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The Limitations of India's Census Legislation

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The Limitations of
India's Census Legislation

Vikas Kumar

Abstract: *Most discussions on the quality of government data overlook the legal framework within which data are collected. This paper examines India's Census Act, 1948, which provides the legal-administrative framework for conducting human population census. The Act stipulates punishment for interfering with the process of enumeration, but the punitive provisions are rarely used and have not been invoked to deal with cases of mass manipulation of the census. Major instances of manipulation were, in fact, reported in 1951 and 2001 after the government introduced additional punitive measures in 1948 and 1994, respectively. This paper compares the Census Act, 1948 with other Indian laws related to the collection of statistics as well as census laws of other common law countries and identifies the structural flaws of the Indian law vis-à-vis manipulation. It uses simple games to explain why the punitive provisions of the Census Act, 1948 are redundant in the event of mass manipulation and suggests that the problem can be addressed without recourse to law. The insights drawn from the games are examined in light of the experience of Nagaland, a state of India where census statistics were manipulated on a large scale in 2001.*

Keywords: *Census, conflict, data quality, India, law, manipulation, multiple equilibria, Nagaland*

The Limitations of India's Census Legislation

Vikas Kumar[1]

Introduction

Conflicts over the delimitation of administrative units and electoral constituencies and, by implication, population censuses can be seen as rites of passage in the lives of modern states outside the West.[2] India's last colonial census (GoI 1953: 1)[3] and Nigeria's first postcolonial census (Aluko 1965) were marred by competitive manipulation. The journey of South Sudan, the latest member of the United Nations, towards independence was likewise marked by controversies over census and delimitation (Santschi 2008).

The importance of the census in newly independent countries can also be gauged from the fact that census law is often passed by interim governments even before the adoption of the constitution. Independent India enacted the Census Act, 1948 two years before the country's constitution came into effect.[4] This Act was passed after the 1941 Census, the last colonial census, which was affected by large-scale manipulation in the provinces of Punjab and Bengal driven by competition between communities (Maheshwari 1996; Ahmed 1999: 124),[5] but it did not address the possibility of collusive manipulation. Not surprisingly, the law has been found to be ineffective against the recurrence of such problems in various parts of India, particularly with regard to census questions related to identity.[6] The Census Act, 1948 has undergone several revisions over the years—in 1950, 1956, 1959, 1963, 1965, 1974, 1976, 1986, and 1994—but the shortcomings with regard to collusive manipulation remain unaddressed. In fact, the 1994 amendment that added teeth to the punitive measures was followed by widespread manipulation of the 2001 Census of Nagaland, which is arguably the most significant instance of manipulation of the census in postcolonial India. Since then the government has not shown any intention of reworking the punitive provisions of the Census Act, 1948.

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1   The author is grateful to the anonymous referees and Ankush Agrawal for insightful comments on the paper and to government officials in Kohima and New Delhi for helpful discussions. The usual disclaimers apply.

2   The United States, where decennial delimitation began in the late eighteenth century, was an early exemplar of the close relationship between modern states and centralised data collection as epitomised by the census.

3   Census statistics were widely used in political debates in colonial India (Kumar 2015).

4   Neighbouring Bangladesh too promulgated its census order before its constitution came into effect.

5   Coverage errors (error in overall headcount) of the 1941 Census were corrected in 1951 (Natarajan 1972: vii; GoI 1954: 5), but content errors (error in the sub-classification of headcount) persisted until much later (Gill 2007: 244).

6   For instances of manipulation of data on tribes, see Kulkarni (1991), Guha (2003), Agrawal and Kumar (2012 , 2013, 2018), and Verma (2013). For language, see Brass (1974) and Gill (2007). Only Kulkarni cursorily refers to the punitive provisions of the law.

In light of the above, this paper explores an understudied interface between law and statistics. Most discussions on the quality of census data focus on problems related to the design and execution of surveys and bureaucratic and/or political interference. The legal framework that governs data collection exercises such as census is largely ignored in the literature. Explorations of the legal side are mostly restricted to ex post controversies associated with the census.[7] This paper examines India's Census Act, 1948 and argues that it is structurally incapable of handling instances of mass manipulation. Simple normal-form games with multiple equilibria are used to suggest that the punitive measures listed under the Act might be redundant in checking the mass manipulation of the census. It is further argued that societies can shift between equilibria even without the threat of (legal) punishment. The insights drawn from the games are examined in light of the experience of Nagaland.

The rest of the discussion in the paper is organised as follows. We will first discuss the flaws of the Census Act, 1948 and compare it with other Indian laws related to the collection of statistics (Registration of Births and Deaths Act, 1969 and Collection of Statistics Act, 2008) as well as census laws in other common law countries such as Australia (Census and Statistics Act, 1905), Bangladesh (Census Order, 1972), Pakistan (General Statistics [Reorganization] Act, 2011), the United Kingdom (Census Act, 1920), and the United States (U.S. Code Title 13).[8] We will then briefly discuss the manipulation of the census in Nagaland before using normal-form games to examine choices related to the manipulation and correction of headcounts available to competing communities.

A flawed law

In colonial India, a temporary Census Act was introduced before every decennial census that lapsed after the completion of the exercise. Proposals to provide a permanent legal basis for conducting population census were rejected by the colonial administration for one or other reason (Maheshwari 1996: 137–139). Newly independent India introduced a permanent law, the Census Act, 1948, to provide a proper legal framework for conducting population censuses.[9]

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7   Other interfaces between law and statistics include litigation over published statistics, the use of statistical evidence in litigation, and the use of statistics in legal research. Litigation over census statistics and delimitation is commonplace in democracies and India is not an exception, but to the best of this author's knowledge this litigation has not been systematically analysed in case of India. In recent decades, the United States, Census has attracted a lot of litigation related to the correction of population estimates used to delimit electoral seats and redistribute federal resources (Sann 1981; Bradshaw 1996; Goldin 2000; Prewitt 2003, 2010; Hamsher 2005).

8   While the scope of the paper is limited to India, some of its immediate neighbours, and major common law countries in the West, a broader set of common law countries including those in South and East Africa and East Asia are covered in Figure 2.

9   India's Constituent Assembly assigned the "Census" to the Union List (Constitution of India, Schedule VII, Item No. 69; also Census Act, 1948, Section 3), making the union government responsible for conducting censuses. The English version of the Constitution mentions "Census," while the Hindi version mentions *janagaṇanā* (literally, counting people) (GoI 2011b: 12–13). The latter is more restrictive in scope, as it implies that the Parliament's "exclusive power to make laws" (Art 246) is restricted to human population census. Census is also referred to in the following articles of the Constitution: 55 (Manner of Election of the President), 81 (Composition of the House of the People), and 170 (Composition of the Legislative Assemblies). Later amendments added references to the census in Arts 82 (Readjustment after each census), 243 (The Panchayats), 243P (Municipal bodies), 330 (Reservation of seats for Scheduled Castes and Scheduled Tribes in the House of the People), and 332 (Reservation of seats for Scheduled Castes and Scheduled Tribes in the Legislative Assemblies of the States).

In his introduction to the new census law independent India's first home minister noted the difficulties faced in the 1941 Census due to communal conflict (Maheshwari 1996: 139-140). The Census Act, 1948 broadly followed the template of the colonial law, but it enhanced punishments "to check the interplay of sectional, religious or communal rivalries" (Maheshwari 1996: 141). The revised punitive provisions, however, failed to check the manipulation of census. In the very first census after independence, competition between communities in Punjab, the Patiala and East Punjab States Union (PEPSU) and Himachal Pradesh affected the data on language and the relevant tables were not published to avoid exacerbating linguistic and religious conflicts (Gill 2007: 244).

The provisions of the Census Act, 1948 can be classified according to whether they apply to public servants, as defined in Section 5 of the Act, or to others. In the case of public servants, offences are linked to non-fulfilment of duties, as specified in Section 6. Likewise, the duties of local bodies are specified in Section 4A. Others can violate the law in at least five ways. They may fail to fulfil the duties assigned to them (Section 7), fail to provide material support for conducting census (Section 7), fail to respond to questions or may supply incorrect information (Sections 8 and 10), refuse to provide access to premises (Section 9), and trespass into a census office (Section 11h). The first two situations can arise because the Act empowers public servants to seek the support of others to conduct census. The government is required to compensate the owners of private premises or vehicles. While the latter can challenge the quantum of compensation and call for arbitration, they cannot deny their personal or material support, if asked for. Penalties for offences are specified in Section 11. The rest of the Census Act, 1948 provides the legal and administrative framework within which the punitive provisions can be invoked. The Act is supplemented by the Census Rules, 1990 (amended in 1994) that fill in details related to administrative aspects.

