

Submission to the High-Powered Task Force to review NEET, NTA and the conduct of Exams.

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This submission highlights the deeper connections between the repeated failures of a certain nationwide exam and the overall conduct of higher education and its consequences. It is based on our research in this area and has appeared in various fora, including research papers. All points below are based on facts available in the public domain.

The National Prerogative

1. **Diversity and Unfolding of Professions.** India is a vast and extremely diverse country - in geography, culture, governance, and economics. Many large states, for example Maharashtra, which is the size of Germany, are more diverse than most large countries. *The standard professions - doctor, engineer, planner, economist, lawyer, etc. need to unfold themselves in response to this diversity so that they generate the expected value.* This requires a suitable mix of professional and societal skills.
2. **Designing for diversity.** For an irrigation engineer, the basic parameters of design and cost-benefit analysis of an irrigation project in Himachal Pradesh will be very different from those in Maharashtra. Similarly, a gynaecologist practising in the slums of Mumbai needs a very different combination of skills, knowledge, and abilities than one in a tribal area in Amravati.
3. **Agencies.** Different professions express themselves differently too. For example, a doctor is either self-employed or serves in a public or private hospital. These deliver services to individuals. An engineer typically works in a company or a state agency, which may build assets such as factories, bridges, or satellites, or generate software used by downstream industries.
4. **Impact of professions on quality of life.** The quality of life for an ordinary citizen of India is governed by the presence of these institutions and agencies which address their needs. If public hospitals are not present in a certain region, or doctors do not want to serve there, then these people's health is compromised. See the plots in **Fig. 8**. Similarly, if the marketplace for road-building, repair, and measurement technologies is underdeveloped, people's mobility is compromised.
5. **Elite Institutions.** Another feature of India's higher education scenario is the presence of 'elite' institutions in most professional areas. These receive substantial funding, which is several times the national per-student average for public institutions. Only now have private institutions emerged that offer similar facilities and ambience, and at the same price.

6. **Elite disconnect.** This has created a credentialed marketplace for fresh professional graduates that caters to an affluent, globalising market segment. But it is failing to serve the general population. This is causing extreme inequality and stress in both the economy and society. See Fig. 2 for the placement data for 2013, published in *Current Science*, vol. 10, 2016.
7. **Elite accountability.** In this context, allocating prospective students to professional institutions is critical. Hence, the oversight of the process, analysis of outcomes and subsequent modifications are essential and must be done in the most scientific manner. This is best ensured by having a separate agency whose job is the above and which periodically publishes reports along with the data.
8. **Agency to do it.** Ideally, this oversight is the function of the Ministry of Education or perhaps the NITI Aayog. The NTA itself states as its vision that “The right candidates joining best institutions will give India her demographic dividend”. Its mission is “to improve equity and quality in education by administering research-based [...] efficient, fair and international level assessments”. But no reports of the above nature have appeared from any agency.
9. **The opportunity of HPTF.** In this connection, it is indeed fortuitous that the HPTF has been constituted and has asked for ideas on making the examination system “**inclusive and accessible**” and “**transparent and future ready**”. We were happy to see that the effort is being led by someone well-versed in the system of higher education, the professions, the industry and its role, and, above all, someone who has contributed, through Arghyam Foundation and in other ways, to the material well-being of the general population.
10. **The ambit.** We write these suggestions with the express warning that, given the numerous challenges we outline below, a fail-proof examination system is extremely difficult. Moreover, even if that is achieved in the limited sense the political leadership wants, the system will be far from “**inclusive and accessible**” and even further from making us, as a society, “**future-ready**” in terms of the professions that serve it. And yet, we hope that our submission and your report are the **first step** in revamping not only the entrance exam, but what follows after it.

The Credentialed System and its Deficiencies

11. **One nation, one exam - Risk of compromise.** Given the diversity and available funding, setting national standards by creating a small set of elite institutions, a national curriculum, a single entrance exam, etc., is risky. The risk is even greater when you impose these entrance exams across the full gamut of professional institutions in the country. Whenever data has been available, it has pointed to incongruities which can only be explained by some level of malpractices or strategic behaviour. See Figures 7-10.
12. **Risk for elite institutions.** For the elite institute, the risk is of irrelevance - their own curriculum does not train them adequately for any particular geography or set of agencies, and the graduates do not find employment in the intended roles. For

example, largely speaking, the IITs do not train their students in core engineering services - roads, drinking water, public transport, etc. - as they unfold in a region. Nor do they generally conduct research to develop the marketplace for such services through new professions and technologies. See Fig. 1 for research by Indian scientists and Fig. 2 for placements.

13. **Poor allocation of professionals to roles.** Unfortunately, credentialing and other signalling functions mask this. IIT Bombay and IIT Delhi are the most preferred IITs after JEE Advanced for a simple reason: the market for high-paying multinational companies is here, and the student sub-culture is the most conducive. Moreover, most top graduates in any discipline from most of the older IITs end up in non-engineering jobs at multinational companies whose end-customers are global citizens. For example, see our 2013 data in Fig. 2 below. Only about 1/3rd of the IITB graduates worked in core engineering companies - Indian or multinational. A similar fraction worked for Indian companies. Engineering jobs in Indian companies for the Indian end-customer had the smallest package.
14. **Packages hide misallocation.** The media typically highlights high placement percentages and high packages for IIT graduates. What is suppressed is that, due to training or otherwise, or due to a pernicious equilibrium, most graduates are not serving as engineers in the Indian market. Thus, most engineering needs - be it drinking water systems, pollution control, climate change adaptation, environmental services, transport, etc. - have deficient marketplaces.
15. **ONOE as the only gateway.** In this scenario, the competitive exams now function as one of the few gateways for common people to aspire to a middle-class "secure" salaried life. For the IIT graduate, there is also the chance of becoming "global citizens", of serving in a clutch of multinational companies with salaries 2-3 times those in Indian companies in similar roles. This is essentially a zero-sum game with very high stakes, especially for regions of India where other dignified white-collar job opportunities are few and societies such "credentials" are highly valued.
16. **Credentialing and centralisation.** Credentialization, of course, refers to a market distortion of rent-seeking arising out of scarcity or the poor design of roles. It refers to a position or role held by a person with credentials, whose actual competence may fall short of what is believed or what the role requires. The IAS bureaucrat, the IIT graduate, etc., are examples of such credentialed roles and generate huge rents and have come about through the centralisation of these roles.
17. **Rent-seeking and professional void.** The entrance exam is the main device of competitive rent-seeking which is disconnected from the nominal profession - the administrator, the engineer, etc. Much scientific literature examines such credentialing and labelling, the strategies adopted, and their deleterious impact on society. The average student in these institutions has little interest in the profession itself but in the rents that the label will command. This is leading to a hollowing-out of most professions - the engineer, the planner, the economist or the administrator.

