innovations could be adopted in funding/ financing?

Most manufacturing jobs in India are in Gujarat, Maharashtra, Tamil Nadu, and Haryana, while the job seekers extend to many states like Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, and Rajasthan. Is internal migration inevitable, or are there ideas to take jobs closer to people?

While India has many job seekers, it is well known[3] that most of these people are entirely unemployable at their current skill levels. A key focus will be to identify skills that people can learn and ensuring that the right training and education becomes available for the people. Beyond training also lies the need for constant upskilling. An important consideration would be the people’s socio-economic positions and the availability of options for constant upskilling. Additionally, given the advent of AI and automation, is there a way to convert this to an opportunity from a threat?

Whenever a nation or a region fails to generate enough jobs, people migrate to where the jobs are available. Is international migration a potential answer to the job crisis? India may need to influence the migration policies of other nations and use that as an alternative to the growing shortfall of jobs in India. The shortfall of labour supplies in Europe and Asia could be as high as 4-5 million. The ageing population in these countries has created an ever-expanding gap between demand and supply of young people to fill vacancies. The task is to make Indian migrants a sought-after group of people by other nations so that job-seeking Indians can fill a substantial number of these roles.

The gig economy is here to stay. Permanent employment at one firm will remain a distant dream for most. Over 50% of the jobs created in India over the last decade are gig jobs. India needs to can one nurture such new jobs while protecting workers from being exploited. How can one safeguard workers from income volatility while encouraging the creation of new types of jobs?

Certain jobs may go away, and new skills will be required. In short, how we look at the future of work and prepare our people and policies for the jobs of the future will be imperative to ensure the survival of India's budding workforce.

2. The Background

Understanding India's Jobless Growth

The facts

India experienced "job growth of 3% p.a in the 70s at a time when our economy grew at 3-3.5% p.a, but over the last three decades, our economy grew at over 5-8% p.a. "Still, our job growth has been close to 1% p.a. Employment elasticity, percentage growth in employment for one per cent growth in GDP,"[4] has fallen from close to unity in the 70s to 0.4 in the 90s to less than 0.1 today. Hence, the phenomenon of India's jobless growth."[5]

GDP growth, employment growth and employment elasticity at the aggregate.

Year	Employment growth rate	GDP growth rate	Employment elasticity
1961-70	0.86	3.82	0.22
1971-80	3.09	3.19	0.97
1981-90	2.50	5.74	0.44
1991-2000	2.43	5.37	0.45
2001-04	1.41	5.99	0.24

Source: Pattanaik and Nayak (2012)

Employment elasticity has reduced further post 2009-10 when India's labour force participation rate fell. It is estimated to be less than 0.1, and despite GDP growing at over 7% p.a, the employment growth is close to 0.6%.

What is needed?

"There are around 400 million employed people in India."[6] To create 20 million new jobs each year in India, employment needs to grow at 5% per annum. India is currently adding less than 2 million jobs a year because India is growing only at 5-6% (pre-pandemic) with an employment elasticity close to 0.1. If our economy grows even at an accelerated pace without dealing with the issue of employment elasticity, the jobs crisis will not disappear. India's economy needs to grow at over 10% per annum for the government and society to have adequate resources for poverty alleviation and to spend on education and healthcare. Simultaneously, employment elasticity needs to be increased to over 0.4 so that this time around, the growth does not become a jobless one.

	Net Jobs Created at Different GDP Growth Rates and Employment Elasticities												
Current employment number: 396 (in Millions)	GDP Growth Rate												
Employment Elasticity		4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
	0.1	1.58	1.98	2.37	2.77	3.17	3.56	3.96	4.36	4.75	5.15	5.55	5.94
	0.2	3.17	3.96	4.75	5.55	6.34	7.13	7.93	8.72	9.51	10.31	11.1	11.89
	0.3	4.75	5.94	7.13	8.32	9.51	10.7	11.89	13.08	14.27	15.46	16.65	17.84
	0.4	6.34	7.93	9.51	11.1	12.69	14.27	15.86	17.45	19.03	20.62	22.2	23.79
	0.5	7.93	9.91	11.89	13.88	15.86	17.84	19.83	21.81	23.79	25.77	27.76	29.74
	0.6	9.51	11.89	14.27	16.65	19.03	21.41	23.76	26.17	28.55	30.93	33.31	35.69
	0.7	11.1	13.88	16.65	19.43	22.2	24,98	27.76	30.53	33.31	36.09	38.86	41.64
	0.8	12.69	15.86	19.03	22.2	25.38	28.55	31.72	34.9	38.07	41.24	44.41	47.59
	0.9	14.27	17.84	21.41	24.98	28.55	32.12	35.69	39.26	42.83	46.4	49.97	53.54
	1	15.86	19.83	23.79	27.76	31.72	35.69	39.66	43.62	47.59	51.55	55.52	59.49

Is employment elasticity the same across all sectors?

Some sectors like construction have high employment elasticity, while industries like manufacturing and agriculture have declining employment elasticity. It is not easy or even advisable to try and increase employment elasticity within a sector through restrictions on the use of technology or a drop in productivity. The overall employment elasticity can increase through increased government spending or removal of bottlenecks in industries that have high employment elasticity.

Sectoral Employment Elasticity – compound annual growth rate (CAGR) Approach	
Sector	1999-00 to 2011-12
Agriculture	-0.08
Manufacturing	0.33
Mining & quarrying	0.34
Utilities	1.17
Construction	1.01
Trade, Transport, hotels	0.25
Finance, real estate	0.06
Other services	0.47
All sectors	0.2

Source: RBI (2014)[7]

Why has employment elasticity declined in India?