While "any person who intentionally gives a false answer or refuses to answer" as well as "any census-officer who . . . knowingly makes a false return" are both liable to be punished, we will restrict our focus to non-public servants who supply incorrect information qua respondents.

Sections 8 and 11 are the core of the Census Act from the perspective of manipulation. Section 8 of the Census Act, 1948 makes it legally binding to answer the questions asked by census officers.

> Section 8. (*Asking of questions and obligation to answer*) (1) A census-officer may ask all such questions of all persons within the limits of the local area for which he is appointed as, by instructions issued in this behalf by the [Central Government] and published in the Official Gazette, he may be directed to ask. (2) Every person of whom any question is asked under sub-section (1) shall be legally bound to answer such question to the best of his knowledge or belief: Provided that no person shall be bound to state the name of any female member of his household, and no woman shall be bound to state the name of her husband or deceased husband or of any other person whose name she is forbidden by custom to mention. (Also, see Section 10. *Occupier or manager to fill up schedule*)

The Indian (*supra*), Bangladeshi (Census Order, 1972, Art 7), and Pakistani (General Statistics [Reorganization] Act, 2011, Art 23[4]) census laws make the answering of all but one question compulsory. They provide exemption only in case custom forbids the respondent from mentioning the names of certain relatives. In contrast, the British (Census Act, 1920, amended 1991 and 2000, Art 8[1A]),[10] the American (U.S. Code Title 13, Section 221[c]), and the Australian (Census and Statistics Act, 1905, Section 14[3]) censuses provide exemption in the case of religion. This distinction between the census law of common law countries in the West and that of the countries of the Indian subcontinent has its roots in the enumerative practices of the colonial state. Bhagat (2003) points out that macro-level ascriptive identity markers such as religion, caste, and tribe were used to categorise people in colonies even though state and religion were kept apart in the United Kingdom and in other white-settler colonies.

The refusal to answer questions and the giving of false responses are punishable offences under Section 11 of the Census Act, 1948.

> Section 11. (*Penalties*) (1d) any person who intentionally gives a false answer to, or refuses to answer to the best of his knowledge or belief, any question asked of him by a census-officer which he is legally bound by section 8 to answer, or . . . (1g) any person who, having been required under section 10 to fill up a schedule, knowingly and without sufficient cause fails to comply with the provisions of that section, or makes any false return thereunder, or . . . (2) Whoever abets any offence under sub-section (1) shall be punishable with fine which may extend to one thousand rupees.

We will argue that the punitive provisions of the Census Act, 1948 suffer from several structural flaws in regard to the treatment of strategic interactions during the process of enumeration, the handling of erroneous data, and the application of the law.

Flat fines

The Census Act, 1948 treats *refusing to respond* and *giving incorrect response* as comparable offenses and, therefore, prescribes identical fines. This is also true of Bangladesh, Pakistan and United Kingdom, where there is just one category of punishment for respondents who violate census laws. In the United States fines differ depending on whether one "refuses or willfully neglects . . . to answer" (not more than $ 100) (U.S. Code Title 13, Section 221[a]) or "willfully gives any answer that is false" (not more than $ 500) (U.S. Code Title 13, Section 221[b]). Likewise, in Australia, nonresponse attracts a fine of one penalty unit (Census and Statistics Act 1905, Section 14[1], i.e., A$ 210), whereas false response attracts a fine of 10 penalty units (Census and Statistics Act, 1905, Section 15, i.e., A$ 2100).

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10 This clause was introduced in 2000 before the 2001 Census in which a question on religion was asked for the first time in the United Kingdom.

Moreover, the census law of India does not link punishment to the seriousness of offence. The punishment for refusing to answer one question is same as that for refusing to answer multiple questions. Furthermore, the fine for refusing to respond to a question related to the ownership of bicycle is same as that for refusal to answer crucial questions on migration, fertility, and age.

Collusive manipulation

Figure 1 depicts the range of possibilities of manipulation: an individual could deliberately give an incorrect response to a question, an individual could deliberately give incorrect responses to multiple questions, there could be collusion between individuals to give incorrect responses to one or more questions, and an individual could deliberately give incorrect responses to one or more questions in connivance with an enumerator. Only the first of these possibilities is directly covered in Section 11. The Act does not see collusive manipulation and manipulation by an individual as structurally different. Section 11(2) mechanically addresses the possibility of collusion by making abetment punishable, but it does not recognise the distinctive (potentially political) character of collusive manipulation. The instruction manual for census officials shows a better understanding of the possibilities of collusive manipulation. It gives the following instructions to enumerators in this regard.

> If you have reasons to suspect that in any area due to any organised movement, 6.52. the religion is; 6.60. the Scheduled Castes or the Scheduled Tribes are; 6.71.i. the mother tongue is not being truthfully returned, you should record them as actually returned by the respondent and make a report to your Supervisory Officer for verification (GoI nd2: 45–47, emphasis added).

While the possibilities of collusive manipulation by respondents leading to content errors (misreporting of identity) and omission and duplication by enumerators resulting in coverage errors (GoI nd2: 29) are acknowledged in the manual, collusive manipulation by respondents leading to coverage errors are not discussed.

Further, the Act does not say anything explicitly about collusive manipulation by an enumerator and a respondent. Section 11(2) makes punishable the abetment by a person (the Act does not clarify, but could include officials) of the non-fulfillment of responsibilities by a non-governmental person, which include the refusal to respond, giving incorrect responses, and obstructing or interfering with census in various ways. Also note that the possibility of manipulation of data by the government (see, for instance, Gill 2007) is not covered by the punitive provisions of the Act. The government can manipulate the categories of enumeration and/or even the collected data.[11]

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11 Other laws that govern statistics too overlook the possibility of government manipulating statistics. Some laws note that the government could make mistakes, but explicitly state that the punitive provisions do not apply to it. For example, India's draft *Geospatial Information Regulation Bill*, 2016 explicitly exempted government bodies from its punitive provisions (Art 37).

Figure 1: Possibilities of manipulation and the Census Act, 1948

- - - - - Possibilities of manipulation not explicitly covered by the Census Act, 1948

— · · — · — Possibilities of manipulation covered by the Census Act, 1948
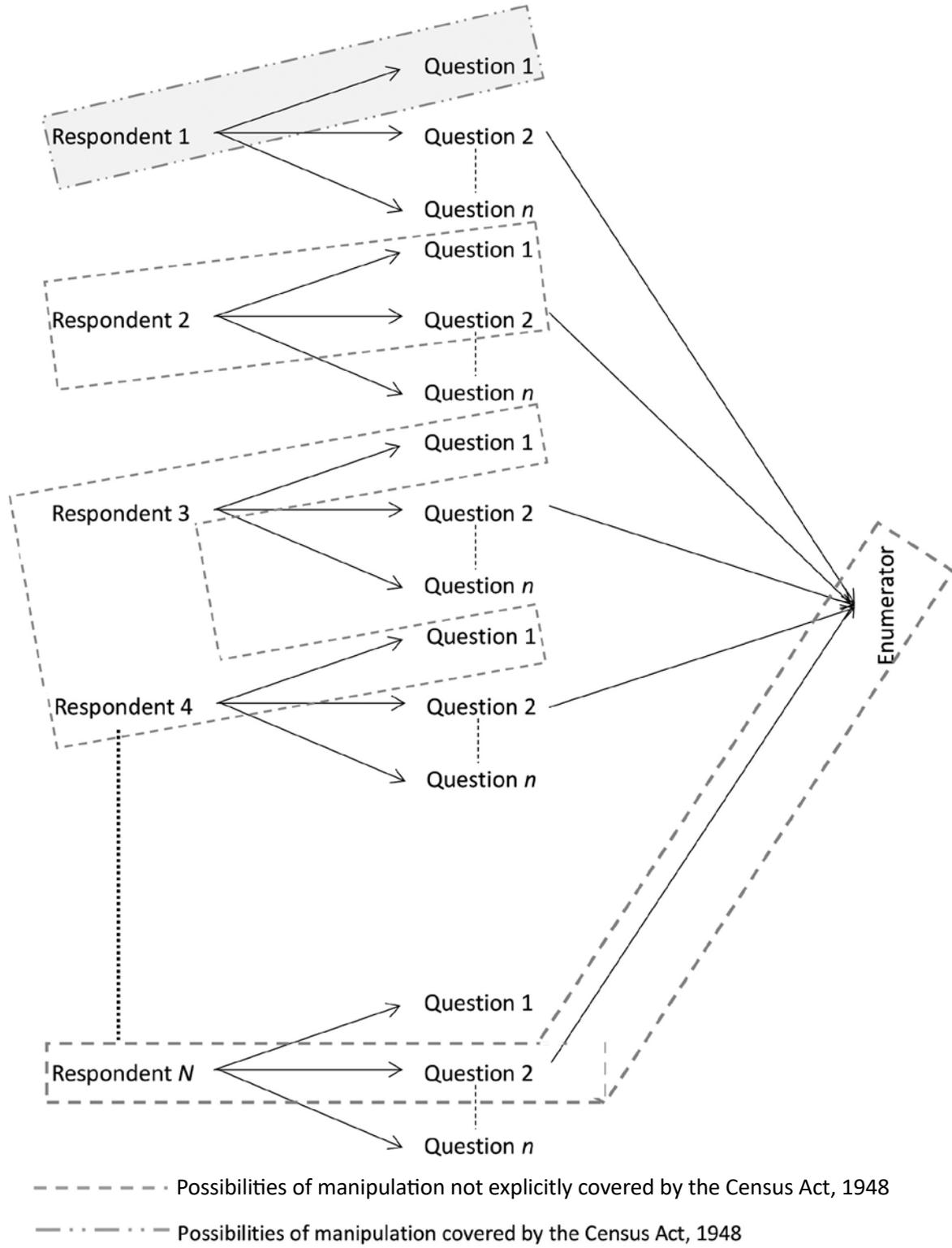
The Indian census seems to have a limited legroom to counter collusive manipulation. The design of the Indian census tries to minimise the possibilities of manipulation and double counting by simultaneously counting the population in a territory through the extended de facto (synchronous) method of enumeration. However, this provision engenders distrust in an ethnically fractured society where the impartiality of the government is suspect. Communities try to secure their future entitlements or protect their existing entitlements by making sure that they have numbers on their side (Agrawal and Kumar 2018). They resort to manipulation as they fear that the government will be unable, or unwilling, to stop other communities from manipulating statistics.