18. **Examples.** The city of **Mumbai** (and most cities and state governments), for example, needs **smart economics graduates** who would normally have been from the Delhi School of Economics, statisticians from ISI, planners from SPA, etc., but none are to be found. And yet a mechanical engineering graduate from IIT Bombay joins Deutsche Bank, which pays Rs. 22L p.a. The reason, of course, is that the elite institutions have not utilised their privilege and access to create the workflows and job descriptions that generate value, nor have they trained their students for it.
19. **Alienation of students in elite institutions.** Credentialing has also created a student body largely alienated from the institution's stated mission and vision. This is seen in poor course attendance, increased use of unfair means, and increased stress over obtaining prize internships and, subsequently, high-package jobs.
20. **Impact on the mission of institutions.** This has severely impacted the research, development and engagement agenda of these institutions. For example, IIT Bombay states "Our mission is to provide transformative education that fosters intellectual growth, ethical leadership, and societal responsibility" and to provide "cutting-edge research and innovation that addresses key challenges facing India and the world". This requires far more careful student selection and an interdisciplinary, engagement-driven curriculum, both of which are absent.

Impact on school education.

21. **Coaching begins in schools.** The coaching class is one such side-effect. 27.0% of enrolled students nationally receive **private coaching**, rising sharply by class, reaching 37.7% by Class XI/XII, exactly the grades that feed engineering/medical entrance exams. Mean spend among coached students is Rs 8,935/year overall, jumping to Rs 17,298/year at Class XI/XII, **nearly double**, and this doesn't include school fees, just coaching. Urban Class XI/XII students spend Rs. 22,363 vs Rs 13,777 for rural students. This also propagates much of the **gender and class disparity at elite institutions**, and has little to offer in return. See Fig. 7 and Fig. 13.
22. **Gender and class disparity begins at the school level.** While the top 1% in CBSE XII-th has more girls than boys, barely 15-20% of the top 1% in NEET or JEE are girls. In 2018, the last year when JEE Advanced gathered parental income data, the top quintile was 5 times more likely to succeed than the bottom quintile. See Fig. 12 below.
23. **Irrelevance of regional boards and their problems.** Competitive exams are also pushing urban students to choose CBSE schools, whose curriculum is deemed better suited to them. See Fig. 3. These are general private schools that most cannot afford. The migration of affluent students is causing these boards to lose public attention and overall quality, even though they serve most students in the states. This is now impacting learning outcomes of the general student body; see ASER reports.
24. **Modifications to state curricula.** Under pressure from the general population, states are also modifying their state board curricula and examination patterns. "CBSE pattern " material and multiple-choice formats are introduced early, and testing too

has changed. This is causing undue stress and irrelevance. ASER studies have shown that 30% of high school students cannot do 3-digit division, follow instructions on an ORS packet, or write a paragraph in any language. And yet, many state governments focus on improving the chances of the top 5% of students in competitive exams.

25. **Conceptual retreat of the Sciences.** More conceptual material such as making maps of your village or locality, or computing the nutrients in one's meal, or even field visits to the local flour mill, is now further in retreat. This is largely because machine-graded, nationwide exams on a standard curriculum cannot ask such questions. *This is changing the very definition of Science and Mathematics and, increasingly, further depreciating interest in languages, the humanities, and the Social Sciences.*

Conclusions and Recommendations

26. **Acknowledge the intrinsic risks.** The One-Nation-One-Exam (ONOE) system produces extremely powerful incentives to adopt unfair means. Holding such nationwide exams under these adverse conditions is difficult, if not impossible. As pointed out before, data points to the exams being compromised, to some extent.
27. **Acknowledge the inherent inequality of opportunity.** The other data, whenever published, points to gross disparities by regions, class and gender. This too is endemic to the ONOE system and is caused by many existing social inequalities which get amplified.
28. **Recommend unwinding.** Thus, the only socially prudent path is to unwind the ONOE position. The concerned agencies can do this by conscientiously publishing relevant data and drawing the right conclusions. This may be done in the following steps:
- A. **Do not publish marks.** Convert to **qualifying exams**. Obtain cut-offs after discussion with professional institutions.
 - B. If students must be ranked, **rank them by district and state.** Have regional merit lists.
 - C. Recommend that institutions move to the above regimes and use other criteria that match their **regional mandate or their mission and vision** for admitting students.
29. **Recommend elite responsibility.** Inform the elite institutions, most of which are funded by the central government, of their responsibility encoded in their mission and vision statements. Also inform them of the ONOE's high cost to the people, and ask whether it truly finds the right students for them. Require them to publish data on student outcomes, their jobs and sectors. Ask them to compare how elite institutions worldwide select incoming students and compare outcomes.

30. **Enforce NTA to follow its mandate.** The next step is for the NTA to take its stated mandate seriously: “The right candidates joining best institutions will give India her demographic dividend”. This may be done in the following steps.

- A. On the institutions' side, form a committee of institutions, including elite institutions, to oversee the exam's format and content.
- B. Require this committee to periodically produce reports on how the exams have fared in finding the “right candidates” for their mission and vision. Align this with the NIRF reporting.
- C. Require the NTA to publish in granular form, all data concerning centres, students - by gender, class and geography, question papers, marking etc.
- D. Require the NTA to conduct research on the performance of the exam in their core function of allocating the “right candidates” to the professional institutions, impact on society, and impact on the popular perception of science and the professions.

In summary. The failure of the higher education system is widespread and has extremely harmful consequences for society. ONOE's conduct is an intrinsic part of this system. Its failure is symptomatic of the larger failure that also needs to be addressed.

Tables and Plots

Table 3. Number of papers with phrase in the title and with at least one author from India (Scopus)

Topic (phrase)	All years preceding 2003	2003–09 (TEQIP I)	2010 onwards (TEQIP II)
Neural network	692	1818	2467
Fuzzy logic	110	327	759
Wavelets	96	905	1846
Genetic algortihms	262	989	1373

Table 4. Number of papers with phrase in the title and with at least one author from India (Scopus)

Topic (phrase)	All years preceding 2003	2003–09 (TEQIP I)	2010 onwards (TEQIP II)
Water supply	84	74	87
Sanitation	30	51	63
Groundwater models	11	29	70
Public transport	5	15	25
Power grid	12	56	288

Fig. 1. Areas of research of Indian scientists. See fewer papers in areas of basic engineering, as opposed to those of global interest then.

Table 1. Placements (2013) of undergraduate and postgraduate students of major departments in IIT Bombay

Sector	Engineering	Finance	Consulting	IT
Super-GG	25 (27.7)	10 (35.0)	7 (54.0)	42 (51.3)
GG	116 (7.9)	82 (11.7)	110 (9.6)	102 (10.0)
IG	54 (6.5)	19 (7.2)	11(5.8)	28 (7.2)
GI	24 (9.3)	10 (14.2)	10 (5.2)	5 (9.3)
II	64 (6.5)	13 (9.5)	8 (5.8)	22 (7.9)

GG, Global company serving a global market (e.g. Bank of America or General Electric); II, Indian company serving Indian markets (e.g. Ambuja Cement or Tata Motors); IG and GI are similarly explained, i.e. Indian company serving global markets and global company serving Indian markets respectively (e.g. Infosys and Hindustan Unilever). Super-GG are placements to positions situated abroad. The figures, e.g. 116 (7.9), indicates the number placed and the average annual salary in lakhs of rupees.

