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URBAN PRIMACY IN SOUTHERN INDIA: INDUSTRIAL POLICIES AND OUTCOMES

Kala Seetharam Sridhar*

Abstract

The southern states of India are more urbanised than their northern counterparts. The newly carved state of Telangana in southern India has severe urban primacy as the biggest city there (Hyderabad) is nearly 10 times the size of the second biggest city (Warangal). Karnataka too is characterised by severe primacy given that Bengaluru is more than 10times the size of the second biggest city, Mysuru. Tamil Nadu, the most urbanised state of India, has less severe primacy with its capital city Chennai being four times the size of its second biggest city. Given their urban primacy, the research questions we answer in this paper are:

1. What has been the policy approach of these states to industrial development?

2. Is the urban primacy observed in the population of the largest city in these states reflected in terms of the spatial dispersion of employment and industry across these states, as an outcome of their industrial policies?

To answer question one, we reviewed the industrial policies of the three southern states— Tamil Nadu, Karnataka and Telangana. Our examination of the policies of the government of Tamil Nadu over time shows that balanced regional development was recognized as a goal for a long time. Karnataka did recognise balanced regional development as a vision, but its industrial policies included a lot of emphasis on Bengaluru too, in addition to that on the smaller cities. We found the industrial policy statements of the government of Telangana do not make any reference to balanced regional development as a goal.

To answer question two, we review the full spatial distribution of industry and employment in the southern states characterised by high primacy, beyond the top cities. We find that while Tamil Nadu has been somewhat successful, Telangana is moderate, but Bengaluru is the worst in terms of economic primacy. The policy suggestions are summarised.

Introduction

The southern states of India are more urbanised than their northern counterparts. As of Census 2011 (the most recent available), Tamil Nadu was the most urbanised state at 49%, followed by that in Kerala at 48%, Karnataka at 39% and Andhra Pradesh (including Telangana) at 33%. As reported by Sridhar (2023c), urban primacy in southern India is particularly severe with the states of Karnataka, Telangana and Tamil Nadu exhibiting this phenomenon. As reported there, in Karnataka, the ratio of Bengaluru's population to that of Mysuru, was 8.9, while in newly-carved Telangana (2014), the ratio of

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Hyderabad's population to that of Warangal's was 9.9. In Tamil Nadu, the ratio of Chennai's population to that of Coimbatore (the second biggest city there) was 4.4.¹

As may be clear, urban primacy refers to disproportionately large cities when compared with other cities in an urban system. As conceptualised by Jefferson (1939), primate cities could indicate the unification of their respective countries – just like New York may be viewed as the face of the United States, and Paris for France. A different aspect of unification was stressed by Zipf (1949) where he emphasized the role of agglomeration and least-cost places where everyone congregates, leading to primacy. However, not all raw material needed for a certain production process may be located in the same place, leading to diversification. Hence, the actual population that ends up in a town (leading to primacy) is the result of the combined forces of unification and diversification, highlighted by Zipf (1949).

It is now generally accepted that primacy is caused due to weak infrastructure, low urbanisation and income inequalities. There are various ways of measuring urban primacy: one is simply the ratio of the population of the biggest city to the second biggest city (which is what we use above to define primacy). Other measures rely on the ratio of the urban population in the biggest cities (called class I cities) to the rest of the urban system (as Sridhar (2023a) does). Yet, the most standard way to measure urban primacy is the reliance on Zipf's (1949) law, whereby the Pareto exponent is estimated. Mathur (2019) and Sridhar (2023c) estimate Zipf's (1949) law for all Indian cities and states. While Mathur (2019) points out that small cities account for 94% of the urban system in India when one considers population shares, the balance tilts towards large cities, showing primacy. Nonetheless, it is found that the population of the larger cities is lower if the rank-size rule were to be considered. Estimating and regressing the concentration of urban population at the state level, Sridhar (2023c) found that the state per capita income, population size and length of railways have a significantly negative effect on primacy, while Micro, Small and Medium Enterprises (MSME) employment increases it.

So currently, we find that the literature on urban primacy focuses primarily on its nature and causes, but not much on the policies which play a role in distributing economic activities more equally across the urban hierarchy. It is now widely accepted that the private sector is the creator of jobs (see Sridhar and Wan (2010)), so they must be incentivised if economic activity is to be distributed to smaller and medium-sized towns and cities. So, it is important to understand policies as they apply to firms which we term 'industrial policies'.

Given this background, this paper focuses on two research questions:

- 1. What has been the policy approach of these states to industrial development?
- 2. Is the urban primacy, as observed in terms of their population distribution in these states, reflected in terms of the spatial dispersion of employment and industry too, as an outcome of their industrial policies?

¹ As found by Sridhar (2023c), Kerala at a ratio of 1.2 and Andhra Pradesh at a primacy ratio of 1.5, representing the ratio of population of their biggest to the second biggest cities in 2011, are characterised by a low degree of primacy.

This paper is organised as follows. First, a review of the relevant literature is presented following which the relevant theory is described. Then, a short section summarises the data and methodology of this paper. Following this, the industrial policies of the three southern Indian states characterised by extreme primacy – Karnataka, Telangana and Tamil Nadu are summarised, along with the outcomes. We discuss the outcomes in terms of the spatial distribution of jobs and firms in each section following the review of industrial policy for the respective state. The final section summarises the policy suggestions and concludes the paper.

Existing Literature

There is a vast body of work on urban primacy in the developing world. Most of the studies understand primacy, its nature and the determinants, drawing their policy conclusions from the determinants. According to Jefferson (1939), the Law of the Primate city refers to the super-eminence of the largest city not only in terms of its size, but also the influence it wields nationally. He reported that in 28 of the leading countries of the world, the largest city was more than twice as large as the next; in 18 countries, the largest city was more than three times as large as the second biggest city, an empirical regularity which conferred on this relationship, the status of the law of the primate city.

There is significant debate regarding urban primacy – whether they are good or bad for overall urban growth, with one stream of studies arguing that megacities are the engines of growth (see Chen *et al* (2019); Annez and Buckley (2009)). Another stream of literature argues that balanced urban development is the way to spread the benefits of urbanisation more equally across the urban hierarchy, so megacities should be discouraged, and the growth of smaller and medium towns be encouraged. The entire stream of literature on subaltern urbanisation belongs to this category (Denis *et al* (2017); Swerts and Denis (2017)). Sridhar (2019) provides some evidence that large cities are the engines of growth in India, arguing like Chen *et al* (2019) that large cities have led to agglomeration economies. However, Mathur (2019) indicated that India's city size distribution is strange, with the bigger cities in the system not large enough to match the pattern predicted by Zipf's law and cities at the lower end being smaller than their expected size, leading to doubts about their benefits and optimality. Sridhar (2023c) and other earlier studies such as Mathur (2019), Thakur (2016), Das and Dutta (1993) provide an overview of the spatial distribution of primate cities at the national and regional scales in India, which is largely regulated by policies described by Mills and Becker (1986).

Mutlu (1989) hypothesized that free enterprise economies, rather than command and control economies, are more likely to have primate cities, as command economies control the distribution of firms and migrant flows, which was found in their empirical work, as per the expectations. Most importantly, the work by Mutlu (1989) distinguishes between variables that are amenable to policy (location of the state's capital in the biggest city, income inequality) and those that are not (ethnicity, area and population). This paper found that the variables which are not amenable to policy have a stronger effect on primacy, with the result it concludes that reduction in urban primacy can be achieved only with policies that reduce economic efficiency.

Other studies examine the effect of the extent of political decentralisation on primacy. Bo and Cheng (2021) found that the transfer of power from county governments to prefectures in China led to

further urban concentration in the prefectures and more accentuated core-periphery structures in the prefectures. Wilkinson *et al* (2022) found a similar result for Australia where primacy was found to be supported by centralised institutions. Lyman (1992) reported that nations which became politically independent in the 1950s were more likely to have more primate cities. While the extent of urban concentration in countries was not found to be related to their colonial status, colonial countries exhibited greater urban primacy during 1950–1970.

