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11 *Market Making in Punjab Lotteries: Regulation and Mutual Dependence*

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Introduction

It is easy to find lottery shops in Punjab, India. Large, overhead signs say "Punjab State Lottery" in Hindi and/or Punjabi scripts (Figure 11.1). But the products these shops sell are more varied than their signs suggest. The Punjab state lottery (PSL) acts as a front. The main business of these shops is the selling tickets from the lotteries of several northeastern states and the illegal lotteries that operate using their organization and infrastructure. Regulations and the business organization they foster have made the PSL, the northeastern states lotteries, and illegal lotteries unexpectedly dependent on one another. As they vie for market share they must also share the market. If any lottery drove another out of the market, its own business would collapse. The key to understanding this is to see how variably regulated practices entangle to make the lottery market.

The differences in regulation within the lottery market could be characterized in terms of the distinction between formal and informal, "representing bureaucracy and popular self-organization" (Hart 2006, 2008). As Keith Hart argues, the formal–informal distinction, while questionable, has its uses. However, in this article, I avoid binary characterizations of differential market regulations such as formal–informal and legal–illegal for two reasons.

First, the institutional agents, targets, and practices of regulation vary considerably within what we might call the formal or legal lottery

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Figure 11.1 Lottery shop in Mohali, near Chandigarh

market. Within some kinds of economic practices, we can fruitfully distinguish functionally complementary markets (legal and illegal, formal and informal) or segments of a single market. In her wonderful work on horserace betting in Delhi, for example, Stine Puri shows a "parallel" illegal market "lying in the shadows of legal betting and finance" (Puri 2014: 217; see also Puri 2015). In contrast, the legal market for lotteries in Punjab is subject to the varying regulatory practices of several Indian states, the central government, a consortium of lottery corporations, and police. The binary distinctions of formal–informal and legal–illegal make it more difficult to grasp how the interplay among regulating institutions and their regulations shapes markets and market segments.

Second, as Janet Roitman observes, economic activities characterized as informal often use highly organized systems of labor, financing, and authority: "The only way in which one can demarcate these activities from the official economy and official state administration is with respect to a particular shared characteristic: that is, circumventing state economic regulation" (Roitman 2004: 19). Instead of "informal," she analyzed such activities as "unregulated" and we can extend her

argument beyond a binary characterization to highlight the variability of regulation.

Roitman's point is especially relevant to the Punjab lottery market, where legal and illegal lottery activities are almost identical and organizationally fused. As Peebles observed, in highly regulated economies transactions alike in every other respect are delineated "between legitimate and illegitimate" by "the use of a receipt" (Peebles 2011: 70). In the case of the Punjab lottery market, legal and illegal transactions are not distinguished by *whether* a receipt is used, but *how* it is used. As I describe in more detail below, machine-printed ticket receipts marking a regulated transaction are used in illegal transactions – lottery sellers scrawl the terms of illegal bets on cast-off losing tickets littering their shops. In a kind of mockery of the regulatory role of ticket receipts, they are used to flout the tax regulations of the state of Punjab and the business agreements with corporate ticket agents. The legal and the illegal are two sides of the same paper, the difference between them paper thin.

This similarity and operational dependence among different lotteries is not new. Since the establishment of the PSL in 1968, various legal and illegal lotteries in the state have been borrowing and trading properties of one another as their operators attempt to capture their competitors' share of the lottery market. This essay charts this history, inspired by Jane Guyer's call for the study of forms of regulation, their succession, and combination (Guyer 1993). She shows how different "models" of regulation, defined in terms of their key goal (guarantee of fixed relationships, protection of purity, provision of welfare, arbitration of social costs), both succeeded and (to a lesser degree) supplemented one another in the regulation of food in Britain and its colonies.

The two dominant models of lottery regulation in India have been the "protection of economic welfare," especially of the poor, and the "appropriation of the profits" of the lottery industry. Central and state governments implemented these different models through a variety of rules and institutions. My focus is less on what Guyer calls the "ideological rubrics" of forms of regulation than the way they interact in practice to make a market in a particular shape. The increasing regulation of the lottery market in India is not a straightforward modernization story of the incorporation of informal economic activities into formal economic arrangements. Efforts to increase the regulation of lotteries fostered the growth of new, less regulated activities, including

outright illegal ones. Specifically, intersecting regulations prompted the creation of an innovative, loosely regulated lottery product that was easy to distribute in parallel black market sales. The market for lotteries in Punjab shows how regulation can significantly format even activities that escape one or another component of its regulatory apparatus.

This article focuses on lotteries to examine how different government entities and corporations can shape markets in India. As I argue below, technical infrastructures and business organization play regulative roles in the lottery market. However, legal regulation has a particularly strong role in shaping lottery markets for two reasons. First, in India and elsewhere, lotteries are intensely legally circumscribed because they are commonly condemned on moral grounds and as a tax on the poor. Second, lotteries – the legal ones, at least – are especially amenable to legal regulation because they are games constituted largely by formal rules, which are easily targeted by law. For example, as I describe below, a simple 2010 central government rule that banned two- and three-digit lotteries suddenly remade the industry.

This article concentrates on the features of lotteries that figure in its regulation. It is not intended to be a comprehensive treatment of lotteries in India or lotteries as a particular kind of practice found in many places. Therefore, it does not address many important issues thematized in scholarship on lotteries such as the moral and political debates concerning lotteries, the sociocultural orientations that make certain lottery games appealing, the calculative and speculative practices of lottery players, and the links between lotteries and a variety of practices that address risk and uncertainty and invite fortunate events – from astrology and prayer to moral living.[1] Finally, my ethnographic work to date has concentrated on the PSL department and the corporate agents who distribute its tickets.[2] Further research will explore in more depth the perspectives of the lottery officials of northeastern states, low-level lottery sellers, and those who play the lottery, but

[1] For ethnographic work on these issues with respect to lotteries (see Casey 2003; Davis 2006; Klima 2006; Krige 2011; Mosquera & Garcia de Molero 2004; Selby 1996; Van-Wyk 2012, 2013).

[2] This chapter is based on ethnographic research conducted in Ludhiana and Chandigarh/Mohali for six months in 2014 and for two month-long periods in 2015 and 2016. I gratefully acknowledge the American Institute of Indian Studies for its generous support of this research.

unfortunately, they are not well-represented in the account I present in this chapter.