India's job growth was based on declining productivity, protectionism, and development in the public sector, but it made India very uncompetitive and almost bankrupted the country. Liberalisation "opened the economy and unshackled the industry towards growth. This was accompanied by the public sector exiting various sectors, traditional monopolies being unseated, and an overall increase in productivity and competitiveness."[8]

However, this growth in productivity and competitiveness came at a price. For companies to become competitive, they needed to improve productivity through better management and technology. "This meant higher growth could be achieved with the current number of employees. Skill gaps also meant that industries"[9] with lower employment elasticities grew while those requiring a linear increase in the number of people struggled to grow due to scarcity of people. The use of technology, opening up to international competition, and skill gaps have led to a lowering of employment growth. The onerous labour laws in the country further reduced the incentive to pursue growth in labour-intensive areas. Women have been disproportionately impacted by this change due to their lower levels of education and resources for reskilling, leading to an abysmally low women's labour force participation rate.

What can be done to increase employment elasticity?

Promoting growth in sectors with high employment elasticity can help. Many gig jobs have high employment elasticity but there is concern about the poor working conditions and wage volatility in this sector. There may be a need to increase governmental oversight and regulation but to quote Carmen Pages-Serra, Chief of Labor Markets at the Inter-American Development Bank. "But that is easier said than done. Much of the existing legislation is still based on people having a salaried job. But if contractors are actually contented entrepreneurs, we must be very careful not to crush this movement by over-regulation." The key to find the right balance is to ensure that there is a social dialogue between all the relevant parties. If the government does not hobble it with too much regulation, this sector can grow by leaps and bounds over the next decade.

Government spending on infrastructure will lead to the growth of the construction industry, which has high employment elasticity, and spending on infrastructure will have a ripple effect on numerous other industries. India needs world-class infrastructure, and there is enormous potential to invest in this space. History is full of examples of how infrastructure spending has helped kickstart economies."[10] These include the experiences of China, Singapore, and the Republic of Korea over the last half century. As two scholars at the Asian Development Bank argued in 2010 ,[11] infrastructure appears to be positively related to GDP per capita growth as a production factor in these countries.

"Preferential credit to rural women can provide more jobs as studies show women entrepreneurs are likely to invest in areas with higher employment elasticity, especially for rural women. Artificial intelligence threatens many jobs, and people and governments worldwide are taking note of the disruptive potential of AI. AI can eliminate hundreds of millions of jobs, but there is no running away from it. One should also study AI's impact on the ideas being proposed. GDP growth is critical. However, GDP growth without increased employment elasticity will lead to greater inequality and stress in society."[12]

3. The Ideas

This section explores an initial list of ideas. As part of the first phase of research, the first six of these ideas have been explored in detail.

Ideas	Probable Impact
Finance Upskilling	Pay when you are paid
New cities	More jobs
Financial inclusion and access to credit	
Emigration	Can India fill the world's vacancies
Creating a safety net for gig workers	
Increasing women in the workforce	

Other ideas:

- Ease of Setting Up New Business
- Modern insolvency laws
- Agriculture land reform
- Investment in infrastructure and innovations in long term project financing
- Labour Law Rationalisation

Idea #1 – Financing Upskilling

The COVID-19 pandemic brought unprecedented changes to our society. Millions of people worldwide were compelled to work from home or lose their jobs altogether. [13] Most people who could afford the luxury of studying and working abroad did so because there was no other avenue available. These changes also exposed the wide gap between the economically privileged and the economically backward. Many people were forced to give up their regular jobs completely in developing economies because those could only be performed in person. Several students had to give up education entirely because they could not afford a device to attend classes online. Even doctors had to resort to telemedicine, a disruptive practice that experienced a remarkable rise during the last two years.

Pandemics, like war and vagaries, bring about disruptive technological changes. And with the growing divide between the rich and poor, many people have no access to technologies, missing out on significant skill development. These people get paid less and fall out of demand. Apart from being underemployed, underpaid, and overworked, the psychological impact of seeing peers progress further by acquiring new skills can be highly damaging.

With businesses moving to digital mediums, the jobs created require certifications of specific technical skills and applications. It is estimated that more than a million government jobs are lying vacant because the people applying for those roles are not skilled enough. Hence, many people will miss out on the jobs that are being created.[14]

When the skill of 'data analysis' entered the work industry, it was a specialised field. Now, data scientists/analysts are roles that Indian firms are hiring across sectors. There are courses available online for learning, and people actively pursue it as a side hustle. Some people realise new skills and tools early on and become proficient in it. These people create demand for this new skill, which leads to an increase in job opportunities, courses, coaching institutes, etc. But affordability and the lack of guarantee of a job prospect are still major deterrents. People who are already in a job (albeit with no prospects of growth) will still choose to continue with their jobs because receiving consistent money is always better than being in debt. Coaching institutes also miss out on students because of this reason.

There is a better way to incentivise anyone in that position to join that coaching institute regardless, by providing the institutes and the prospective students with the same interests. Imagine that the coaching institute starts offering 'at-risk' loans to students who do not have the financial resources to take that course. Once the student gets a job after graduating, they need to start paying off the loan only if their new income is above a threshold. And, of course, there should be a maximum cap on the loan instalment. This essentially becomes a symbiotic relationship in which coaching institutes need these loans to be refinanced, and the students need upskilling and a high income.

This is where Career Impact Bonds (CIBs) can help. CIBs were coined by an organisation called Social Finance. In this case, the coaching institute creates a pool of all the loans, and future cash flows are sold to an SPV (special purpose vehicle). The goal of this SPV is to structure bonds that can be sold to investors. Any coupon on the bonds is based on the seniority order. This means that the bonds that are more likely to be repaid and get the first right to the interest and principal are senior, thereby attracting profitable investors. Once the senior bondholders have received their money, the junior bondholders can expect the same.