Fig. 2. IIT Bombay placement data of 2013 and industry-wise allocation. Engineering for Indian companies and Indian customers was the least paying and the last choice. Ref.[1]

Number of students appearing for CBSE and Maharashtra Board.			
Year	XII th passed (CBSE, in lakhs)	X th passed (CBSE, in lakhs)	Xth Maharashtra Board (appeared, in lakh)
1996	2.08	3.30	12.14
2006	4.38	6.32	16.08
2016	10.41	14.89	17.3
2026	17.68	24.71	16.5

Fig. 7: Growth of CBSE as compared to Maharashtra Board.

Table 5. Selected JEE statistics on gender						
	JEE 2012			JEE (Advanced) 2013		
	Appeared	Qualified	Pass percentage	Appeared	Qualified	Pass percentage
Boys	337,916	21,226	6.28	103,660	18,468	17.8
Girls	168,568	2886	1.71	23,089	2366	10.2
Percentage of girls	33.2	11.9	—	18.2	11.4	—

Table 6. CBSE 2013 statistics					
Gender	Appeared	Secured 90% marks	Percentage of total	Secured 95% marks	Percentage of total
Boys	512,210	22,596	4.4	2855	0.56
Girls	376,410	22,053	5.8	3237	0.86
Percentage of girls	42.4	49.3	—	53.1	—

Fig. 3. Gender Statistics on JEE and JEE Advanced. Compare with CBSE gender profile,

even at the top 5%. Ref.[1]

Cohort	JEE 2011		JEE 2012		JEE (Advanced) 2014	
	Registered (%)	Qualified (%)	Registered (%)	Qualified (%)	Registered (%)	Qualified (%)
Village	18	10	19	11	13	10
Town	29	25	30	26	19	14
City	53	65	51	63	68	76

Fig. 4. Rural versus Urban profile. Rural students constitute a smaller pool and are also less successful.

Table 8. NSSO (2011–12, 68th round) statistics regarding annual household expenditure on education

Attribute	Unit	Andhra Pradesh urban	Andhra Pradesh rural	Rajasthan urban	Rajasthan rural	Odisha urban	Odisha rural	Tamil Nadu urban	Tamil Nadu rural
Per capita expenditure	Mean (Rs)	47,124	35,664	30,948	18,588	35,676	12,636	40,788	39,936
Number of samples	Number	1754	2685	1598	2442	1003	1941	1693	2662
Households with one studying male	Mean (Rs)	9919	5706	19,096	4362	5765	1787	11,046	8493
	Number of samples	365	373	235	263	143	291	373	293
	Gini	0.61	0.58	0.56	0.64	0.65	0.70	0.64	0.67
Households with one studying female	Mean (Rs)	9233	3752	9369	3431	4278	2292	12,653	6949
	Number of samples	281	245	98	126	94	191	321	259
	Gini	0.61	0.55	0.60	0.56	0.82	0.76	0.65	0.69

The Gini coefficient is a scale-invariant measure of inequality in a set of positive numbers, e.g. earnings of individuals, or as in this case, expenditures and takes values between 0 and 1. A Gini coefficient 0 indicates total equality, while that of 1 indicates total inequality, i.e. zero expenditures by all but one individual. For a population in which one-fourth of the people spend three-fourths of the money, the Gini coefficient is 0.5.

Fig. 5. Extreme inequality in spending on education (reflecting ability to spend) by gender, state and rural/urban location.

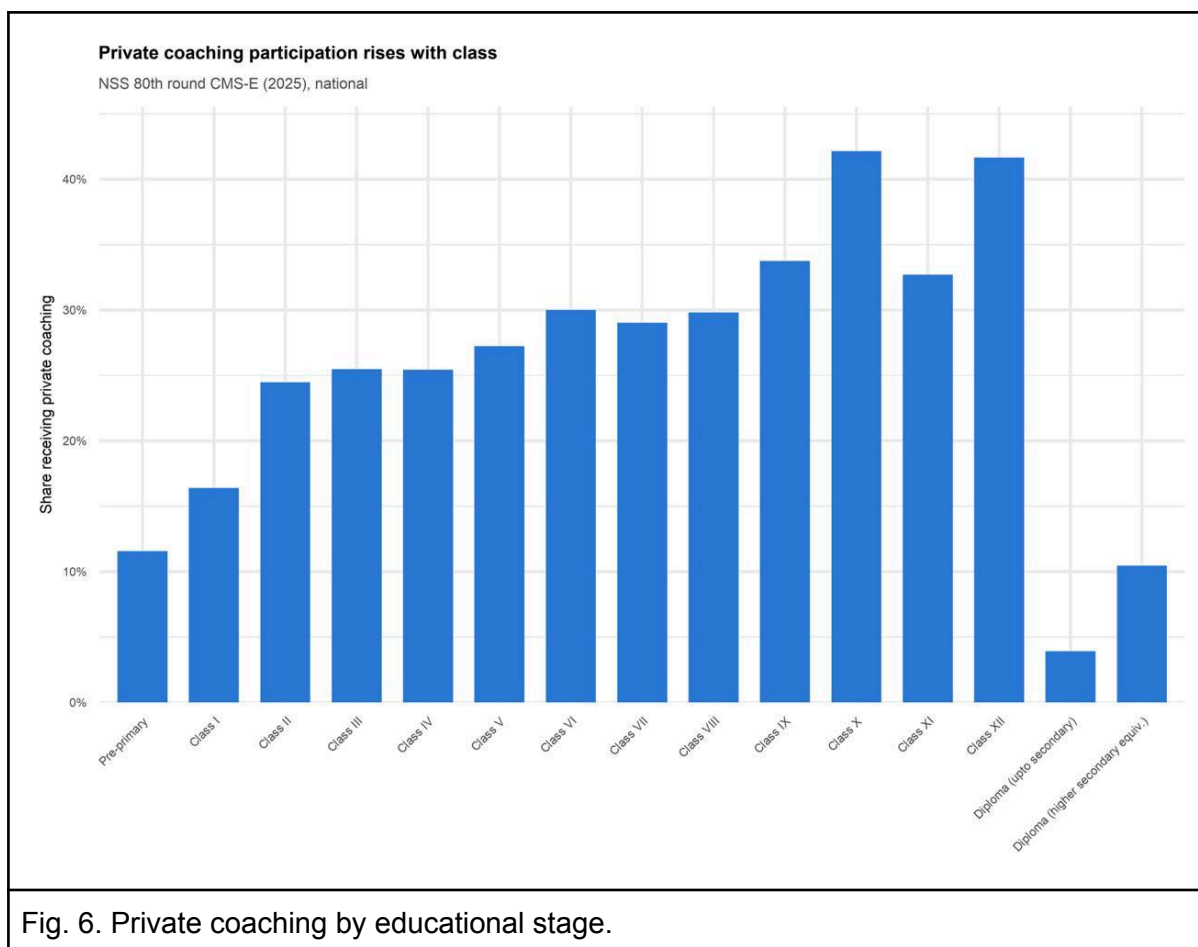


Fig. 6. Private coaching by educational stage.