Prohibition

The kind of numbers games now called "lotteries" have old roots in South Asia. But the modern market for them developed in response to the regulatory practices of the colonial state. A thorough history of numbers games waits to be written, but we can trace their development through late nineteenth- and early twentieth-century colonial regulations. The changes in regulations register a move away from betting on the timing or measure of actual events to the abstraction of the digits used to express them.

What are today called "lotteries" did not emerge from what were called lotteries in the colonial period. (I return to the implications of this terminological shift in the next section.) From the early seventeenth century, lotteries had become an established form in England for raising funds for public goods, including roads and bridges, educational and medical institutions, and colonial adventures such as the Virginia Company. The identification of lotteries with projects of general welfare distinguished them from "gambling," which was subject to a variety of regulations. In India, from the late nineteenth century, what Puri characterizes as a "fusion of lottery and betting" (Puri 2014: 17) was practiced in relation to horseraces, with tickets being sold as far away as London (Frith 1976: 18, cited in Puri 2014: 17).[3]

The Government of India's Public Gambling Act of 1867 did not even mention lotteries and the Bombay Prevention of Gambling Act of

[3] Puri describes the practice as follows: "As the race club culture developed, 'lottery dinners' were organized on the night before the races for members. At these events, people could buy tickets for a fixed sum on a particular horse. The tickets were then put up for auction – and could be sold for an even higher amount, depending on the popularity of the horse – and were put into a barrel (Frith 1976: 18). The winner would be the ticket drawn with the right horse number and the prize was the total pool of ticket money" (Puri 2014: 17). Interestingly, this same fusion of horserace results with lotteries was the beginning of the return of legal lotteries in the United States. Begun in 1964, the winning numbers of the "New Hampshire Sweepstakes," operated by the US state, were based on horseraces rather than selected through a method of chance to avoid violating the US anti-lottery statutes.

1887 explicitly excluded lotteries from its definition of gambling. The colonial regulation of gambling was aimed less at curtailing gambling than curbing the disorderly public behavior that accompanied it. Regulation of gambling tended to attach itself to places and focused on controlling gaming houses where people would gather to use "cards, dice, tables or any other instruments of gaming" (Public Gambling Act of 1867, s. 1).

Anne Hardgrove (2007) shows that by the late nineteenth century, presidency governments increasingly focused on the practice of rain betting. Different accounts date the beginnings of betting on the rain to either the 1820s or the 1880s, but it was thriving by the late nineteenth century. Bettors would wager on the amount of rain that would fall in a three-hour afternoon period. The morality and social consequences of rain betting were cited in 1890s' bans, but the legislation likely had other goals. Ritu Birla (2009) sees it as an effort to distinguish illegal and legal markets for speculation. Hardgrove argues that the government's aim was also to take a piece of the gambling action itself: "Shutting down rain gambling was a way of pushing people to speculate on the official opium exchange, and not informally, as in rain gambling shops, where the state could not gain any profit" (Hardgrove 2007, para. 328).

By 1900, however, "gambling" on the price of opium through speculative purchase transactions taxed by government gave way to betting on the final digit of the daily sales price of opium, no longer tied to the movements of the overall price as in the futures market. Such a wager could return five to nine times the amount of the wager. This kind of betting was open to a much wider range of people, because it required no knowledge of or connections with the movements of the opium market. Moreover, because it did not involve the actual purchase of opium, these bets could be placed for as little as one *anna*. "This daily *satta* was said by the government to 'attract the idle riff-raff of the town, the labourer, the servant, and the mill-hand'" (Hardgrove 2007, para. 322).

As the opium trade declined in the first decades of the twentieth century, the practice of betting on the final digit of a commodity price spread to cotton and jute (Birla 2009). Reflecting the expansion of international trade and communications, betting increasingly used the prices on British and American spot and futures markets in London, New York, and New Orleans.

By the 1920s, amendments to the 1867 Act began to take account of the varieties of numbers games, focusing on digits as a central feature in addition to the measures of the phenomenon speculated on. In 1926, the Public Gaming Act of 1926 in the United Provinces was amended to prohibit gambling on the digits of a number indicating the price of cotton, opium, and other commodities, as well as the amount of rainfall. Central Provinces Act of 1927, prohibited "gaming-houses" defined as places where there was "gaming":

(a) on the market price of cotton, opium, or other commodity or on the digits of the number used in stating such price; or
(b) on the amount of variation in the market price of any such commodity or on the digits or the amount of such variation; or
(c) on the market price of any stock or share or on the digits of the number used in stating such price; or
(d) on the occurrence or non-occurrence of rain or other natural events; or
(e) on the quantity of rainfall or on the digits of the number used in stating such quantity.

(Central Provinces Act 3 1927, s. 2)

The account of "*dara* gambling" in a 1938 book on gambling law in India by the attorney SMA Sami registers a move completely away from using natural or market events as a source of digits. Sami was careful to point out that "*dara* gambling has no connection whatever with the price of any commodity" (Sami 1938: 71). He wrote that the "modus operandi" of "*dara* gambling" was "well known" and he quoted a description of it from a 1933 court decision:

> The owner of the house who may be conveniently called a book-maker accepts bets from individuals, bets on digits ranging from 1 to 100. After he has got a sufficient number of bets he makes small slips of papers from 1–100, puts those slips in a jar and then after rolling about extracts three out of the jar. The numbers mentioned on those slips are added together and after eliminating the first digit there remain in the majority of cases a number consisting of two digits. The whole of that number is called the *dara* and an individual who has bet on that number gets a fairly large amount, whereas the individual who has bet on the last digit of that number gets a comparatively smaller amount. Such a digit is known as *baraf*. (Sami 1938: 71)

The likely derivation of the name for this kind of gambling from *dar*, the Hindi word for "rate," suggests that the game itself developed from

the kinds of commodity price betting that the government had banned. Sami suggested that the use of papers in a jar was used to get around the ban on betting on events and commodities, drily observing: "The failure on the part of prosecution to establish by definite evidence that slips of paper had any connection with the sale-price of any commodity is not a fatal defect for sustaining a conviction under section 3." (Sami 1938: 71).

