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Social Identity

# Coping with a policy shock in rural South India: Social networks as a determinant of trust

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Articles



**Anne Hilger**

World Bank

[anne.hilger@psemail.eu](mailto:anne.hilger@psemail.eu)



**Christophe Jalil Nordman**

French Research Institute for Sustainable Development

[nordman@dial.prd.fr](mailto:nordman@dial.prd.fr)

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*Trust and participation in social networks are inherently interrelated. This article identifies the determinants of trust in rural South India, where a mechanism of coping with shocks through transactions based on trust and credit has been well established, and has intensified as a result of the demonetisation shock of 2016. It shows that social interactions can foster trust, though this is dependent on the type of interaction occurring as a result of the shock.*

Many transactions in developing countries – from obtaining personal credit to workplace interactions and business transactions – increasingly involve personal, informal relationships (so-called ‘social capital’) instead of formal institutions. Given the absence of formal channels of transaction enforcement, the essential ingredient for the functioning of markets facilitated by social networks is trust (Fukuyama 1995, Putnam 2001). Still, despite its importance in facilitating informal interactions, our understanding of the origins of trust remains limited. Fehr (2009) notes that informal institutions, such as social networks, are likely to shape trust, but a causal relationship is difficult to establish as trust and networks are inherently interlinked: individual's beliefs about the trustworthiness of others are influenced by experiences of other's trustworthiness, which in turn feed back into interpersonal interactions and beliefs.

In attempting to understand the causal relationship between social interactions and trust, economics research papers have resorted to the use of unexpected shocks (conflict, violence) and economic games (Fearon *et al.* 2009, Voors *et al.* 2012, Rohner *et al.* 2013, Gilligan *et al.* 2014). We causally identify the determinants of trust in a dynamic rural setting using the demonetisation policy in India (November 2016) as a source of exogenous variation (Hilger and Nordman 2019). Muldrew (1998) identified the role that trust and social networks play in a cash-deprived economy in the case of early modern England, where cash shortages led to an increased demand for informal credit and a multiplicity of informal transactions. A similar mechanism of coping with shocks through transactions based on trust and credit has been well established in today's rural South India, and has intensified as a result of the demonetisation shock.

## **Context and demonetisation in India**

The data collected for our study stem from Tamil Nadu. Like India as a whole, Tamil Nadu has not only seen impressive economic growth over the last decades, but is also one of India's most developed, urbanised, and industrialised states – changes which have made the region more dynamic, but have also driven vast inequalities between urban and rural areas. This two-tiered development has resulted in the coexistence of old structures with new forms of relationships in the labour market and social hierarchies: the exodus of higher castes (oftentimes landholders) to the cities has initiated a restructuring of land and labour (Guérin *et al.* 2015), and the protection traditionally provided by landholders has gradually been replaced by a contractualisation of labour. This land transfer from the traditionally dominant caste to the intermediate and lower castes has driven the reshaping of local power structures, and therefore of network structures. Traditional agrarian structures, based on a strict segmentation and hierarchy of occupations according to caste and gender, are increasingly contested and reconfigured, with social networks playing a larger role.

On 8 November 2016 at 8 pm, Prime Minister Narendra Modi announced the ban of Rs. 500 and 1,000 notes, the two highest value banknotes in circulation. From midnight onward, these two notes had to be exchanged in banks for new notes, affecting about 86% of the money supply. The policy was supposed to contribute to the formalisation of the economy, fighting corruption, the illegal economy, counterfeit money, and terrorism. But the implementation process faced many technical challenges, leading to severe cash shortages. Because an estimated 98% of Indian consumer transactions are made in cash (PwC, 2015), this measure had strong impacts on employment, daily financial practices, and network use for more than three months, as people relied more strongly on their networks to sustain their economic and social activities.

Further, new notes were unequally distributed. In Tamil Nadu, 44% of newly delivered notes were distributed to three private banks, with only 900 branches, while public banks, with over 9,000 branches especially in rural areas, received the remainder (Ghosh *et al.* 2017).

## Survey and methods

Our research is based on a novel dataset from rural Tamil Nadu, entitled '[Networks, Employment, dEbt, Mobilities, and Skills in India Survey](#)' (NEEMSIS), conducted in 2016-17<sup>1</sup> over two periods (from August to early November 2016 and January to March 2017) in 19 villages in the Cuddalore, Villuppuram, Kancheepuram, and Tiruppur districts of Tamil Nadu.

The NEEMSIS consists of comprehensive household and individual-level modules, completed by the household head and a randomly chosen younger member of the household (older than 18 and younger than 35). The sample size of the individual survey is 952 individuals.