Sawers (1989) described how Moscow aggressively built some 200 new towns to reduce the primacy of Moscow, while Cuba stopped making any infrastructural investments in Havana, to reduce its primacy, after the revolution there. China, like India, resorted to rural industrialisation, setting up town and village enterprises in rural areas, to reduce urban concentration in the largest cities. Brazil moved its capital to Brasilia and offered tax incentives to firms locating there, like Argentina which offered incentives to firms locating in Patagonia. Sawers (1989) showed how Tanzania's policies in setting up growth poles in the country and attempts to move the country's capital to interior Dodoma were futile in arresting Dar-es-Salaam's primacy. He pointed out how in 1967, about 58% of value added in manufacturing and 57% of manufacturing employment was in the primate city, Dar-es-Salaam, while by 1974 the primate city's share of value added was virtually unchanged at about the same, 57%, even though its share of industrial employment had dropped to about 50%. Further, Sawers (1989) reported that Dar es Salaam's share of Tanzania's wage employees increased from only 20% in 1968 to nearly 29% in 1978, with most of it in government jobs, which nullified the deconcentration efforts. Silver (1985) too documented that the regional distribution of manufacturing enterprises in Tanzania was relatively "lopsided", with 20.6 per cent of manufacturing enterprises located in Dar-es-Salaam. This is very relevant for our study since we examine such outcomes in the form of the spatial distribution of jobs and firms in the southern states characterised by extreme primacy.

We find fewer studies examine the relationship between urban primacy and industrial policy like we do here. Only Gelan (2008) examined the relationship between trade policy and urban primacy in developing countries. Their findings showed that relaxing trade barriers (such as export taxes and import tariffs) would decrease the predominance of large cities in developing countries, but this could be realised only when improvements are made to domestic transport infrastructure.

For first, Ioannou and Wojcik (2021) showed that financial activity in a city is positively related to its primacy in the urban system. They discussed channels through which finance can influence urban primacy, including agglomeration, proximity to political power, availability of financial capital, greater financial inclusion, and financial instability due to real estate bubbles which frequently occur in large cities which in turn generate employment and income there.

With respect to India, Vaidya (1999) takes a regional, rather than a national approach to primacy, just like we do here, which is appropriate. Since urban development is a state subject as per the Constitution of India, such a regional treatment of primacy is highly desirable.

Apart from the above, studies which relate urban primacy to industrial policies are quite sparse and limited, even while we recognise that the state governments have a major role to play in alleviating primacy by encouraging firms to locate in the smaller cities. Thakur (2016), similar to what we argue in this paper, shows that Indian urbanisation is characterised by a lack of national primacy, the presence of state primacy, and regional rank-size tendency. Ramachandran (1989) pointed out that India then had no primate city, which was partially explained by the size of the country, and its colonial heritage (like Lyman (1992) had found). Das and Dutta (1993) also argued, similar to what we do in this paper, that the Indian urban system does not have a primate city at the national level, but regional systems are characterised by primacy, with primate cities in three-fourths of the regions. They found that in India, the city size distribution was getting closer to the theoretical rank-size distribution (slope of -1). Closer to our argument here, Das and Dutta (1993) pointed out that Chennai (then Madras), Hyderabad and Bangalore, exerted a sort of triangular primacy in the southern region.

Theory

Lim and Becker (2006) developed a theoretical model to show how policy, represented by public investment in infrastructure, along with other factors, determined concentration in a city. The output of the city was assumed to depend on infrastructure and other factors such as the number of firms. Lim and Becker (2006) argued that political considerations, such as the desire for reelection and the need to show economic growth to donor agencies, may lead policymakers to invest in the primary city or smaller towns, with no recognised bias towards the main city. By holding the number of firms constant, Lim and Becker (2006) assumed that an increase in infrastructure investment would increase labour productivity and wages. So, everything else remains the same, an increase in infrastructure investment² raises income, and attracts labour and population in the location. This theory predicts therefore that scale economies will be more important to countries with limited resources. So, the increased investment in a single location for the benefit of scale economies leads to primacy.

Methodology and Data

While the theory assumes policies refer to public investments, since urban development is a state subject, in this paper, we analyse the policy approach to urban development by the Government of India, and by the state governments of Telangana, Karnataka and Tamil Nadu. Given urban development in India is a state subject, it is not practical to understand the primacy of Mumbai, for instance, relative to that of Delhi and Bengaluru. The national government can at best invest in the primate cities' infrastructure, not in the second-tier cities of the states in which the primate cities are located.

We analyse industrial policies over time for the three states where they were available. During our field visits to Chennai, we got the 2007, 2014 and 2021 policies for Tamil Nadu, while for Karnataka we got the industrial policies of 2006-11, 2009-14, 2014-19 and 2020-25. For newly-created Telangana, we found in the public domain the industrial policy statement only for 2015 after it was created. We also found a highly relevant white paper published in the pre-bifurcation period of the state of Andhra Pradesh, which throws significant light on the observed primacy in the new state.

² The infrastructure investment may refer to any new project such as the construction of a power plant or a road, deemed necessary for further production.

We analyse the industrial policy statements of these states to understand their thrust on infrastructure investment in the primate or the smaller cities and towns, as predicted by the theory. As an outcome of such policies, we examine the effect of these industrial policies on employment in manufacturing and services at the district level. There was significant variation across the three states in terms of the data available on the factories and employment district-wise. For Tamil Nadu and Karnataka for the most recent years for which we got the data, we had information on MSME units and employment by district. For Telangana, we obtained data on MSME units and employment. For the earlier years for Karnataka, we obtained data in a different format, by factories and employment for services and non-services, all referring to non-agricultural establishments. For the most recent year for Karnataka (2022-23), we were able to get data on MSME units and employment. The emphasis on MSMEs is relevant especially because Sridhar (2023c) found that MSME employment (per 100 population) had a positive effect on urban concentration.

The results reported in this paper are entirely based on secondary data, sourced from existing policy documents, and data from the relevant departments available in the three states. In many ways, Tamil Nadu's urban primacy is less severe than that in Karnataka and Telangana, hence we hypothesize that the industrial policies in Tamil Nadu may be emulated in the other two states. The methodology followed is largely qualitative, and critically evaluates the industrial policies in terms of their pronouncements and then reviews the distribution of jobs and industry in the three states. The analysis assumes that the spatial distribution of jobs and firms is a fallout of the policies discussed, which is reasonable to make because industry cannot locate in any given place, dictated by their considerations, without the necessary approvals.

Policies of the National Government

Even though there is no single document that summarises the Indian government's policy on city size, as pointed out by Mills and Becker (1986), historically several policies/programmes have been in place in the country to 'control' city size, as persuasively argued by them. The earliest national government's programme to influence the location of industry made use of industrial licenses, a system which was called as the 'license raj' (dismantled as part of the 1991 economic reforms). As part of this policy, in 1977, industrial licenses were denied in 'large' cities, to move firms towards smaller and medium-sized cities.

Another policy that 'controlled' city size in the country was the policy of direct investment in government-owned enterprises. As pointed out by Mills and Becker (1986), as part of this policy, priority for the location of government-owned industry was given to low-income areas, rural areas, or small cities and towns.

Further, government support of small industry to locate in small towns and rural areas, was yet another policy tool used to 'control' city sizes. Under this policy, many specific policy measures such as concessional loans were provided to small industries which are typically found in smaller cities and towns.

A final locational programme of the government of India was to develop 'backward' districts, with incentives such as subsidies for capital investment, and so forth which would have the effect of

supporting smaller cities and towns. In 1988, the government of India started the Growth Centres Programme to promote the industrialisation of backward districts in the country. Sridhar (2006) evaluated this programme and found that the growth centres were not geographically big enough to have significant impacts on the unemployment rate of the areas thus designated.

Thus, policies of the Government have tried to limit the size and growth of large cities by dispersing industry to smaller towns and rural areas or to poorer states and districts.

The Government of India's policies such as Special Economic Zones (SEZs) are primarily meant to boost exports and improve trade performance, not really to promote the growth of small and medium towns (see Jenkins *et al* (2015) who argue that the nature of governance in these SEZs, also perceived as nascent urban areas, is at best weak and non-representative).

Given the context of the policies of the national government, we now move to a discussion of the industrial policies of the states of Tamil Nadu, Karnataka, and Telangana in that order, for the years for which we have the relevant policy documents.