A hollow threat

The fines are very small in magnitude. The magnitude of the fine has remained unchanged at one thousand rupees for a long time (cf. the texts of the Census Act, 1948 as amended over the years reproduced in GoI 2009: Annex 1). At present, this amount is comparable to what a manual labourer would earn in two (urban) or three (rural) days. However, it must have been more than three years of wages of a manual labourer when the Act was first adopted. So, the opportunity cost of violating the law must have been very high at the time of its enactment, which is not the case at present. Other laws governing statistics do not prescribe very high fines either. The Collection of Statistics Act, 2008, for instance, prescribes a fine of Rupees 1,000 (5,000) for individuals (companies), who refuse to answer or willfully give a false answer.[12]

The fines are not high in other common law countries either, such as the United States (not more than $500 as per U.S. Code Title 13, Section 221(a-b)), the United Kingdom (not exceeding Level 3 on the standard scale, i.e., £1000, as per Census Act, 1920, Art 8[1]), Australia (One penalty unit as per Census and Statistics Act, 1905, Section 14[1], i.e., A$210) and Bangladesh (a prison sentence not exceeding one month and/or a fine not exceeding "two hundred rupees," as per Census Order, 1972, Art 13[e]). In Bangladesh, India, and the United States, and also in several other common law countries such as Botswana, Fiji, Malaysia, and the Bahamas, the fine is currently less than one per cent of per capita GDP (Figure 2). In Australia and the United Kingdom, the (maximum) fine is about three per cent of per capita GDP, while it is more than one per cent in Singapore. The fine is quite high in Pakistan (Pakistani Rupees 50,000 and "may extend to two hundred rupees for each day during which the offence continues" as per General Statistics [Reorganization] Act, 2011, Art 46) and is nearly 30 per cent of per capita GDP. Fines are also very high in South Africa. Pakistan and South Africa are outliers, possibly because their census laws are of recent origin. However, the fines are low in Australia where fines are revised regularly.

In any case, the punitive provisions of the census laws are rarely, if ever, used. The author is not aware of cases in India involving the prosecution of individuals on the grounds of refusing to respond to census questions or giving misleading responses. The government admits that even in

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12 The Collection of Statistics Act, 1953 (Art 8) did not distinguish between companies and individuals and prescribed a uniform fine of Rupees 500.

Figure 2: Census fines relative to per capita GDP
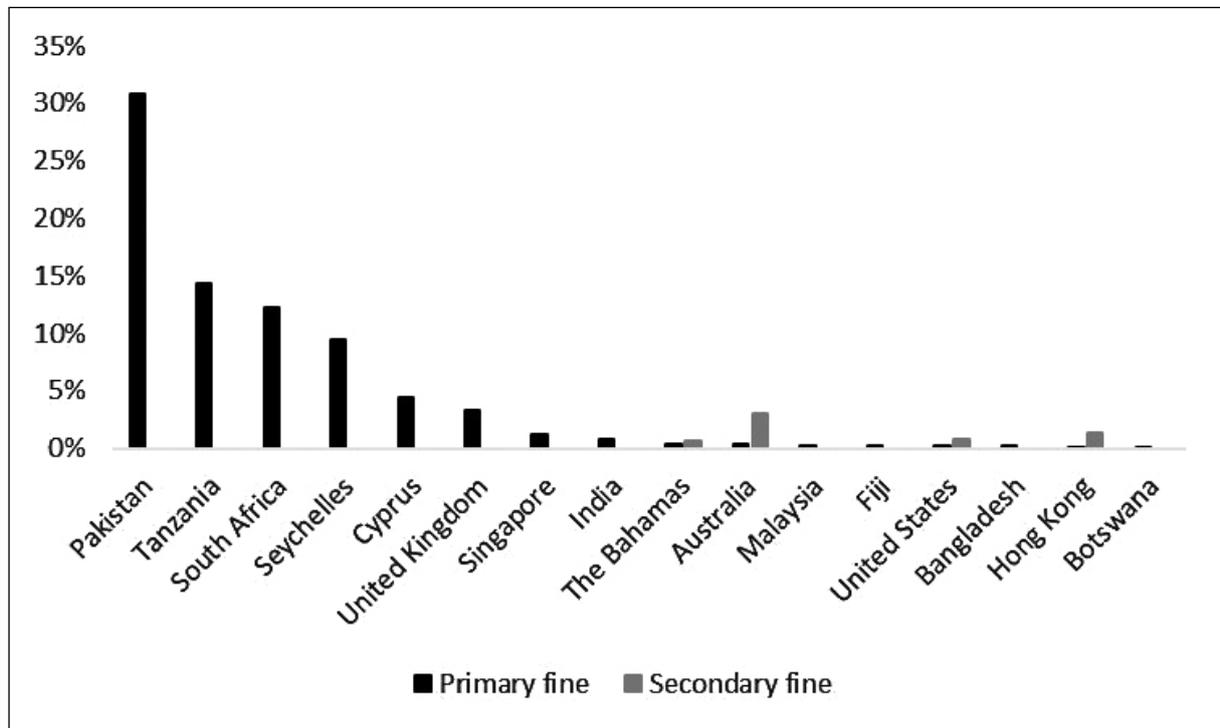
Note: The graph shows the ratio of fines prescribed in census legislation to GDP per capita, both in current local currency units. In cases where there is a hierarchy of fines, both the primary (offence: refusing to supply information and, in some countries, supplying incorrect information) and secondary (offence: in some countries, supplying incorrect information) fines are shown.

Sources: Fines: Census/statistics laws downloaded from the webpages of the respective national statistical/legal departments or the United Nations Statistics Division ("Laws and Acts on vital statistics system," https://unstats.un.org/unsd/vitalstatkb/ KnowledgebaseCategory14.aspx). GDP per capita (current Local Currency Unit, 2017): World Bank Open Data (https://data. worldbank.org/).

the case of other related laws such as the Registration of Births and Deaths Act, 1969, "prosecution for offences relating to violations of provisions of the Act are not strictly enforced as per rules" (GoN 2003: 4.3). Once again, the experience of other common law countries is in broad agreement with India's experience. In the past seven censuses, the United Kingdom has never prosecuted more than a few hundred individuals for breaking the law (Glaister 2012). In Australia too, under the laws relating to the quinquennial census, not more than a few hundred people have been prosecuted over the past two decades (Purtill 2017). It seems that there has not been any prosecution related to the census in the United States since 1960 (Reamer 2012).[13]

In most countries, the census departments are wary of adopting a coercive and legalistic approach to dealing with non-cooperation on the part of people (see Prewitt 2003: 15 for the United States). Indeed, Australia's experience suggests that even a mild emphasis on punitive measures such as fines could influence the public attitude towards the exercise and adversely affect the quality of the census data (Purtill 2017).

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13   In Pakistan, the relevant law was tested for the first time in the 2017 Census. The details of its implementation are not yet well known.