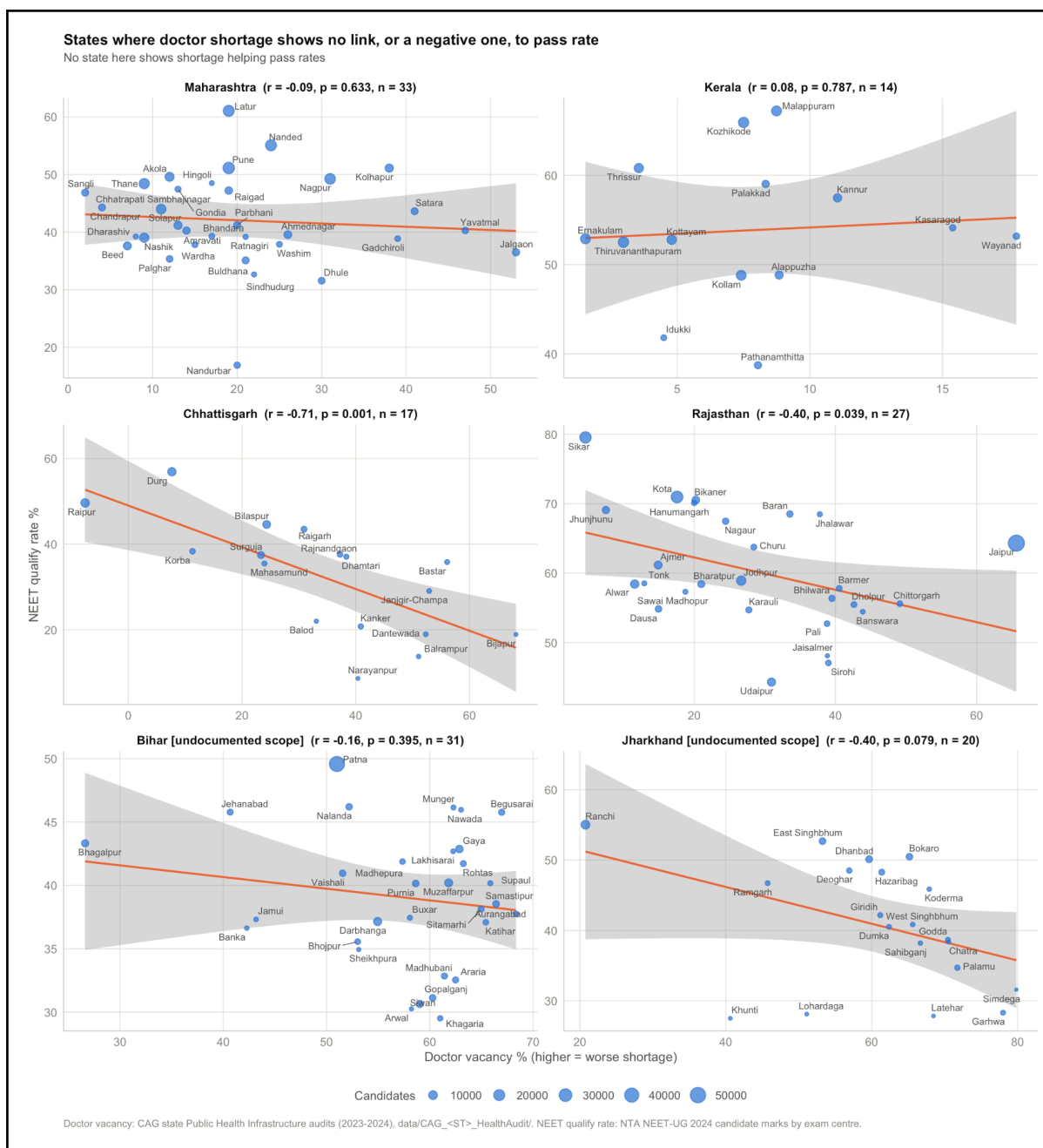
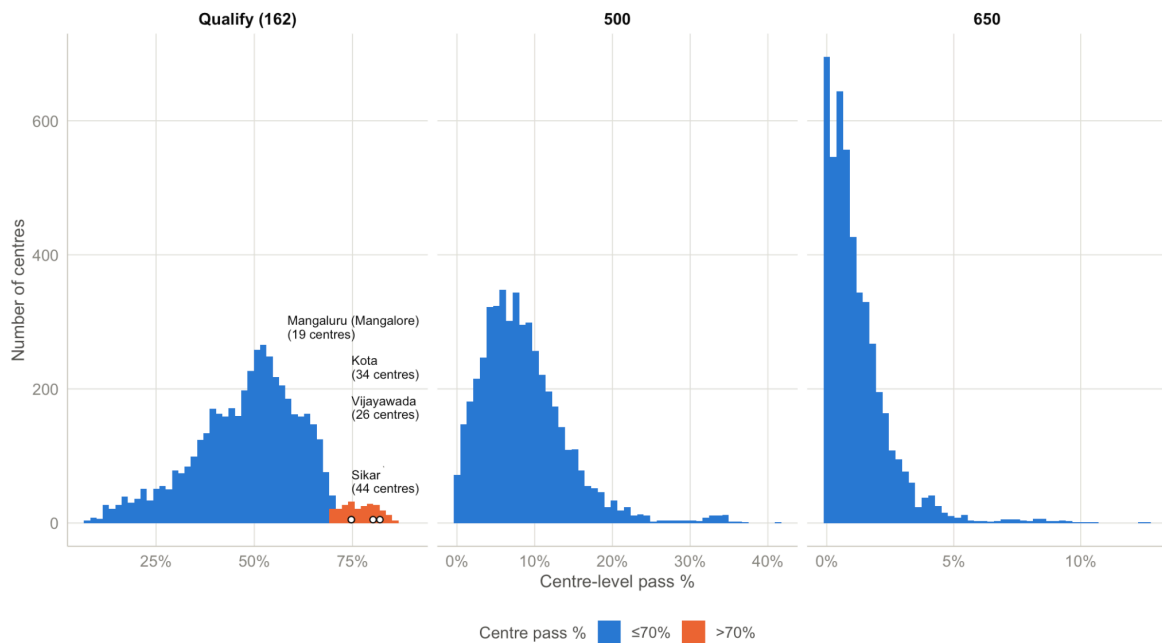


Fig. 7. Percentage of candidates qualifying NEET in a district against the corresponding shortage of doctors as reported by the CAG reports.