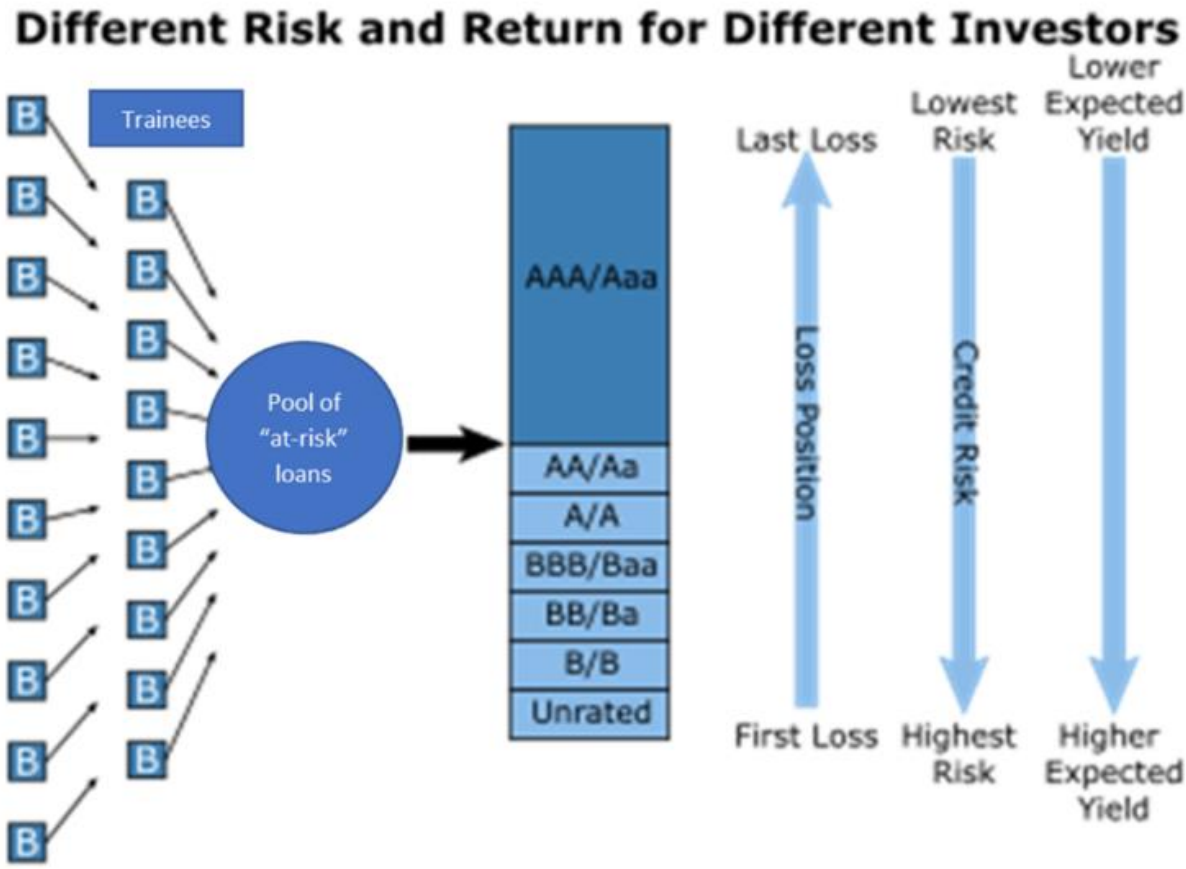

Figure: How Career Impact Bonds Work

This method is sustainable if the experiment is carried out for some time. If the candidates find lucrative job offers after graduating from the institutes, it will build trust among investors for financing further.

It is important to note that Career Impact Bonds are financial instruments that will undergo similar scrutiny as all financial assets. But that also means that investors will always be on the lookout for highly lucrative bonds backed by institutes with a high success rate.

It is easy to get confused between career impact bonds and typical student loans. A student must pay off the student loan (which requires collateral in the first place) regardless of whether they have got a job, let alone a high paying one. Repayment in case of career impact bonds, on the other hand, depends on the outcome of increased wages. Tracking whether a student has increased wages or not after completing the course can be done through banking facilities that connect the bank accounts with identity proofs such as Aadhar. It is important to note that often the direst in need of upskilling might not have a bank account in the first place. In that case, financial literacy should be added as a module to the entire upskilling program.

One last benefit of CIBs and the upskilling program is that the coaching institutes will be incentivised to develop a curriculum that has practical impacts, such as getting a job with a high pay scale. This means that the students will almost always receive the education they deserve, which helps them perform better in the real world.

Idea # 2 – New cities for more jobs

Urbanisation is expanding at an unprecedented rate. According to the World Economic Forum, only 30% of the world's population lived in cities in the 1950s. [15] If you go as far back as 1800 CE, only 5% of the world's population lived in cities. The 1950s number has almost doubled, and approximately 56.2% of the population lives in cities now. In India, the primarily agrarian population is shifting away from rural areas to urban landscapes to work in manufacturing and service sectors. Studies have shown that urbanisation boosts economic growth. A World Bank report has substantiated this by showing that most countries can reach a per capita income of $10,0000 only when 60% of the population is urbanised.

Economic growth in cities spurs because of clusters, a collection of people and firms. A city forces people to cluster together for their incentives. Allied industries cluster because they can save up on time and financial resources to benefit from one another. Therefore, so many large cities have cyber parks with food courts; it is the perfect agglomeration of shops, food stalls, and companies clustering to help profit one another. This has a remarkable impact on workers when they witness their peers going the extra mile at work, in personal life, in fitness, etc. This further leads to a growth in fitness centres, more companies, more houses bought, more malls built, etc. Everywhere you look in a city, there is an economic opportunity. The best thing about cities is that they offer a dense market for nearly everything, which means that overall productivity is boosted since establishments are constantly trying to outcompete one another.

"Firms and workers are, on average, more productive in larger cities. This fact — already discussed by Adam Smith (1776) and Alfred Marshall (1890) — is now firmly established empirically (see Rosenthal and Strange, 2004, and Melo, Graham, and Noland, 2009, for reviews and summaries of existing findings). Estimates of the magnitude of this effect range between a 2 and 7 per cent productivity increase from a doubling of city size for a large range of city sizes, depending on the sector and details of the estimation procedure" (Combes et al. 2012).