Nevertheless, the practice of betting on the final digits of commodity prices continued into the 1960s. By the 1950s, a huge numbers business had grown in Mumbai that used the opening and closing spot price of cotton on the New York market. The evidence is not solid, but it seems that the last three digits of the opening and a closing price were added to produce a single digit for each price. What came to be called *matka* (Hindi for "pitcher" or "earthen jar") grew out of a shift away from using these prices. There are various and irreconcilable reports about why. The five-day schedule of the NY market did not allow for weekend draws. The Bombay cotton market might have stopped receiving the price information from NY. In another account, the prices ended in zero for several days in a row, generating suspicions that someone was perhaps manipulating the NY cotton market to win the numbers game, which prompted the betting community to adopt the open and close rates of wholesale cotton traded on Bombay's cotton exchange at Siwri. The most banal, and perhaps hardest to make sense of, comes from the Vinod Kalyanji, son of Kalyanji Bhagat, the man considered the originator of Mumbai *matka* (also known as *Kalyan matka*). Vinod Kalyanji claimed that, in the mid-1950s, his father decided that the cotton figures were becoming too predictable to bet on (Mujumdar & Patel 2007). According to Vinod, his father began to study the American numbers game in the late 1950s and started a new game, and "the name *matka* is because the idea occurred to my father while seeing people bet on numbered chits drawn from a pot." From the start, *matka* was based on drawing three cards from a deck. The game succeeded in Bombay and spread quickly to all of India, in part because it had high odds (from 1:9 for bets on a single digit) and could be played for as little as one rupee. Furthermore, the similarity of *matka* to a lottery also probably discouraged authorities from controlling it very aggressively.

Bhagat is credited with the invention of *matka*, but the game itself closely followed the way commodities prices were used. Bhagat's new game evolved in its early years, but it soon settled into a structure that is still used today. There are two draws of three cards each every day, respectively known as the "opening" and "closing" draw, which traditionally take place at 9 pm and midnight. The cards correspond to numbers 0 to 9. So, a draw might be 9, 5, 4. These numbers are added up, in this case, to 18. The last digit of this sum is used as the opening number, so it would be 8 and the draw would be represented as "954 8X." The closing draw works in the same way: if 3, 6, and 8 are drawn, from the sum of 17 you would get a closing digit of 7. The full draw would be represented as "954–87–368." Bookies take bets on all these outcomes, but most of the bets are on the opening and closing digits (in this case, the single digits of 8 and 7) or the pair (here 87). Picking the single digit pays nine times the wager, double digits pays ninety times. Accomplished through many media, the single-digit game, whether called *dara*, *matka*, or lottery, has proved to be the most successful game in India.

Appropriation

State lotteries were an effort on the part of state governments to take over parts of a thriving illegal lottery business. According to the Directorate of Punjab State Lotteries (DPSL), the state lottery "was established in the year 1968 as a wing of the Finance Department with a view to curbing illegal lotteries like *satta*, *matka*, etc. by organizing lotteries at regular intervals and also to mobilize resources for the state exchequer" (Directorate of Lotteries, Punjab n.d.). Although curbing an illegal industry was the key aim, we can look at the establishment of the PSL as related to the nationalization of private banks in 1969. And the move is even more closely aligned with efforts of colonial governments to capture existing betting markets, like attempting to push rain bettors into speculating with purchases on the opium market.

Although many states operated lotteries for some period in the 1970s and 1980s, the number of lotteries exploded in the early 1990s as states struggling to meet their budgets were drawn to a method of raising funds without increasing taxes. Lotteries are a concurrent matter under the Indian Constitution, so both states and the Union have the authority to frame laws to regulate the conduct of lotteries. The role of

government employees and offices in conducting lotteries varied greatly. Most states operated their own lotteries, although some also licensed private companies to operate them. At one end were the northeastern states of Mizoram, Nagaland, and Sikkim, which appeared to just authorize and sell the lottery concession to private corporations, which ran the entire business. The PSL officials I talked with about this joked that lottery divisions of these states have just one official who simply signs the contracts with the corporations, which then develop the lottery schemes and operate them. States such as Punjab developed their own schemes, got tickets printed, and conducted their own draws, leaving only sales operations for a network of companies. Many of the Hindi-belt states pressed their district management bureaucracies into service to the lottery, giving their district tax collectors supplementary appointments as "District Lottery Officers" with authority over "District Lottery Offices," which distributed tickets. Small vendors frequently complained that they were shut out of sales as large vendors converted bureaucratic control into market share through illegal payments. Kerala had long operated a lottery completely through government employees. Even the lowest level sellers who accosted drivers at traffic lights were Kerala state employees, who were part of a state-run social insurance arrangement.

By 1994, the tickets of some 150 lotteries from states throughout India could be bought every day in Delhi. The proliferation of lotteries generated serious concern about their effects on the urban poor. From the early 1990s, newspapers were filled with stories of lives ruined by the false promise of lottery riches as husbands hawked vehicles, sold their wives' wedding rings and earrings, and borrowed money to buy lottery tickets. Workers left their jobs to join ticket-buying frenzies, to scrutinize gazettes listing the winning numbers of past weeks, and await the next draw. Muslim clerics issued fatwas pronouncing them against the tenets of Islam (Sharma 1992a) and letters to the editors denounced lotteries as nothing more than "gambling." The rush of cash into government coffers generated vast opportunities for corruption.

Delhi took the lead in banning lotteries in 1995 and most of the Hindi-belt states closed them down within a few years. After closing their own lotteries, many states found that they were simply handing over revenues to other states whose lottery tickets flooded into their markets. The wrangling among states and the central government

finally resulted in the Lotteries Regulation Act of 1998, which allowed states to ban the sales of tickets from other states. This act also specified that only state governments are authorized to operate lotteries, although just what arrangements satisfy the criteria of a state-operated lottery is still a matter of debate.