State Government Industrial Policies

2007 Industrial policy of Tamil Nadu

As highlighted in the 2007 industrial policy of Tamil Nadu, Vision 2011had focused on the creation of employment, increasing the contribution of manufacturing to the Gross State Domestic Product (GSDP), doubling the state's exports, and improving the efficiency and competitiveness of small and medium enterprises. The objectives of the 2007 industrial policy were to make the state an attractive investment destination, develop its industrial infrastructure and focus on small and medium enterprises. Hence, while we note that there is no goal which is directly related to balanced regional development in the state's 2007 industrial policy, the thrust on small and medium enterprises in directly emphasizes the growth of smaller and medium towns, as such enterprises locate only in the smaller towns.

As related to infrastructure, the Tamil Nadu 2007 industrial policy emphasized the development of railheads in Sriperumbudur, Cheyyar and Cuddalore. Beyond Chennai, the state government emphasized the improvement of facilities in the Thoothukudi port into a major one, and the smaller airports (including Madurai, Tiruchirapalli, Thoothukudi and Coimbatore). These aspects address the challenges of smaller cities outside of Chennai, especially from the theoretical perspective highlighted earlier in the paper.

The industrial policy of 2007 also highlighted that local bodies in *key industrial areas* must adopt better town planning and civic amenities. In its discussion on Special Economic Zones (SEZs), the industrial policy of 2007 referred to "balanced regional development" whereby proposals for SEZs in industrially backward 'blocks' would be encouraged. However, these industrially backward regions are not specified. Some other policies in the interests of 'balanced regional development' specify that industrial parks should be located at least 50 km away from Chennai's city limits.

However, we identify certain clauses in the state's 2007 industrial policy which could be responsible for the observed primacy (which is relatively lower) in Tamil Nadu. We found capital subsidies, stamp duty and tax exemptions applicable to manufacturing units *irrespective of location*, which must create a clear benefit for Chennai, due to its agglomeration economies.

2014 Industrial Policy of Tamil Nadu

In continuation of its policy goals of 2007, the 2014 industrial policy of Tamil Nadu recognized *balanced regional development with emphasis on the backward southern districts of the state,* as a key strategy for accomplishing its goals – major thrust for infrastructure development, increased role of competitive manufacturing, and elimination of poverty. In this context, it is noteworthy to observe that as of March 2013, 95% of the state highways in Tamil Nadu were multi-lane, which encourages the development of cities and towns more equally across the urban hierarchy.

In the 2014 policy, districts were classified as A, B or C.³ Depending on the employment impact of various projects, incentives were provided to them in the various categories, with the incentives being the most relaxed in B and C category districts. Projects were classified as mega, super mega A, super mega B, and ultra mega projects (with the maximum investment and employment effects). These criteria for fiscal incentives based on employment and investment were relatively more relaxed for projects locating in category B and C districts, implying encouragement for the small and medium towns. In addition, the 2014 industrial policy also guaranteed common infrastructure such as roads, water supply, uninterrupted power supply, and special incentives to entrepreneurs in the new SIPCOT industrial parks in the southern districts (see footnote 2).

The 2014 industrial policy explicitly recognised the rapid industrialisation of the southern districts of the state as one of its objectives. So, selected strategies to achieve this objective were improvements in connectivity of the minor ports such as Nagapattinam, Cuddalore and others. Industrial parks in the southern districts were developed by SIPCOT as part of the 2014 industrial policy. A minimum of 4 special investment regions were identified covering the north, south, west and central districts of the state for promoting manufacturing industry.

Further, the development of high-speed passenger trains between Chennai and Coimbatore, and Chennai and Madurai-Kanyakumari and Madurai-Salem are highlighted in the 2014 industrial policy. An industrial corridor of excellence between Madurai, Tirunelveli and Thoothukudi was set to be developed. Summarising, we observe enough thrust on the development of smaller and medium towns in the 2014 industrial policy of Tamil Nadu, taking off from the 2007 version, which is consistent with the theoretical perspectives of Lim and Becker's (2006) model.

2021 Industrial Policy of Tamil Nadu

The 2021 industrial policy supersedes the 2014 industrial policy. Consistent with the earlier policy, the post-Covid 2021 industrial policy recognises the importance of balanced regional development in the state's inclusive growth. In the 2021 industrial policy, districts are classified as A, B or C,⁴ whereby B

³ As per the 2014 Government of Tamil Nadu industrial policy, the A category consists of advanced districts such as Chennai, Kanchipuram and Tiruvallur. The C category districts refer to the southern districts identified asPudukkottai, Theni, Dindigul, Sivagangai, Ramanathapuram, Virudhunagar, Tirunelveli, Kanyakumari, Madurai and Thoothukudi. Districts that were neither in A nor C, were classified in the B category.

⁴ In the 2021 industrial policy, A category districts are Chennai, Chengalpattu, Kancheepuram and Tiruvallur. Category B districts are Coimbatore, Erode, Karur, Krishnagiri, Namakkal, Ranipet, Salem, The Nilgiris, Tiruchirapalli, Tiruppur,

and C districts are the northern, poorer districts, and there is a separate incentive structure for them. Again, as in the earlier industrial policy, the districts in various categories are eligible for structured incentives, based on their status and nature of projects (mega, ultra mega, large), with the most relaxed structure for B and C districts (where even large projects are eligible for incentives, as compared to A districts where only the mega and ultra mega projects are eligible). These structured incentives cover various aspects such as eligible fixed assets, turnover-based subsidy subject to employment creation, stamp duty incentive, land cost subsidy, and refund on capital goods and capital subsidy, training subsidy, special incentives for warehousing and logistics, all of which are the most relaxed in B and C districts.

There is also a focused sectoral strategy (targeting Information Technology) in the 2021 industrial policy of Tamil Nadu for smaller cities such as Madurai, Trichy, Thoothukudi, Villupuram, Salem where IT parks are set up. Further, the 2021 industrial policy recognises the important role played by Micro, Medium and Small Enterprises (MSMEs) in the growth of small and medium towns, re-emphasizing the findings of Sridhar (2023c) who reported that MSMEs had a negative effect on urban concentration. In this spirit, there is a reservation of 20% of land for MSMEs in the SIPCOT industrial parks.

Outcomes of Tamil Nadu's Industrial Policy

What is the outcome of these industrial policies on the distribution of jobs in Tamil Nadu? Table 1 summarises the distribution of MSME factories and jobs across districts of the state. Figure 1 depicts the district-wise share of *factories* in Tamil Nadu, while Figure 2 shows the district-wise share of *employment*, both spatially, which are very revealing. Chennai and Coimbatore continue to be dominant accounting for nearly one-fourth of factories and one-third of employment in the state. A quick examination of Table 1 and Figures 1-2 indicates that districts such as Theni, Dindigul, Karur, Thoothukudi and Kanyakumari collectively continue to have less than 9% of the total number of MSMEs and 7% of the total employment. While the employment distribution is a bit more equal than that of factories, there is room for improvement.

Is industry an instrument to move populationaway from primate cities? Other important fulcrums of decision-making for skilled residents to moveare good schools, colleges, health care facilities, both private and public.

