

## *Rethinking Institutions: Innovation and institutional change in India's informal economy\**

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### **Abstract**

India has the largest informal, unregistered economy in the world, infrastructurally backward, yet vital for both growth and livelihoods. In the first section of this article, five economic institutions that shape this economy are introduced: small firms, informality, non-metropolitan towns, innovation and innovation systems, and the state's regulative impact on the economy it does not directly regulate. In the second section, we trace the development of the commodity economy of a South Indian town taken for case study over 40 years, before exploring three kinds of innovation in the third section: invention, adaptive, and adoptive innovation. In the fourth section, the formal and informal institutions that nurture informal innovation are analysed: family business, business associations, banks and finance, informal insurance and gold, hybrid state–private institutions, and informal innovation inside the state. The conclusion confirms the innovative dynamism of the informal economy and the complex pathways of institutional change that both shape, and are shaped by, innovation.

### **Rethinking India's development institutions: questions and priorities**

Economies cannot work in social voids, they are embedded in institutions that shape and give character to their growth and

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distributional conflicts. While there is no consensus about the set of institutions that matter to growth, the theoretical toolkit of economic development tends to privilege the state, property rights, the market, and the firm.<sup>1</sup> When imagined, the firm is a corporate entity, manifest in a state corporation, a large family business: an entity that is registered, regulated, and taxed.<sup>2</sup>

But over 60 per cent of India's GDP is estimated to be unregistered. Forty per cent of manufactured exports are produced in India's gullies and alleys; just under half the economy is black, involving factor and property incomes that should be reported but are not,<sup>3</sup> and 90 per cent of all jobs are unregistered and without work rights.<sup>4</sup> In absolute terms, India has the largest casual labour force in the world. While between 40 and 80 per cent of the labour forces in the public and private corporate sectors are estimated to be subcontracted to private agents—in turn on casual, verbal contracts—the corporate sector employs well under half as many people as the non-corporate sector.<sup>5</sup> In 2007, partial-equilibrium modelling led to the conclusion that it was the latter that was driving the growth of both GDP and livelihoods.<sup>6</sup> While data updated to 2015 has not yet been used for cause–effect statements, it is known that, in manufacturing, about three quarters of the labour force is unregistered, a proportion that has been 'remarkably constant' since 1995.<sup>7</sup> Recent debates about the exact growth rate notwithstanding, data for 2015 from the Ministry of Corporate Affairs posted by the Reserve Bank of India and factoring

<sup>1</sup> Daron Acemoglu, Simon Johnson, and James Robinson, 'Institutions as a Fundamental Cause of Long-run Growth', chapter 6, pp. 386–415, in Philippe Aghion and Steven N. Durlauf (eds), *Handbook of Economic Growth*, Volume IA (New York: Elsevier, 2005).

<sup>2</sup> Peter Behrens, 'The Firm as a Complex Institution', *Zeitschrift für die Gesamte Staatswissenschaft/Journal of Institutional and Theoretical Economics* 141, no. 1, 2nd Symposium on the New Institutional Economics (1985), pp. 62–75.

<sup>3</sup> Arun Kumar, 'The Black Economy: Missing Dimension of Macro Policy-Making in India', *Economic and Political Weekly* 34, no. 12 (1999), pp. 681–94.

<sup>4</sup> That is, without the right to work, rights at work, the right to organize or rights to social security, International Labour Office, *Decent Work* (Geneva: ILO, 2002).

<sup>5</sup> Data in Mukesh Eswaran, Ashok Kotwal, Bharat Ramaswami, and Wilima Wadhwa, 'Sectoral Labour Flows and Agricultural Wages in India, 1983–2004: Has Growth Trickled Down?', *Economic and Political Weekly* 44, no. 2 (2009), pp. 46–55.

<sup>6</sup> Anushree Sinha and Christopher Adam, 'Modelling the Informal Economy in India: an Analysis of Trade Reforms', chapter 6, pp. 306–63, in Barbara Harriss-White and Anushree Sinha (eds), *Trade Liberalization and India's Informal Economy* (New Delhi: Oxford University Press, 2007).

<sup>7</sup> Rajesh Raj and Kunal Sen, *Out of the Shadows: The Informal Sector in Post Reform India* (New Delhi: Oxford University Press, 2016), p. 88.

in unlisted companies reveal that it is unlisted firms and micro and small enterprises that are the engines of both growth and profit.<sup>8</sup>

If the non-corporate sector is vital to growth and development then its institutional character matters. Five character traits will be introduced as relevant to the project of re-thinking institutions developed in this special issue: small firms, the informal economy, non-metropolitan sites, innovation, and the state's relation to informality.

### *Small firms*

India is remarkable for the small size of most of its firms. In India, the official category of 'self-employment' remains the commonest form of livelihood and is expanding in all sectors.<sup>9</sup> According to the Economic Census, in 95 per cent of total firms with fewer than 5 wage workers, the average number of workers declined over the period 1990–2011 from 3 to 2—overwhelmingly family labour.<sup>10</sup> Since 1991, these small firms have grown from 19 million to some 45 million. Economic growth is achieved through the multiplication of small firms as much as, if not more than, through accumulation, concentration, and centralization. An unknown proportion of them (a 'good proportion' of a set of case studies of self-employment<sup>11</sup>) are dependent on single sources and interlocked contracts for raw materials and finished products, such that 'self-employment' is regarded by many scholars as wage-labour 'in disguise'.<sup>12</sup> In fact, there appears to be a continuum of forms between dependent and independent enterprise. Regulated through

<sup>8</sup> The non-corporate sector is highly differentiated. For every listed corporate firm there are 250 unlisted companies and an estimated 7,500 micro and small enterprises. For this and the growth rate debate, see R. Nagaraj, 'Size and Structure of India's Private Corporate Sector: Implications for the New GDP Series', *Economic & Political Weekly* 50, no. 45 (2015), pp. 41–47.

<sup>9</sup> Evidence reviewed in Martha Chen and G. Raveendran, 'Urban Employment in India: Recent Trends and Patterns', *Margin: the Journal of Applied Economic Research* 6, no. 2 (2012), pp. 159–79; see also National Sample Survey Organisation, *Informal Sector and Conditions of Employment in India NSS Report No. 557* (New Delhi: NSSO, 2014), p. 53.

<sup>10</sup> Raj and Sen, *Out of the Shadows*, p. 95.

<sup>11</sup> National Commission on Enterprises in the Unorganised Sector, *Report on Conditions of Work and Promotion of Livelihoods in the Unorganised Sector* (New Delhi: National Commission on Enterprises in the Unorganised Sector, Government of India, 2007).

<sup>12</sup> Saumyajit Bhattacharya, 'Is Labour Still a Relevant Category for Praxis? Critical Reflections on Some Contemporary Discourses on Work and Labour in Capitalism', *Development and Change* 45, no. 5 (2014), pp. 941–62. The point about relative independence is related to, but separate from, one about poverty, where there is no

several systems of customary law, the latter kind of petty commodity producing and petty capitalist firms are both the building block of the economy and the unit of family and social reproduction. Economic authority is expressed through patriarchy in its oldest sense of male control of men. These firms operate in the second institution vital to Indian development: the informal economy.