The PSL is run by a junior Indian Administrative Service (IAS) officer who heads the Directorate of the Punjab State Lottery, which has a staff of around fifty people. To date, the PSL is what is known as a "paper lottery," one that uses preprinted tickets with numbers on them, rather an "online lottery," which allows buyers to pick any number they would like by buying a ticket at a computer terminal in a lottery store. The selling of tickets is contracted through "selling agents," three different companies with a national footprint in the lottery business: New Delhi-based Sugal and Damani, which specializes in operating lotteries in India and Africa; Pan India Network Infravest, which sells under the Playwin brand, is a subsidiary of Essel group that includes Zee TV, among many other holdings; and Chennai-based Future Gaming Solutions owned by Santiago Martin, the self-made "Lottery King," who has been in and out of prison for lottery-related fraud. These firms are agents not only for the PSL, but for lotteries of all the other states being sold in Punjab. After being printed at a "security press," a high-security printing facility near Delhi (which also prints things such as stock certificates), PSL tickets are delivered to the offices of these three firms in Ludhiana, which has traditionally been the center of the lottery market in Punjab. The agents then sell them to around 60 "distributors" around the state, each of whom runs its own retail shops or sells the tickets to small retailers, which PSL staff estimated to be around 6000–7000. For the PSL weekly draw in 2015, agents bought the tickets from the state for Rs. 16.5, distributors for Rs. 17, sellers for Rs. 17.5, and the actual players for the retail price of Rs. 20.

As Stine Puri showed in her account of Delhi horserace bettors whose speculations are "oriented toward predicting people rather than horses" (Puri 2015: 466), the belief that outcomes are rigged can promote rather than undermine gambling. But transparency and trust have been part of the core pitch of the PSL from the start. The effort to cast PSL lotteries as a proper government operation and distinguish it from *matka* has generated intensive routines of credibility to show the lottery numbers are a matter of chance. Puri's analysis of betting on horse races in Delhi suggests that credibility is not important, but

matka depended on the reputation of their operators for credibility, or on numbers generated by an event judged to be beyond the ability of operators to manipulate. Historically, most lotteries were likely kept small by the difficulty of extending reputation beyond a limited area, but there were exceptions. Ratan Khatri of Mumbai earned the trust of punters throughout India and abroad from the early 1960s by running his *matka* operation with renowned integrity, opening a new deck of cards every night in the presence of "patrons" (including Bollywood celebrities) to select the numbers determining the fates of hundreds of thousands of bettors. Long after his arrest in 1998 had driven him from the business, he told an interviewer: "People had great faith in my system. I would even ask them to open the three cards. I knew it was illegal but I ran it with complete honesty" (Awasthi 2007).

We have seen how the PSL struggles to capture the business of illegal lotteries. It is equally pitched against the power of personal reputation that made Khatri's *matka* such a success. The PSL website declares its first objective as "To prevent illegal activities like prize chits, *satta* and *matka* by providing a clean and transparent lottery environment to citizenry" (Punjab State Government 2012).

The heart of this effort is the method by which numbers are drawn. Every Wednesday an official from the lottery directorate in Chandigarh makes the two-hour trip to its office in Ludhiana, the largest market for the PSL, to oversee the weekly draws. These draws are a mixture of theater and bureaucratic procedure. Numbers are drawn using noisy electric "drawing machines" (Figure 11.2), which are kept locked whenever an officer from the Chandigarh office and a judge are not present. To ensure the machine is not tampered with, every articulation between external parts of the drawing machine is covered with seals, pieces of paper affixed to both parts with six daubs of wax and signed by two judges, two officers of the PSL, and representatives of the three agents (Figure 11.3).

The machines are operated by a PSL staff person (Figure 11.2 right), who presses a button for each machine to get its wheels spinning and then presses it again to let it wind down, which generates displays of numbers. One person reads off numbers (far left) as another PSL staff person types them into software written for the PSL and a sessions judge (center) writes them down on paper. This procedure is repeated until they have the 1,100 plus numbers needed for that week's draw. Sometimes representatives of the agents are invited for token runs of

Figure 11.2 Officials of the PSL and a sessions judge draw and authorize winning numbers

the machine as part of the exhibition that it makes no difference who operates it. No staff member is allowed near the machines when they are being run for the draws. (Use of an older machine with metal spinning parts was stopped when it was discovered that staff were manipulating the draw by standing near it with magnets.) Behind the room with the machines, separated by steel bars is a gallery for the public to attend to watch the draw. Aside from representatives of the three agents who come every week, weekly draws rarely attract any visitors. However, the high-prize bumper lottery draws often pack the gallery with hopefuls.

PSL staff persons are very proud of the "transparency" of the draw, achieved by its literal visibility and elaborate checking and counter-checking and signing of documents by PSL staff and the judge, who legally certifies the numbers. They contrast this method not only with the way *matka* numbers are drawn but also the computer draws of the northeastern states lotteries.

One lower-level assistant asked me skeptically, "how to make computer draw transparent?" referring to the invisibility of computer

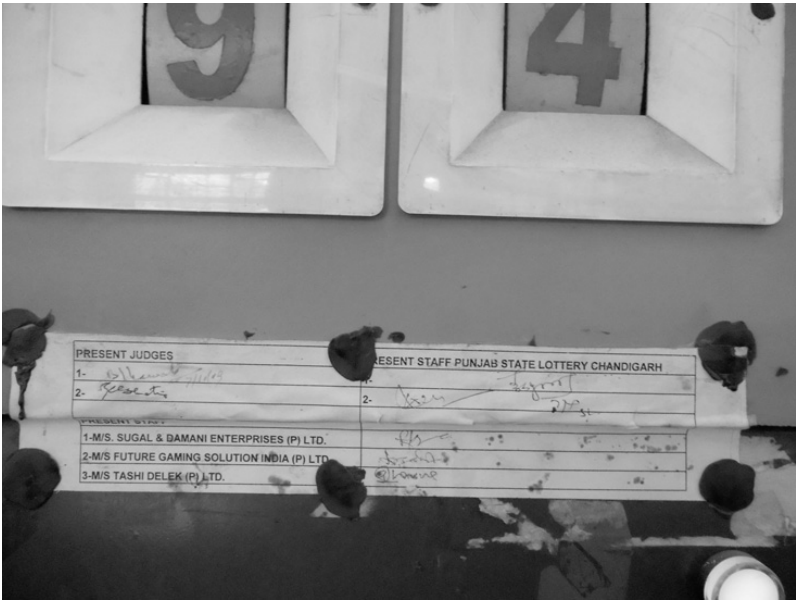

Figure 11.3 Seals on articulations between parts of a drawing machine

processing. His superior insisted that only machines like they use can do it, a "computer can't qualify," that the 2010 rules require that the draw be as he put it, "visibly transparent, open to view." Indeed, the rules stipulate that the method of a draw must be "visibly transparent to the viewers" (2[d]).