Tirupattur, and Vellore. Category C districts, as per this latest policy, are Ariyalur, Cuddalore, Dharmapuri, Dindigul, Kallakurichi, Kanyakumari, Madurai, Mayiladuthurai, Nagapattinam,Perambalur, Pudukkottai, Ramanathapuram, Sivagangai, Tenkasi, Thanjavur, Theni, Thiruvarur, Thoothukudi, Tirunelveli, Tiruvannamalai, Villupuram and Virudhunagar.

| S. No. | District | Manufacturing units | Services units | Grand Total Factories (columns 3+4) | Employment (in Numbers) | Share of factories | Share of employment |
|-----------|------------------|------------------------|-------------------|--|-------------------------------|--------------------|---------------------|
| 1 | Ariyalur | 557 | 1125 | 1682 | 9069 | 0.57% | 0.28% |
| 2 | Chennai | 13658 | 33428 | 47086 | 718710 | 15.89% | 22.17% |
| 3 | Coimbatore | 14741 | 15317 | 30058 | 339164 | 10.14% | 10.46% |
| 4 | Cuddalore | 2131 | 3531 | 5332 | 48763 | 1.80% | 1.50% |
| 5 | Dharmapuri | 1900 | 2680 | 4580 | 30755 | 1.55% | 0.95% |
| 6 | Dindigul | 2273 | 3443 | 5716 | 52363 | 1.93% | 1.62% |
| 7 | Erode | 6655 | 5937 | 12592 | 108292 | 4.25% | 3.34% |
| 8 | Kancheepuram | 5686 | 11099 | 16785 | 224570 | 5.66% | 6.93% |
| 9 | Kanniyakumari | 3479 | 5109 | 8588 | 61646 | 2.90% | 1.90% |
| 10 | Karur | 1876 | 1828 | 3704 | 43361 | 1.25% | 1.34% |
| 11 | Krishnagiri | 3665 | 3757 | 7422 | 89020 | 2.50% | 2.75% |
| 12 | Madurai | 4837 | 8164 | 13001 | 118713 | 4.39% | 3.66% |
| 13 | Nagapattinam | 1211 | 2195 | 3406 | 34861 | 1.15% | 1.08% |
| 14 | Namakkal | 3928 | 5322 | 9250 | 87751 | 3.12% | 2.71% |
| 15 | Perambalur | 445 | 679 | 1124 | 7072 | 0.38% | 0.22% |
| 16 | Pudukkottai | 1139 | 2613 | 3752 | 24194 | 1.27% | 0.75% |
| 17 | Ramanathapuram | 655 | 1692 | 2347 | 13230 | 0.79% | 0.41% |
| 18 | Salem | 9279 | 9729 | 19008 | 155347 | 6.41% | 4.79% |
| 19 | Sivagangai | 967 | 2357 | 3324 | 20844 | 1.12% | 0.64% |
| 20 | Thanjavur | 1716 | 4051 | 5767 | 36244 | 1.95% | 1.12% |
| 21 | The Nilgiris | 401 | 819 | 1220 | 11417 | 0.41% | 0.35% |
| 22 | Theni | 1085 | 1813 | 2898 | 21651 | 0.98% | 0.67% |
| 23 | Thiruvallur | 5267 | 8142 | 13409 | 163894 | 4.52% | 5.06% |
| 24 | Thiruvarur | 650 | 2044 | 2694 | 14706 | 0.91% | 0.45% |
| 25 | Thiruchirappalli | 2870 | 6605 | 9475 | 79434 | 3.20% | 2.45% |
| 26 | Tirunelveli | 2971 | 5304 | 8275 | 54854 | 2.79% | 1.69% |
| 27 | Thiruppur | 14220 | 5204 | 20424 | 356780 | 6.89% | 11.01% |
| 28 | Tiruvannamalai | 1846 | 2555 | 4401 | 28870 | 1.48% | 0.89% |
| 29 | Thoothukkudi | 1566 | 3284 | 4850 | 42450 | 1.64% | 1.31% |
| 30 | Vellore | 4817 | 5154 | 9971 | 101230 | 3.36% | 3.12% |
| 31 | Villupuram | 2132 | 3948 | 6080 | 43779 | 2.05% | 1.35% |
| 32 | Virudhunagar | 4259 | 3593 | 7852 | 98254 | 2.65% | 3.03% |
| | Total | 122882 | 173521 | 296403 | 3241288 | 99.89% | 100.00% |
| | Average | | | | | 3.12% | 3.13% |
| | Max | | | | | 15.89% | 22.17% |
| | Min | | | | | 0.38% | 0.22% |
| | Std.Dev | | | | | 3.18% | 4.38% |

Table1: District-wise MSMEs and Employment, Tamil Nadu, 2020-21

Source: Industries Commissioner and Director of Industries and Commerce, Chennai and author's analyses.

So along with improving economic opportunities in smaller and mid-tier cities, educational and healthcare facilities should be upgraded significantly as highlighted in Sridhar (2023b), based on secondary data from the Census. In this context, it is worthy of note that the state's 2014 industrial policy mentions that Tamil Nadu is the "number 1" state as far as the availability of skilled manpower is concerned. As per the India Skills Report 2019-20, Chennai ranks second in the list of cities with high employability. Given TN is also the most urbanised state, if true, the assertion shows the direct relationship between urbanisation and the availability of highly skilled human resources, with 375,000 IT/ITeS professionals, 182,000 graduate engineers and over 35,000 software engineers, along with 120,000 diploma holders from polytechnics and vocational institutions.

So urbanisation must be highly correlated with high quality of human capital in the state, which characterise and define cities.



Figure1: District-wise Share of MSME Factories, Tamil Nadu, 2020-21

Source: Industries Commissioner and Director of Industries and Commerce, Chennai



Figure2: District-wise Share of MSME Employment, Tamil Nadu, 2020-21

Source: Industries Commissioner and Director of Industries and Commerce, Chennai

Industrial policies of the Government of Karnataka

As discussed in the section on methodology, we reviewed several industrial policy statements of Karnataka -- 2006-11, 2009-14, 2014-19 and 2020-25, to understand its approach toward primacy. Similar to what we find in Tamil Nadu, even in 2006, the government of Karnataka recognised the need to "..reduce regional imbalance in the matter of economic development and employment opportunities and ultimately aim at overall socio-economic development of the State... with special emphasis on most/more backward taluks.." This policy recognised 'Zone 1' in the state, referring to those identified by the Dr D M Nanjundappa Committee Report (2002) as backward, underlining the provision of schemes for such areas, similar to that in Tamil Nadu.

However, despite this, there were certain clauses in Karnataka's industrial policy of 2006-11 under which "..the BMRDA has taken up 5 New Townships around Bangalore... As per BMRDA Master

Plan, economic activities would be encouraged within these townships by creating industrial infrastructure.."Quite in contrast to the vision of 'balanced regional development', the above-mentioned policies presumably caused confusion to an industry which was considering location in the state, and biased the odds in favour of Bengaluru.

The state's industrial policy of 2009-14 recognised the importance of balanced regional development, and to "ensure the uniform spread of industries and economic activities throughout the State and accelerate the pace of development, especially in the districts of North Karnataka.."This policy, like its predecessor, recognised the need to classify taluks into four zones based on Dr D M Nanjundappa Committee report (2002), whereby such regions could be eligible for special incentives for attracting firms and investments. While the importance of Bengaluru as a destination for domestic and international firms was recognised both in the 2009-14 and the 2014-19 policy, the industrial policy of 2009-14 attempted to incentivise the utilisation of local resources, both human and natural to "minimize the migration of people to urban centres".

The industrial policy of 2009-14 came up with the idea of a Suvarna Karnataka Development Programme, under which corridors such as Tumkur-Honnavar via Shimoga, Bidar-Bangalore via Chitradurga, and so on would be developed, like cluster projects in such corridors proposed by the earlier version of the policy (2006-11).

Nonetheless, special incentives were made applicable to enterprises owned by Scheduled Caste/Scheduled Tribe (SC/ST), women, physically challenged, in the most backward taluks of the Hyderabad-Karnataka region. Further, the fee for conversion of agricultural land to industrial uses was waived in the industrially-backward regions of the state by the industrial policy of 2009-14. Entry tax for companies locating in the backward regions was waived, in addition to the provision of interest-free loans or interest subsidy, and exemption from electricity duty for manufacturing enterprises locating in the backward regions. These policies were in addition to technological upgradation and patent registration for companies locating in the backward areas.

One positive aspect of the industrial policy of 2009-14 was the initiative to develop airports in Shimoga, Hassan, Gulbarga, Bellary, Bidar, and Bijapur, with public-private partnership arrangements, in addition to 11 airstrips in 11 other locations, similar to that envisaged in Tamil Nadu. This is consistent with the theory highlighted by Lim and Becker (2006).

A thrust in the 2009-14 industrial policy which had implications for intra-city location was the intent to move industry away from the centre of cities to their periphery.

The unsurprising part is that Bangalore figures in many of the sector-specific industry clusters identified as part of the 2009-14 policy, given its agglomeration economies across many industries. So clearly, the industry must have been confused often, and decided to locate in Bengaluru, given its advantages.