The rise of tech companies in Bengaluru, which established itself as the Silicon Valley of India is a fine example. After Texas Instruments established itself as the first multinational corporation in the city to open an office, many IT companies followed suit. Today, Bengaluru's economy is highly dependent on IT exports and continues to attract top talent across the country. Startups and large companies continue to migrate to the city because of the cross-pollination of ideas and knowledge spill overs that happens when they cluster. Worker strength also increases because of this competitive market, which means the workers start competing with one another, leading to organic skill development. And the best bit about cities is that they offer women a chance to expand their horizons. Cities are relatively safer, more productive, and have better living standards than rural areas for nearly all women.

There are some misconceptions that cities tend to increase poverty. However, the reality is that cities attract poor people, not that cities create more poverty. When people in rural areas see their urban peers making better incomes, they migrate to urban areas but are compelled to live in slums because of housing costs. But studies have shown that the number of people in urban slums is reducing.[16] This development can largely be credited to public policies and non-profitable efforts to speed up public housing and provide a decent place to stay for all people. One can safely say that cities are for everyone, in a good way. Rich people are offered an environment to pursue new things and meet better people, work at better jobs, enjoy the more pleasing amenities in life. For poor people, it offers a better environment to make consistent income.

How cities have grown, developed, and prospered is a fascinating subject which reflects on the occupational tendencies of much of the population. Most of the old cities in the world have grown around riverbanks because the major occupation was agriculture. Varanasi, probably one of the oldest cities in the world, is built on a riverbank. But agricultural and technological growth brought with it the perfect opportunity for trade. Carrying out trade, housing traders on trade routes, creating new avenues for transporting goods, all became essential aspects for building cities. In India, for example, many cities flourished with the advent of colonisation as they were shaped around the prospects of industries, factories, and mines.

In all the above cases, one can see that building a city was in the interest of everyone involved. These cities were not planned or built with a motive, but they were shaped according to changing times. Creating a private city is a new concept and comes with more cons than pros. The unique quality of a city is that it is self-sustaining in nature; the new people who migrate find a place and avenue to live and organically contribute to the city's development. This is a challenge with a private town wherein the owner must reserve and build specific housing facilities for workers. And workers will not move to build a city and not have further employment opportunities. This is a tricky situation, one which some business owners have experimented with but essentially failed. The city of Lavasa near Pune comes to mind as the nightmarish example of how private cities can fail.

Regardless, India needs more cities than ever right now that can be attained if governments decide to build new capitals. Despite being surrounded by water on nearly all sides in South India, major ports are still missing from India. Building these ports will lead to organic growth in cities and towns.

Recommendations

The governments in India must consider the fact that they need to build more cities to create new jobs. Building ports or shifting capitals that urgently require a shift due to inhospitable environments can be good reasons for increasing the number of cities in India. Large states can be split into smaller states for better administration and building new capitals. Areas around universities can be converted into towns or mini-cities for new jobs. The key lies in allowing people to cluster, and opportunities for jobs and economic growth will follow. Not only will these scenarios incentivise people to shift for service jobs, construction, hospitality, healthcare, and other allied industries will also see significant growth.

Idea # 3 – Emigration – filling the world’s vacancies

Many developed countries in Europe and Asia have an ageing population and a shortage of skilled people[17] to fill vacancies in the workforce. India, on the other hand, has a very young population, with over 18 million people reaching 18 each year. How can the emigration of a few million people each year from India to fill the world’s vacancies be encouraged and facilitated? [18]

Developed countries restricting people from India to emigrate to find jobs is not the most viable option. A largely homogenous and ageing population will make the businesses less competitive and less successful. The company may likely relocate closer to where the skills are available in a few years. If the jobs cannot always go to where the people are, people can and should go to where the jobs are.

There needs to be a global consensus on migration. Scholars Ratha and Rutkowsky argues that the “strategy to address migration should change from wishing for a zero-migration scenario to learning to live with migrants.”[19] They add:

> “Arguably, there is much more to be done in destination countries in cushioning the “shock” of an unexpectedly large influx of people. Countries and communities in such situations need external support, not just moral support, but real financial help. In the short term, during the current COVID-19 crisis, destination communities need to include migrants in their social protection and healthcare responses. They need to keep remittances flowing by protecting migrants from "wage theft" (aka wage discrimination) by employers and supporting their

access to banking and other financial services, including digital social transfers. Origin countries experiencing larger-than-expected return migration also need financial support from the global community to facilitate safe and productive returns. Beyond the COVID-19 crisis, there is a need to support safe and regular migration through customised bilateral labour mobility arrangements, investing in skills, modernisation of passport systems and IDs, and portability of social benefits. Global partnerships are needed, backed by a Concessional Financing Facility for Migration. That'd require, among other things, innovative, private sector financing (e.g., diaspora bonds) to complement official financing. In the World Bank Group, we are working hard to support countries to implement safe and regular economic migration."

However, the market is a powerful force. The ageing population in the developed world reduces the working population and leads to lower GDP growth. Funding pension and other programs become problematic. Young people are needed in the medical fraternity, the armed forces, the police and even in neighbourhood retail stores and restaurants. Technology has been changing rapidly, and the technology disruptions leave many jobs requiring scarce skills. Immigration is the only way the skills can be obtained in the short run. There are some underdeveloped nations where the sudden discovery of minerals and other natural resources will need access to skills available only elsewhere.