From its start until the 1990s, PSL ran the same games or, in official parlance, "schemes": forty-eight single-digit lottery draws that paid nine times the ticket price, not coincidentally the same payout rates as *matka*. In 1995 it added double-digit draws that paid ninety times the ticket price. The state also ran what are called "bumper" lotteries for festivals such as Diwali, Raksha Bandhan, and the New Year, with first prizes in lakh, the bulk of the revenue came from single-double digit lotteries. In an attempt to depress lottery sales, 1998 Lotteries Regulation Act banned one-digit lotteries but Punjab lottery revenues from two- and three-digit draws remained strong. As you can see from Table 11.1, in 2009–2010, the gross revenues almost reached an astonishing Rs. 4,034 crore (around $860 million at 2010 exchange rates).

Table 11.1 ***Annual revenue of the PSL (Rs. in crore [10 millions])***

Year	Gross receipts	Expenditure	Gross profit	Tax	Net profit
2002–03	2606.66	2547.10	59.56	22.08	37.48
2003–04	2441.91	2371.85	70.06	26.62	43.44
2004–05	2694.43	2597.17	97.26	32.08	65.18
2005–06	3218.68	3059.12	159.56	51.91	107.65
2006–07	2164.70	2008.35	156.35	48.79	107.56
2007–08	3557.24	3395.17	162.07	84.88	77.19
2008–09	3565.22	3396.25	168.97	139.00	29.97
2009–10	4033.96	3864.10	169.86	141.70	28.16
2010–11	3799.56	3793.88	5.68	9.71	–3.49
2011–12	63.11	41.33	21.78	8.25	13.53

Table 11.2 ***Prizes and draws for June 6, 2017***

	Prize amount (in Rs.)	No. of draws	No. of digits	No. winning numbers
1st prize	5,00,000	1	7	1
2nd prize	1,00,000	2	7	2
3rd prize	50,000	20	7	2
4th prize	5,000	4	last 5	20
5th prize	2,000	1	last 4	20
6th prize	100	100	last 4	2,000
7th prize	40	810	last 4	20,000

However, a provision in the 2010 rules banning two- and three-digit lotteries produced a sharp decline in sales, which plunged to only Rs. 63.11 crore. PSL has attempted to attract lottery players who like odds of every kind by offering seven levels of prizes, by varying the number of draws and the digits (Table 11.2).

PSL tried to replace its two- and three-digit lotteries by increasing the number of draws for its sixth- and seventh-prize lotteries. Although it is still a four-digit draw, the 800–1,000 draws for the seventh-place prize of Rs. 40, effectively reduce the odds for that prize to the odds of a single-digit lottery. Nevertheless, since more digits are identified

with higher odds, the four-digit draws obscure the actual odds of winning. Some people do not know about the extra draws for the seventh-place prize but none of the bettors I talked with had done the calculations required to know what the real odds of winning are. These factors and the entry of new competitors has kept the PSL from maintaining its market share.

Sharing

The collapse of PSL revenues after 2010 was not only due to the ban on two- and three-digit lotteries. Another provision of the 2010 rules revoked the ability of a state to close its market to the lottery tickets of other states unless it closed its own state lottery. States conducting their own lotteries were forced to share their lottery markets with lotteries of other states, except when they could be shown to violate central government rules. At the time, Goa, Kerala, Manipur, Meghalaya, Mizoram, Punjab, Maharashtra, Nagaland, Sikkim, and West Bengal had their own lotteries. With the active promotion of lottery agent firms, the lotteries of Mizoram, Nagaland, Sikkim gained a significant share of the lottery market in Punjab. From this point, three kinds of lottery accounted for most of the lottery revenue in Punjab: the PSL, the state lotteries of northeastern states (Mizoram, Nagaland, and Sikkim), and the illegal lotteries running on the northeastern lotteries. While each of these kinds of lottery competes with the others for business, they constitute a complex network of dependencies, each one needing at least one of their competitors in order to be a viable business.

Like the PSL, the Kerala state lottery struggled to recreate the odds of its own successful two-digit lottery by selling four-digit tickets with two fixed digits that were announced ahead of time. But the central government eventually enforced the rule of the Lotteries Act that banned the use of a "pre-announced number" (§4(¶a)). The lottery firm Sugal and Damani had a more creative solution for its northeastern states' clients. No doubt the framers of the 2010 rules requiring a minimum of four "digits" were thinking of digits as numbers 0–9, but there is no explicit statement regarding the numerical range of digits or even that the digits be numbers. Sugal and Damani invented an online game that replaced three of the four numbers with other characters: each ticket has a face card (jack, queen, king), a suit (diamond, heart, spade, clubs), a letter (A or B), and a number (1–5).

Known as the "card" game, with echoes of Bhagat's Mumbai card-based *matka*, it is very popular. As Geertz (1973) argued about cockfighting, favorable odds may not be what really draws players to a game, but the odds of the card games make them comparable to the long-running, attractive high-odds one- and two-digit games. The probability of winning (P_{win}), one in 120, approaches that of two-digit *matka*, one in 100:

$$\frac{1}{3}[\textit{face cards}]\bullet\frac{1}{4}[\textit{suits}]\bullet\frac{1}{2}[\textit{letters}]\bullet\frac{1}{5}[\textit{numbers}]=\frac{1}{120}$$

The card payoff is 100 times to *matka's* 90 times; for example, the payoff for a Rs. 2 ticket is Rs. 200, which compensates somewhat for the lower odds of the card game. Combining odds and payoff, we can see what mathematicians call the "expected profit" (Packel 1981: 147–57) from playing a single Rs. 2 ticket paying a prize of Rs. 200.

$$\textit{Expected profit}=P_{\text{win}}(\textit{payoff}-\textit{ticket price})+P_{\text{loss}}(\textit{ticket price})$$

$$\begin{aligned}\textit{Expected profit}&=\frac{1}{120}(\textit{Rs. } 200-\textit{Rs. } 2)+\frac{119}{120}(-\textit{Rs. } 2)\\&=-\textit{Rs. } 0.33\end{aligned}$$

That is, a player would expect to lose, on average, Rs. 0.33 on every Rs. 2 ticket he purchases. We can compare this with the expected profit of a Rs. 2 ticket for a two-digit *matka*, which would pay Rs. 180:

$$\begin{aligned}\textit{Expected profit}&=\frac{1}{100}(\textit{Rs. } 180-\textit{Rs. } 2)+\frac{99}{100}(-\textit{Rs. } 2)\\&=-\textit{Rs. } 0.2\end{aligned}$$

That is, a player can expect to lose, on average, Rs. 0.2 on every Rs. 2 ticket he purchases. While the expected return is much higher in *matka*, the card game is not far off compared to odds for the seventh-place prize of the PSL, with its higher ticket price and lower payout.