The industrial policy of 2014-19 continued to reiterate its emphasis on balanced regional development, classifying the state into five zones, out of which four (zones 1-4) were designated as backward. It provided a large number of incentives, concessions, exemption from stamp duty, interest-free loans, power tariff concessions and subsidies for enterprises locating in the backward zones of the state.

Further the policy of 2014-19 designated 3 corridors, two of which unsurprisingly included Bangalore, for further development. Further, it was decided to designate Peenya, Mysore, Bommasandra, Belgaum, Hubli, etc as industrial townships, recognising these are cities where land is scarce and the cost of developing it is high. The industrial policy of 2014-19 also included a separate thrust for focusing industrial development in the backward Hyderabad-Karnataka region, with land and tax incentives in addition to subsidies, to promote their industrialisation. It noted that cities such as Bengaluru, Mysore, Hubli-Dharwad and Belgaum were getting congested with the result that there was a need to move labour-intensive industries away from these cities, which was one motivation for the industrial policy to advocate smooth entry, exit and relocation of industry.

While the fee for conversion of agricultural land to industrial uses was waived in the industrially-backward regions of the state by industrial policy 2009-14, the industrial policy of 2014-19 proposed amendments to relevant legislation (Karnataka Land Reforms Act Section 109) to cut down the time for conversion of land from agriculture to industrial uses. Further, the KIADB was asked to facilitate the setting up of small industries in rural areas with the provision of basic amenities such as water, drainage, roads and streetlights.

Towards accomplishing its goal of balanced regional development, the industrial policy of 2014-19 came up with the idea of 'a cluster of economically vibrant towns around each city.' The policy stated that proposals for SEZs from 'backward districts' would be given priority, and special incentives would be provided for private industrial areas set up in such backward districts. Further, an anchor unit subsidy was made applicable to firms being set up in taluks/districts/industrial areas which did not have any industry. Nonetheless, the policy continued to emphasize the role of Bengaluru in the development of corridors involving other leading financial centres of the country such as Mumbai, and Chennai.

It is interesting to note that the word 'cities' is not used, rather taluks, districts and industrial areas are used in most of the policy statements, which shows that cities and towns were not recognised as important or relevant entities in setting the industrial landscape.

By the time Karnataka's industrial policy was drafted for 2020-25, it was evident that the government was cognizant of the dominance of Bengaluru in the urban and industrial space. Hence 'inclusive' and 'balanced' regional development with the promotion of Tier 2 and Tier 3 towns as engines of economic growth was an important part of the thrust on industrial development.

The industrial policy of 2020-25 gives special focus to the backward regions of the state (including Tier II/III cities and districts in North Karnataka region). There is a special investment region (SIR) proposed to be set up in Dharwad, covering Gadag, Haveri and Belagavi, in an explicit attempt to decongest Bengaluru.

As a result of these industrial policies to 'decongest Bengaluru' over time, we wanted to understand the outcome in terms of the spatial distribution of industry and employment in Karnataka. Table 2 shows the distribution of factories and employment by district during 2004-08. It shows the heavy concentration in Bengaluru, both of factories and employment, where even as of 2007-08, the primate city continued to attract more than half of the state's factories and nearly two-thirds of employment, although its importance declined slightly during 2004-05 and 2007-08, likely due to the policies described above. The relative importance of other employment destinations such as Belgaum,

Dharwad, Mysore, Bellary and Tumkur increased during the period 2004-2008, as may be seen in their increasing shares of factories and employees, although Udupi's share of employees declined. Table 3 summarises the distribution of establishments and employment for 2013-14.

| | 2004-05 | 2007-08 | 2004-05 | 2007-08 | |
|-----------------|----------------------|---------|----------------|---------|--|
| District | % of total factories | | % of employees | | |
| Bagalkote | 0.74 | 0.14 | 0.57 | 0.29 | |
| Bangalore (R) | 2.68 | 1.86 | 3.54 | 3.41 | |
| Bangalore(U) | 54.21 | 50.85 | 66.27 | 64.65 | |
| Belgaum | 6.33 | 7.86 | 5.52 | 5.59 | |
| Bellary | 2.68 | 3.73 | 1.38 | 1.98 | |
| Bidar | 0.76 | 0.81 | 0.75 | 0.93 | |
| Bijapur | 0.65 | 0.27 | 0.28 | 0.22 | |
| Chamarajnagar | 0.17 | 0.12 | 0.07 | 0.04 | |
| Chikkaballapura | NA | NA | NA | NA | |
| Chikmagalur | 0.43 | 0.96 | 0.22 | 0.35 | |
| Chitradurga | 0.91 | 1.48 | 0.19 | 0.32 | |
| D.Kannada | 5.7 | 5.16 | 3.65 | 2.54 | |
| Davanagere | 1.55 | 1.48 | 0.74 | 0.57 | |
| Dharwad | 4.17 | 4.74 | 2.04 | 2.12 | |
| Gadag | 0.82 | 0.85 | 0.4 | 0.32 | |
| Gulbarga | 0.43 | 1.09 | 0.53 | 1.14 | |
| Hassan | 0.19 | 0.33 | 0.24 | 0.59 | |
| Haveri | 1.02 | 0.86 | 1.1 | 0.69 | |
| Kodagu | 0.4 | 0.45 | 0.15 | 0.17 | |
| Kolar | 1.5 | 1.03 | 0.47 | 0.48 | |
| Koppal | 1.2 | 1.02 | 0.46 | 0.84 | |
| Mandya | 0.49 | 0.12 | 0.46 | 0.56 | |
| Mysore | 4.46 | 5.51 | 3.79 | 5.31 | |
| Raichur | 1.29 | 1.82 | 0.25 | 0.47 | |
| Ramanagara | NA | NA | NA | NA | |
| Shimoga | 1.49 | 1.31 | 1.2 | 1.38 | |
| Tumkur | 2.11 | 2.48 | 1.05 | 1.65 | |
| Udupi | 3.10 | 3.33 | 3.82 | 2.66 | |
| Uttara Kannada | 0.64 | 0.33 | 0.85 | 0.74 | |
| Yadgir | NA | NA | NA | NA | |
| State | 100 | 100 | 100 | 100 | |

Table 2: Karnataka's Distribution of Factories and Employment, by District, Karnataka, 2004-05 to2007-08

Source: Annual Survey of Industries, Karnataka, and author's analysis

Table 3: Distribution of Non-Agriculture Establishments and Employment by District, Karnataka,2013-14

| District | % Non- Agriculture Establishments (Other than Services) | % Establishments for Non- Agricultural activity (Services) | % Total persons employed under Non-Agriculture Sector (Other than Services) | % Employment under Non- Agricultural Sectors (Services) |
|-----------------|---|--|--|--|
| Bagalkote | 4.22 | 2.46 | 3.48 | 2.44 |
| Bangalore (R) | 1.71 | 1.29 | 1.54 | 1.00 |
| Bangalore(U) | 27.16 | 34.30 | 46.93 | 42.59 |
| Belgaum | 4.01 | 4.28 | 3.6 | 3.84 |
| Bellary | 3.38 | 3.82 | 2.78 | 3.19 |
| Bidar | 1.26 | 1.83 | 1.04 | 1.73 |
| Bijapur | 1.15 | 1.58 | 0.77 | 1.33 |
| Chamarajnagar | 1.5 | 1.14 | 0.86 | 0.89 |
| Chikkaballapura | 1.42 | 1.41 | 1.45 | 1.05 |
| Chikmagalur | 1.23 | 1.66 | 0.91 | 1.25 |
| Chitradurga | 0.99 | 1.36 | 0.76 | 1.21 |
| D.Kannada | 16.23 | 4.91 | 9.02 | 5.58 |
| Davanagere | 3.03 | 2.5 | 2.05 | 1.91 |
| Dharwad | 2.67 | 3.57 | 2.34 | 3.36 |
| Gadag | 1.42 | 1.55 | 1.16 | 1.41 |
| Gulbarga | 1.55 | 2.42 | 1.49 | 2.05 |
| Hassan | 1.8 | 2.69 | 1.15 | 2.07 |
| Haveri | 1.16 | 1.62 | 0.75 | 1.47 |
| Kodagu | 0.27 | 0.52 | 0.18 | 0.44 |
| Kolar | 2.58 | 2.05 | 1.79 | 1.66 |
| Koppal | 0.67 | 0.99 | 0.53 | 0.84 |
| Mandya | 1.77 | 2.35 | 1.13 | 1.59 |
| Mysore | 3.78 | 4.74 | 2.83 | 4.55 |
| Raichur | 0.82 | 1.7 | 1.06 | 1.56 |
| Ramanagara | 1.83 | 1.26 | 1.8 | 0.95 |
| Shimoga | 3.3 | 3.62 | 2.25 | 2.89 |
| Tumkur | 4.19 | 3.42 | 2.84 | 2.66 |
| Udupi | 2.32 | 1.83 | 1.66 | 1.95 |
| Uttara Kannada | 1.61 | 2.1 | 1.27 | 1.74 |
| Yadgir | 0.99 | 1.03 | 0.58 | 0.81 |
| State | 100 | 100 | 100 | 100 |