Recommendations

The Ministry of Labour and Employment create a "jobs abroad web portal" that uses AI engines to scan employment advertisements across the globe and identify skills in high demand, Follow up with vast investment in skills through career impact bonds which facilitate upskilling by financing skills in demand. Inspired by the Philippines, India should increase the number of MOUs set up with host countries to facilitate visas and work permits. Double taxation treaties with more countries will help. Essentially, India will need to look at emigration the same way it looks at coffee exports or software exports. The government can actively look for opportunities to promote the fantastic and abundant supply of skilled and eager young population.

Idea #4: WLFPR

There is no doubt that the ratio of women to men in India has improved over the years. Women make up almost half the population in India. However, the labour force participation remains abysmally low, around 21%.[20] This number seems even worse when viewed from another angle compared to men's labour force participation which is 74.4%. India's women labour force participation is meagre compared to its neighbouring countries - Nepal is at 81.5%, China at 60.6%, and Bangladesh at 36.7%. These numbers are driven by various issues such as lack of economic opportunities for women, the social stigma associated with working, unpaid work done mainly by women (9.8 times more than that of men), systematic failures of establishments and institutions, and difficulties accessing credit.

There is a stark difference between the jobs done by men and women. Take the fact that India is a country where a significant portion of the population (65%) lives in rural areas. Almost half of this population is female. Combine this with social backwardness in the country, and you have women who have been traditionally bound to their homes, performing domestic but underpaid and most times unpaid chores. This often includes fetching water, washing clothes, cooking, taking care of children, etc. Most of their lifetimes are spent doing tasks or jobs that are low-productivity and unpaid. Continuously concentrated in the informal and unpaid sector prevents women from progressing further in their lives. Even when they do rise professionally (such as women political leaders), their decisions are controlled by the men in their lives. As Amartya Sen puts it, 'India's gender disparity is an unfreedom that doesn't allow one to live our life to the fullest.

While men put in less than 25% of the tim, women put in housework; the women are often burdened with the reproductive tax. Women are found in labour-intensive industries and domestic work, balancing paid work with unpaid domestic responsibilities. As of 2012, while women represented more than 50% in the workforce in communal services such as education, health, and social services, they also made up more than 40% per cent in retail, restaurant, and agricultural work. Ending gendered segregation could increase female workers in high productivity jobs and help raise the country's GDP.

Bangladesh's women labour force participation can be credited to microfinancing which has encouraged women to participate more in working. Large scale garment manufacturing has also employed large number of women. Large manufacturing units if encouraged can also help increase women’s participation in the work force. It is important to note that it is the labour-intensive export industries that have absorbed the female labour force in the country and contributed to consistent growth even during the pandemic. There has also been gender-inclusive policies and schemes that have empowered women and girls at the grassroots level by providing them a safe environment to educated and study in, alongside improving their nutrition and financial statuses. Additionally, the country's women have benefitted immensely from women-led enterprises that take decisions in women's interest and provide a safe working environment. Research by Bain has shown that women-led companies foster women entrepreneurs a lot better than men-led companies.

Recommendations

Women might take up jobs in sectors where the work environment and not just the workspace is made safe for them. A few steps are to improve safety standards, redressal mechanisms for sexual harassment, and gender sensitisation. This is drawn from the idea of the Bihar Government providing cycles to female students enrolled in grade nine. It was observed that this increased safety, social acceptability of girls going outside the village and demand for schooling.

It has been seen that an increase in the participation of women in the labour force is aided by prolonged political representation as leaders of district councils and as members of all levels of local government. It increases the public employment opportunities under MGNREGS and helps create a narrative of women being able to take up jobs and generate higher wages beyond the confines of a domestic boundary.

The sexual division of labour and discriminatory policies that do not prioritise the needs and well-being of a woman, or advance gender parity, is why women employed in the informal sector withdraw. Policies that include flexible working hours, greater leave allowance and salary adjustment are needed through professional growth.

Investment in rural infrastructure can also prove pivotal in reducing the burden on unpaid chores that falls upon women such as fetching water, doing agricultural grunt work, being dangerously close to biomass, etc. Investment in sanitation, electricity, water supply, roadways in rural areas can help women conserve time by not engaging in monotonous, unpaid tasks.

Policymakers are missing out on the fact that rural areas in India are an untapped resource for women's labour force participation. Despite everything, girls in rural India are still able to receive education till class 10th, which makes them ideal candidates for vocational training and upskilling. We recommend diverting focus from job creation in cities alone and making good use of the rural market.

Additionally, India allows women to own assets and buy property, but most women are unaware of such policies and provisions. They are conditioned to be dependent on the men in their lives for owning such assets. Several efforts can be made wherein self-help groups can be set up to educate women on acquiring properties or credit for their businesses, incentivising women to borrow credit for their businesses by letting go of frictions for women-owned businesses specifically.

And finally, policymaking for encouraging more women to participate must be intersectional. There are several communities in India where privilege for women is next to nothing. Making policies that drive equitable growth will be vital in ensuring that India has a high WFLPR.

Idea #5: Access to Credit

It has long been known that access to credit directly impacts corporate investment and the economic growth in a country. However, the relationship between access to credit and employment is less explored. We hypothesise that to create 20 million jobs in the economy, our GDP needs to grow at least 10% (with an employment elasticity of 0.5). Improving access to credit will play a crucial role in this. In a recent paper, Ayyagari et al. (2016)[21] support our thesis by finding a strong positive relationship between access to credit and job growth. They find that firms with greater access to credit exhibit 1-3% higher employment growth than those with no access. And this result is more visible in MSMEs compared to larger firms.

India has been witnessing jobless growth. There has been a rise in investment in the country. However, most of this investment is channelled into machinery or other capital-intensive technology. This means output can be raised without increasing labour input. A firm's labour decisions are driven by its financial position, which is intrinsically tied to its access to credit, as argued by Garmaise.[22] In developing countries, the institutions that facilitate access to credit information are critical to the development of credit markets. As the information to programs increases coupled with greater credit opportunities, firms are likely to generate higher employment growth. In recent times, this has mainly occurred through microcredit.