Beyond the odds and the expected return, the northeastern states' card game has other attractions: the draws take place every fifteen minutes and the payouts are immediate; the frequency and number of draws allows players to search for patterns; and players can pick their own numbers, unlike the PSL, which distributes tickets with preprinted numbers on them. Results of each draw are written on boards displayed

at the entrances to lottery shops. Punters scrutinize these numbers with extreme attention to find patterns that will point them to a winning play. When I first started going to these shops, I expected them to have the easy sociability of a teashop. To an extent that is true for those working there or simply hanging out. But many of those planning their next play are too absorbed with the results board to chat, often pausing only to turn to a fellow player to point to some pattern quizzically. They usually push their analyses to the last minute before the draw, when the seller frantically tries to enter the plays of a rush of his clients.

According to government reports from the mid-1990s as well as the PSL staff and managers at private corporation firms, high-odds quick-turnaround games are especially attractive to the poor industrial workers and service people who make up a large portion of the lottery market buyers. Sounding a bit like Oscar Lewis (1959) describing the short time horizon of the poor, the head of one agency told me: "They are poor and they have no patience, they want to spend their daily wages quickly." Middle-class buyers favor the less frequent bumper lotteries that have lower odds and higher payouts and require more paperwork to claim prizes.

Punjab has been protesting to the central government that these card games and other northeastern lottery practices violate central government rules, that they are really operated by corporations rather than the states themselves. If the central government accepted this claim, Punjab would be legally allowed to ban them. But so far, the center has refused to declare a violation. The agents, in contrast, have been aggressively fighting against efforts to ban this game, since it has allowed them to recover business that was lost when one-, two-, and three-digit lotteries were banned. Furthermore, the lottery contracts of the northeastern states are awarded on much more favorable terms than those of the PSL, therefore margins on them are much higher. PSL staff argue that these agents like dealing with the small, weak, and corrupt northeastern states that let them do whatever they want. One PSL staff person told me: "Punjab is a developed state. We have a reputation to preserve. But these little states, no one bothers with rules there." Another PSL staff person quipped: "They don't pay the state for their [lottery] contracts, they just give the money directly to the director of lotteries! The state governments get almost nothing."

It is unclear to me how much the three large corporate players of the Indian lottery business cooperate at the national level on legislative strategy. But they clearly coordinate relations among themselves and

northeastern states to schedule the forty-two daily draws, one every fifteen minutes, from 10:45 am until 9 pm, so that draws from different lotteries do not take place simultaneously. The lotteries are also all the same, the card game invented by Sugal and Damani. Lottery websites for different northeastern states are also identical, suggesting they are all maintained by one site manager. The relationships of managers of the agent firms at their Punjab head offices in Ludhiana very cozy. They coordinate both day-to-day operations and their strategic engagement with the Punjab state government on issues of taxation and regulation.

Most striking is the retail-sales arrangement they have established. In local parlance, lotteries of the northeastern states are called "online lotteries," but they are not online in the sense that tickets can be bought over the Internet. Rather, tickets are bought and registered through network terminals in lottery shops, which also deliver draw results immediately after the draw. Each of the three firms provides its own terminal for the northeastern states online lotteries to each retail lottery seller. Each agent contracts for some or all of the draws of a particular state lottery.

Although these northeastern lotteries are all the same card game and government officials and business people usually talk about "draws," each one has its own name, for example Amoli and Makrand-Super Card. Naming each "draw" uniquely designates them legally as a separate "lottery," an arrangement that skirts the Lotteries Regulation Act's rule that no lottery may have more than one draw in a week (§4(¶h)).

All these arrangements raise the legal question of what it means for a state to run a lottery or even more generally, with so many government activities contracted to private firms, what does it mean for a state government to operate a lottery? The Lotteries Regulation Act of 1998 requires that "State Government itself shall conduct the draws of all the lotteries" (§4(¶e)). If a government contracts with a lottery corporation to handle the generation of random numbers, is it conducting the draw in the way that the PSL clearly does? For PSL staff, all these arrangements are evidence that these northeastern lotteries are actually private lotteries merely branded by the states, which are therefore violating the 1998 Act, which stipulates that only state governments can "organize, conduct and promote" lotteries (¶3). Setting aside the legal question, perhaps we might best understand these northeastern states lotteries as operated by an informal consortium of state governments and companies that have made two markets, a consumer market for legal lotteries and a market for the state authority to run them, and have built the technology

infrastructure both markets require. Although it seems likely just as these corporations collude to shape the consumer market, they might also collude to fix the market for state authority to run lotteries.

The technologically advanced and lucrative arrangement of northeastern states lotteries frustrated the entrepreneurial spirit of the PSL staff, which felt hamstrung by the limitations of their paper lottery and adherence to legal propriety. In 2014, when I began this research, the PSL, with help from the consulting firm of Ernst & Young, was at work on a tender offer for its own online lottery. When I initially turned up at the Finance Ministry dressed in a black suit and tie to request access to the Directorate of Lotteries, I was enthusiastically received, not least perhaps because the IAS officer initially hoped I might be doing research for a foreign direct investor interested in making a bid on the imminent tender offer. The same suspicion generated what I can only characterize as undisguised hostility on the part of the managers of agencies in Ludhiana. Fearing I might make an offer that would upset the arrangement they were making to refuse to bid on the tender offer and hold out for more profitable terms, they grilled me with prosecutorial zeal about why I was looking into the lottery in Punjab.