### *The informal economy*

The term informal economy is a fuzzy concept with multiple meanings (e.g. small/primitive activity; unlicensed/unregistered firms, commodity transactions and labour contracts; activity untaxed through design or pre-emptive tactics; work without work rights).<sup>13</sup> While Egypt and Ethiopia have proportionally larger informal economies, India's ranks first in absolute terms.<sup>14</sup> India's informal economy existed long before the term was invented<sup>15</sup> and has long been linked through supply chains to consumption processes all over the globe. Poverty and illiteracy reside there but so does wealth: the informal economy may be the site of assets concentration as well as of persistently small firms. Criminal transactions co-exist with behaviour that does not come under the ambit of regulation at all, or that doesn't conform to it, or that developed prior to the imposition of regulation.

option but to use case material for conclusions that 'a large part' is operating under distress conditions compared with those for wage work (see Stuart Corbridge, John Harriss, and Craig Jeffery, "Lopsided", "Failed", or "Tortuous": India's Problematic Transition and its Implications for Labour', chapter 8, pp. 157–83, in Delia Davin and Barbara Harriss-White (eds), *China–India: Pathways of Economic and Social Development* (Oxford: Oxford University Press, 2014) for a review stressing distress in self-employment; and see Barbara Harriss-White, Wendy Olsen, Penny Vera Sanso, and V. Suresh, 'Multiple Shocks and Slum Household Economies in South India', *Economy and Society* 42, no. 3 (2013), pp. 400–31 for the opposite conclusion. The 'employers in disguise' may themselves be under the six-worker threshold for 'directory enterprises' and count legally as 'labour'. See Kamala Sankaran, 'Flexibility and Informalisation of Employment Relationships: The Role of Labour Law', Paper prepared for the conference 'Blurring Legal Boundaries: Commercialisation and Informalisation of Work, International Institute for the Sociology of Law', Onati, Spain, 2010.

<sup>13</sup> For the history of the concept, see Martha Chen, 'Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment', United Nations Department of Economic and Social Affairs Working Paper No. 46 (New York: DESA, 2007).

<sup>14</sup> Raj and Sen, *Out of the Shadows*, pp. 7–10.

<sup>15</sup> It was 'huge at Independence': Chirashree Das Gupta, *State and Capital in Independent India: Institutions and Accumulation* (Cambridge: Cambridge University Press, 2016), p. 133.

Illegal activity, which evades the law and pre-empts compliance, is reinforced by weak enforcement or rank neglect by the state. The state's enforcement efforts typically lead to extortion and police action and complicity but not to compliance.<sup>16</sup>

Shifting definitions, sources, and sector-specific characteristics complicate our understanding of macro-level trends in the twenty-first century. On the one hand, the 68th round of the National Sample Survey for 2011–12 indicates a rising proportion of firms under single ownership or partnerships that are using electricity and growing in size, yet the share of the known workforce in such firms is in slow decline. On the other hand, 80 per cent of the urban workforce (working in such firms but also inside corporate business and the state) is unregistered and there is no evidence that it is not expanding in absolute and relative terms.<sup>17</sup>

Any re-thinking of development needs to recognize the significance of India's informal economy and its governing institutions. The next question is where.

### *Metropolitan and 'subaltern' urbanization*

India's remarkable twenty-first-century growth spurts—with an economy expanding on average at 7.2 per cent a year from 2000 to 2008, returning to this rate in 2015–16<sup>18</sup>—have been widely attributed to the vitality of the corporate sector<sup>19</sup> and metro-cities.<sup>20</sup> According to Kunal Sen, this growth has been driven by India's

<sup>16</sup> Labour, migration status, civil rights, tax, health and safety, land use, and environmental damage are increasingly prominent theatres of informality, even in the so-called developed economies of the West. See Jane Larsen, 'Informality, Illegality and Inequality', *Yale Law and Policy Review* 20, no. 1 (2002), pp. 137–82.

<sup>17</sup> NSSO, *Informal Sector and Conditions of Employment*, pp. 51–66 and tables therein; Chen and Raveendran, 'Urban Employment in India'.

<sup>18</sup> Eric Denis and Kamala Marius-Gnanou, 'Toward a Better Appraisal of Urbanization in India: A Fresh Look at the Landscape of Morphological Agglomerates', *Cybergeo*, No. 569 (2011), pp. 1–32, <http://cybergeo.revues.org/24798>, [accessed 17 July 2017]; World Bank, *GDP Growth* (Washington: World Bank, 2016), <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>, [accessed 17 July 2017].

<sup>19</sup> Kunal Sen, 'The Indian Economy in the Post-Reform Period: Growth without Structural Transformation', chapter 2, pp. 27–63, in Davin and Harriss-White, *China-India* and citations to De Long (2003) and Rodrik and Subramanian (2004) therein.

<sup>20</sup> Corbridge, Harriss and Jeffery, "Lopsided", "Failed", or "Tortuous", p. 160; Ayona Datta, 'City Forgotten', *Open Democracy*, [www.opendemocracy.net/opensecurity/ayona-datta/city-forgotten](http://www.opendemocracy.net/opensecurity/ayona-datta/city-forgotten), [accessed 17 July 2017]; Sen, 'The Indian Economy in the Post-Reform Period'.

285 million urban dwellers, concentrating in the largest cities. He points out that

the share in total urban population of towns with a population of less than 0.1 million decreased from 55.4 per cent of the total urban population in 1951, to 29.8 per cent in 2011. Much of the increase in urban population has occurred in cities with a population of more than 5 million and between 1 to 5 million.<sup>21</sup>

Sen identifies a paradox, however. As GDP growth has accelerated, the growth rates of these metros have slowed down. He finds this hard to explain.

But the answer to this paradox is to be found in *mofussil* (upcountry) towns. Some 60–68 per cent of India's urban population lives and works in non-metros.<sup>22</sup> The Indo-French project 'Indiapolis' has meticulously reclassified India's urban settlements on the basis of population contiguity, and has upwardly revised the estimates of the size, proportion, and rate of increase of her non-metropolitan urban population.<sup>23</sup> Between metropolis and village, 'middle India' is constituted through as many as 7,438 smaller towns—about twice the number recognized in the Census. Even in 2001 this meant that the urban population was 37 per cent—10 percentage points greater than the official estimate. In some states such as Tamil Nadu the re-estimate yielded a population that was by then already 44 per cent urban.<sup>24</sup>

Yet *mofussil* towns are also frequently described as neglected and stagnant. Isher Ahluwalia writes that the 'towns of India are visibly deficient in the quality of services they provide'.<sup>25</sup> Kamala Sharma evokes their 'pitted roads, piles of garbage, open drains, stagnant

<sup>21</sup> 'The percentage of urban population in these two city size-classes increased from 15.6 per cent in 1981 to 22.6 per cent in 2011, and from 12.1 per cent in 1981 to 20.0 per cent in 2011 respectively': Sen, 'The Indian Economy in the Post-Reform Period', p. 56.

<sup>22</sup> Kalpana Sharma, 'Rejuvenating India's Small Towns', *Economic & Political Weekly* 47, no. 30 (2012), pp. 63–68.

<sup>23</sup> Denis and Marius-Gnanou, 'Toward a Better Appraisal'.

<sup>24</sup> Ibid. See also Remi De Bercegol and S. Gowda, 'Slumdog Non-Millionaires: Small and Medium-Sized Towns in India on the Fringes of Urban Development', *Metropolitiques EU* (2014), [www.metropolitiques.eu/Slumdog-Non-Millionaires.html](http://www.metropolitiques.eu/Slumdog-Non-Millionaires.html), [accessed 17 July 2017].

<sup>25</sup> Isher Ahluwalia, 'Foreword', in High Powered Expert Committee (HPEC), *Report on Indian Urban Infrastructure and Services* (New Delhi: Ministry of Urban Development, Govt of India, 2011).

pools of water, overhead electric wires'.<sup>26</sup> Other evidence, however, suggests it is in middle India that the demand for high income goods and services is growing most rapidly and converging with that of metros.<sup>27</sup> So despite the theoretical synergy between public and private investment,<sup>28</sup> infrastructural deprivation, however miserable, does not seem to hinder the dramatic development of the market economy.

*Mofussil* towns need rehabilitation as sites of development, and the dynamic relations between infrastructural underdevelopment and hectic retail growth need urgent research.

### *Growth, innovation, and their institutions*

Higher growth at the macro-scale evidently translates into changes not only in the metropolitan corporate sector but also in middle India. At the micro-level, growth is rarely 'more of the same', it commonly requires innovation: products, processes, and ideas that are new. In turn, novelty can involve creativity (invention), the new adaptation of an existing product or process (adaptive innovation), and the adoption of an existing innovation in a new social context (adoptive innovation).