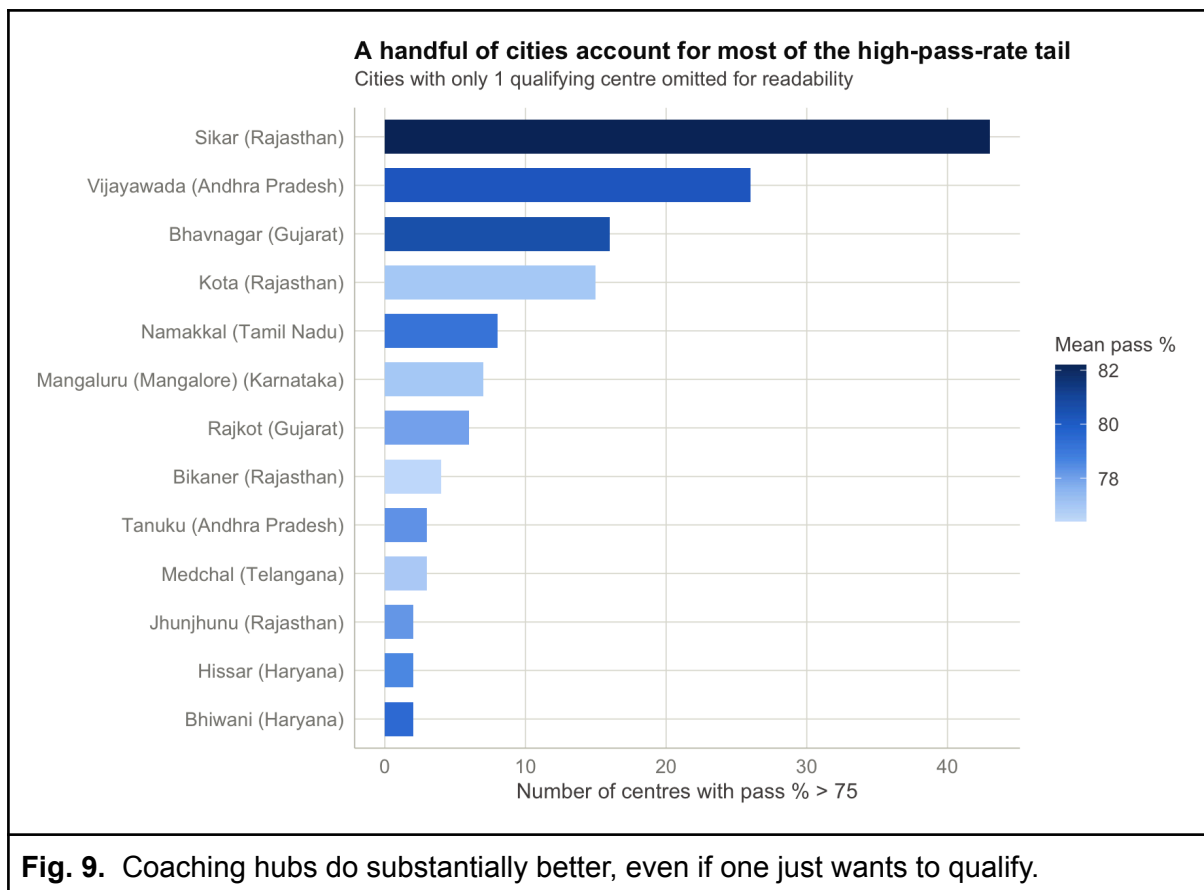
How centre pass rates are distributed, by threshold

Orange bins: centres above 70% pass rate (qualifying threshold only — no centre reaches 70% at 500 or 650). Labels: cities contributing the most centres.



Source: NTA NEET-UG 2024 official candidate marks, all exam centres nationally.

Fig. 8. Passing is almost certain from about 5%. Three-fourths of the high scores come from One-fourth of the centres.



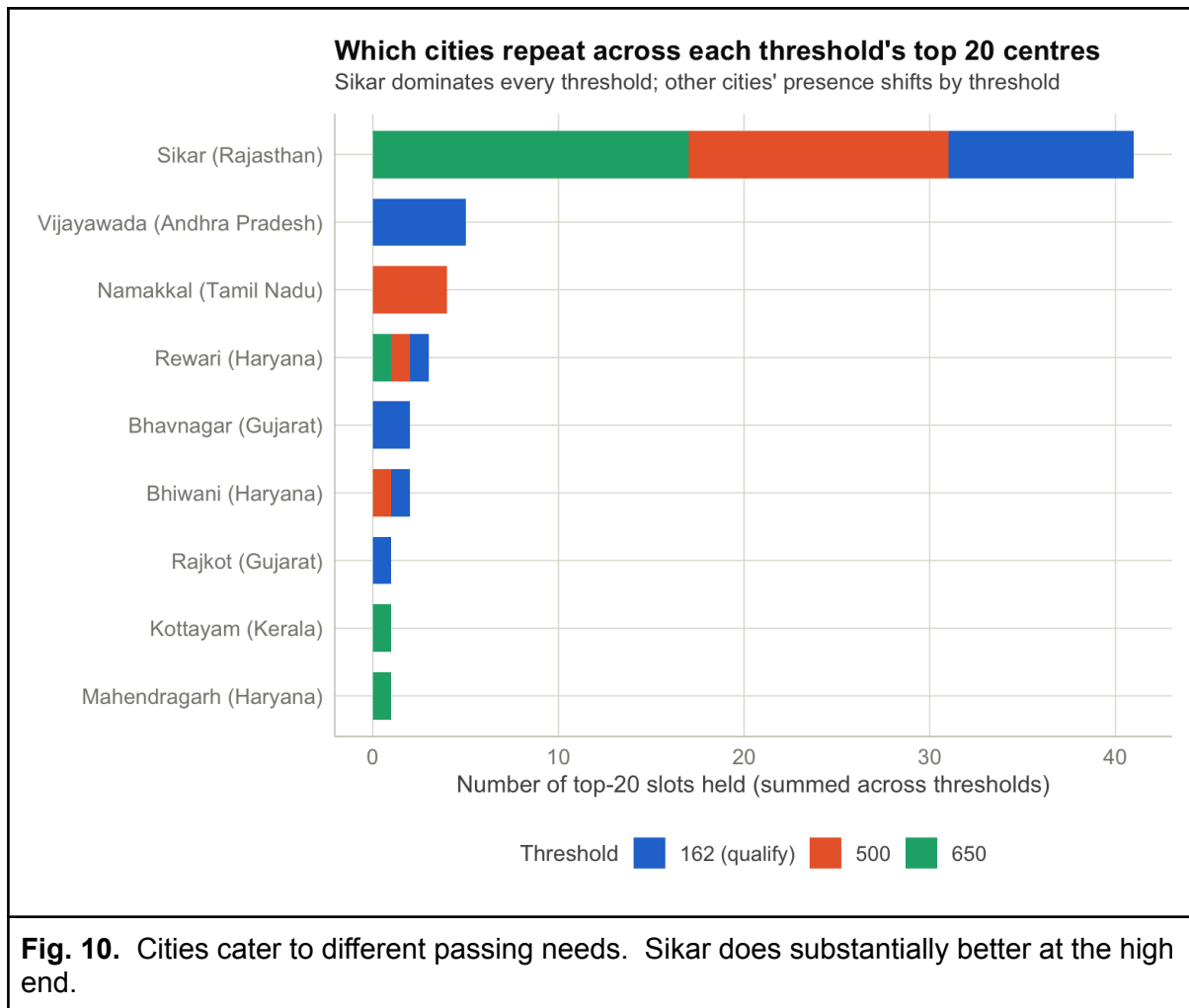


Fig. 10. Cities cater to different passing needs. Sikar does substantially better at the high end.