The agents had no interest in supporting an online PSL because it would simply cannibalize their existing market and subject them to the unwanted regulation and less profitable terms required by the Punjab state. In fact, none of the agent corporations submitted a bid. (When I returned a year later to talk with the heads of these agents in Punjab, after the tender had failed to attract any bids from me or any other foreign direct investor, I was welcomed with great warmth.) Punjab lottery staff and Finance Ministry officials I talked with insisted that terms of the tender were generous and that only the collusive stranglehold of the agents had sunk it. Against this background, the Punjab state government decided to raise the taxes on the northeastern state lotteries, allowable under Home Ministry rules, to the point where an online PSL would be relatively profitable. Taxes for outside lotteries operating in Punjab are assessed on the basis of draws. Up to this point, Punjab had been taxing them at a rate of Rs. 55,000 per draw and the government raised the rate to Rs. 80,000 per draw. This generated a standoff between the Punjab state government and the agents, who closed their online lotteries and refused to sell PSL tickets for four months, from September to December of 2014. This deprived the state of both lottery and tax revenue, but the state refused to budge.

In January, the agencies reopened their northeastern state operations again, but they reduced their draws to twenty-seven a day.

If the agents and the PSL remain antagonistic, they have found common cause in opposition to the explosion of the illegal lotteries, which rushed to meet the demand while the legal lotteries were closed and managed to hold onto much of the market share they gained during this period.

In Punjab, illegal lotteries, sometimes called *dara* or, more often, *satta* (Hindi for speculation), operate using the legal operations of the northeastern state lotteries. There is anecdotal evidence for this sort of relation between illegal and legal lottery markets all over India – that local operators sell their own tickets using the results of state lotteries, often offering better odds and payoffs than the official state lotteries. However, in Punjab, the infrastructure for generating regular, credible numbers established by northeastern state lotteries and their agents has generated an entirely new market of illegal lotteries. That is, although this new *satta* draws on longstanding preferences of lower-class bettors, it is a separate market from the *satta* that has been run out of Mumbai. If the PSL was established to appropriate lotteries for the legal market, the northeastern states lotteries have generated a whole new kind of illegal lottery, one that threatens to dominate the lottery market. One PSL official told me that the 2010 rules prohibiting one- and two-digit lotteries had "destroyed the market" for legal lotteries and are very much "favoring *dara*/*satta*."

As one PSL staff person put it, *satta* and legal lotteries are "parallel." *Satta* is run out of the same shops, using the same results, and even the same paper as the northeastern states lotteries. It is a one-digit game with the same odds, 9:1, and payout as *matka*, nine times the wager. Numbers 1–10 are yielded by converting the last two digits of the card games, as we can see in Table 11.3.

Table 11.3 ***Conversion of card game results to one-digit*** **matka**

A1 = 1	B1 = 6
A2 = 2	B2 = 7
A3 = 3	B3 = 8
A4 = 4	B4 = 9
A5 = 5	B5 = 10

The licenses to sell legal lotteries allow sellers to run their *satta* business openly in markets, without the need to conceal the comings and goings of players, and the giving and taking of money. *Satta* players buy their chits from the same person who would sell them a legal lottery ticket. There is never any question of which lottery a customer wants to play. If he names four "digits" he wants to play, the seller enters it in the computer and prints out a ticket. If he asks for a single digit, the operator will snap up a losing computer-printed ticket from a previous draw lying on his counter or even the floor of the shop and write on the back the number, time, and amount of the bet. Some customers play both the card game and *satta* on different draws. If the *satta* player's number comes up, the seller reaches into the same till he pays card game winners from and pays the *satta* winner.

PSL officials resent the lotteries of the northeastern states, but true to the original purpose of the PSL, one official told me, "Our real competition is *satta*." In 2014, government and industry people estimated that 30–40 percent of the lottery market in Punjab measured by revenue was *satta*. The four-month closure of the northeastern lotteries allowed *satta* to capture a larger share of the market and by June of 2015 dispirited agents and PSL staff agreed that *satta* accounted for as much as 70–80 percent of the market. With the growth of *satta*, Mohali (adjacent to Chandigarh, the joint capital of the states of Punjab and Haryana) has become the largest market for legal lotteries, because a great proportion of customers are government employees with concerns about getting involved in illegal activities.

The head of one agent firm told me that such illegal single-digit lotteries are everywhere in India but that the "taste of the customers" for single-digit lotteries is much stronger in Punjab and nearby regions. One PSL official told me the illegal, low-odds gambling cannot be stopped and that when they banned it in Delhi in 1995, he heard stories of people betting on all kinds of things, such as whether the next car that goes by will be blue or not. He was often dispirited by the lack of regard for the law evidenced by *satta* players, who "don't care who is selling, only about the money"; "he is not caring whether it is legal or illegal, he just says 'Give me the ticket, the one that pays more.'" PSL staff are critical of the illegal lotteries not only because they compete with legal ones but because they tarnish all lotteries and the image of PSL staff themselves by associating them with their seediness in the mind of the public.

Agents are more concerned with the revenue they lose to *satta* even as they pay for the entire computer and network infrastructure that makes *satta* possible. Agents think of these illegal lotteries as parasites on the organization and infrastructure of the northeastern lotteries. But as Gustav Peebles suggests (personal communication), we might compare the northeastern states lotteries to central banks that establish currency systems that enable private banks to transact in what is, in fact, private money.[4] And, like central banks, agents function in practice as regulators of the "private" (*satta*) lotteries, through the technical infrastructure they supply and through their policing of sales. One agent makes all the sellers who use its terminals sign English-language legal statement pledging that they will not sell illegal lotteries. The manager of this agent firm told me that he carefully tracks the data on ticket sales levels on each of his terminals and compares it with terminals in comparable commercial locations to figure out which lottery sellers are using his terminals mostly to provide results to *satta* players, rather than to sell the northeastern states tickets. It is mainly a matter of trying to reduce rather than eliminate the practice. When an agent catches a seller excessively dealing in illegal lotteries, he threatens to block his terminal. He also asks the other two other agents about the seller. If all three are having a problem, the agents block their terminals for an agreed on period of time, halting the seller's business in both legal tickets and *satta*. But the manager told me that he tries to stay friendly because he usually cannot catch them outright and his business depends on their goodwill and their willingness to play by the rules to some extent: "We don't have any enemies or friends, we don't have any interest except money," he told me.