The various social, psychological, and emotional impacts of unemployment have been identified. Datta and Sahu (2021)[23] show that access to microcredit leads to a positive change in employment generation and empowerment (economic, political, and psychological), especially for rural women. Chowdhury (2017)[24] found that the rural non-farm sector can diversify incomes and be a significant source of employment outside of agriculture. In some places in India, people replace their work in the agriculture sector with other non-farm activities like livestock rearing due to microfinance institutions supported by governments. This is a finding supported by the International Labour Organization as well. It finds that there has been an increase in the coverage of microcredit programs by both NGOs and governments during the last three decades. Apart from borrowers, microcredit organisations are an essential source of employment for women, especially in developing countries.

Herkenhoff et al. (2016)[25] examine credit histories and self-employment tax records in the US and find that access to credit significantly affects employment outcomes and the likelihood of starting a new firm. They conclude that once a bankruptcy flag is removed, there is an increased flow into self-employment, they start firms that create jobs for others. There is increased borrowing to meet the initial capital requirement as these startups tend to be in the capital-intensive or external-finance-intensive industries. This shows that access to credit can be a viable tool to generate entrepreneurship.

Access to credit is also imperative in distinguishing between a startup fizzling out or scaling to a booming business. Nearly all businesses need credit to expand in their developing years. And access to credit is one of the biggest challenges firm owners face. There needs to be an increase in the lending capacity of institutions, and these loans must be given to firms that require the loan and not simply through risk-aversion. It has been noted that over 40% of Indians don't have access to primary financial institutions; this creates an acute lack of financial inclusion. Employment and financial inclusion represent one of the United Nations' Sustainable Development Goals. When the financial sector is well-developed, it provides various allied services to firms.

Recommendations

As pointed out by Osikena and Ugur (2016)[26] the intermediation role boosts productive investment and consumption. It is noted that developing competitive financial services and products which are affordable, accessible, and distributed widely help in expanding employment. "Financial inclusion can help steer and target financial resources. This supports financial stability by improving market access for business and enterprise, providing the means to procure scarce enterprise assets and build collateral, and helping to generate and allocate savings, investment finance, and earn incomes. In addition, financial inclusion can support the provision of social protection which builds resilience, reduces vulnerability, and enhances the social benefits of education, health and well-being that good employment generates."

Idea #6: Gig Economy

Gigs are here to stay. Over 70 years ago, Hollywood made the shift, albeit forced, out of the studio system. The number of people who make movies, the number of films made, and the number of people who work in the movie industry have increased exponentially since then. The question then is, is it better to have a sector that provides ten thousand stable and well-paying jobs or one that employs millions, pays fabulously to a few, and sporadically to the majority.

The movie industry is a preview to the future. Over the last decade, 54% of new jobs created in India have been gig jobs. Is freelancing on the rise? The statistics say yes. More people are "doing gig work, both in the US and elsewhere. Companies are increasingly working with freelancers, the gig economy pumps a significant amount of revenue into the US economy, and most freelancers seem happy with the state of the market." [27] The Coronavirus pandemic has only accelerated the growth of the freelance market. If the current trends persist, the gig economy will expand rapidly. Soon it could even overtake the traditional job market. The BCG report on unlocking the gig economy in India is a fascinating read and provides a Roadmap to unlocking India's gig economy at scale.

A gig worker is a person who works temporary jobs, typically in the service sector as an independent contractor or freelancer: a worker in the gig economy. Gig workers have some freedoms that most full-timers don't possess, setting their timings,"[28] working from home, being their bosses. The gig economy comprised 6% of all workers in 2015 and maybe closer to 25% today this is according to research by Lawrence Katz and Alan Krueger.[29]

While the gig economy has been generating many jobs, there is growing concern about two issues. One is that gig economy jobs pay less than regular employment. Secondly, there is a high level of income volatility regarding gig jobs. This highlights the need for a robust Social Security system that ensures protection against income volatility. In the absence of the Social Security system, a more significant amount of regulation and laws are being introduced in different parts of the world that discourage hiring workers as gig workers. These laws and regulations may be disputed in the courts, but the absence of a robust social security system is adding friction to the gig economy's growth.

The gig economy is growing fast and is generating employment more quickly than any other sector of the economy. But gig workers have poor wages, no healthcare benefits, no retirement benefits and leave entitlement and all this on top of the lack of job security and high-income volatility.

There is no reliable data on the number of people who work in the gig economy. Suppose all non-contractual employment was considered part of the "gig economy". In that case, a study by Laveesh Bhandari and Amaresh Dubey for the Prime Minister's Economic Advisory council suggests the number could be as high as 145 million in 2017. A new report by consulting firm Boston Consulting Group (BCG) and Michael & Susan Dell Foundation suggests the current number maybe 8 million and could grow to 90 million in 8-10 years. The issue seems to be around what one defines as "gig work", but the problem for India is not misclassification but massive unemployment. Twenty million new jobs are needed every year in India, and if gig work can fill a significant gap in employment, then ways to help it grow further should be explored.