A family of concepts provoked by C. K. Prahalad's *Bottom of the Pyramid* (BoP) movement in corporate marketing<sup>29</sup> has been nurtured to reflect some of the specificities of Indian innovation. '*Indovation*' encapsulates the idea that (Indian) poverty leads to creativity for a mass market. '*Jugaad*' is a North Indian word for a cost-cutting quick-fix, possibly unsafe, nearly always 'bending the law' or ignoring it

<sup>26</sup> Kamala Sharma, 'Slumdogs and Small Towns' (2008), <http://infochangeindia.org/component/content/article/216-urban-india/cityscapes/7680-slumdogs-and-small-towns>, [accessed 17 July 2017].

<sup>27</sup> Ranjeet Laungani, 'Demand Spotting: The Rise of the Indian Small Town' (Nielsen, 2013), [www.nielsen.com/content/dam/corporate/india/reports/2012/Featured%20Insights\\_Demand%20SpottingThe%20Rise%20of%20the%20Indian%20Small%20Town.pdf](http://www.nielsen.com/content/dam/corporate/india/reports/2012/Featured%20Insights_Demand%20SpottingThe%20Rise%20of%20the%20Indian%20Small%20Town.pdf), [accessed 17 July 2017].

<sup>28</sup> B. K. Pradhan, D. K. Ratha and Atul Sarma, 'Complementarity Between Public and Private Investment in India', *Journal of Development Economics* 33 (1990), pp. 113–36.

<sup>29</sup> See C. K. Prahalad and Stuart Hart, 'The Fortune at the Bottom of the Pyramid', *Strategy and Business* 26, no. 1 (2002), pp. 1–15. This fortune is not new. Shampoo and soap were being retailed in sachets in periodic marketplaces in South India in the early 1970s.

completely. ‘*Frugal Innovation*’ celebrates least-cost ways to maximize profit: involving an improvisatory and flexible approach to innovation and an exploration of the many sites inside a corporation where new ideas may originate.<sup>30</sup>

While Jugaad and Indovation will certainly have an impact on the informal economy (and Frugal Innovation may sometimes formalize it), the cases used to illustrate these concepts provide ‘lessons’ targeted at and driven by corporates. We may indeed find frugal innovation in a literal sense in the informal economy, but we must distinguish its application there from the concept developed for the corporate sector.

Innovation also does not take place in an institutional vacuum. In science and technology studies, institutions conducive to innovation have been modelled using the concept of an *Innovation System* (IS): the public and private sector institutions and information needed for an innovation to be (commercially) developed and diffused. This institutional repertoire includes research organizations, extension and advisory services, universities and educational bodies, governments and civil society organizations, the ‘private sector’, producer organizations, and co-coordinating bodies.<sup>31</sup> The concept of IS is useful because it allows for a great diversity of possibilities, consistent with real-world complexity.

Underlying the IS, however, are restrictive normative assumptions: that innovation can be routinized into models of best practice; that this will involve a sequence—laboratory → property rights → venture capital → scaling-up → learning by doing → diffusion; that the creative act of innovation can be standardized; and that deviations from best practice—‘innovation deficits’—can be identified and filled. Societies or companies with good innovation systems but lagged development trajectories are then seen as able to leapfrog over long-drawn-out or failed stages.

<sup>30</sup> See Thomas Birtchnell, *Indovation: Innovation and a Global Knowledge Economy in India* (Basingstoke: Palgrave, 2013); N. Radjou, J. Prabhu, and S. Ahuja, *Jugaad Innovation: a Frugal and Flexible Approach to Innovation for the 21st Century* (London: Random House, 2012); R. Tiwari and C. Herstatt, ‘India—A Lead Market for Frugal Innovations? Extending the Lead Market Theory to Emerging Economies’, Working Paper No. 67 (Hamburg: Institute for Technology and Innovation Management, Hamburg University of Technology, 2011).

<sup>31</sup> Agricultural innovation systems (AIS), for instance, are systems of individuals, organizations and enterprises that bring new products, processes, and forms of organization into social and economic use to achieve food security, economic development, and sustainable natural resource management.



Amt Floysand and Stig-Erik Jakobsen<sup>32</sup> have attacked these assumptions on the grounds that they treat innovation as something purely technical, where the structure of society is exogenous. They argue that innovation is always a social and political process, operating in what they call, with strategic vagueness, 'social fields'. 'Social fields' are social sub-systems at various scales, capable of generating social, economic, and political multipliers, and requiring complementary institutional preconditions they call 'supermodularities' (i.e. packages of institutions), which can also include culture, knowledge, the household, and institutions of work. Though they neglect class relations, and though their case studies are in the Scandinavian formal economy, their expanded, politicized, and socialized approach suggests its relevance to the social field of India's informal economy.

Are growth and institutional change supported by a system of institutions in the informal economy?

*State institutions and the informal economy: a paradox?*

The anthropologist Akhil Gupta envisages the place where laws designed to cover the whole country—society and territory—fizzle out in practice as a 'blurred boundary'.<sup>33</sup> But the boundary may also be conceived as a political space that is complex rather than 'blurred', each real application of regulative law depending on a balance between the state's intent and capacity to regulate, on the one hand, and the social structure which contains varied capacities to resist, on the other.

The state uses its monopoly of force not only to police but also to regulate and tax. When the state cedes its regulative and disciplining capacities to society it is effectively subcontracting the management of economic conflicts and in so doing awarding itself powers of political patronage. The informal economy is then not an admission of failure on the part of the Indian state, which can after all send rockets into space. It is the result of deliberate neglect. Having critically examined the evidence about 'zones of non-intervention' in finance, labour, and commodity transactions from the early and mid-twentieth century onwards, Chirashree Das Gupta arrives at the same conclusion. In

<sup>32</sup> Amt Floysand and Stig-Erik Jakobsen, 'The Complexity of Innovation: A Relational Turn', *Progress in Human Geography* 35, no. 3 (2011), pp. 328–44.

<sup>33</sup> Akhil Gupta, 'Blurred Boundaries: The Discourse of Corruption, the Culture of Politics, and the Imagined State', *American Ethnologist* 22, no. 2 (1995), pp. 375–402.

particular, the multiple amendments at the behest of industrial lobbies, narrowing the scope of the Industrial Disputes Act between 1954 and 1956, laid the modern legal foundation for 'large chunks' of India's workforce to be denied access to workplace justice. As early as the 1960s, small unregistered firms 'based on the skills of a machinist and the savings of a local trader' were recognized by the Ministry of Industry as a viable model of growth.<sup>34</sup>

Now small firms are found to have a selective engagement with the legal framework, being licensed, with a bank account or two, as well as access to informal credit, but not paying taxes, not complying with labour laws or environmental standards, and not operating out of buildings whose quality is well-regulated. In the institutional matrix underpinning growth and innovation, formal and informal are intertwined. In their processes of implementation, capture, sabotage, or abandonment, all state policies navigate this matrix of institutional arrangements and micro-politics. Not only can policy be transformed out of all recognition, but institutions also mutate (as in a money-market when a monopolist suddenly ceases operations and is replaced by a set of self-help groups<sup>35</sup>). They may also hybridize (as when a planning bureaucrat runs a private enterprise processing the applications to his office).

To build knowledge about the institutions in which innovation takes place in the informal economy of small-town India, the granular approach of field economics and case studies is unavoidable. Case studies are sometimes thought to be inferior to studies based on large-scale statistics. But the latter reflect the quality of the data on which they are based and often generate problems—as in the classification of firms or economic activity<sup>36</sup>—and at times are misleading. Good

<sup>34</sup> Das Gupta, *State and Capital*, pp. 133–37, pp. 141–58.

<sup>35</sup> Christine Polzin, 'Institutional Change in Informal Credit: Through the Urban-Rural Lens', chapter 9, pp. 229–250, in Barbara Harriss-White (ed.), *Middle India and Urban-Rural Development: Four Decades of Change* (Heidelberg and New Delhi: Springer, 2016).