Source: Economic Census of Karnataka, and author's analysis

Even in 2013-14, the dominance of Bengaluru is visible, given it accounts for more than one-fourth of establishments in non-services (Figure 3), and more than one-third of establishments in services (Figure 4). In terms of employment in non-services, it accounts for more than 45% share (Figure 5), and more than 40% in services employment (Figure 6) in the state. In establishments (non-services), Dakshina Kannada consisting of Mangaluru is the second most dominant after Bengaluru (see Figure 3). Otherwise, the landscape of economic activity is dominated by Bengaluru, despite the industrial policies summarised here.



Figure 3: Spatial Distribution of Non-Agriculture Establishments (Other than Services), 2013-14, Karnataka

Source: Economic Census of Karnataka, and author's analysis



Figure 4: Spatial Distribution of Non-Agriculture Establishments (Services), Karnataka's districts, 2013-14

Source: Economic Census of Karnataka, and author's analysis

While Bengaluru had more than half of the manufacturing factories and nearly two-thirds of the employees thereof, in 2004-05 (Table 2), this had declined to about 27% (for other than services) and more than one-third still (for services) as of 2013-14, and still more than 40% of employment (both services and non-services) (Table 3). One possible reason for this could be because the definition of "other than services" in the Economic Census of 2013-14 includes many more industries, in addition to manufacturing, for which the earlier years' data are available.



Figure 5: Spatial Distribution of Employment (Non-Services) Across Karnataka's Districts, 2013-14

Source: Economic Census of Karnataka, and author's analysis



Figure 6: Spatial Distribution of Employment (Services) Across Karnataka's Districts, 2013-14

We managed to get data on the MSME factories and employment for Karnataka, for 2022-23. Table 4 summarises the distribution, and the share accounted for the districts in MSME factories and employment.

| Number | District | Total Units | Total Employment | % Share of Units | % Share of Employment |
|--------|-------------------|-------------|---------------------|------------------|--------------------------|
| 1 | Bagalkote | 13,841 | 1,42,365 | 2.36 | 2.80 |
| 2 | Ballari | 16,416 | 1,60,510 | 2.80 | 3.16 |
| 3 | Belagavi | 41,672 | 2,94,882 | 7.12 | 5.80 |
| 4 | Bengaluru (Rural) | 31,075 | 3,54,091 | 5.31 | 6.97 |
| 5 | Bengaluru (Urban) | 1,56,995 | 14,21,538 | 26.81 | 27.98 |
| 6 | Bidar | 10,564 | 99,730 | 1.80 | 1.96 |
| 7 | Chamarajnagar | 5,238 | 30,850 | 0.89 | 0.61 |
| 8 | Chikballapur | 8,803 | 72,622 | 1.50 | 1.43 |
| 9 | Chikkamagaluru | 8,822 | 72,637 | 1.51 | 1.43 |
| 10 | Chitradurga | 9,213 | 1,08,348 | 1.57 | 2.13 |
| 11 | Dakshin Kannada | 26,188 | 1,90,369 | 4.47 | 3.75 |
| 12 | Davangere | 12,899 | 79,014 | 2.20 | 1.56 |
| 13 | Dharwad | 25,039 | 1,46,245 | 4.28 | 2.88 |
| 14 | Gadag | 7,419 | 38,665 | 1.27 | 0.76 |
| 15 | Hassan | 14,928 | 1,68,831 | 2.55 | 3.32 |
| 16 | Haveri | 10,519 | 98,089 | 1.80 | 1.93 |
| 17 | Kalaburagi | 12,193 | 1,09,570 | 2.08 | 2.16 |
| 18 | Kodagu | 5,286 | 35,200 | 0.90 | 0.69 |
| 19 | Kolar | 9,394 | 1,78,156 | 1.60 | 3.51 |
| 20 | Koppal | 7,543 | 97,617 | 1.29 | 1.92 |
| 21 | Mandya | 11,964 | 88,292 | 2.04 | 1.74 |
| 22 | Mysuru | 30,433 | 2,77,791 | 5.20 | 5.47 |
| 23 | Raichur | 11,116 | 1,39,527 | 1.90 | 2.75 |
| 24 | Ramanagara | 8,087 | 52,104 | 1.38 | 1.03 |
| 25 | Shivamogga | 17,141 | 1,11,957 | 2.93 | 2.20 |
| 26 | Tumakuru | 19,688 | 1,85,334 | 3.36 | 3.65 |
| 27 | Udupi | 15,169 | 74,117 | 2.59 | 1.46 |
| 28 | Uttar Kannada | 13,276 | 60,725 | 2.27 | 1.20 |
| 29 | Vijayanagar | 2,006 | 10,423 | 0.34 | 0.21 |
| 30 | Vijayapura | 15,260 | 1,20,589 | 2.61 | 2.37 |
| 31 | Yadgir | 7,317 | 60,859 | 1.25 | 1.20 |
| | Total | 5,85,504 | 50,81,047 | 100.00 | 100.00 |
| | Average | | | 3.23 | 3.23 |
| | Maximum | | | 26.81 | 27.98 |
| | Minimum | | | 0.34 | 0.21 |
| | Std.Dev | | | 4.62 | 4.85 |

Table 4: Spatial Distribution of MSME Factories and Employment, Karnataka's Districts, 2022-23

Source: Economic Survey of Karnataka 2022-23 and author's analysis

So, we find that the distribution of economic activity was slowly dispersing during 2004-5 to 2007-08 (Table 2), as Bengaluru's concentration of jobs declined from 54% to 51% over the period, and a further low of 43% (services) and 47% (non-services) in 2013-14 (Table 3). Table 4, even while it relates only to MSMEs, shows that even though the distribution of jobs and factories continues to be skewed in Karnataka, nonetheless, Bengaluru's concentration here is only 28% (jobs) and 27% of MSME units. This is a relatively higher concentration in Bengaluru, than we find in Chennai (which accounted for only 22% of jobs and 16% of MSME units), even while only MSME activity is considered (recall that Table 1 for Tamil Nadu relates to MSMEs as Table 4 does for Karnataka). Figures 7-8 represent respectively the spatial distribution of MSME units and jobs across Karnataka's districts.



Figure 7: Spatial Distribution of MSME Units Across Karnataka's Districts, 2022-23

Source: Economic Survey of Karnataka 2022-23 and author's analysis



Figure 8: Spatial Distribution of MSME Employment Across Karnataka's Districts, 2022-23

Source: Economic Survey of Karnataka 2022-23 and author's analysis

Telangana's Industrial Policy of 2015

We have reviewed the newly-carved state's only industrial policy which is publicly accessible at (https://mg.sbts.in/wp-content/uploads/2023/09/Industrial-Framework-2014-Version-1.pdf). Quite in contrast to Tamil Nadu's industrial policy which is macro in nature, and highlights specific strategies for balanced regional development, Telangana's industrial policy of 2015 gets into micro details of investments, land allotment, acquisition, the land pricing and procedures necessary for investors. The policy elaborates many details and schemes for Scheduled Castes/Scheduled Tribes/Dalit and women entrepreneurs, and tax incentives plus benefits, along with skill upgradation (which is also present in Karnataka, but with a spatial dimension which is absent in Telangana). It claims to rationalise all laws that impact industry and examine if there are contravening indications in central and state laws, which may have to be amended.