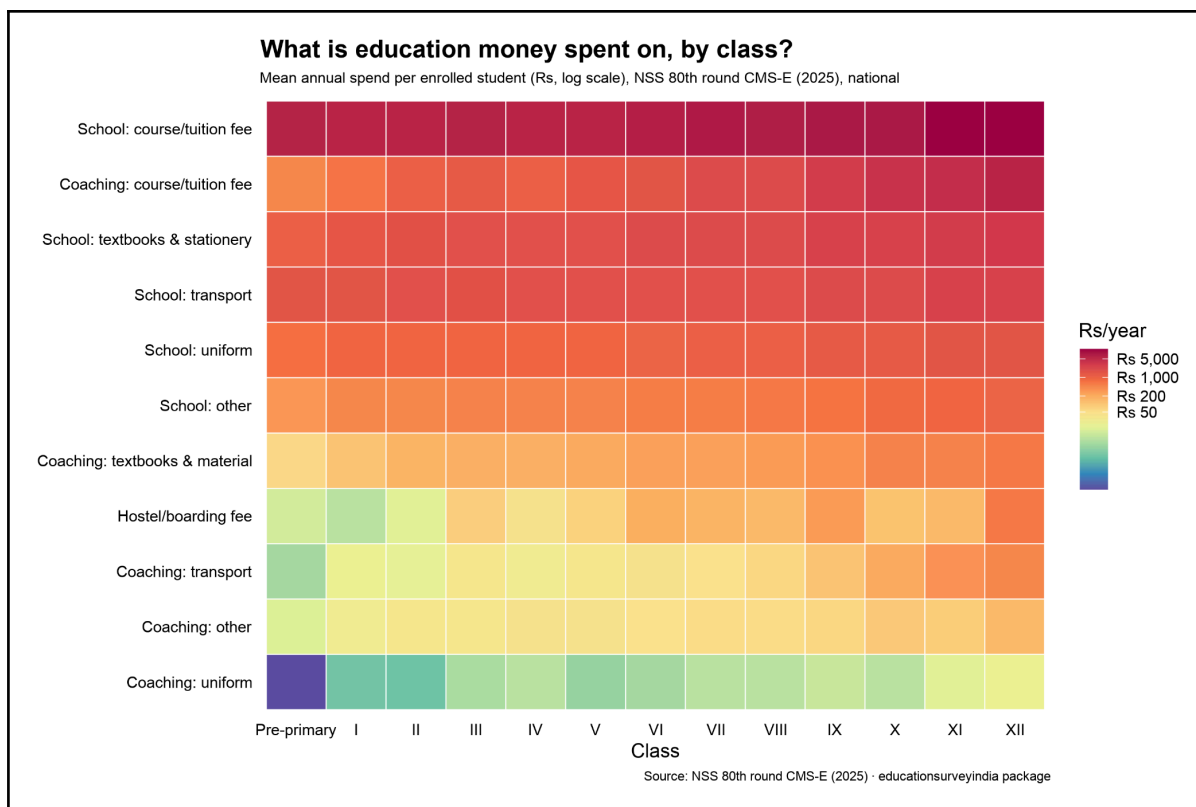
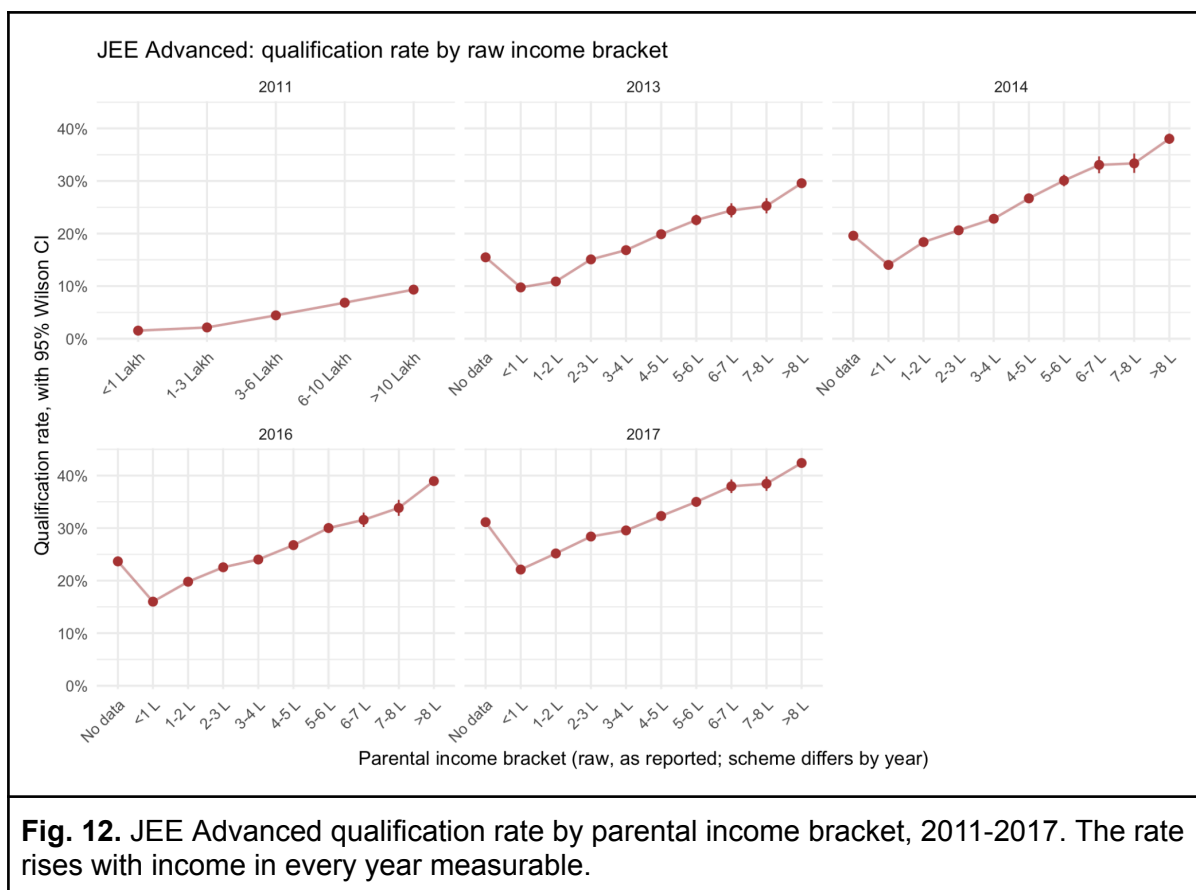


Fig. 13. What education money is spent on, by class. Coaching course/tuition fees rise from a small fraction of school fees in early classes to a substantial share by Class XI/XII.