<sup>36</sup> Data for the organized sector in the latest 2015 round of national accounts is boosted by the expansion of the private corporate sector's data base. This would shrink the relative contribution of the informal sector were it not for the fact that the top 100 companies provide 75 per cent of GVA, leaving the contribution of the 'real universe' of close on a million other working companies unknown (R Nagaraj, 'Size and structure'). The unorganized sector is a residual, using census indicators of labour and gross value added extrapolated from benchmark indicators. Since the organized manufacturing sector has been reclassified to be more inclusive than the earlier registered manufacturing sector, some informal enterprise may have been reclassified as formal and the sector shrunk as a result: Ministry of Statistics and Programme Implementation, *Changes in Methodology and Data Sources in the New Series*

data need an understanding of their context, and over an extended period.<sup>37</sup> This is exactly what our study of the town of Arni over four decades has aimed to acquire.<sup>38</sup>

In the rest of this article, we use this case study to explore the questions provoked by the first section, introducing the history of the town's commodity economy, then analysing the innovative behaviour taking place in small firms, before critically examining the informal institutions and 'social field' conducive to innovation—and the roles of the state and formal institutions such as banks in part four.

### A mofussil town and its informal economy

While there can be no typical or representative town, Arni in Tamil Nadu has been the site of research on rural–urban relations, urban development, and local capitalism since 1973.<sup>39</sup> In this respect, it is now thought to be unique. The town began life as a bazaar around an ancient fort, on the banks of a river now dry. In the five census rounds from 1971 to 2011 its official population nearly doubled, from 38,664 to an estimated 68,000. But the town has long ago burst through the municipal boundary, sprawled onto waste land, established middle class suburbs to the west and north, engulfed neighbouring villages, and attracted 'floating' migrants. By 2016 the true population in social and economic terms is likely to have been closer to 100,000. The villages absorbed into the new Arni have resisted formal incorporation, fearing higher local taxes, so that the municipality proper is chronically deprived of revenue. As a result, sectors that are formally regarded as public and infrastructural, from sanitation and water provision to housing, health, and education have been largely invaded by the private informal economy, and they reflect its inequalities. Arni has many features in common with other small towns in Tamil Nadu: a minor administrative centre; an agricultural market for rice, groundnuts, and livestock; welding; agricultural machinery (sold, rented, and repaired); general

*of National Accounts, Base Year 2011–12* (New Delhi: Government of India, 2015), pp. 13–19.

<sup>37</sup> Bent Flyvbjerg, 'Five Misunderstandings about Case-study Research', *Qualitative Inquiry* 12, no. 2 (2006), pp. 219–45.

<sup>38</sup> Harriss-White (ed.), *Middle India and Urban-Rural Development*.

<sup>39</sup> This section is derived from Barbara Harriss-White, 'Introduction: The Economic Dynamism of Middle India', Chapter 1, pp. 1–28, in Harriss-White (ed.), *Middle India and Urban-Rural Development*.

engineering and inputs for construction, together with agricultural inputs and informal finance; artisanal tailoring; gold, metal, and vessel smithing; wooden furniture making; pottery, food, and cloth provision; and educational, legal, and medical services—some of dubious quality. It has been distinctive in having a small cluster of handloom silk production.

In the 1980s, the commodification of products formerly made for direct use added mass-produced cold drinks, eggs, cosmetics, fancy goods and ready-made clothes, steel and plastic durable goods, and fossil fuel (notably kerosene and diesel). This process threatened not only the local artisanal crafts but also the livestock economy that had provided transport, draught power (water and ploughing), milk, and meat, as well as raw materials for the nearby leather industry.<sup>40</sup> The town expanded both through the process of accumulation by small family businesses and through the ‘amoebic’ multiplication of small firms.<sup>41</sup> Most firms are prevented by their size and exchange relations and the consumption needs of the families dependent on them from doing more than ‘tick over’, and episodes of failure are commonplace.<sup>42</sup> The 1990s ushered in the era of liberalization, but the largely informal economy showed continuity. The structure of industry and trade polarized further. At the apex, firms started to integrate their operations vertically, though very few added manufacturing to their base in trade. The main industries consolidated their position: rice mills doubled in number, as did food wholesaling firms and durable consumer goods shops. The number of urban silk manufacturing enterprises increased by 50 per cent and spilled over into the countryside.<sup>43</sup> Deregulation did lead to a threefold increase in the number of fuel depots, however, while small businesses dealing in

<sup>40</sup> Loraine Kennedy (ed.), ‘Industrialisation and Socio-Cultural Change in the Tannery Belt of the Palar Valley (Tamil Nadu)’, *Pondy Papers in Social Sciences No. 32* (Pondicherry: French Institute, 2004), pp. 31–52.

<sup>41</sup> Elisabetta Basile, *Capitalist Development in India’s Informal Economy* (London: Routledge, 2013); Pamela Cawthorne, ‘The Labour Process Under Amoebic Capitalism: A Case Study of the Garment Industry in a South Indian Town’, Development Policy and Practice Research Group Working Paper No. 23 (Milton Keynes: Faculty of Technology, Open University, 1992).

<sup>42</sup> M. V. Srinivasan, ‘Arni’s Workforce: Segmentation Processes, Labour Market Mobility, Self-Employment and Caste’, chapter 3, pp. 65–96, in Harriss-White (ed.), *Middle India and Urban-Rural Development*.

<sup>43</sup> N. Arikkuvarasi, ‘The Making and Unmaking of Handloom Silk Weaving in the Arni Region’, chapter 8, pp. 201–28, in Harriss-White (ed.), *Middle India and Urban-Rural Development*.

'non-food' agricultural products such as oilseeds, beverages, and liquor increased their gross output 30-fold. Arni's economic growth involved strong new links with the national market, but it also involved a decentralization of both production and trade, so that economic activity spilled over into the countryside and shifted the urban economy towards the role of wholesale hub that characterizes it today.

By the late 1990s, however, a massive wave of economic diversification responded not just to the integration of the economy into the metropolitan economy and its culture, but also to globalization. Brand new telecommunications technologies appeared: satellite and cable TV (and ways to poach them), and new telecommunications rental markets spread throughout the urban area, along with courier services, Xerox machines, and video libraries. The town could give up to 20,000 'doses' of cinema per day. The explosion of finance companies and chit funds (many not registered and some run with black money) and the appearance of insurance and stock-dealing services, plus specialized commercial agencies for corporate industry and the architectural, accountancy, and real estate professions all attested to the emergence of sizable elite markets. Tuition centres, typing and computing institutes, and students' hostels indicated new patterns of skill acquisition and freedom for young people (although educational facilities were still extremely underdeveloped). Auto sales and rentals and tourist car and van services had emerged in response to local piety, curiosity, and incomes (to service the big Sabarimalai pilgrimage to Kerala and the round-India-tour trade). The expansion of hotels, bakeries, and sweets stalls and booths indicated new patterns of food consumption. Waste and scrap collection boomed. Specialized ancillary crafts, such as computer-aided design for silk, and specialized pawn-broking and financial services also mushroomed in the backstreets.