Census officials interviewed by the author argued that they cannot punish entire communities locked in competition over headcounts because that would permanently antagonise the people and it would be difficult to rebuild trust.[14] They also argued that taking action against public servants for dereliction of duty would not help to resolve the problem because public servants cannot defy entire communities. If they are outsiders, they are personally vulnerable to pressure from local organisations and if they are from the same locality, their extended family is vulnerable as well. The census officials added that providing security cover to public servants engaged in the task of enumeration is not desirable because the government wants the census taking to be entirely non-confrontational and non-coercive.[15] It is not the case that the government does not envisage the provision of security cover for enumerators. The Collection of Statistics Rules, 2011, framed under the Collection of Statistics Act, 2008, stipulates that "In cases of collection of statistics in disturbed areas, the police, the para-military and the armed forces shall provide such assistance as would be required by the concerned statistics officer" (Art 10.3).[16] However, the Collection of Statistics Act, 2008 does not cover "human population census" (Art 32), and as a result cannot be used to provide security to census enumerators. Moreover, it is perhaps impractical to provide security to nearly three million enumerators who simultaneously conduct census across the country.

There is another reason why taking action against government officials is not feasible. Unlike most other government surveys that are conducted by relatively small groups of especially trained surveyors, the census requires a very large workforce. While the census is a federal activity, the union government depends on state governments to carry out the task of enumeration. State officials spare time for the activity in addition to their usual duties and are paid a very small honorarium. Punitive action can end up antagonising politically powerful employees' unions and affect the collection of a whole range of government statistics, including electoral rolls, that cannot be prepared without the help of junior government officials in states, apart from creating political problems for the ruling party.

While it is understandable that the government cannot afford to prosecute errant and negligent government employees, it has even refrained from acting against manipulative individuals. A review of the cases reveals that in the past, the Census Act, 1948 has been invoked in the following types of cases: (a) objections to census-linked delimitation of constituencies for elections to various tiers of government;[17] (b) objections to change of names or boundaries of administrative units while the census is in progress;[18] (c) demand for regularisation of employees temporarily recruited to

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14 Commenting on non-response in the United States, Prewitt (2003: 15) notes: "People are busy. They don't want to be bothered by such troublesome tasks as filling out a government form. Although the law says they have to, *this is not a law that is enforced (for fear of backlash against the census that would further depress cooperation)*" (emphasis added). Alonso Starr points out that modern censuses presume a "cooperative relation between a state and its citizens" (quoted in Prewitt 2010: 239, also see Bookman 2013: 51), even though they are backed by punitive laws.

15 The experience of countries such as Pakistan and Nigeria shows that the involvement of security forces in censuses creates more problems than it solves.

16 The Collection of Statistics Rules, 1959 did not provide for the security of the data collectors.

17 Chakhesang Public Organisation & Ors. vs. Union of India & Ors., W.P. No. 67 of 2006, Gauhati High Court.

18 Brij Kishore Verma vs. State of U.P., No. 10159 of 2010, Allahabad High Court.

conduct the census;[19] (d) objections to the delegation of authority to enumerate;[20] (e) dispute over the status of headcounts in the intercensal period;[21] and (f) demand for inclusion of more categories of information in the census questionnaire.[22]

Only some of the cases under Category (a) question the validity of census figures, with the rest questioning deviations from the guidelines for delimitation. Three aspects of these cases need to be noted. First, they question the census data in instrumental terms, i.e., manipulated census data are problematic insofar as they affect delimitation. Second, individuals or communities qua manipulators are not the defendants in these cases. Third, like all the other types of cases listed above, Category (a) cases have been filed by non-governmental individuals and organisations.

In short, the punitive provisions of the Census Act, 1948 are poorly designed and rarely invoked. A demonstration of the ineffectiveness of the punitive measures of the Act and their infrequent use does not, however, trivialise or undercut the importance of the law. It only shows that like many other laws around the world, there is a big gap between the law on the books and the law on the ground.[23]

Handling erroneous data

We have so far seen that India's census law is inadequate vis-à-vis manipulation by individuals, let alone collusive (politically motivated) manipulation, and its punitive provisions are ineffectual. Before we argue that the law does not have in-built provisions for quarantining and correcting erroneous data,[24] an observation about the difficulty in identifying errors is in order. To secure conviction of an individual it has to be established that the information provided is incorrect conditional upon her/his 'knowledge or belief.' Similar clauses are found in other laws such as the Registration of Births and Deaths Act, 1969 (Section 23 [1b]) and the Collection of Statistics Act, 2008 (Section 6) and also in the census laws of several other common law countries.[25] Incorrect responses to questions on, say, the number of members in a household can possibly be objectively

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19   State of Orissa and Others Prasana Kumar Sahoo, Appeal (Civil) 2167 of 2007, Supreme Court of India.

20   Hill View Colony and Ors. vs. Industrial Village Razuphe and Ors., Writ Appeal No. 23 (K) of 2010, Gauhati High Court (Kohima Bench).

21   The Communist Party of India and Ors. etc. vs. State of Maharashtra and Anr., Writ Petition. Nos. 2162 and 2210 of 1985, High Court of Bombay (Nagpur Bench).

22   T. D. Dathan vs.The Union of India, Original Petition 1997 of 1991, High Court of Kerala.

23   Ellickson (1986) shows that despite widespread violations of the formal laws governing cattle trespass, individuals and government officials in Shasta County, California, rarely invoked those laws. They instead relied on informal norms, and the formal laws served as outside options that were invoked only rarely when local mechanisms of dispute resolution failed.

24   The Registrar General of India and Census Commissioner can withhold the publication of data for various reasons under the Census Rules, 1990 (Section 7). As mentioned earlier, the language tables for PEPSU and Himachal Pradesh were not published after the 1951 Census due to concerns about the quality of data (Gill 2007: 244). Results for three sub divisions of the state of Manipur and (only) the General Population Tables for the state of Nagaland were not published after the 2001 Census for similar reasons. In each of these cases, the decision was administrative and ad hoc in nature and did not invoke the Census Act or even the Census Rules.

25   U.S. Code Title 13, Section 221[a] expects everyone to respond "to the best of his knowledge", whereas in Britain (Census Act, 1920) and Australia (Census and Statistics Act, 1905) the census does not impose such a requirement. The Pakistani Census expects respondents to give answers to "the best of his knowledge and belief" (Art 23[3]) and "the best of his knowledge or belief" (Art 24[2]) (General Statistics [Reorganization] Act, 2011, emphasis added). Note in passing the use of the masculine pronoun 'his' to refer to respondents in different countries.

identified. However, prosecution will be difficult in case of incorrect response to questions related to identity, which happen to be the most contentious questions.[26]

The census manual is silent on the course of action during or after enumeration if verification confirms the suspicion of collusive manipulation. The Act prescribes punishment in case of violation of the obligations under the law but does not require compliance. In other words, a person punished for supplying incorrect information to the enumerator is not expected to provide the correct information. Even if the person provides the correct information in the process of legal proceedings, there is no provision for updating the census data. Under the Collection of Statistics Act, 2008 (Art 15[2]) and the Registration of Births and Deaths Act, 1969 (Art 13[4]) punishment does not release respondents from the obligation to provide correct information. In the United Kingdom, a person guilty of violating the Census Act, 1920 can possibly seek exemption from prosecution by offering to comply after the filing of case (Glaister 2012).

These lacunae are complemented by the absence of any provision for the correction or withdrawal of erroneous census data. More precisely, there is no provision for the correction of census estimates after the completion of the post-enumeration survey (known as post-enumeration checks in earlier censuses). Post-enumeration survey is carried out by the same machinery that conducted the census and is, therefore, susceptible to moral hazard. In any case, even after post-enumeration surveys are completed the unadjusted census estimates continue to hold as the official estimates. This partly explains why various government agencies, researchers and media continue to use flawed statistics more than a decade after the Nagaland government rejected the results.[27]

Nagaland's demographic somersault

Nagaland is a small state located in the northeastern part of India. According to the 2011 Census of India, Nagaland's population declined in absolute terms between 2001 and 2011. This happens to be the only instance of absolute decline in a state's population in independent India.[28] Nagaland registered decadal population growth rates of 56 per cent during 1981–1991 and 65 per cent during 1991–2001, compared to the corresponding national averages of 24 and 22 per cent, respectively. During this period, Nagaland's growth rate was among the highest in the world. Its population contracted by about 0.6 per cent between 2001 and 2011 and its growth rate was among the lowest in the world. The contraction happened in the absence of war, epidemical disease, famine, natural calamity, or significant socio-economic change.

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26 Göderle (2016: 81) points out that nineteenth century Europe realised that "the threat of punishment" was "pointless" as "The administration lacked the means to identify false declarations" (emphasis added).

27 For a discussion of the use of flawed data from the 2001 Census in the national sample surveys, see Agrawal and Kumar (2014, 2017).