2017

NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	**0.36**	0.28	2.90	0.01	3.56
Professionals, Associate Professionals	**1.69**	1.36	0.93	0.00	3.98
Clerks	0.52	0.43	0.02	0.00	0.98
Sales and Service worker	1.76	0.38	2.33	0.00	4.47
Agriculture and Fishery workers	0.14	0.02	12.72	0.31	13.19
Craftsmen and Machine Operators	4.84	0.48	3.01	0.02	8.35
Labourers and Unskilled Workers	5.20	0.33	1.28	4.34	11.15
Total	14.51	3.27	23.20	4.69	45.67

2011

NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	**0.18**	0.21	2.81	0.01	3.21
Professionals, Associate Professionals	**0.98**	1.23	0.93	0.01	3.15
Clerks	0.43	0.46	0.03	0.00	0.92
Sales and Service worker	1.17	0.37	1.92	0.00	3.47
Agriculture and Fishery workers	0.11	0.02	12.33	0.16	12.61
Craftsmen and Machine Operators	4.48	0.51	2.74	0.03	7.76
Labourers and Unskilled Workers	3.98	0.30	1.00	6.81	12.10
Total	11.33	3.11	21.76	7.02	43.22

2004

NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	**0.08**	0.14	1.32	0.01	1.55
Professionals, Associate Professionals	**0.56**	1.02	0.57	0.03	2.18
Clerks	0.38	0.58	0.04	0.01	1.01
Sales and Service worker	0.95	0.20	3.31	0.02	4.49
Agriculture and Fishery workers	0.14	0.02	13.48	0.38	14.02
Craftsmen and Machine Operators	3.83	0.55	2.95	0.07	7.40
Labourers and Unskilled Workers	1.78	0.19	0.44	8.01	10.42
Total	7.72	2.70	22.11	8.53	41.07

Source: Bhandari and Dubey (2019)[30]

As a gig worker, one could be an Uber Driver, Dunzo/ Swiggy Delivery agent, a Web designer, a Software programmer, an “Urban Company” type plumber/ carpenter, a Healthcare professional like a home nurse or a physiotherapist and even a musician. While wage volatility is expected across all categories, not everyone has a low wage or issues with working conditions.

The UK recently held that Uber drivers should be treated as employees. California has come up with a law to question the classification of employees as gig workers when they ought to be hired as regular employees. India has come up with some regulations on the subject as well.

Organisations hire gig workers for different reasons. They seek to keep their costs in line with demand. As demand goes up, they seek to get more people, and as demand goes down, they want to reduce the number of people on the team. They use gig workers to access skills they rarely need and for roles where they cannot provide a career. Sometimes they also need to access high-quality skills they cannot develop internally. Gig workers reduce the administrative burden of managing very large workforces and help organisations seize opportunities for hyper-growth. It also supports many organisations tapping into the wide range of skills and talents available across the globe.

The availability of high-quality skills without needing a long-term commitment means lower entry barriers for new businesses. More new ideas now see the light of day, and new business models are tried out, and if they do not work, one can exit quickly. Technology makes matching availability and demand for skills easy, and it seems to be unfettering Indian industry which archaic laws have long shackled. It offers great promise for innovation and growth. This leads to significant growth of companies that rely on gig workers and increases job availability to millions who might have been unemployed. This is expected to grow by ten times over the next 8-10 years. Yet there is a need to protect the gig workers from exploitation and against wage volatility because unless that is done, this sector will not grow and provide the job growth that is desperately required. Here are some ideas on how this can be done.

Recommendations

Prevent employers from circumventing the law by calling regular employees gig workers. Then leave gig workers alone. Offer free education and healthcare to all; this may help bearing the impact of wage volatility easier. Ensure all gig workers are registered, employers, in turn, may provide a credit line to help smoothen their cash flow by tying up with Fintech marketplace lenders. In return for the data shared with marketplace lenders, they may be provided with healthcare insurance. Government can advertise and organise programmes on Doordarshan to promote financial literacy programs for the self-employed. Offer at-risk loans for upskilling whereby they get trained and get better-paying jobs. The at-risk nature of the loans will make it necessary for them to repay the loans only if they get better-paying jobs post-training. The gig economy needs to continue growing and create more and better jobs.

4. Conclusion

The How

Our endeavour with the 20 Million Jobs project has been to explore solutions to the persistent problem of job creation in India. The way to create 20 Million Jobs is by increasing the economy's employment elasticity and GDP growth. Our contribution has been finding pathways for each of these ideas to help create the jobs India needs. An underlying common thread between these ideas is technology and digital infrastructure as a solution. Financing upskilling and access to credit heavily rely on JAM (Jandhan, Aadhaar and Mobile) as a source of data collection to integrate people into the credit system and make it feasible for banks/ firms to conduct credit risk assessments. Information is the most valuable commodity, but there is unequal access to it like with all resources.

Our proposed idea of a jobs portal would reduce information asymmetry and information arbitrage. If the pandemic has proved anything, it has been that jobs don't require a person to be present in a physical office if they have the skills. There needs to be higher penetration of digitisation in rural areas which have educated women with the right skills but no access to the right opportunities. Technology must be leveraged to take jobs where women are. Platforms in India are increasingly driving the gig economy. These platforms assume the presence of stable internet service. Thus, steps need to be taken to ensure internet access and a good network for its users across the country. This is not to say that our solutions don't have problems. The proposed digital solutions can be accessed only by those who have fully adopted JAM and access the internet. Thus, our first aim is to increase the uptake of JAM in areas where it is lagging. Those who most require these jobs must have access to resources to access job opportunities. This requires intervention by the state through political commitment and subsequent mobilisation of the street-level bureaucrats. The presence of a mobile phone and access to the internet needs to become ubiquitous.

The Way Forward

This is not an exhaustive list of ideas. Other avenues remain unexplored, or only their surface has been scratched. Ideas include land reforms and changing the education system. The former will free up land that is currently tied up in unproductive economic activities due to insecure property rights. This will increase the productivity of those associated with the land by granting them labour mobility. Still, the land can now be used for other productive activities that can, in turn, employ more people. Educational reforms are necessary. The New Education Policy was a humble start at changing the paradigm of education pedagogy in India. However, education needs to be made more skill-oriented, and a focus must be placed on creating better-informed citizens. This ensures greater accountability assumed on the part of the government, and the efficiency of policy demands is increased. Thus, our policy note serves as the beginning of new conversations surrounding job creation in India. Job creation is an age-old puzzle requiring dynamic, modern solutions. The idea factory will continue to incorporate more unique ideas and further policy research in the following months by deep diving into the ideas discussed above and preparing specific policy proposals.