In another striking continuity, Arni's economy is sectorally concentrated and spatially clustered.<sup>44</sup> This economic and spatial ordering reflects the way urban rents have been based on occupations, and occupations remain based on caste. Firms also cluster to reduce the costs of information for both the firm and the customer;

<sup>44</sup> Hubert Schmitz, 'On the Clustering of Small Firms', *Bulletin Institute of Development Studies* 23, no. 3 (1992), pp. 64-69; Jason Stanley, 'A Future Not So Golden: Liberalization, Mechanization and Conflict in Arni's Gold Ornaments Cluster', chapter 5, pp. 131-50, in Harriss-White (ed.), *Middle India and Urban-Rural Development*.

sub-contracting and process-specialization leads to ‘collective efficiency’,<sup>45</sup> and the costs of social regulation are reduced. Clustering permits infrastructural economies; the dependence of many (petty) firms on a few powerful enterprises reduces the costs of information, contacts, credit, and facilities such as transport, processing, and storage. In fact, few firms can afford *not* to be clustered. The twenty-first century has witnessed further diversification, the obvious drivers—there may be others—being i) the metropolitanization and globalization of information, culture, tastes, and aspirations, with profound implications for the acquisition of the technologies of mass communication; ii) the rapid proliferation of fossil-energy-consuming goods (from kerosene and Calor Gas stoves through scooters and motorbikes, to commercial deep freezes, air-conditioners, tempo trucks, SUVs, luxury buses, and semi-automated rice mills); iii) transformations in the spatial scale of work mobility (from long distance in-migration from Orissa to daily commuting out to the factories on the Chennai Bangalore corridor), iv) large-scale bulky lorry-freight flows—paddy and groceries, cement and iron imported into the town and rice, bran, and bricks being exported; v) the revitalizing of the silk sector through rebranding to scoop a superior market segment and vi) the development of the ‘knowledge economy’ in the form of a substantial new private sector education hub.<sup>46</sup>

In her research on three late twentieth-century rounds of surveys of businesses in Arni, Elisabetta Basile saw continuity in its informality, small business, industrial and service clusters, and corporatist modes of social regulation, all co-existing with dynamic diversification, commodification, institutional complexification, and national economic integration.<sup>47</sup> The town is thus a useful site of enquiry into innovations and their institutions.

<sup>45</sup> Though without the implication (from Schmitz, ‘On the Clustering of Small Firms’) that there is a consensual development culture underpinning collective efficiency.

<sup>46</sup> Barbara Harriss-White and Gilbert Rodrigo, “Pudumai”—Innovation and Institutional Churning in India’s Informal Economy: A Report from the Field’, Oxford, School of Interdisciplinary Area Studies, Working Paper 9 (2013), [www.southasia.ox.ac.uk/sites/sias/files/documents/PUDUMAI%20-%20INNOVATION%20AND%20INSTITUTIONAL%20CHURNING%20IN%20INDIA%E2%80%99S%20INFORMAL%20ECONOMY%20a%20report%20from%20the%20field.pdf](http://www.southasia.ox.ac.uk/sites/sias/files/documents/PUDUMAI%20-%20INNOVATION%20AND%20INSTITUTIONAL%20CHURNING%20IN%20INDIA%E2%80%99S%20INFORMAL%20ECONOMY%20a%20report%20from%20the%20field.pdf), [accessed 17 July 2017].

<sup>47</sup> Basile, *Capitalist Development*.

*Field methods*

Local, more or less registered business associations have long had a crucial role in regulating the urban economy, in representing sectors, negotiating particularistic interests with the government and controlling threats to their hegemony.<sup>48</sup> The presidents of these associations are elected as knowledgeable representatives of their sectors and, in the twentieth century rounds of fieldwork, proved able to tell sensitive stories from a comfortable 'third person' perspective. In 2012 we discussed the last decade of change and innovation with them. Taking the population of 67 business and caste associations, major trade unions and party branches last studied in 1997 in this town,<sup>49</sup> we had resources to interview a randomly selected 40 per cent of the presidents. In the next section there is a summary of what we learned. Unless otherwise identified, quotations come from the presidents of the relevant associations.

### **Innovation, institutions, and the informal economy**

India's high aggregate growth is transformed into innovativeness and institutional change on the ground. Institutional change has been theorized as responding to information costs, relative prices, and exogenous technology.<sup>50</sup> In earlier work on the institutional structure of informal economic dynamism in India, we saw four aspects to the process of institutional change acting simultaneously, all of which also involved class antagonism and fields of social authority in political and social struggle: i) the emergence of new institutions (e.g. NGO-self-help group credit hybrids and urban Dalit moneylenders); ii) the reworking—as economic regulators—of those cultural institutions consistent with capitalist accumulation (e.g. caste, ethnicity, and religion); iii) the persistence of social institutions that do not threaten accumulation (e.g. gendered property relations) and iv) the atrophy or destruction of those that are irrelevant or act as obstacles to capital

<sup>48</sup> Barbara Harriss-White, 'Collective Politics of Foodgrains Markets in S. Asia', *Bulletin of the Institute of Development Studies* 24, no. 3 (1993), pp. 54–63.

<sup>49</sup> Elisabetta Basile and Barbara Harriss-White, 'The Politics of Accumulation in Small-town India', *Bulletin of the Institute of Development Studies* 30, no. 4 (1999), pp. 31–38.

<sup>50</sup> Douglass North, *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press, 1990).

(e.g. the collective management of common property such as water bodies—replaced by private ownership and by a department of the state government (the Public Works Department)).<sup>51</sup>

Here, constraints of space prevent all but the use of case studies to illustrate the relation of innovation to institutions and institutional dynamics. The three types of innovation are distinguished: invention and adaptive and adoptive innovation.

### *Inventions*

Examples of inventions were provided by silk weavers who feed innovative designs to the new professional craft of computer-aided design, which in turn expanded from two to 25 self-employed between 2008 and 2012. Arni's lorry owners reported supplying innovations in cabin design and steering locks directly to the manufacturers. Electricians—over 700 of them, mostly rural–urban migrants or commuters, of whom only 20 had any formal educational qualification—invent through 'bricolage'. Their inventions rest on a substrate of 'learning by doing'. Electricians are informally formalizing their skills through a process of certification from their trade association that is calibrated from their years of work experience. The trigger for innovation has been failure in the provision of power infrastructure by the State Electricity Board: wild voltage fluctuations and power cuts which raise the maintenance costs of electrical equipment, most notably irrigation pump-sets. Customers were used as 'research labs' (failures being compensated by electricians); risk and physical danger to electricians were insured in an ad hoc way by the trade association. The development and dissemination of innovations adapting three-phase equipment for two-phase power supply were not hampered by lack of property rights. Indeed, they were incentivized through a collective culture of collegiality.

### *Adaptive innovation*

This proved to be common: new combinations of new businesses (supermarket and dentistry); experiments with fuels for vats to dye

<sup>51</sup> Barbara Harriss-White, *India Working: Essays in Economy and Society* (Cambridge: Cambridge University Press, 2003).



polyester fibres (a new use for charcoal); adaptation in the gender division of tasks (women coming rapidly to dominate the power-loom labour force). A back-alley 'computer centre' combines novel forms of collective ownership and part-time management; instalment payment systems; process innovation (3-D software); capacity-building for product innovation (computer-aided design); capacity building in the English language for poorly educated rural clients and informal certification of competence. This is a novel adaptive organizational response to the local lack of adequate capital and demand. Formal educational skills are being diffused to the informal Tamil-language economy in return for an informal formalization through certification.

### *Adoptive innovation*

By far the commonest form of innovation, however, was adoptive. Recalling the wave of innovation adoption characterizing the green revolution, this is far from being a new process.<sup>52</sup> But the dizzy pace and wide scope of adoption of products, processes/technologies, and forms of organization are without precedent in this town. As innovations are adopted, the scale and spatiality of economic activity has expanded. Arni has become a hub for the wholesale selling of new products retailed in its village hinterland (a great range of new processed milk products 'unknown ten years ago'; cement, fertilizer, and pesticides, even the proliferation of pawnbrokers). Food products are now sourced from Turkey, the United Arab Emirates, Brazil, and Australia. China out-competes India in moulded plastic furniture. In the explosion of new products and processes, including new second-hand markets,<sup>53</sup> new knowledge and media, new packaging and pricing tactics, new branding and competition to defend market shares and forge loyalty, innovation adoption frequently causes the destruction of products, exchange relations, and livelihoods for which there are new substitutes. Examples of destruction range from local alcohol, local milk production and sales, chemical dyeing (reverting to organic dyes), sun-powered paddy-drying yards, and non-allopathic chemists, to blacksmithing, agricultural hardware, backstreet banking, shell crushing for paint, the hand-washing of clothes, hand-made clay,

<sup>52</sup> Barbara Harriss, 'Innovation Adaption in Indian Agriculture: the High Yielding Varieties Programme', *Modern Asian Studies* 6, no. 1 (1972), pp. 71-98.