In each village, our sample stemmed half from the 'Ur<sup>2</sup> part of the village (where mostly upper and middle castes live) and half from the 'Colony' portion (which contains mostly Dalits<sup>3</sup>. This individual-level survey provides more detailed information on labour force participation, labour outcomes, and social networks, alongside a cognitive and a non-cognitive skills assessment. The social networks module includes information about formal interactions, and detailed information on actual and potential informal interactions with others (social ties), using a 'name-generator' methodology<sup>4</sup>. Formal interactions include membership in associations; informal interactions count all sorts of social connections that an individual may have made. Actual ties refer to links an individual has explicitly made in the past, such as having borrowed or lent money. Potential ties consist of all connections that an individual could use if the need occurred, for example, questions regarding whom the individual would ask for help with finding a job. The first measure of social networks that we will look at is total network size, which is the sum of the ties that we observe (actual and potential). The second measure that we consider, network density, relates to network usage rather than of pure size and is defined as the ratio of actual ties to overall network size.

We use three different measures of trust, which are all related to interpersonal trust, that is, trust in other people: (1) "People in my neighbourhood can be trusted" ("Trust in neighbourhood"); (2) "Among employees, kin members are more trustworthy than non-kin members" ("Trust in kin vs. non-kin among employees"); and (3) "Are you generally trusting of other people?" ("Generalised trust"). These different questions were chosen and used separately as they all represent different aspects of trust in others that are important in the context of rural South India, where relying on contract (casual) and family labour is widespread. Further, these measures of trust relate to both the specific cultural context structured by high levels of social segregation (neighbourhood, kin) and the context of the demonetisation shock that is used for identification. Indeed, one would expect the demonetisation shock to primarily foster interactions locally, which might not translate to any effects if measured by a broad question regarding generalised trust in people.

In order to estimate the causal effect of networks on trust, we make use of the demonetisation shock as a source of exogenous (external) variation that affects social networks but does not affect trust in other people directly. Using demonetisation as a source of exogenous variation is possible because about two-thirds of our sample was interviewed before (November 2016) and the other third about two months after (January–April 2017) demonetisation had occurred. The chronological sequence of household data collection was almost random, with no obvious and systematic collection plan across the 19 villages. As such, around two-thirds of the first subsample had not experienced the sudden demonetisation shock when we

interviewed them; the other third experienced the shock and may have used their networks to cope.

Previous research hints at the success of informal social networks in mitigating the impact of this shock in multiple ways (Guérin *et al.* 2017) – wealthier individuals in our study region were able to get rid of their old notes through social relations and business tactics such as prematurely paid advances, while poorer residents employed their networks for informal loans – all relationships dependent on trust. Still, this mitigation mechanism only holds for those who are integrated into social networks, illustrating their inequitable consequences when dealing with shocks, potentially widening the gap between those with and without connections (Fafchamps 2006, Guérin *et al.* 2017).

## Results and conclusions

Overall, we find that network density causally increases levels of trust placed in neighbours, and decreases trust placed in kin among employees, while network size decreases trust in neighbours and increases trust placed in kin employees.

Analysing variation across castes and gender illustrates that these results for the entire sample hide important differences. Most notably, our results only hold for men – as strong gender roles both reduce women's ability to interact in the way that we are capturing interactions, and might mean that women have different strategies of coping with shocks (such as cash hoarding) not reflected by our data.

Further, results differ by caste. Different castes answered the shock of demonetisation with different borrowing patterns. Lower castes shift their borrowing from among their own caste to borrowing also from upper castes (generally their employers). Middle castes shift from borrowing from their own caste and upper castes, to borrowing almost exclusively from within their own caste (90% of loans).

These changes in borrowing patterns and increased social network interactions had effects on levels of trust. Though we do not find any significant effect of social networks on trust levels for upper castes, comparing Dalits and middle castes still reveals important differences regarding the levels and types of interactions that occurred as a result of the shock. Lower castes coped by taking out loans from those around them (in homogeneous neighbourhoods) and from their employers. Among Dalits, who are oftentimes employed as salaried agricultural labourers in the study region, we find that making use of one's network more intensely (increased network density) leads to higher trust in neighbours.

Middle castes live in more heterogeneous environments, however, and often work on their own agricultural land, as the exodus of upper castes to urban areas has enabled a reallocation of land to the middle castes. These castes coped by borrowing from other caste members, or 'well-known people'. A larger number of ties (network size) led to more trust in kin members in comparison to non-kin members and lower trust in neighbours. For this group, higher network density, making use of one's network more intensely, leads to lower trust placed in kin-employees. Our interpretation is that as middle castes have to expand their networks to cope, they then rely on weaker, more dubious ties, driving a reduction in trust.