28 Exceptions can be found if we include the period 1941–1951, which overlaps with the colonial period, as well as the union territories. Two union territories, the Andaman and Nicobar Islands (1941–51) and Daman and Diu (1951–1961), and two states, Punjab (1941–51) and West Bengal (1941–51), had reported negative growth rates in the decade of decolonisation (GoI 2011a).

Conventional demographic factors cannot explain Nagaland's demographic somersault — decades of very high population growth (1971–2001) followed by a sudden contraction (2001–11) (Figure 3). A combination of political and economic factors — competition over development funding, government jobs, and political representation in the legislative assembly, and demands for the creation of new administrative units — triggered widespread competitive manipulation of the census by communities. The over-count was partly corrected in 2011, which explains the contraction of the population (Agrawal and Kumar 2012, 2013, 2018; Kumar and Agrawal 2016).

The problem of the manipulation of enumeration in Nagaland did not receive any attention from the administration nor academia across three censuses (1981–2001), even though the state's headcount was distorted by very large, systematic and growing errors.[29] The Census Act, 1948 could not prevent mass manipulation in Nagaland despite the 1994 amendment that added teeth to the punitive provisions. Discussions with several politicians, including former chief ministers and cabinet ministers, and senior bureaucrats, who were in charge of law and order and the census, revealed that none of them had considered applying the punitive measures of the Census Act, 1948 at any stage during the 2001 Census.

The government was, however, compelled to act after 2001 because the severity of manipulation threatened to destabilise the fragile inter-tribal electoral equilibrium. Some tribes were more successful in manipulating their headcounts ahead of the 2002 delimitation of legislative assembly constituencies. On 18 August 2005, the Nagaland Legislative Assembly passed a resolution demanding a fresh census. On 22 August 2005, the Chief Secretary of Nagaland informed the Registrar General of India and the Census Commissioner of "the decision of [the] Govt of Nagaland rejecting [the] 2001 Census Report" (Chakhesang Public Organisation & Ors. vs. Union of India & Ors., W.P. No. 67 of 2006). By then the Registrar General had already published the Provisional Population Totals for Nagaland. After the results were challenged in courts, the Registrar General withheld the publication of the General Population Tables for Nagaland.

In 2008, a presidential ordinance postponed delimitation in four north-eastern states, including Nagaland, and Jharkhand. At a consultative meeting held on 30 September 2009, the state government canvassed the support of all political parties, a wide range of civil society organisations, church organisations, student organisations, tribal bodies, and village elders to make a fresh start. The participants unanimously agreed that the "previous *censuses* conducted in Nagaland were defective and inaccurate" and that the next census "should be conducted properly" (GoN 2009, emphasis added). This consensus helped the Directorate of Census Operations, Nagaland, to conduct enumeration with less interference than in the past. The government also assured the villages that the existing fund allocation would not be affected by the next census, while at the same time warning them that in future it would not use manipulated headcounts to hike the funding (Agrawal and Kumar 2018). In other words, the problem was addressed without recourse to law.

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29 Similar problems have affected the collection of government statistics, even if to a lesser extent, in other states such as Assam, Jammu and Kashmir (Guilmoto and Rajan 2013), Maharashtra (Kulkarni 1991), Manipur (Laithangbam 2004), Punjab (Gill 2007), and Uttar Pradesh (Verma 2013) and other multi-ethnic countries such as Nigeria (Adepoju 1981).

Figure 3: Decadal Population Growth Rates, 1951–2011
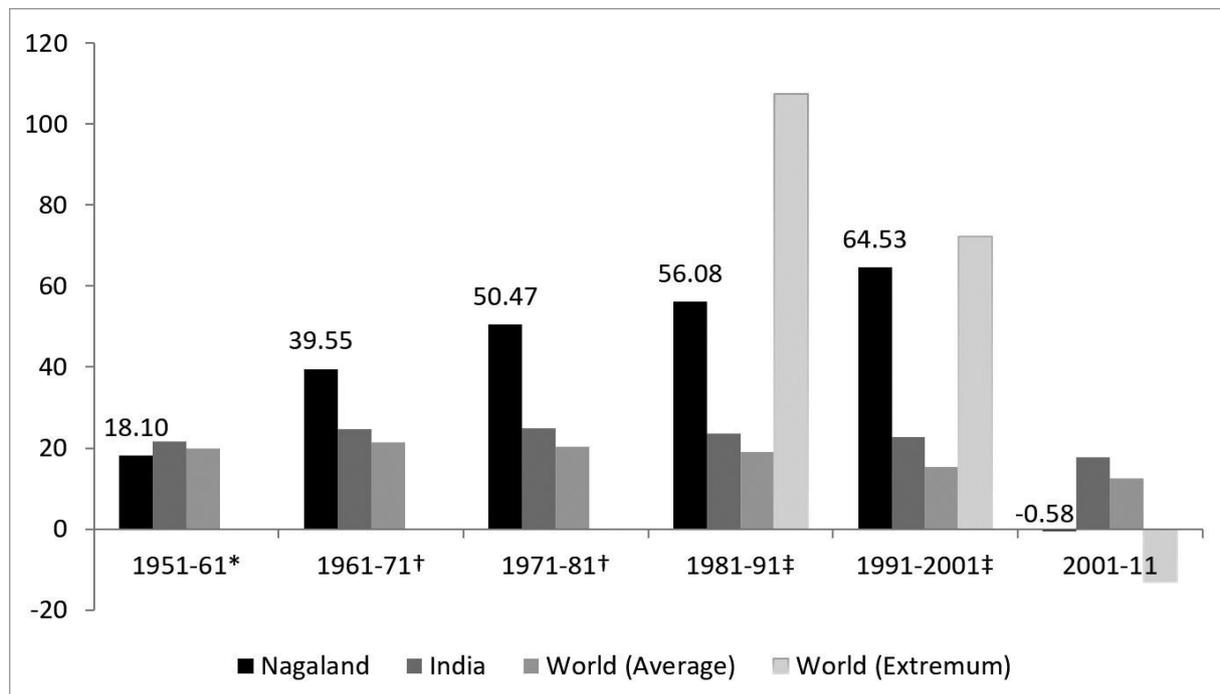
Notes: (i) * The growth rates for Nagaland and India for the period 1951–61 have been computed after excluding Tuensang, where only a small fraction of the population was enumerated in the 1951 Census. (ii) † The growth rates have been further adjusted for the periods 1961–71 and 1971–81 to take into account the change in the reference date in 1971. (iii) ‡ The growth rate of Nagaland was the highest among all the states of India. (iv) World (Extremum) is shown only for 1981–2011, i.e., the period during which Nagaland's population grew at abnormal rates compared to the rest of the country. Until 2001 the growth rate of Nagaland was positive so 'World (Extremum)' shown in the figure corresponds to the maximum growth rate in the periods 1980–90 and 1990–2000 recorded by any territory listed in the *World Population Prospects 2010*. During 2001–11 the growth rate of Nagaland was negative and 'World (Extremum)' in the period 2000–10 corresponds to the minimum growth rate.

Sources: Agrawal and Kumar (2018: 61)

Census Games

Collusive manipulation involves an element of strategic competition. In the literature on ethnic conflict and demography, communities and administrative units are treated as the units of analysis, i.e., as the strategic actors (Horowitz 2000; Janus 2013).[30] When the state of Nagaland was formed each community was assigned a certain number of seats in the legislative assembly. Likewise, the borders of administrative units of Nagaland were "drawn so as to leave, as far as possible, each tribal group under a single district [or sub-district] administrative authority" (GoI 1966: 31). So, the geographical distribution of communities within Nagaland is largely coterminous with administrative divisions and electoral constituencies. We can, therefore, restrict our focus to communities.

Communities are the units of analysis as the share of seats in the legislature and the allocation of development funds are at stake. Both of these accrue to the community as a whole rather than to

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30 For a discussion of interactions between communities and between communities and the government in Nagaland, see Agrawal and Kumar (2018) and Wouters (2018).

any individual.[31] Government officials are not included as a player as they do not have the means to enforce their will against whole communities determined to flout the law, and even if they detect manipulation, follow-up action is not guaranteed in the *current* cycle of enumeration.[32]

Further, it is assumed that communities move simultaneously, i.e., they are not aware of the choices made by others during enumeration before they make their own choices. This assumption is justified because India's decennial census follows the extended de facto (synchronous) method of enumeration, i.e., it is carried out simultaneously across jurisdictions. Therefore, each community has to choose without knowing if and by how much other communities have over-reported their own numbers. Moreover, no community controls all the nodes of the bureaucracy so as to be able to access real-time data pertaining to other communities when enumeration is underway. Indeed, even senior bureaucrats get to know the aggregate figures at least a week *after* enumeration. It is also assumed that players have complete information as communities have known each other for a long time. Last but not the least, it is assumed that this is a one-shot game because the census is conducted once in a decade and not every census is directly linked to the distribution of the public pie.[33] In short, we can use normal-form games to understand the strategic interdependence of communities manipulating their headcounts. For the sake of convenience, the games are restricted to two communities. However, the results can be generalised to *n*-communities.