<sup>53</sup> Notably in motorcycles and looms.

stainless steel and aluminium vessels, and so forth. Practically all adoptive innovation requires increases in energy and material content.

*Capital and labour*

Innovations in the formal sector, particularly for finance and exchange, may generate further informal adoptive innovation. For example, grain sales in the Regulated Market (after decades of policy failure) trigger new village-level bulking and transport and new sites of quality checking, using newly assembled labour forces. ATMs and NEFT<sup>54</sup> challenge informal credit, enable new scales of trade and transport, and frequently lead to the substitution of fixed prices for haggling.

The innovations of capital have ambivalent impacts on labour. On the one hand, the transformations of the apprenticeships needed for most self-employment result in increased velocities of skilling and gender-specific training, and on the other hand, drop-outs, premature exit, and intensified undercutting all lower standards. Informal certification (developed across sectors ranging from quackery, dentistry, and drug stores, to electrical repairs and masons) empowers those whose certificates are recognized and enables them to leave oppressive local social control. Local labour markets are becoming increasingly technically segmented, as workers acquire new skills and specializations. Saw mills generate specialist lathe operators; construction generates specialist foundation workers and roofers. Within a given sector contradictory processes emerge and co-exist in a stable manner: for instance, the outsourcing of tasks co-exists with vertical integration, as in construction and vehicle repair. Bespoke craft production (in carpentry and tailoring) co-exists with trade-based ready-made goods. Local cycle-based milk distribution (with the threat of adulteration) co-exists with quality-certified motorcycled cold-chains. And low-caste, low-cost female workers are simultaneously being displaced in one sector (rice milling) and allowed to enter in others (fruit retailing/tailoring).

A comprehensive labour shortage incentivizes mechanization, feminization, and the in-migration of labourers from less developed states of India. Migrants have then to be taught new elementary language skills as well as the new disciplines and competences of

<sup>54</sup> Automated Teller Machine (cash machines); National Electronic Fund Transfer—instant cash transfer.

work that is considered 'unskilled' only by those who do not have to do it.

Labour itself is also capable of innovation, notably at the design stage under the putting-out system for handloom silk weaving. The town's wage labour force is also exerting new kinds of agency—with simultaneous but class-specific migration in (for informal wage work in the bazaar) and out (for formal wage work requiring certified education). The out-migration of the town's wealthiest children for education is a case of spatial mobility's potentiating social mobility.

However, supplementary interviews with the town's sanitary labour, transport workers, and loading/unloading and portering workforces revealed a fault line between the seething innovative activity among self-employed workers and owners of small family firms on the one hand and low caste wage labour on the other, in which there was a marked absence of change in technologies and work conditions.

The examples introduced here do not privilege property rights as incentives to innovate. Instead cultures of collegiality and small-scale collective action secure conditions to compete through niched innovations. The failure of state agencies can also trigger innovation, as can lack of capital and lack of demand! While most innovation was by self-employed workers or small family businesses, some of the labour force innovated while others toiled under persistently oppressive conditions they felt they could do nothing about.

### **Institutions and innovation**

Is there a set of institutions that nurture innovations in the informal economy and do they cohere as an informal innovation system? In this final section, we interpret evidence about the institutions mentioned most frequently in their innovation narratives by the business association presidents.

#### *Family business*

'Men don't want to work for others'. 'Self-employment is an aspirational state' (President of the Tailors) 'Self-sufficiency is valued in this bazaar' (Agricultural Ironmonger).

Under the Indian constitution, the private sphere—the family—is regulated by customary law derived from a plurality of religions. It

is then contrasted with the relative secularity of the state-regulated public sphere. But in self-employment and in the family firm, the public meets the private. The customarily regulated family is the building block of the 'secular' economy. Informality and social identity are hard-wired into it.

In Arni there has been a massive expansion of small firms which are run by under-educated self-employed people. They are associated with many of the process- and product-innovations described above, e.g. the electricians, who have grown from an estimated 85 in 2000 to 730 in 2012, and pump-set retail and repair mechanics which have increased from ten shops to 70. The new skills needed for such work (e.g. boring for tube-wells) are 'learned by doing'. Motorcycle retail has expanded from seven shops to 26,<sup>55</sup> carpentry outlets from two to ten, craft carpenters from 50 to 150, and so on. Handloom weaving has a 'new culture of self-employment' as the transfer of risk to loom-owners is pitched against the social value of independence. Throughout India the expansion of modern craft activity is an uncelebrated feature of liberalization.<sup>56</sup>

Family business is being re-organized, however, in a ruptural change resulting from the simultaneous impact of several incremental innovations. In the central 'bazaar' (the site of the dominant forms of market trade and jobs in the modern economy of the 1970s) the mass exit of the educated younger generation to salaried jobs in nearby IT, electronics, and auto industries is causing a decline in the supply of family labour. This is compensated for by an increase in apprentices and wage labour. 'Only sons with "business level education" [meaning low—BH-W] stay in the bazaar economy—it's hard work—long hours—competition—no holidays—with the further problems of apprenticeships', a pump-set dealer explained. The entry of wage labour into tiny firms reinforces the shift in the 'crafts and craftiness' of the bazaar in which trust-based haggling over price, credit, and debt is replaced by impersonal norms. At the same time, family firms face substitution by branches, franchises, and agents of national or subnational capital. Initiated in the late 1970s by agricultural inputs, fuel and cement, this step-change in scale, ownership, and the labour process is now expanding into processed

<sup>55</sup> Some 27,000 motorcycles, new and second hand, were sold in Arni between 2008 and 2012.

<sup>56</sup> Barbara Harriss-White, 'Capitalism and the Common Man', *Agrarian South: Journal of Political Economy* 1, no. 2 (2012), pp. 109–60.

dairy products, ready-mades, hosiery, pawnbroker chains, and other areas.

*Business associations*

‘Our association is a private bank!’ (Lorry owner)

‘We ensure there is no change in numbers’ (Silk merchant)

Beyond the state’s reach, informal economic activity is regulated either as though the law were being enforced,<sup>57</sup> or through the decisions of business associations. These organizations span the entire spectrum, from the formal and nationally federated to the local and non-registered. Formal associations may include the small-scale self-employed, but pay little attention to their interests. Equally, they may exclude a penumbra of unregistered firms which free-ride on the achievements of the association. Elisabetta Basile studied them closely in 1997.<sup>58</sup> She sees caste as a crucial element in a corporatist system of economic regulation in which the ideology of caste is secularized and increasingly internally differentiated,<sup>59</sup> while the institutions of caste move from the domain of culture to that of the economy and are more or less mapped onto business associations. These are ‘manifestations of the social order’: defining behaviour, co-opting members across class, and thwarting the development of class consciousness. Their regulative roles may include screening entry, apprenticeship, defining contractual measures and types, organizing credit, price control in the ‘markets’ (especially for labour and derived markets such as portering and transport),<sup>60</sup> working conditions, the guarantee of livelihoods, mobilization to compensate for accidents and premature death, poverty, and social distress. Basile stresses the importance of the state in business association activity: the needs to limit the state’s intrusiveness (e.g. from the Labour Act;

<sup>57</sup> Wendy Olsen and Jamie Morgan, ‘Institutional Change from Within the Informal Sector in Indian Rural Labour Relations’, *International Review of Sociology* 20, no. 3 (2010), pp. 535–55.

<sup>58</sup> Basile, *Capitalist Development*, uses the lens of Gramsci’s theory of hegemony—in which the economic interests of capitalism use non-economic, political, and cultural means to co-opt subaltern classes.

<sup>59</sup> Caste is defined as a hierarchy of social status associated increasingly loosely with occupations, by Basile, *Capitalist Development*.