Trust in other people, an essential component of social capital, is particularly crucial in developing countries, where many transactions are informal and take place within social networks. But the determinants of trust are difficult to establish as trust is "an outcome and an antecedent of relationships" (Nooteboom 2007). This study also illustrates that a common shock can have differential effects on levels of trust in a society, given the type of interactions that take place as a result of the shock. Notably, it demonstrates homophily (internal preference) in networks in rural South India, where interactions that happen within a homogeneous group (neighbourhoods for lower castes; kin, and other caste members for upper castes) foster trust, while outside interactions or relying on marginal ties decrease it. Our findings

further showcase the importance of not relying only on broad measures of trust, such as generalised trust, when examining an environment characterised by tightly knit social groups. We do not find any results for our measure of generalised trust, but results turn significant once we consider measures of trust that more clearly define an in-group in comparison to an out-group (neighbours and non-neighbours, kin among employees and non-kin among employees). Our research further presents evidence that caste membership remains a significant determinant of social and economic outcomes in today's rural India.

Notes:

1. The survey was collected by a team of French Public Institute for Sustainable Development (IRD) and Institut Français de Pondichéry (IFP) researchers, including the authors of this paper (see Nordman *et al.* 2017). More information can be found on <https://neemsis.hypotheses.org>
2. Villages in rural South India are highly segregated by caste: middle and upper castes tend to live in a part of the village called 'Ur', while lower castes, Dalits, tend to live in the 'Colony'. These parts are oftentimes separated physically. In several survey villages, for example, Ur is located on one side of a cross-country road, while Colony is located on the other.
3. The caste representation was based on a self-classification of individuals into castes using local terminologies, which were then categorised into Dalits, middle castes, and upper castes.
4. The name generator follows sociological research approaches and invites the respondent to recall and elicit people (alters) with whom they maintain certain types of direct relationships in order to delineate the core members of the network.

## Further Reading

Fafchamps, Marcel (2006), "Development and social capital", *The Journal of Development Studies*, 42(7):1180-1198.

Fearon, James D, Macartan Humphreys and Jeremy M Weinstein (2009), "Can development aid contribute to social cohesion after civil war? Evidence from a field experiment in post-conflict Liberia", *The American Economic Review*, 99(2):287-291.

Fehr, Ernst (2009), "On the economics and biology of trust", *Journal of the European Economic Association*, 7(2-3):235-266.

Fukuyama, F (1995), *Trust: The social virtues and the creation of prosperity*, Free Press Paperbacks, Number D10 301 c. 1/c. 2.

Ghosh, J, CP Chandrasekhar and P Patnaik (2017), *Demonetisation Decoded: A Critique of India's Currency Experiment*, Routledge India.

Gilligan, Michael, Benjamin J Pasquale and Cyrus Samii (2014), "Civil war and social cohesion: Lab-in-the-field evidence from Nepal", *American Journal of Political Science*, 58(3):604-619.

Guérin, Isabelle, Youna Lanos, Sébastien Michiels, Christophe Jalil Nordman and Govindan Venkatasubramanian (2017), "Insights on Demonetisation from Rural Tamil Nadu: Understanding Social Networks and Social Protection", *Economic and Political Weekly*, 52(50):44-53.

Guérin, I, S Michiels and G Venkatasubramanian (2015), 'Labour in Contemporary South India', in B Harriss-White and J Heyer (eds.), *Indian Capitalism in Development*, Routledge, pages 118-36.

Hilger, A and CJ Nordman (2019), 'Social Networks and the Determinants of Trust in Rural South India', DIAL Working Paper, non-submitted manuscript.

Muldrew, C (1998), *The economy of obligation: The culture of credit and social relations in early modern England*, Springer.

Munshi, K (2016), 'Caste networks in the modern Indian economy', in *Development in India*, Springer, pages 13-37.

Nooteboom, B (2007), "Social capital, institutions and trust", *Review of social economy*, 65(1):29-53.

Nordman, CJ, I Guérin, G Venkatasubramanian, S Michiels, Y Lanos, S Kumar, A Raj and A Hilger (2017), '[NEEMSIS Survey Manual \(Technical Report\)](#)', IRD-IFP, November.

PwC (2015), '[Disrupting cash. Accelerating electronic payments in India](#)', Internet and Mobile Association of India, Payments Council of India.

Putnam, Robert D (2001), *Bowling alone: The collapse and revival of American community*, Simon and Schuster.

Rohner, Dominic, Mathias Thoenig and Fabrizio Zilibotti (2013), "Seeds of distrust: Conflict in Uganda", *Journal of Economic Growth*, 18(3):217-252.

Voors, Maarten J, Eleonora EM Nillesen, Philip Verwimp, Erwin H Bulte, Robert Lensink and Daan P Van Soest (2012), "Violent conflict and behavior: a field experiment in Burundi", *The American Economic Review*, 102(2):94.