The industrial policy of Telangana does emphasize a Hyderabad-Warangal industrial corridor whereby the development of Warangal as a textile hub is discussed. However, beyond this the industrial policy goes on to discuss specific sectors such as pharmaceuticals, biotechnology and medical devices. A medical devices park is being developed in Hyderabad. There is much emphasis on the textile industry, the creation of textile and apparel clusters, and a mega textile park in Warangal, which is expected to create about 200,000 jobs there, with an investment of about Rs.11,000 crores.

Given the Telangana industrial policy does not mention anything specific about balanced regional development as per the above, we examined an industrial policy of the undivided Andhra Pradesh from 2014, before the state's bifurcation.

Industrial policy of undivided Andhra Pradesh

We downloaded the 2010-15 version of the undivided state's Industrial and Investment Promotion Policy (IIPP). We noted that there is nothing specific in the policy and government order regarding balanced regional development, similar to what we find with the new state. Further, all incentives are at the micro level, and apply to certain industries (micro or small enterprises, textiles) or entrepreneurs from Scheduled Castes and/or Tribes or women, with the only condition that the location of the micro or small industry should be beyond 10 km from the existing industrial estates having vacant land/shed for allotment. New firms locating in Hyderabad, Vishakapatnam and Vijayawada were not eligible for incentives.

A 2014 white paper published by the industries and commerce department of the Government of Andhra Pradesh, critically analyses these policies, and recognises the importance of industry in promoting job growth. As related to 'balanced regional development' the white paper refers to the poor progress made by undivided Andhra Pradesh with respect to road infrastructure with the state not planning or investing in roads in the industrial corridors. The white paper points out empirical evidence of the neglect of road infrastructure in the state: Out of the total 47,202 habitations in undivided Andhra Pradesh, 5,528 habitations (about 12%) of different population structures remained unconnected as of 2014. Further, road length per 100 sq km in AP was only 86.52 km (22nd rank among the states), with the national average at115.31 km. The road length per lakh population was 281.11 kms in AP (22nd rank among the states), with the national average being 313.2 km. However, this neglect was not without reason, the cause being declining funds allocated for the department, from 3.66% in 2000, to only 2.74% to roads and buildings, of the state budget in 2010-11.

Other reasons for the unbalanced growth of the state are that SEZs in several smaller towns did not take off. Though the undivided state was eager to get a record number of 78 SEZs notified, the land acquisition / alienation for these SEZs ran into controversies. Therefore, of the 32 SEZs notified in residual Andhra Pradesh, only 16 SEZs became operational.

Further, railway infrastructure was neglected as pointed out by the 2014 white paper. The undivided state failed to get any big projects during the last decade from the central government. It is instructive to note that no new train routes were added nor doubling of existing tracks was taken up. Even electrification of the existing lines was not done, all primarily due to poor allocation of funds. The state was not able to lobby for the merger of Visakhapatnam Division with the South Central Railway, or the doubling of the Guntur-Bibinagar Railway line, as per the demands of Seemandhara passengers. The undivided state was also not able to demand the creation of a new zone for the Seemandhra region with Vijayawada or Visakhapatnam as a Zonal Head Quarters, all of which collectively led to poor rail links to rest of the state. Based on findings in Sridhar (2023b), this must've led to the extreme concentration we observe.

When we examine the development of human resources, the undivided state had nearly 700 engineering colleges during 2004-14, but there were no qualified teaching faculty, which led to the closure of many institutions. As per the white paper, the government did not address the mismatch between supply of and demand for jobs, whereby 75% of candidates were from rural areas and more than 75% jobs were in urban areas, that too only in a few cities.

As a result of these industrial policies over time, we wanted to understand the outcome in terms of the spatial distribution of industry in Telangana. Table 5 shows the distribution of MSMEs by district in the state. Both show a heavy concentration in Hyderabad, of MSME units and employment (22% each), which is nonetheless lower than what we find in Bengaluru (27%). Except for Warangal rural, the landscape of economic activity is dominated by Hyderabad, despite the industrial policies summarised here. This is likely due to the neglect of infrastructure as summarised by the white paper.

Nonetheless, we find that the concentration of the number of MSMEs in Hyderabad is higher than that of Chennai in Tamil Nadu, but lower than that of Bengaluru in Karnataka. Hence, we conclude that Karnataka has failed to spread economic activity beyond Bengaluru, although the primate city's concentration is declining.

| District | No. of Employees | Percentage share of state | No. of Enterprises | Percentage share of state |
|---------------------|---------------------|------------------------------|-----------------------|---------------------------|
| Mulugu | 4,762 | 0.12 | 854 | 0.29 |
| Narayanpet | 5,082 | 0.13 | 1,125 | 0.38 |
| Kumuram Bheem | 10,548 | 0.27 | 1,170 | 0.39 |
| Jayashankar | 19,356 | 0.49 | 1,964 | 0.66 |
| Jogulamba Gadwal | 20,250 | 0.51 | 2,236 | 0.75 |
| Nirmal | 12,958 | 0.33 | 2,393 | 0.80 |
| Jangoan | 21,620 | 0.55 | 2,481 | 0.83 |
| Wanaparthy | 34,954 | 0.88 | 2,551 | 0.86 |
| Rajanna Sircilla | 26,065 | 0.66 | 3,193 | 1.07 |
| Nagarkurnool | 51,197 | 1.30 | 3,567 | 1.20 |
| Vikarabad | 25,326 | 0.64 | 3,573 | 1.20 |
| Mahabubabad | 30,080 | 0.76 | 3,613 | 1.21 |
| Adilabad | 24,443 | 0.62 | 3,879 | 1.30 |
| Kamareddy | 23,174 | 0.59 | 4,025 | 1.35 |
| Mancherial | 26,960 | 0.68 | 4,117 | 1.38 |
| Warangal Rural | 24,702 | 0.63 | 4,413 | 1.48 |
| Jagtial | 27,532 | 0.70 | 4,584 | 1.54 |
| BhadradriKothagudem | 27,646 | 0.70 | 4,860 | 1.63 |
| Medak | 55,299 | 1.40 | 4,896 | 1.64 |
| Siddipet | 37,420 | 0.95% | 5,025 | 1.69 |
| YadadriBhuvanagiri | 34,605 | 0.88 | 5,489 | 1.84 |
| Peddapalli | 44,909 | 1.14 | 5,598 | 1.88 |
| Suryapet | 1,77,356 | 4.49 | 8,053 | 2.70 |

Table 5: District-wise Distribution of MSMEs in Telangana, 2015-22

| Min | 4,762 | 0.12% | 854 | 0.29% |
|---------------------|-----------|--------|----------|--------|
| Мах | 94,744 | 21.71% | 65,114 | 21.87% |
| Average | 35,676 | 3.03% | 9,022 | 3.03% |
| Total | 39,51,941 | 100.00 | 2,97,724 | 100.00 |
| Hyderabad | 8,57,807 | 21.71 | 65,114 | 21.87 |
| Rangareddy | 4,68,532 | 11.86 | 37,818 | 12.70 |
| Medchal-Malkajigiri | 5,89,084 | 14.91 | 34,035 | 11.43 |
| Nalgonda | 1,05,371 | 2.67 | 15,077 | 5.06 |
| Karimnagar | 6,33,344 | 16.03 | 12,649 | 4.25 |
| Nizamabad | 74,063 | 1.87 | 12,246 | 4.11 |
| Warangal Urban | 81,542 | 2.06 | 10,752 | 3.61 |
| Mahabubnagar | 88,330 | 2.24 | 8,937 | 3.00 |
| Khammam | 94,744 | 2.40 | 8,762 | 2.94 |
| Sangareddy | 1,92,880 | 4.88 | 8,675 | 2.91 |

Source: Telangana State Statistical Abstract, 2022 and author's analysis

Summary of Findings

Our examination of policies of the Government of India and industrial policy statements of the three southern states characterised by extreme urban primacy over a period shows that balanced regional development was recognised for long as a goal in Tamil Nadu and Karnataka. Several sector-specific clusters were identified, and the various 'backward' zones covering the backward regions of Tamil Nadu that were constantly kept in mind while designing industrial policy. The primate city Chennai and its district accounted for 16% of the state's share of MSMEs and 22% of employment as of 2020-21. Hence, we conclude that the state government policy has been somewhat successful in dispersing economic opportunities away from Chennai.