<sup>60</sup> Arni’s silk association has a long history of state-connived containment of informal wages for weavers.

the Packaging of Commodities Act and Value Added Tax),<sup>61</sup> to appeal for subsidies, price stabilization, and state procurement, to protect members from the police, to appeal against discrimination and harassment, all the while campaigning (often using bribes) for preferment, for infrastructure, for social rights, and for procurement contracts with the state.

Two questions arise: How have the business associations themselves innovated since the 1997 research; and what role do the trade associations play in informal innovation?

Many associations exist reactively, spurred into action when threatened by the state or when needed by members. A minority have real clout,<sup>62</sup> enhanced by federation and political influence at ministerial level.<sup>63</sup> In Arni, federation is one innovation that has gathered strength over the last 15 years. A second is business associations' support for informal training and the provision of accreditation for skills, a human 'collateral' which in turn permits the development of de-personalized transactions and migration for work. A third is the circulation of trade information in 'formal' bulletins, useful for the adoption of innovations from elsewhere. A fourth is the increasingly cosmopolitan nature of membership, such that the alignment between caste and trade associations is increasingly weak. Acquired skill and reliability replace ascribed merit. The exchange with the state, itself fully capable of innovation, includes the redefinition of the boundary between formal and informal activity (e.g. informal tutoring), selective enforcement (e.g. of licences), tolerance of informal formalization (in informal certification and subcontracting), and neglect (in most enforcement activity). Business associations/guilds grounded in caste remain gate-keepers for entry as well as screeners of innovation. In a politics of representation, regulation, and mediation, this set of corporatist interests negotiates collegiality within a sector, just as it controls the erosion of social barriers to entry.

<sup>61</sup> This requires published maximum retail price indication, lists of inventory, certified weights and measures and quality control in retail, none of which was being observed in Arni, which was resolved (conceded by the state) by an agreement for incremental and delayed implementation.

<sup>62</sup> Including those for rice, silk cloth, groceries, gold, the Red Cross (reflecting human rights impulses in town), the Lions, Rotary, and the Chamber of Commerce.

<sup>63</sup> Achievements through the ministerial route include a reduction of power-cuts for rice mills and an informal agreement to let women apprentice themselves, so as to enter tailoring.

*Banks and finance*

The effects of the influx of formally registered national banks can hardly be overestimated. First, they incentivize innovation in new scales of technology, with subsidized loans encouraging capital bias—as for example in rice milling, which in turn requires high rates of capacity utilization and integrated long-distance commodity flows. Now banks also allow working capital loans for pure commerce (forbidden until the end of the twentieth century). There is no monitoring of virement or of onwards lending into the informal money markets. ‘As long as we re-pay the instalments the bank doesn’t interfere at all’, said a rice miller. ‘Onward lending is impossible for banks to monitor’, explained a bank manager.

By virtue of their collateral requirements (title deeds, etc.), banks may play a role in formalizing the informal economy along the lines advocated so influentially by Hernando de Soto.<sup>64</sup> Loans for education and housing have rapidly increased in size and frequency. Formal property may secure (multiple) loans from (multiple) formal accounts that are subsequently invested in the informal economy or lent onwards to others. Title may be vested in a collective (such as the family) under the customary laws embedded in the constitution, and may be hard to associate exclusively with an individual. And ‘there have been problems with duplicate (forged) title deeds’. New lending rules mean some banks do not require collateral to lend to some occupation groups. Tailors mentioned their new ease of access to formal loans which had been altogether denied them ten years earlier. Dalit sanitary workers in receipt of computerized salary transfers may be awarded loans of up to ten times their salary and are accumulating formal debt for the first time ever.<sup>65</sup> For these Dalits banks are liberating, but they are also new sites of discrimination (in queues, in tellers’ behaviour, in practical as opposed to political entitlements). The new banks are also ‘layered’ onto existing institutions and far from vanquishing them. Banks are meshed with big informal financiers in Arni: with traders and agents, with landlords and ‘finance corporations’ (in which a group of savers, including government employees, invest).

<sup>64</sup> Hernando de Soto, *The Mystery of Capital* (London: Bantam Press, 2000).

<sup>65</sup> Up to Rs 100,000. In 2012, Rs 1–2000 was reported to be a common outstanding amount for Dalit sanitary workers. This has subsequently risen.

*Precautionary institutions*

Innovation requires risk-taking. For electricians and construction workers this risk may be physical, but for the most part it is financial. We have no direct evidence about the equivalent in the informal economy of venture capital but, since no-one mentioned it, we conclude that lack of it is a constraint on disruptive innovation. (The scaling up of the electricians' invention has been taken over by a large registered company in Bangalore). Innovation through adoption and through the exercise of agency is far less risky in money terms than is invention. Nonetheless, risks (environmental, financial, political, risks related to social pressures to conform in consumption, and risks to the health of family-members, employees, suppliers, and clients) permeate the informal economy. 'Half the town is saving against shocks' (president of the Rotary Club). Sickness, marriage alliances (despite the downward drift and increasing optionality of dowries), private schooling, and college education are as 'shocking' to the consumption budget of a small firm as weather-related downturns and business losses or the risk of displacement through innovation are to its production budget. For shock-absorption purposes, bank interest is not high enough to compete with returns from property and gold, which can be cashed or mortgaged easily in the town. In response to the demand for gold, a large jewellery company from Chennai is setting up. And yet, as with informal money-lending, the biggest savers are widely said to be government officials with the least shock-prone work conditions and contracts.

*A hybrid 'institutional ecosystem': education and innovation*

'Education is using land to take the place of land' ... 'Our knowledge economy is an extractive industry' (Public sector teachers).

'Education destroys the crafts of the bazaar' (Cement dealer).

Education does not directly increase productivity so much as work indirectly through facilitating access to finance, infrastructure, and the state. As the powers of family, caste, and gender are slowly and unevenly dissolving as barriers to entry, education is emerging in Arni both as a labour market requirement and as an indispensable precondition to running a small firm. What about innovation? Recent years have witnessed a vast increase in new private, 'English medium' education in which English reading and writing are taught as the



basis for English teaching and learning in other subjects—but often at the expense of spoken capabilities. The town boasts 25 pre-school nurseries, about 100 private schools (some with swimming pools and websites), and a new industrial cluster of seven private colleges. All have their own bus services. Private education is now part of the town's economic base. 'Private businessmen's playthings', they are formally registered, regulated, and state-inspected. But this process is flawed and vulnerable to informal rent-seeking and exploitive practices such as low and individualized pay, capitation fees (bribes for entry), unregulated teaching standards, even the corruption of examinations. The colleges are manned by teachers and patronized by students from outside the immediate locality—their multipliers are not local.

At the same time as this shift in the economic base, much innovation is happening in state school education. From smaller class sizes through new curricula and the prohibition of physical punishment to the introduction of activity-based learning, teaching practice is so receptive to innovation that state education most resembles a model innovation system.

Teachers also described informal invention in formal school education.<sup>66</sup> For example, in common cases of children forced to drop out for weeks at a time due to parental sickness and/or the compulsions of seasonal family work, state-school Parent Teacher Associations have innovatively organized evening classes to help such children catch up with learning. An NGO is working with local state schools to expand this initiative. Yet innovative change is sometimes constrained by the very same state system: party politics have swung between expanding the teaching work-force and freezing teacher recruitment and failing to allocate recruited teachers to positions. Dysfunctional class sizes result, in turn wrecking the capacity of the public system to respond to the legal requirement of 100 per cent enrolment and forcing surplus teachers into the private and informal sectors.