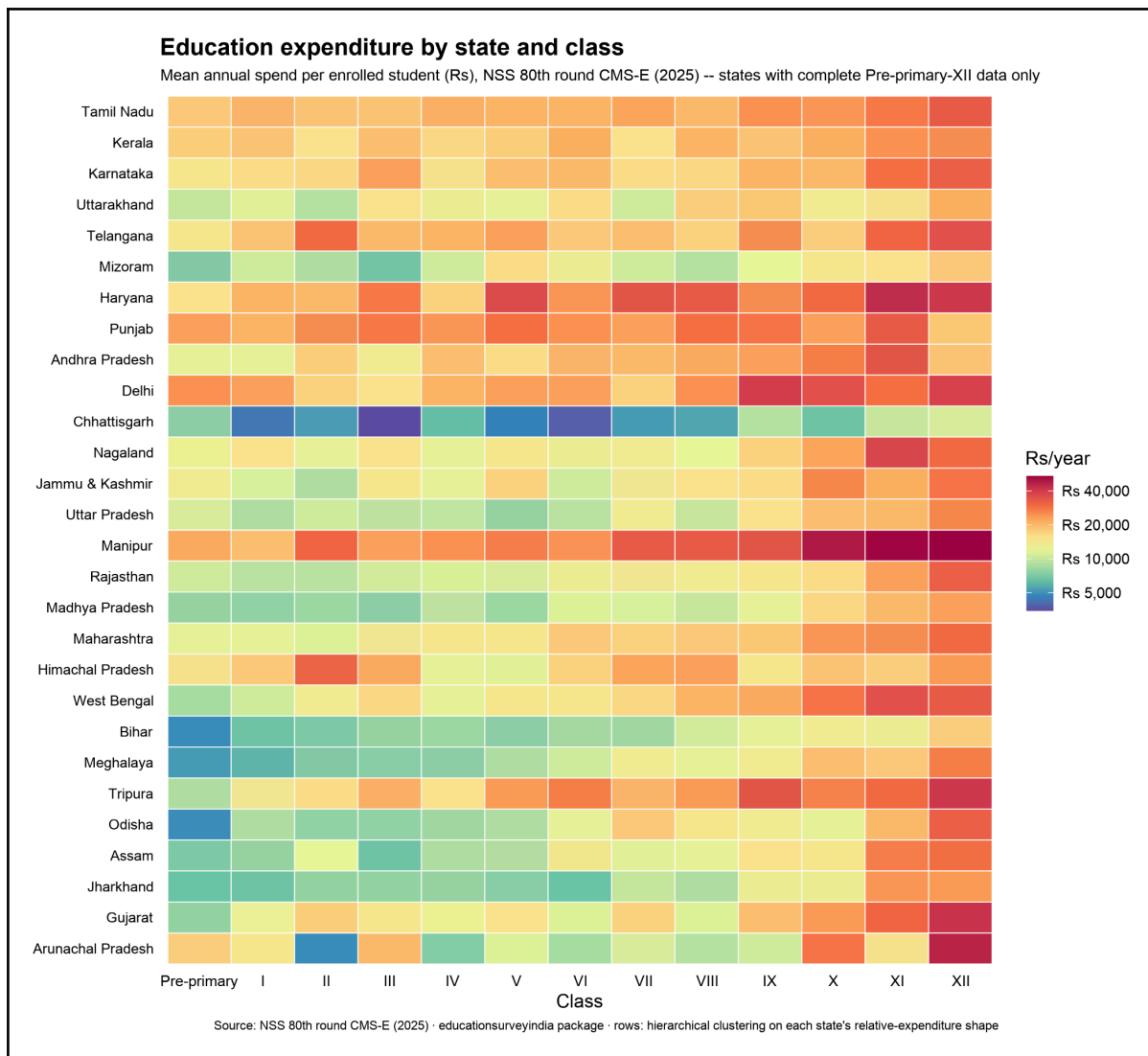


Fig. 14. Education expenditure by state and class. States with complete Pre-primary-XII data only; states like Manipur, Haryana and Delhi show far higher spend at Class X-XII than states like Bihar or Chhattisgarh.

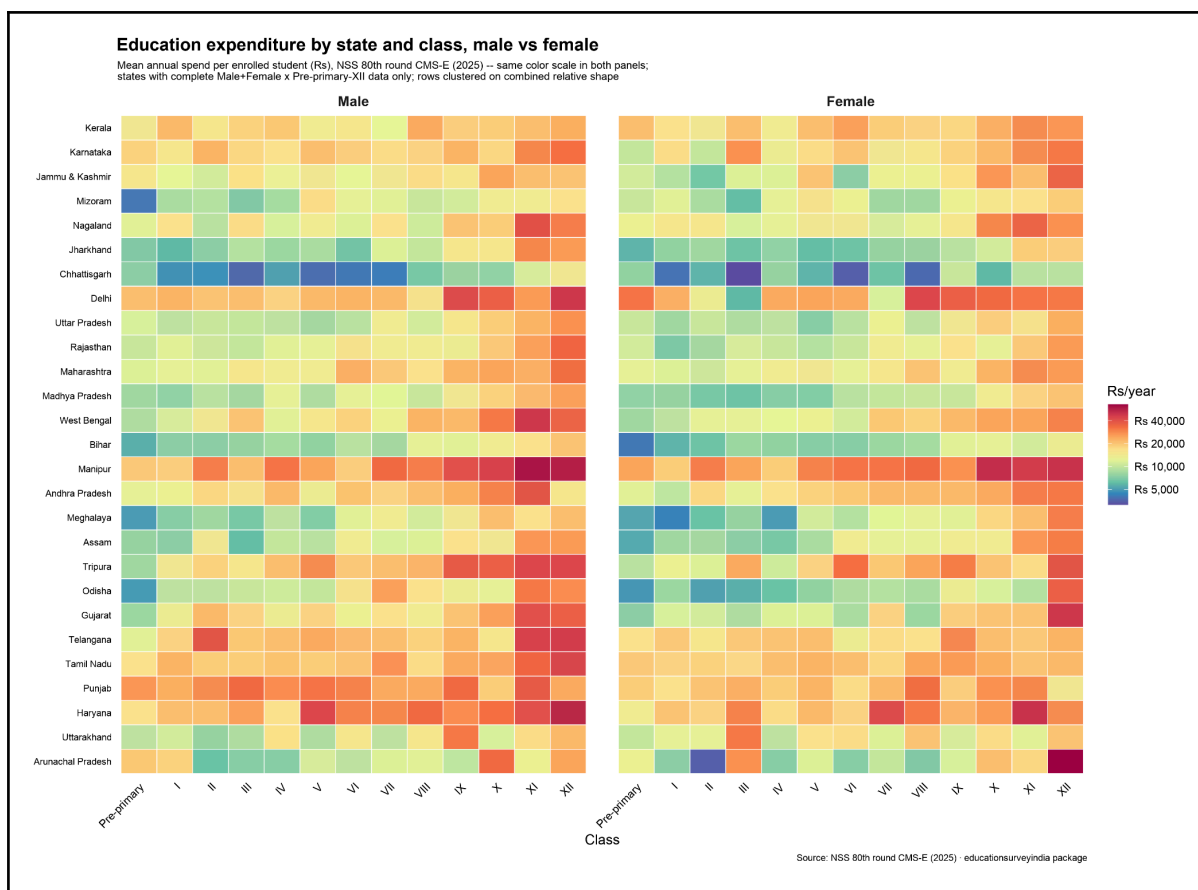


Fig. 15. Education expenditure by state and class, male vs female, on the same colour scale. The gender gap in spend is visible within most states at the same classes.