Lottery sellers I talked with said bettors are the ones choosing between legal lotteries and *satta*, but sellers make an effort to sell legal tickets. They do this not only to evade sanction from the agents but also because they have a clear interest in making sure that the legal northeastern lotteries are profitable, because both legal and illegal sales depend on the infrastructure the agents supply. Like all the other actors in this market, the illegal lotteries need the northeastern states lotteries to stay viable.

[4] We could also see *satta* as "riding the rails" of the northeastern lottery system, as proponents of new payments systems describe their relation to older payment infrastructures (Nelms et al. 2018).

Agents would like the police to curb *satta*, but some police make good money in bribes to allow the trade. One lottery agent claimed the new station house officer (SHO) of the area with the main market for lottery tickets in Ludhiana called all the lottery sellers and told them he expected Rs. 5,000 per month from each of them. The basic interest that some police have in the success of *satta* broke into the open in 1992 with newspaper reports that police in Madhya Pradesh were "harassing" the ticket dealers for the recently opened and very much legal state lottery (Sharma 1992b). The agent said he had tried to meet with the senior superintendent of police, the SHO's superior, but to no avail. He refuses to complain openly because he is afraid of both the police benefiting from the *satta* racket and the criminals who run the protection racket for *satta*: "We are not mafia, not *goonda*s [thugs]. We are business people. They have guns," he told me. A PSL staff officer confirmed that agents are afraid of "*satta* dons, they don't want to fight with them, they hide behind a curtain. The police require a written complaint, but they are too afraid. They talk to the Punjab State about it, but they will not even write one thing to the Punjab State, they never want to get involved in front." Punjab police have asked PSL staff and agents to go with them to point out who is running illegal operations so they could make arrests, but staff members always refuse, because, as one told me, "this is very dangerous."

The lower-level police I talked with in Ludhiana confirmed much of this. But they also countered that it is very difficult is to obtain actual evidence that a shop is running *satta*. Selling a *satta* chit looks just like selling a legal ticket and one has to be right on top of the buyer and seller to be able to know. The only way to catch a seller is to get him to sell you a *satta* chit, but police are recognized, so it is not easy. A senior officer told me that most police stations arrest two or three people a month for selling *satta*, just to show their superiors they are enforcing the law. But even if a seller is convicted, they pay a fine of just Rs. 500 and get back to work.

Mutual Dependence

One of the most striking features of lottery organization and practices in Punjab today is the degree to which each kind of lottery depends on the operations and legal status of the others. Most obviously, *satta* depends on the technological infrastructure, organization, legal cover,

and even the paper provided by the corporate agents through the northeastern states lotteries. Dependent on illegal lotteries, the police are similarly beneficiaries of the laws that prohibit them and the organizations that adhere to those laws. The corporate agents, like the monopolies of the seventeenth-century regulated companies, would be clear losers if the lottery market were "freed" from the nominal authority of states and effective corporate control. Although the agents would prefer to expand their northeastern states lotteries at the expense of the PSL, they must ensure it earns enough to protect it from politicians who would rather see it closed, which would enable the state to ban all other lotteries. PSL officials see the northeastern lotteries as parasites on the open market that the state of Punjab establishes by having its own lottery; the agents of the northeastern states lotteries similarly see illegal lotteries as parasites on their arrangements. Characterizations of parasitism are always based on a view of what entity is functionally paramount. But if the northeastern states and *satta* lotteries are parasites, they are the kind of microbiota, in aggregate a large mass, that biologists increasingly recognize are required for the healthy functioning of the host body.

The PSL probably has the greatest potential for legal and economic autonomy from all the other actors in this field. But as long as the Punjab state government is unwilling to bring the sales and marketing in house and operate it with state employees as does Kerala, it needs not only lottery agents, but the northeastern states lotteries that keep these agents in business. Even illegal lotteries play a role in supporting the PSL, as the illegal trade keeps many more small-time sellers of their tickets in business, which strengthens the PSL distribution network.

The complex relations among different actors involved in the lottery business in Punjab shows how varied the role of law can be. Obviously enough, legal regulations defining the difference between legal and illegal activities format markets in illegal practices and set the terms of trade within them. Even as the tax requirements of regulations are evaded, virtually all of the other provisions of the regulations are extended through illegal activity. The success of the northeastern states lotteries vis-à-vis the PSL also shows how regulation generates practices that, while not illegal, depend on the fact that competitors are subject to the stronger legal enforcement or maintain a moral or bureaucratic commitment to legality. The commitments of the PSL to transparent financial practices and draws, accounting

requirements, and profit for the public budget cost it market share, both because their games are less attractive and agents prefer to promote the northeastern states lotteries. In fact, the agents are very grateful for these commitments. We can compare the position of the agents on Punjab state good governance practices to those of Uber, which surreptitiously fights to maintain the strict regulations on licensed taxi companies that do not apply to Uber, allowing the company to undercut the taxi market.

Finally, we can note the varying regulatory role of the technical infrastructures of state lotteries. The securely printed PSL tickets, computer-generated tickets, and drawing machines can be seen to have pulled lotteries outside the relations of reputation and trust linked to the actions of individuals, that is, people like Khatri drawing his cards in Mumbai, drawing a stark divide between the illegal networks of *matka* and the legal organization of government staff. Ironically, the infrastructure of the northeastern states lotteries has similarly enabled illegal lotteries in Punjab to have the same qualities of regularity and transparency as state-run lotteries, independent from the reputation of individuals.

On the other hand, the computer network infrastructure built to handle the online lotteries of the northeastern states enabled the closest possible merger of mafia-managed illegal lotteries and legal lotteries, to the point where police investigations cannot capture evidence of it for prosecution. Infrastructure linking cities in Punjab with far-off states, designed to give large corporate operators access to local markets, provided the means for the local interpersonal relations of influence of the police and mafia groups to expand. The very technology that makes results credible by displacing them beyond the local social world at the same time strengthens the role of local social relations. This dynamic is beautifully captured in the losing online ticket that becomes a *satta* chit, two sides of the same paper.

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