Demand for education has generated an explosion of informal tuition centres, which, set alongside apprenticeships, informal training centres, learning by doing, and the trade-assisted dissemination of media messages, makes the hybrid institutional ecosystem more complex. By 2012 there were well over 100 tuition

<sup>66</sup> See the earlier suggestion in Camilla Roman and Barbara Harriss-White, 'On the Insecure Lives of Tamil Nadu's Silk Weaving Families', *Frontline* 20, no. 24 (2003), [www.frontline.in/static/html/fl2024/stories/20031205001408800.htm](http://www.frontline.in/static/html/fl2024/stories/20031205001408800.htm), [accessed 17 July 2017].

centres, mostly manned by fresh graduates (often women) or retired teachers, with classes ranging from 15 to 20 at the low end, to 200 at the high extreme. Regular state teachers are not allowed to moonlight (though a few are said to break the rules seasonally). Competition in the parallel informal education tuition system is fierce, with more-or-less misleading advertisements of success crowding the advertising hoardings in the town centre.

But education exists in tension with creative agency. Positions requiring high educational qualifications in banks, corporate-branches, and state agencies (also in semi-automated fuel depots) required the disciplined management of complex procedure, not innovation. In this small town, formal education is a site of innovation, but its social impact is more often seen in the enabling of exit from the local economy than in creativity and risk-taking within it.

### *Informal innovation in the state*

The state is normally assumed to be inefficient and un-entrepreneurial. As with the case of education, so more generally our discussions with business association presidents, as well as respondents from the Electricity Board, the legal profession, and state transport corporations disclosed the existence of a constant stream of adoptive innovation inside the state.

An 'informality paradox' is at work here: outside the limits of its political reach in the informal economy, the state can and does regulate innovation. Most such effects fall into the category of unintended consequences, as when computerized payslips for bus workers fail to prevent arbitrary deductions from permanently temporary contracts, oppressive working conditions, and deviant bus routes. The unintended economic effects of policy operate at a range of scales. Macro-level reforms to trade policy (reducing direct protection) has led to the scoping of new raw material sources requiring adoptive innovation in mechanization (for example in silk yarn and power looms). Indirect state support to informal transactions is given by the provision of infrastructure (resulting predictably in lower transaction costs and less intentionally in facilitating new scales of networked specialization in gold ornaments, parboiled rice, etc.<sup>67</sup>). At the same

<sup>67</sup> Stanley, 'A Future Not So Golden'; Barbara Harriss-White, 'Local Capitalism and the Development of the Rice Economy, 1973–2010', Chapter 4, pp. 97–130, in Harriss-White (ed.), *Middle India and Urban-Rural Development*.

time, the municipality directly incentivizes informal activity (by providing sites for it in municipal marketplaces). Or it can forcibly destroy the informal economy (as when urban beautification and new roads put verge-side sites out of bounds). New hybrid practices then result (such as the overnight storing of verge-side stock and small stalls inside formally registered, glass fronted, secure shops, or complicit accommodations over formal educational requirements for the drivers of heavy goods vehicles<sup>68</sup>). Finally, the state may sustain the informal economy both through social safety nets and rudimentary social protection outside work and through supplying a practical alternative wage floor nearby (as with MGNREGS<sup>69</sup> which further reduces the shocks of adverse risks).

So whatever the letter of the law, the state has the practical capacity to regulate the informal economy indirectly and selectively, but without coherence. Even if separated both discursively and through forms of property ownership, many institutions of the state, market, and 'civil' society are practically intertwined. Interests in the state create illegal markets and then benefit privately through rent from them. Asseted 'clients' act as 'patrons', routinely supplementing officials' comparatively low salaries<sup>70</sup> in return for the provision of loopholes and concessions. The meshing of formal and informal institutions counters the idea that they are discrete epistemological universes but this does not mean that this hybrid institutional 'ecosystem' or 'social field' works in a coordinated or systematic way or that it is immune from contradictions. Institutions serving useful roles in the structure of accumulation (female gender for instance) may be barriers to agency and innovation.

## Conclusions

From the Industrial Disputes Act of 1956 onwards, India has developed the biggest informal economy in the world. Her institutions for development are often regarded as 'weak' because so much of the economy is regulated by informal institutions, many of which, as this article has shown, involve increasing hybridity with formal ones.

<sup>68</sup> Those with formal threshold qualifications for driving are fit for employment in information technology and will not work on lorries.

<sup>69</sup> Mahatma Gandhi National Rural Employment Guarantee Scheme.

<sup>70</sup> In 2012, one president called them 'Rs 15–25,000 officers'.

We took a town now studied for 45 years as our case study, amassing evidence for innovation volunteered by presidents of its many business associations. Two thirds of the livelihoods in this town are ‘self-employment’—very small firms, mostly unregistered and operating in the informal economy, while the town’s registered firms comply selectively with the regulative law. The complexity of this legal, normative boundary has led some to abandon the concept of informality, but it remains useful precisely because it draws attention to the micro-politics of regulative pluralism. Arni’s informal economic dynamism is mapped in the second section, its innovations in the third and the institutions identified as important for innovation in the fourth.

While one body of received wisdom stresses the stagnation of mofusil towns just as another stresses the potential of low-cost innovation (variously named Jugaad, Indovation, and Frugal Innovation) in the corporate sector, the new research reported here shows that despite infrastructural deficits, the informal small-town economy is not resistant to change. Instead it is the site of a great range of relatively low-cost innovation and the dynamic manifestation of India’s comparatively high growth rates. Arni seethes with innovative activity: invention, adaptive innovation, and an explosion of adoptive innovation. Innovation is not confined to the owners of firms. Informal wage-workers also innovate and so do employees of the state.

The triggers of this informal dynamism are not confined to relative prices and exogenous technology, as in standard theories of institutional change, but are very varied, including cultures of collegiality, the failure of the state’s provisioning and infrastructural agencies, and innovation in the state. State and society, while discursively distinct, are practically meshed in the regulation of the economy, often in new hybrid institutions. Informality is not an obstacle to innovation, though it may constrain its scale and incentivize incremental innovations rather than ruptural ones. Yet incremental innovation may have positive and negative multipliers, which if combined are capable of having ruptural effects. The important example discussed here is the family business: English medium education interacts with local jobless growth to incentivize exit from the family firm at a time when new scales of capital are waiting to destroy bazaar arrangements and replace them with franchises, agencies, and branches. Simultaneously, branding, packaging, and innovations in electronic banking combine to replace price haggling with fixed prices. At the same time, the replacement of family labour by

wage work compromises discretionary retail credit. The independence, the labour process, and the mode of expansion of the small family firm, currently the building block of the informal 'bazaar' economy, are unprecedentedly threatened.

The innovation narratives confirmed that change in the matrix of institutions in which the economy is embedded involves four processes. First, creative innovation in institutions (as in the case of informal accreditations for skills, discussed earlier). Second the destruction of institutions: this accompanies the replacement of goods and services and the displacement of their work-forces by new commodities and labour processes, but may also collapse due to other forces, as in the case of craft design of handloom products, eliminated by computer technology. Third, institutions are re-worked consistent with changes in material circumstances and in ideas. The family labour force is now being educated to levels that are unprecedented, leading in turn to the diversification of its livelihood portfolio in ways which threaten the tiny firm or require it to develop wage-work on a very small scale. Last, institutions may survive and persist practically unchanged, the most egregious and stubborn example being that of gendered property relations. Rather than being conceived as 'pre-capitalist' or archaic cultural outliers, these reworked and persistent social institutions are part of the regulatory apparatus of India's contemporary economy, endowing it with character.

The fourth section explored whether there is an institutional cradle that incentivizes innovation similarly to the innovation system that is modelled in science and technology studies. The innovation narratives showed customers and clients as the 'labs' and revealed property rights that are not zealously guarded. Innovations may require—and find—novel sources of capital. Scaling up involves expansion by multiplication—and through learning by doing—rather than accumulation. Innovation adoption and diffusion happen through a social field of institutions identified in the narratives of business association presidents: the family firm (self-employment), business associations, banks and gold, formal and informal education, and hybrid and informalized manifestations of the state. While some of these social institutions compensate for failures in the provisioning and regulative roles of agencies of the state, their origins (independent of the state and also perhaps constitutive of it), and the political and economic history of interactions between them has yet to be written. But in the *mofussil* informal economy a coherent informal institutional structure for innovation has yet to emerge, and may never do so.

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