Manipulation games

A community is worse off if it does not over-report its population while others do so. There are two reasons for this. First, it loses electoral seats and share in public expenditure on development, both of which are distributed on the basis of population.[34] Second, the chances of a fresh census being held are slim when other communities have over-reported their headcounts because they would prefer the new status quo that favours them. Nevertheless, the over-reporting of population is costly because officials have to be bribed or coerced to manipulate records. Moreover, there is a threat of conflict with communities that are denied a fair share of electoral seats and government funds due to manipulation, and also the risk of detection and punishment by state authorities. This is reflected in several objections to census-linked delimitation of electoral constituencies filed in courts. When all communities over-report their headcounts, each incurs the cost of manipulation to maintain its population share, and they still risk detection by state authorities and conflict with rival communities. In addition, development planning is vitiated until the problem is addressed.

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31 The bulk of development funds are allocated for the building and maintenance of public infrastructure. The substance of this discussion remains unchanged as long as funds are distributed equitably within the community. Intra-community equity is sought to be achieved in a roundabout fashion in Nagaland, where a dense network of civil society organisations involves a large number of people other than bureaucrats and politicians. The latter are expected to contribute generously to civil society organisations. A detailed examination of this distributive mechanism requires a separate discussion.

32 To include government officials as a player, we will have to introduce the time dimension as well as two types of officials—junior officials/field supervisors and enumerators as well as senior officials/decision-makers. This will complicate the game and divert attention from the primary objective, namely, highlighting how strategic interactions result in widespread competitive manipulation of the census.

33 The 1971 Census remains the most important determinant of federal redistribution in India.

34 For a model that explicitly accounts for contest between communities over legislative seats and development spending, see Kumar and Agrawal (2016).

The interaction between communities during the census operation can be represented using a simultaneous move game of complete information in which each community has two pure strategies – *Over-report* and *Not Over-report*. The following conditions govern the ordering of outcomes.

(a) A community is better off over-reporting its population if others are also over-reporting their populations, i.e., (Over-report, Over-report) is preferred to (Not Over-report, Over-report).

(b) The outcome represented by (Over-report, Over-report) is not better than (Not Over-report, Not Over-report) because under the former, the status quo is maintained as the state is compelled to use old statistics and the effort invested in manipulating statistics goes waste.

(c) (a) and (b) imply that the over-reporting of their respective populations by both communities (Over-report, Over-report) can neither be the best outcome, nor the worst outcome for either community.

(d) (Not Over-report, Not Over-report) cannot be the worst outcome because under the status quo, communities do not incur any costs of manipulation. Otherwise, communities would perversely prefer simultaneous manipulation even though this entails costs without concomitant gain.

(e) Over-reporting when other communities are not over-reporting (Over-report, Not Over-report) is preferred to (Over-report, Over-report).

(f) The relative ordering of (Not Over-report, Not Over-report) and (Over-report, Not Over-report) is not clear a priori.

Given the above conditions, only two different orderings of the four outcomes are possible. Each of the following orderings relates to a different type of player.

Type I: (Not Over-report, Not Over-report) > (Over-report, Not Over-report) > (Over-report, Over-report) > (Not Over-report, Over-report)

Type II: (Over-report, Not Over-report) > (Not Over-report, Not Over-report) > (Over-report, Over-report) > (Not Over-report, Over-report)

These two orderings can support three 2x2 games depending on how the communities rank the outcomes (Figure 4). In the first two games, the players are paired with their own types (I–I and II–II), whereas in the last game, different types of players are paired (I–II or II–I). The games are analysed below.

Game 1 (Type I–Type I, Game of Coordination): This game has two pure-strategy Nash equilibria. Under the first equilibrium, neither community over-reports (Not Over-report, Not Over-report), whereas under the second, both communities over-report (Over-report, Over-report). The former Pareto-dominates the latter. This game has a mixed-strategy equilibrium as well. The mixed-strategy equilibrium is Pareto-dominated by (Not Over-report, Not Over-report). The mixed-strategy equilibrium can be interpreted in two ways: (a) a community randomises over different actions across time and space; or (b) each community is comprised of two different types of people who differ with respect to their propensity to manipulate.

Game 2 (Type II–Type II, Prisoner's Dilemma): This game has just one pure-strategy equilibrium in which both communities over-report (Over-report, Over-report), which is Pareto-dominated by (Not Over-report, Not Over-report).

Game 3 (Type I–Type II/Type II–Type I): The equilibria of this game resemble those of Game 2.

The widespread manipulation of the 2001 Census of Nagaland, when almost all communities over-reported their numbers, relates to the (Over-report, Over-report) equilibrium of *Game 1*. The outcome of the 2011 Census of Nagaland relates to the (Not Over-report, Not Over-report) equilibrium of *Game 1* because almost all communities refrained from engaging in manipulation. Figure 5 shows that population growth rates were very high across Nagaland in 2001. Likewise the growth rates were low across the state in the 2011 Census. As discussed in the previous section, this equilibrium switching happened due to the state government's awareness campaign.

Figure 4: Manipulation Games

$\boxed{I}$

A \ B	Over-report	Not Over-report
Over-report	$(\underline{2,2})$	$(3,1)$
Not Over-report	$(1,3)$	$(\underline{4,4})$

$\boxed{II}$

A \ B	Over-report	Not Over-report
Over-report	$(\underline{2,2})$	$(4,1)$
Not Over-report	$(1,4)$	$(3,3)$

$\boxed{I-II}$

A \ B	Over-report	Not Over-report
Over-report	$(\underline{2,2})$	$(3,1)$
Not Over-report	$(1,4)$	$(4,3)$

where $4 > 3 > 2 > 1$ and the pure-strategy equilibria are underlined.

The mixed-strategy equilibrium of *Game 1* relates to (a) the 2001 Census of Manipur, where only some communities in the northern hill districts over-reported their populations; (b) the 1991 Census of Nagaland, where only some communities over-reported their populations; and (c) the 2011 Census of Jammu and Kashmir, where over-reporting of population was mostly confined to the Kashmir Valley.

Correction Games

Within a few years after 2001, both the state government as well as the people of Nagaland had a fairly good idea of the scale and geographical and communitarian distribution of manipulation in 2001. Faced with the state's exhortation to correct the population figures, the communities of Nagaland were caught in a difficult situation because they would have lost certain benefits if they were the only ones doing the correcting. As noted above, the state government tried to help build trust by facilitating a public dialogue involving all stakeholders.

The previous section dealt with the 2001 and 2011 Censuses of Nagaland as if in both the cases the communities were faced with the choice of manipulation – in the former census, they chose to manipulate and in the latter, they chose not to manipulate. However, the choice facing the people of Nagaland in 2011 was different, even though it can be argued that this is equivalent to the decision about whether to (reject calls for correction and) continue to over-report. In 2011, they had to decide whether to allow correction of the previously manipulated headcount. Given the changed context, the strategic interactions in 2011 should be modelled using a different game. The following conditions govern the ordering of outcomes when communities face pressure to correct previously manipulated headcounts.

(a) Both communities not reporting correct headcounts (Not correct, Not correct) cannot be the best outcome as it benefits neither community and only defers adjustment, whereas development planning is affected in the meantime.

(b) For either community, both communities correcting simultaneously (Correct, Correct) cannot be worse than both not correcting (Not correct, Not correct).

(c) Only one of the communities correcting (Not correct, Correct) cannot be the best outcome for either community as development planning continues to be hamstrung and conflict between those who have corrected and those who have not intensifies.

(d) For a community, both communities not correcting (Not correct, Not correct) cannot be worse than when it is the only one correcting (Correct, Not correct).

(e) A community is worse off when it corrects its population while the other community does not (Correct, Not correct) compared to when it does not correct its population while the other community corrects its population (Not correct, Correct).