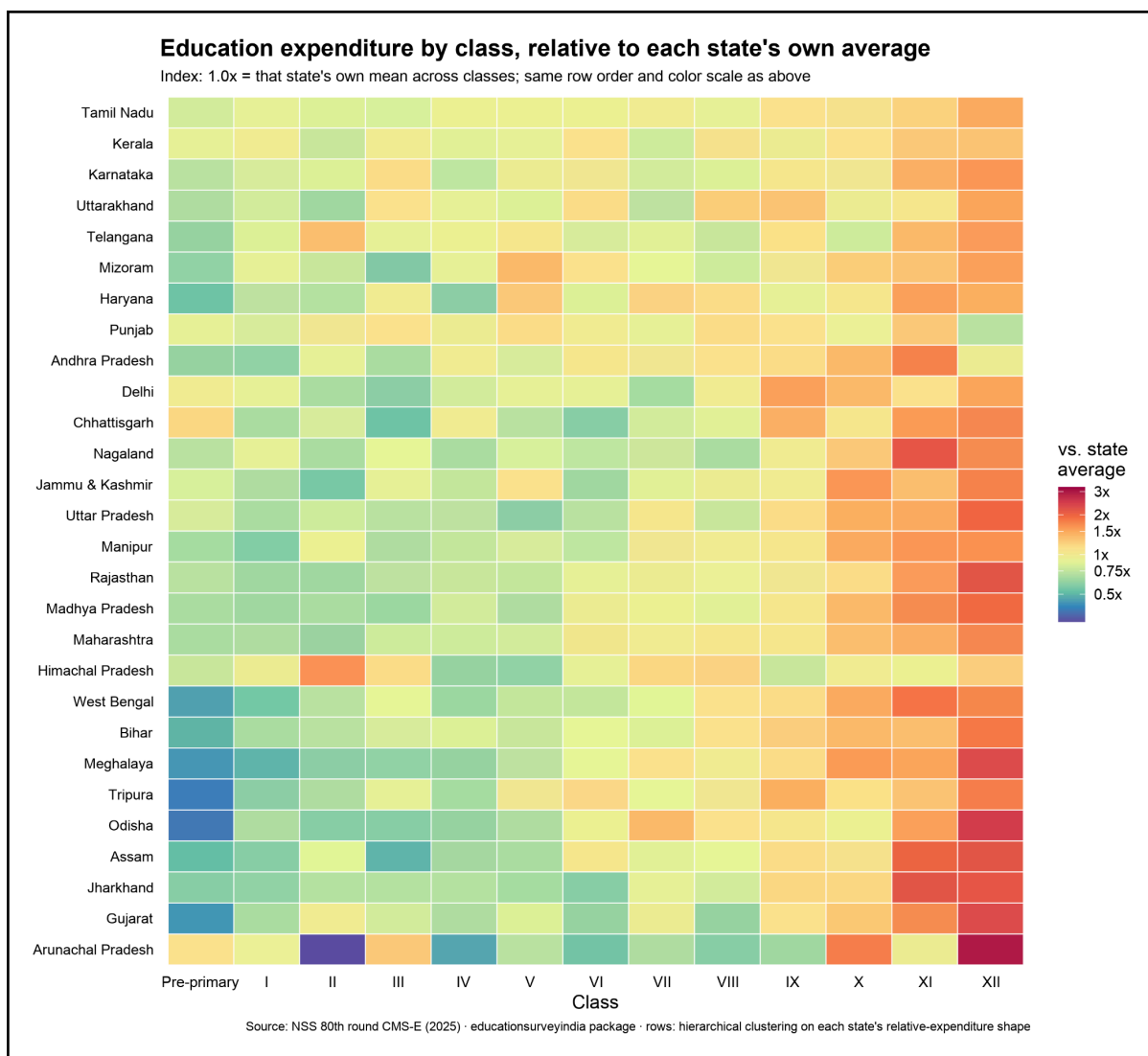
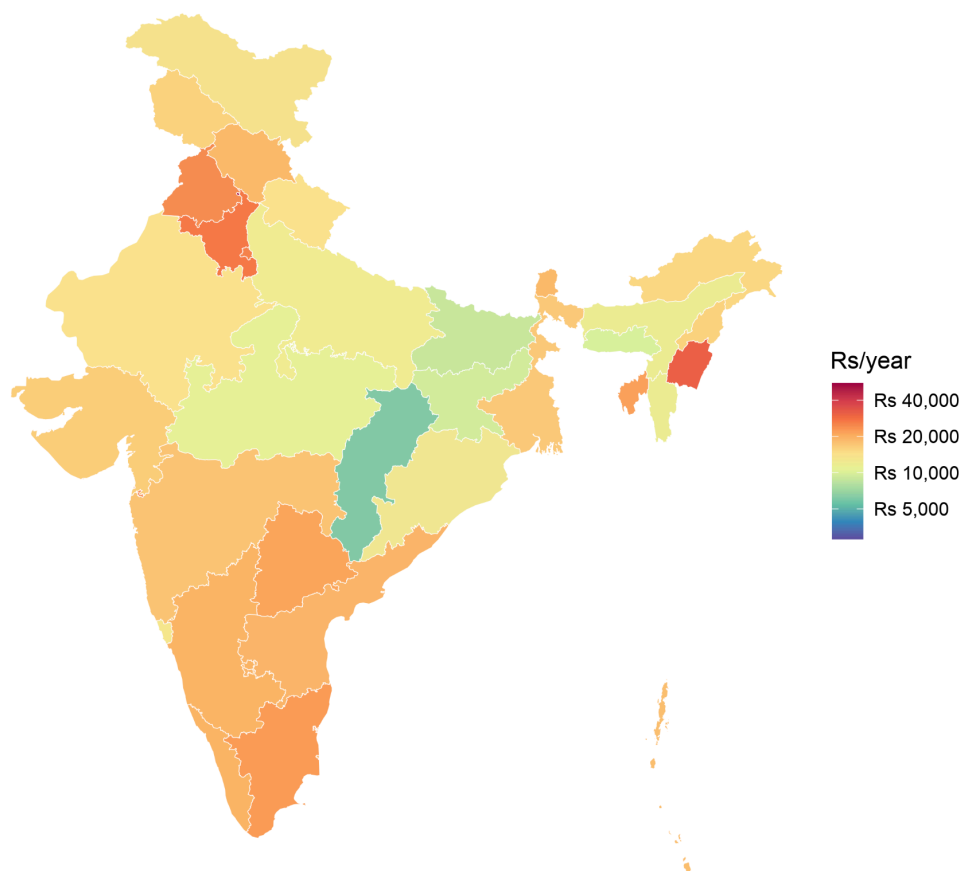


Fig. 16. Education expenditure by class, indexed to each state's own average (1.0x = that state's mean across classes). Nearly every state spends well above its own average by Class XI/XII, confirming the Class XI/XII spending spike is not driven by a few high-spending states alone.

Annual education expenditure per enrolled student

NSS 80th round CMS-E (2025), state-level weighted mean



Source: NSS 80th round CMS-E (2025) · educationsurveyindia package · grey = insufficient sample

Fig. 17. Annual education expenditure per enrolled student, by state (map view of the same data as Fig. 14).