5. References

[1] Ministry of Statistics and Programme Implementation, "Youth In India," 2017, https://bit.ly/3JP49RO.
[2] Ministry of Finance, "Economic Survey 2019-20," https://www.indiabudget.gov.in/budget2020-21/economicsurvey/index.php.
[3] International Labour Organisation "State of Skills" https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/genericdocument/wcms_742201.pdf
[4] Sridhar Krishna and Aarushi Kataria, "Financing Upskilling – Pay When You Are Paid," *The Takshashila Institution,* September 5, 2021, https://takshashila.org.in/financing-upskilling-pay-when-you-are-paid/.
[5] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[6] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[7] Sangita Misra and Anoop K Suresh, "Estimating Employment Elasticity of Growth for the Indian Economy," *Reserve Bank of India Working Paper Series,* June 24, 2014, https://www.rbi.org.in/SCRIPTS/PublicationsView.aspx?id=15763.
[8] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[9] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[10] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[11] Stephane Straub and Akiko Terada-Hagiwara, "Infrastructure and Growth in Developing Asia," *Asian Development Bank Working Paper Series,* November 2010, https://www.adb.org/sites/default/files/publication/28275/economics-wp231.pdf.
[12] Sridhar Krishna and Aarushi Kataria, "The Phenomenon of India's Jobless Growth," *The Takshashila Institution,* November 5, 2021, https://takshashila.org.in/the-phenomenon-of-indias-jobless-growth/.
[13] Sridhar Krishna and Aarushi Kataria, "Financing Upskilling – Pay When You Are Paid," *The Takshashila Institution,* September 5, 2021, https://takshashila.org.in/financing-upskilling-pay-when-you-are-paid/.
[14] Peeyush Sharma "Over 60 Lakh Central and State Govt Posts Lying Vacant" https://theleaflet.in/over-60-lakh-central-and-state-govt-posts-lying-vacant/
[15] Sridhar Krishna and Aarushi Kataria, "New Cities – More Jobs" *The Takshashila Institution,* September 16, 2021, https://takshashila.org.in/new-cities-more-jobs/.
[16] Our World in Data, "Share of Urban Population Living in Slums," *Our World in Data,* https://ourworldindata.org/grapher/share-of-urban-population-living-inslums?tab=chart&country=~OWID_WRL.
[17] Rainer Strack, "The Workforce Crisis of 2030 – and How to Start Solving It Now," *TED*, October 2014, https://www.ted.com/talks/rainer_strack_the_workforce_crisis_of_2030_and_how_to_start_solving_it_now?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare
[18] Sridhar Krishna and Aarushi Kataria, "Emigration – Can India Fill the World's Vacancies?" *The Takshashila Institution,* October 1, 2021, https://takshashila.org.in/emigration-can-india-fill-the-worlds-vacancies/.
[19] Dilip Ratha and Michal Rutkowski, "We Must Learn To Live With Migration," *World Bank Blogs,* December 18, 2021, https://blogs.worldbank.org/peoplemove/we-must-learn-live-migration
[20] Aarushi Kataria and Sridhar Krishna, "Women in the Workforce?" *The Takshashila Institution,* October 20, 2021, https://takshashila.org.in/women-in-the-workforce/.
[21] Meghana Ayyagari, Pedro Juarros, Maria Soledad Martinez Peria, and Sandeep Singh, "Access to Finance and Job Growth," *World Bank Policy Research Working Paper,* March 2016, https://documents1.worldbank.org/curated/en/804781467990954208/pdf/WPS7604.pdf
[22] Mark J. Garmaise, Production in Entrepreneurial Firms: The Effects of Financial Constraints on Labor and Capital, *The Review of Financial Studies*, Volume 21 Issue 2 April 2008, https://academic.oup.com/rfs/article-abstract/21/2/543/1608078

[23] Srimoyee Datta and Tarak Nath Sahu, “Impact of Microcredit on Employment Generation in India,” *International Journal of Rural Management,* Vol. 17, No. 1 (April 2021): 140 – 157, https://doi.org/10.1177/0973005220969552.

[24] Shyamal Chowdhury, “Microfinance and Rural Non-Farm Employment in Developing Countries,” *IZA World of Labor,* April 2017, https://wol.iza.org/uploads/articles/350/pdfs/microfinance-and-rural-non-farm-employment-in-developing-countries.pdf.

[25] Kyle Herkenhoff, Gordon Phillips, and Ethan Cohen-Cole, “The Impact of Consumer Credit Access on Employment, Earnings and Entrepreneurship,” *NBER Working Paper Series,* November 2016, https://www.nber.org/system/files/working_papers/w22846/w22846.pdf.

[26] Josephine Osikena and Deniz Ugur, “What Role Can Financial Inclusion Play in Driving Employment Growth?” *The Foreign Policy Centre,* January 2016, https://www.files.ethz.ch/isn/195955/1725.pdf.

[27] Damjan Jugovic Spajic, “The Future of Employment – 30 Telling Gig Economy Statistics,” *Smallbizgenius,* May 26, 2021, https://www.smallbizgenius.net/by-the-numbers/gig-economy-statistics/.

[28] Damjan Jugovic Spajic, “The Future of Employment – 30 Telling Gig Economy Statistics,” *Smallbizgenius,* May 26, 2021, https://www.smallbizgenius.net/by-the-numbers/gig-economy-statistics/.

[29] Lawrence F. Katz, Alan B. Krueger “The Role of Unemployment in the Rise in Alternative Work Arrangements, https://www.researchgate.net/publication/316948491_The_Role_of_Unemployment_in_the_Rise_in_Alternative_Work_Arrangements

[30] Laveesh Bhandari and Amaresh Dubey, "Emerging Employment Patterns of 21st Century India," *Indicus Foundation White Paper,* November 11, 2019, https://www.indicus.org/pdf/Emerging-Employment-Patterns-in-21st-Century-Indiav-v181019.pdf.