Figure 5: Distribution of Population Growth Rates across Sub-district Administrative Units of Nagaland
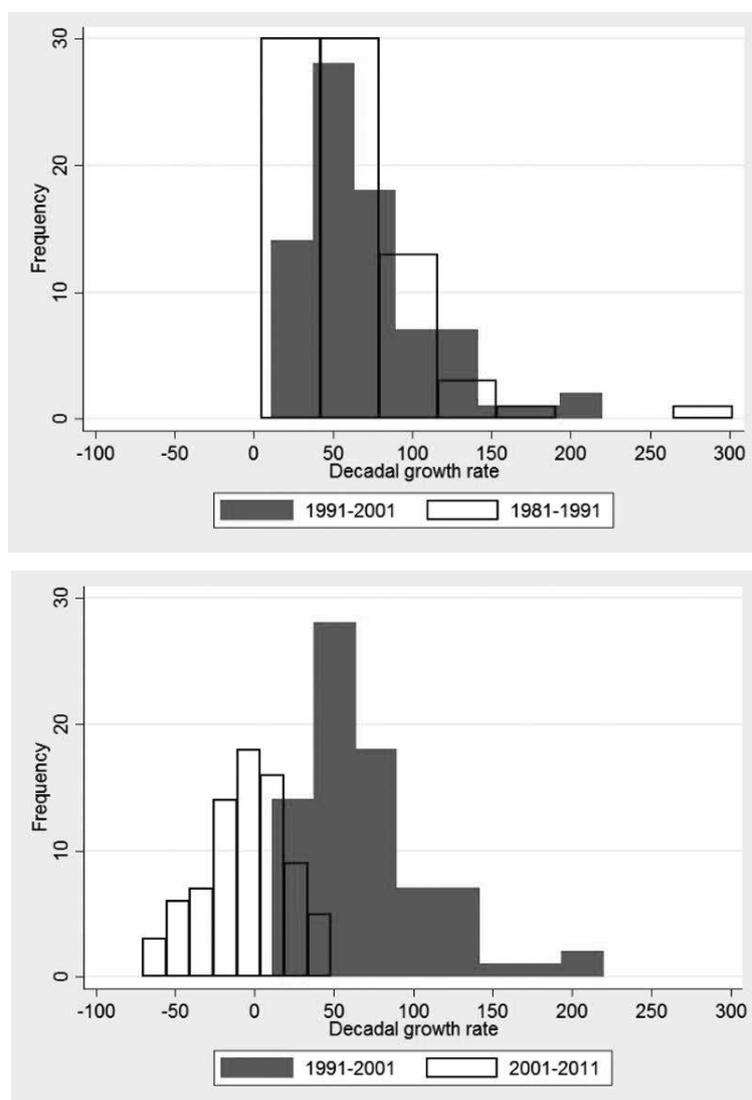
Note: The number of circles in the state increased from 69 in 1981 to 114 in 2011 with inter-circle territorial transfers in some cases. The above figure reports growth rates for 78 circles for which comparable data can be generated for the period 1981-2011.

Sources: Various census reports

Given these conditions, the following orderings of outcomes are possible.

I: (Correct, Correct) ≻ (Not correct, Not correct) ≻ (Not correct, Correct) ≻ (Correct, Not correct)

II: (Correct, Correct) ≻ (Not correct, Correct) ≻ (Not correct, Not correct) ≻ (Correct, Not correct)

These orderings support three games of which two games pair identical types, whereas the third pairs different types (Figure 6). In all games, (Correct, Correct) is one of the pure-strategy equilibria, with (Not Correct, Not Correct) being the other pure-strategy equilibrium; the latter is Pareto-dominated by the former. All three games support a mixed-strategy equilibrium. In the first game, the mixed-strategy equilibrium is Pareto-dominated by both the pure-strategy equilibria. In the second game, the mixed-strategy equilibrium is Pareto-dominated by (Correct, Correct) and it

Pareto-dominates (Not Correct, Not Correct). In the third game, it is Pareto-dominated by (Correct, Correct) and neither dominates nor is dominated by (Not Correct, Not Correct).

Discussion

The case of the 2011 Census of Nagaland corresponds to the games of pure coordination whether we examine it using manipulation games or correction games. Manipulation games suggest that the communities in Nagaland were locked in a game of pure coordination and *did not over-report* their respective populations in 2011. Likewise, correction games suggest that in 2011 the communities were locked in a game of pure coordination and *chose to correct* inflated headcounts. It is noteworthy that in the case of correction, all games have multiple equilibria, which is not true in the case of manipulation. This suggests that correction could not have been achieved without putting in place confidence-building measures because manipulating alone is perhaps less risky than correcting alone.

Type 2 and Type 3 manipulation games (Figure 4) are unlikely to be relevant in the case of Nagaland because in these games the players can move to the Pareto-dominant outcome only under the threat of punishment. In discussions with census officials and political leaders, the author did not come across any hint that the use of punitive measures against individuals or communities was contemplated. The government invoked the threat of punishment only mechanically in general


Figure 6: Correction Games

I

		B Correct	B Not Correct
A	Correct	(4, 4)	(1, 2)
A	Not Correct	(2, 1)	(3, 3)

II

		B Correct	B Not Correct
A	Correct	(4, 4)	(1, 3)
A	Not Correct	(3, 1)	(2, 2)

$I - II$

		B Correct	B Not Correct
A	Correct	(4, 4)	(1, 3)
A	Not Correct	(2, 1)	(3, 2)

where $4 > 3 > 2 > 1$ and the pure-strategy equilibria are underlined.

warnings. It also announced that enumeration would be cross-checked using church membership records (GoN 2009) and would be followed by the collection of biometric data (Assam Tribune 2011), but neither measure was made part of the officially declared schedule of the 2011 Census.

The switching did not happen due to any change in the punitive provisions of the Census Act, 1948 (the last amendment was introduced in 1994), threat of punishment, political change or socio-economic change. A public interaction *two years before* the enumeration (GoN 2009) and a general advertisement campaign in the run-up to the 2011 Census (GoI 2011c: 6–7) played a key role. The message of the advertisements released by the Census authorities (e.g., "My future must be built on the truth–Correct Census means strong future!") was buttressed by the statements of political (Rio 2011: 73–74) and civil society (Rutsa 2011) leaders, who appealed to the Christian-moral values of Naga society.
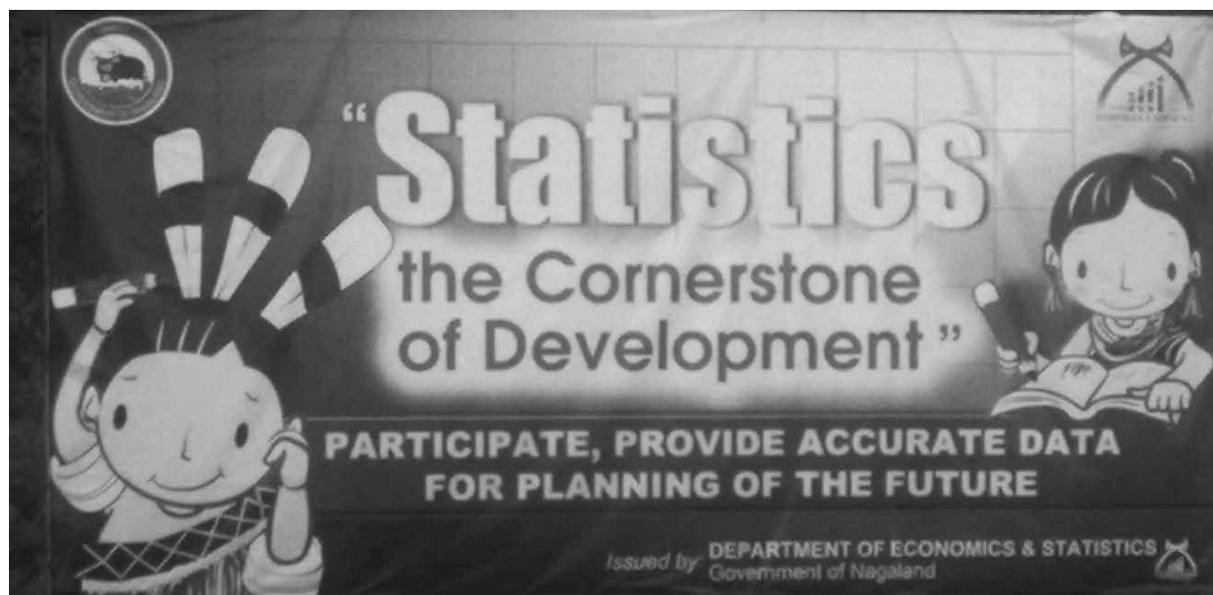
(Photo by Vikas Kumar, Kohima, 24 September 2012)

The government took steps to improve vigilance of the census operations, assured greater transparency in census operations, and facilitated confidence-building measures among communities. It brought *all* political and non-political stakeholders together in a consultative meeting and tried to build a (legally non-binding) consensus in favour of a clean census. This helped communities to publicly debate the issue and to arrive at a better understanding of the problem as well as the importance of an accurate census. At the meeting, they resolved to support the government's initiative to conduct a clean census and also agreed that community volunteers would accompany census enumerators in the field and that enumerators would not be appointed to their "home" areas. During the 2011 Census, whenever enumerators faced resistance from a community, they approached the relevant signatories to the 2009 resolution for help.