Despite having successive industrial policies which recognise balanced regional development as a goal, Karnataka has failed to disperse economic activity beyond Bengaluru. In addition to several-sector specific clusters that were identified, and the various 'backward' zones covering the Kalyana Karnataka region that were constantly kept in mind while designing industrial policy, a significant part of the same has included an equal emphasis on Bengaluru. No doubt many of the industry clusters identified, also include Bengaluru, along with the other smaller towns. Hence, this must've created some confusion in the mind of industry which decided to apparently locate in Bengaluru given its agglomeration benefits. The primate city and its district continued to account for 27% of MSME units, and 28% of MSME employment in 2022-23. Hence. we conclude that the state government policy has only been gradually successful in dispersing economic opportunities away from Bengaluru, even while this concentration is the most severe of the three states we've considered.

Even while primacy (in terms of population) is much stronger in Telangana, and the national highway network is weak, Hyderabad accounts for 22% of the number of MSMEs and their employment in the state. This is a surprise given the stark primacy we observe in the state. This may have been due to policies of the state government to disperse employment away from Hyderabad, although we've not been able to locate the policy that explicitly states this as a goal. Nowhere in the industrial policy

statements of this new state have we identified a vision/goal relating to 'balanced regional development' as we observed in Tamil Nadu.

Conclusions

Investigating the severe primacy in the southern states of India, we find that Karnataka is the worst, as Bengaluru is economically highly primate, compared with its counterparts in Tamil Nadu and Telangana. While Tamil Nadu is better in terms of the spatial distribution of MSME factories, in terms of the spatial distribution of employment, Telangana and Tamil Nadu are similar (accounting for 22% of the state's total). This is consistent with the MoHUA's Ease of Living surveys, which show that Bengaluru is economically very dominant in Karnataka, compared to the second-tier cities such as Mysuru and Hubballi-Dharwad.

The other southern states not studied here – divided Andhra Pradesh and Kerala, have an even distribution of cities, and quite weak urban primacy as may be seen in the ratio of population in Vishakapatnam to Vijayawada (about 1.7 in Andhra Pradesh) and 1.6 in Kerala (ratio of Thiruvananthapuram's population to that of Kozhikode). As per the State Urbanisation Report of Kerala (2012), the population growth in Class I and Class II towns has slowed down considerably, while population in the Class III towns is growing. This must have played a significant role in bridging the gap between the largest cities such as Thiruvananthapuram and the smaller cities. So Kerala's demographic transition offers some lessons for Karnataka and Telangana. One way to increase the natural population growth in smaller towns of Karnataka and Telangana is to improve their infrastructure, as presented by the theoretical perspectives in this paper and by Sridhar and Nayka (2021).

References

- Annez and Buckley (2008). Urbanization and Growth, Chapter 1, Report of the Growth Commission on Development Spence, M, Annez, P C and Buckley, R M (eds). World Bank Publications.
- Bo, S and Cheng, C (2021). Political Hierarchy and Urban Primacy: Evidence from China. *Journal of Comparative Economics*, 49 (4): 933-46.
- Chen, Z, Lu, M and Ni, P (2019). Urbanization and Rural Development in the People's Republic of China. In Guanghua Wan and Ming Lu (eds), *Cities of Dragons and Elephants: Urbanization and Urban Development in the People's Republic of China and India.* Oxford, UK: Oxford University Press.
- Das, R J and Ashok Dutt (1993). Rank-size Distribution and Primate City Characteristics in India-A Temporal Analysis. *GeoJournal,* 29: 125-137
- Denis, E, Zérah, M H and Mukhopadhyay, P (2017). Subaltern Urbanisation in India. Springer.
- Gelan, A (2008). Trade Policy and City Primacy in Developing Countries. *Review of Urban & Regional Development Studies: Journal of the Applied Regional Science Conference*, 20 (3): 194-211.
 Melbourne, Australia: Blackwell Publishing Asia.
- High Powered Committee (2002). High Powered Committee for Redressal of Regional Imbalances. Bengaluru: Government of Karnataka.

- Ioannou, S and Wójcik, D (2021). Finance, Globalization, and Urban Primacy. *Economic Geography*, 97 (1): 34-65.
- Jefferson, M (1939). The Law of the Primate City. Geographical Review, 29: 226-32.
- Jenkins, R, Kennedy, L, Mukhopadhyay, P and Pradhan, K C (2015). Special Economic Zones in India: Interrogating the Nexus of Land, Development and Urbanization. *Environment and Urbanization Asia*, 6 (1): 1-17.
- Lim, J and Becker, C (2005). Infrastructure and Urban Primacy: A Theoretical Model. *Urban Economics*, 195.
- Lyman, B (1992). Urban Primacy and World-System Position. Urban Affairs Quarterly, 28 (1): 22-37.
- Mathur, O P (2019). City-Size Distributions in a Quasi-Open Economy: The India Evidence. In Guanghua
 Wan and Ming Lu (eds), *Cities of Dragons and Elephants: Urbanization and Urban Development in the People's Republic of China and India.* Oxford, UK: Oxford University Press.
- Mills, E S, Becker, C M and Verma, S (1986). *Studies in Indian Urban Development*. New Delhi: Oxford University Press.
- Mutlu, S (1989). Urban Concentration and Primacy Revisited: An Analysis and Some Policy Conclusions. *Economic Development and Cultural Change*, 37 (3): 611-39.
- Ramachandran, R (1989). Urbanization and Urban Systems in India. *Oxford India Paperbacks*. New Delhi: Oxford University Press,.
- Sawers, Larry (1989). Urban Primacy in Tanzania Economic Development and Cultural Change, 37 (4): 841-859.
- Silver, M S (1985). *The Growth of The Manufacturing Industry in Tanzania: An Economic History*. New York: Routledge. DOI:<u>https://doi.org/10.4324/9780429311444</u>
- Sridhar, Kala Seetharam (2006). Local Employment Impact of Growth Centres: Evidence from India. *Urban Studies*, 43 (12): 2205-2235.
- (2019). Costs and Benefits of Urbanization: The Indian Case. In Guanghua Wan and Ming Lu (eds), *Cities of Dragons and Elephants: Urbanization and Urban Development in the People's Republic of China and India.* Oxford, UK: Oxford University Press. Pp 40-80.
- (2023a). Urbanization and Covid-19 prevalence in India. *Regional Science Policy & Practice*, 15 (3): 493-505. <u>http://dx.doi.org/10.1111/rsp3.12503</u>.
- ——— (2023b). Is Your City Too Big? Urban Primacy in India, Final report, Indian Council of Social Science Research, May 2023.
- (2023c). Is your city too big? Urban Primacy in India. *Environment and Urbanization Asia*, 14
 (2): 188-202. <u>https://doi.org/10.1177/09754253231193129</u>
- Sridhar, Kala Seetharam and Guanghua Wan (2010). Firm Location Choice in Cities: Evidence from China, India, and Brazil, *China Economic Review*, 21 (2010): 113–122.
- Sridhar, Kala Seetharam and Shivakumar Nayka (2021). Urban Primacy in Karnataka: Infrastructure, Policy and the Dispersal of Jobs. *Final report,* Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC), Government of Karnataka, December 2021.

- Swerts, Elfie and Eric Denis (2017). Mapping Small Towns' Employment and Productive Configurations. in Denis, E, Zérah, M H and Mukhopadhyay, P (2017). *Subaltern Urbanisation in India*. Springer, 553-576.
- Thakur, S K (2016). Recent Studies in Regional Urban Systems in India: Trends, Patterns and Implications. In Dutt, AK *et al* (eds), Spatial Diversity and Dynamics in Resources and Urban Development, Volume II: Urban Development. Pp 39-66, Springer.

Vaidya, N (1999). Urban primacy in India. University of California, Davis. Unpublished PhD Dissertation.

- Wilkinson, G, Haslam McKenzie, F and Bolleter, J (2022). Federalism and Urban Primacy: Political Dimensions that Influence The City–Country Divide in Australia. *International Journal of Urban Sciences*, 26 (3): 438-462.
- Zipf, G K (1949). Human Behavior and the Principle of Least Effort. Massachusetts: Addison Wesley Press.

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