A clarification about the nature of the aforesaid interaction between communities is in order. The interaction happened (long) *before* enumeration was carried out, and therefore does not amount to communication *during* the play of the game. This left the door wide open for a strategic departure

from the general *non-binding* consensus arrived at earlier through public debate. Moreover, the extended de facto (synchronous) method of enumeration meant that, as before at the time of enumeration, communities were in the dark about the manipulation of headcounts, if any, being carried out by others. Also note that the interaction was in the form of general discussions on public platforms that included all stakeholders. The participants addressed their concerns to the government without attacking their fellow representatives from other communities. The interaction helped the leaders arrive at a better understanding of the problems both from the perspective of the communities as well as the state government. The interaction served as a confidence-building measure and helped the society as a whole to resolve to clean up the mess. However, it needs to be stressed that at no point did the government try to facilitate dialogues between the communities locked in direct conflicts over headcounts. All that the government did was to shift attention to another equilibrium in a game of multiple equilibria, i.e., it highlighted another focal point (cf. discussion on the role of law in Basu 2015).

The importance of the transparent consultative process that produced a legally non-binding commitment becomes evident when we compare Nagaland with Manipur and Jammu and Kashmir, which also faced similar problems with respect to the census and in both states the 2002 delimitation could not be implemented. The Naga-dominated hill districts of Manipur that share a border with Nagaland reported very high population growth rates in the 2001 Census. Political parties opposed to the delimitation of constituencies on the basis of the flawed census approached the union government (NENA 2007) and the Gauhati High Court (Manipur Pradesh Congress Committee and Ors. vs Union of India and Ors. 2007). Manipur failed to resolve the problem in the 2011 Census. Unlike Nagaland, Manipur held only one community responsible for the problem and tried to correct the problem through coercive administrative mechanisms. Jammu and Kashmir, where the problems in the 2001 Census remained unacknowledged, faced a bigger problem in 2011, with widespread over-reporting in the Kashmir Valley.

Concluding remarks

In this paper, we have discussed the census law of India and other common law countries. Our discussion has revealed several structural flaws in India's Census Act, 1948 that were overlooked by both the National Statistical Commission (GoI nd1) as well as the Committee on Legislative Measures in Statistical Matters (GoI 2011b). The Act prescribes a light punishment in case of violation of the legal obligations by respondents, but does not demand subsequent compliance. Fines are not linked to the degree of manipulation nor to the opportunity cost. More importantly, the punitive provisions of the Census Act, 1948 are rarely, if ever, used. Comparison with other common law countries suggests that the Indian experience or stance with regard to the magnitude of the prescribed punishment and the non-invocation of punitive provisions is not unique. In most countries, fines related to violation of census laws by respondents are not only low and stagnant, but also rarely implemented. Furthermore, in India, collusive manipulation of the census by several individuals, or by individuals and officials, is not treated as a problem that is structurally different

from individual manipulation. In other words, the Act overlooks the strategic interactions driving manipulation. The possibility of manipulation leading to content errors is acknowledged in the instruction manual for enumerators, but the related coverage errors are not covered. Manipulation of the census by the government as a source of error is completely ignored. There is no provision for the correction or withdrawal of erroneous figures.

The neglect of strategic interactions during enumeration is, in fact, part of a larger problem. While the design of the census tries to minimise the possibilities of manipulation (and of double counting) by simultaneously enumerating the population, it overlooks the fact that this feature also engenders insecurity in a divided society leading to competitive manipulation. If the economy is dominated by the state, communities try to secure their future claims on the public pie by boosting their numbers in the census and other official records.[35] In his global survey of ethnic conflicts that draws attention to the interlinkages between ethnic conflict, election, and competitive manipulation of the census, Horowitz (2000: 194–196) argues: "In a severely divided society, we have seen that an election can become an ethnic head count. Now it is clear that a census needs to be "won." So the election is a census, and the census is an election."[36] The rule of thumb is that where society is divided primarily along ethnic lines and where weak public institutions are unable to mediate between ethnic groups, demographic statistics are likely to be manipulated.[37] The availability and reliability of statistics will be unsatisfactory in such ethnically divided societies, which face collective action problems, insofar as census statistics can be seen as public goods.[38]

The only way out of such situations is to build trust in the impartiality of government institutions and facilitate dialogue between communities. Our discussion has highlighted how disregarding strategic interactions could open the door for the competitive manipulation of the census, in particular, and of government processes, in general. We have used normal-form games to understand a community's decision to manipulate government statistics in multi-ethnic societies to protect or advance its interests. Stricter laws and harsher penalties will not address the root cause of the problem and will also remain inoperable or ineffective in the face of mass violation. The games used in this paper to explain competitive manipulation have multiple equilibria. Societies can move from one equilibrium to another without the threat of legal sanction. So, imposing

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35 This insight can be confirmed with the help of a fuller model in which communities manipulate headcounts to increase their share of seats in the legislature and to receive a larger proportion of development spending allocated by the government and are mindful of the costs of manipulation (including fines) (Kumar and Agrawal 2016). Also note that the simple models presented in this paper can subsume the case of unequal over-reporting by communities.

36 Others have equated the census in such settings with "plebiscite" and "political campaign" (Kertzer and Arel 2002: 28–29), "opinion polls" (Abramson 2002: 178), "show of strength" (Hekali Zhimomi, Director Census Operations, Nagaland, personal communication, Kohima, 25 June 2013), "weapons" (Karmakar 2010), "negotiation" (Aung 2018), "political weapons" (Adepoju 1981: 29), and "Census War" (Khan Bahadur Sheikh Fazl-i-Ilahi, Superintendent of Census Operations, Delhi, quoted in Ahmed 1999: 124).

37 Even otherwise the census and politics are inseparable insofar as the decisions about whom to count and how to count are inherently political choices. The deep and multifaceted relationship between demographic statistics and politics is, in fact, a defining feature of modern societies.

38 Heine and Oltmanns (2016: 207) argue that "data from the statistical infrastructure can be ascribed the characteristics of public goods, because statistical data can be consumed on a non-competing basis... The marginal costs of production are zero and therefore the price-mechanism does not work."

existing penalties or imposing newer penalties is not the solution.[39] Confidence-building measures, engagement with communities, and transparency in operations[40] are key to addressing the trust deficit that drives competitive manipulation of census statistics. Our discussion has relevance for other situations involving the mass violation of laws, where the concerned actors view the setting in zero-sum terms and where simultaneity of moves can be assumed.[41] For instance, most incidents of communal violence involve, or are triggered by, mutual misunderstanding between communities due to the absence of credible channels of communication and the lack of trust in the administration's ability or willingness to punish the other community should it choose to take the law into its hands. Communities resort to self-help under such circumstances.

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39 Kulkarni (1991) analysed the problem of the over-estimation of the headcount of the Halba/Halbi tribe in Maharashtra, where non-tribal people reported themselves as belonging to that tribe. He attributed the over-count on, among other things, the non-advertisement of the punitive provisions of the Census Act, 1948 (ibid.: 207). It is not clear how this would have deterred false reporting in absence of a credible expression of the government's resolve to prosecute people engaging in manipulation *en masse.*

40 Commenting on the quality of the Socio Economic and Caste Census (SECC), Saxena (2015: 15) points out that the government did not accept "the most important recommendation [of the N. C. Saxena Committee] of conducting the census and collecting information openly in gram sabha meetings that are filmed to promote transparency and avoid backdoor influences was not accepted. Instead, the ministry decided to send a surveyor to each person's house . . ." This solution cannot be applied to the decennial census. Unlike the SECC, which is governed by executive decisions, the census is circumscribed by the Constitution and by the Census Act, 1948, which provides for high levels of confidentiality.

41 Our discussion does not apply to every government policy that has redistributive consequences. It only applies in those cases where people have to make choices without knowing how others are making their respective choices. This condition is not easy to satisfy. It is satisfied in the case of the census because of the specific structure of the exercise, that is, extended de facto (synchronous) method of enumeration.

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Azim Premji University was established in Karnataka by the Azim Premji University Act 2010 as a not-for-profit University and is recognized by The University Grants Commission (UGC) under Section 22F. The University has a clearly stated social purpose. As an institution, it exists to make significant contributions through education towards the building of a just, equitable, humane and sustainable society. This is an explicit commitment to the idea that education contributes to social change. The beginnings of the University are in the learning and experience of a decade of work in school education by the Azim Premji Foundation. The University is a part of the Foundation and integral to its vision. The University currently offers Postgraduate Programmes in Education, Development and Public Policy and Governance, Undergraduate Programmes in Sciences, Social Sciences and Humanities, and a range of Continuing Education Programmes.

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