NOPOOR POLICY BRIEF

nopoor Enhancing Knowledge for Renewed Policies against Poverty

No.36

The Use of Social Networks in a Self-Inflicted Macroeconomic Shock Context: Demonetisation in India

May 2017

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The demonetisation that occurred in India in November 2016 has created an unprecedented shock. Among other objectives, the measure has been presented as an efficient mean to promote a less cash economy in order to formalise the economy and to promote social protection. Drawing on ground-breaking data collected in rural south-India, this note expresses serious reservations about the stated goals. In the short run, due to the importance of cash in the Indian economy (98 percent of transactions are estimated to be in cash), 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. Rather than fighting against it, demonetisation has mostly strengthened the informal economy, while probably marginalising further those who lack networks. In the long run, and in a context like India, where state social protection is still weak and where governmental schemes are known to obey to patronage and clienteles' networks, having a dense network of relatives, friends and patrons ready to help when needed remains the essential form of securing everyday life and the future. Eliminating such arrangements without offering alternative protection would be counterproductive. While cash less policies flourish in various parts of the world, we believe our findings have major implications and seriously question the merit of such policies, especially for the most marginalised segments of the population.

INTRODUCTION

On November 8th 2016 at 8pm, the Indian Prime Minister Narendra Modi announced the ban of the 500 and 1000 rupee notes (7 and 14 euros respectively), the two highest value banknotes in circulation. From midnight onwards, these two notes were no longer legal tender and had to be exchanged in banks for new notes. In practice, the implementation process faced many technical challenges, leading to severe cash shortages. It is now clear that a major objective of last November's demonetisation initiative was to promote a cashless economy in a bid to formalise the economy, a large part of which escapes any form of taxation. This argument was very clearly made by Prime Minister Narendra Modi's official speech of December 25.[1] He claimed that bancarisation and digitalising payments would primarily benefit the poor, since it would end "labour exploitation" and give the poor better access to various benefits such as health insurance. Many reasonable doubts can be raised as to such claims, starting with technical barriers to implementation (inadequate bank and payment infrastructure, poor connectivity and access to power, etc.). More fundamentally, one may wonder what have been and what will be the impacts on demonetisation on the social structure of the Indian economy, understood as the wide set of networks that shape and constraints the access to resources. What can be expected from a cashless policy in a context in which interpersonal networks and social institutions still regulate most of the economy? Drawing on ground-breaking and first-hand quantitative and qualitative survey data we collected in rural South India just before and after the policy shock, this policy note offers some answers.

EVIDENCE AND ANALYSIS

Resistance against bancarisation and the role of social networks

Many villagers engage in resistance to bancarisation, with good reasons. In the wake of various measures and governmental schemes over the last decade, the bancarisation of Indian citizens has made significant progress but remains largely incomplete. In our survey field area, almost all households have a bank account (95 percent) but many use them mostly to channel their welfare benefits, which is the reason for the mass opening of bank accounts.[2] While only 41 percent of individuals who have a bank account use it for saving purpose (these figures are 24 percent for women and 57 percent for men), 19.5 percent have an account only to get welfare schemes (mostly women), and 32 percent for both purposes. Even if 40 percent of individuals declare having a bank account for saving purposes, the median amount of bank saving remain negligible (500 INR or 7 euros). Median amounts are slightly higher (800 INR or 11 euros) for post demonetisation respondents (Table 1), and demonetisation might be the explanatory factor: households have been obliged to deposit their cash, so far stored under the mattress, or acted as nominees for relatives, friends or patrons[3] who hardly left them the choice, as we have often seen. No bank account has been opened after the demonetisation. Distrust between bankers and villagers, especially the most marginalised, was already tangible before the demonetisation – over the last decade, banks, whether public or private, have been obliged to open accounts to all without being equipped to do so. The many difficulties encountered by rural banks to deliver cash during the demonetisation have obviously further heightened mistrust: among villagers interviewed after the demonetisation, almost a quarter (24 percent) declares a decline of trust in banks.

Beyond mutual distrust, villagers have other means to save. Gold purchases, chit funds, informal loans to others and reciprocal gifts (mostly through ceremonial exchanges) continue to be the most popular way to save and protect against the knocks of daily life. Gold has the advantage of combining prestige, liquidity (pawnbrokers are available in every nearby small town) and possibly speculation. 97 percent

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1 http://www.narendramodi.in/pm-modi-s-mann-ki-baat-25th-december-2016-533606. See also Kholi V., Ramakumar R. (2016). Economic Rationale of 'Demonetisation', *Economic and Political Weekly*, 51(53), 31st December.

2 Figures mentioned in text can be observed in a set of Tables available in the full Policy Brief, online here: https://neemsis.hypotheses.org/ressources/working-papers-series

3 By 'patronage', we mean a system of distributing resources based on personal and hierarchical relationships.

of households own gold, for an average amount which is more than a 100 times greater than bank saving (54,287 INR or 773 euros). Among individuals who own gold, 9 percent have bought gold since demonetisation; half of them in order to get rid of old notes and 22 percent to make a gift. Few villagers can expect bank loans: in our sample, only 7 percent of the loans come from banks, 16 percent come from "semi-formal" lenders like pawnbrokers, microcredit, SHG and finance companies (i.e. who are not necessarily registered and regulated, but operate through an organisation structure), while the remaining (77 percent) are contracted purely through interpersonal ties (patrons and local elite, employers, moneylenders, neighbours, relatives and friends). Loans taken after demonetisation (9 percent of loans of our post demonetisation sample) are only semi-formal (27 percent) and informal (73 percent) (see Table 1 below).

Networks act as the most secure safety net. As State social protection is still weak, family, friends but also patronage support networks continue to be the most important protection for times of need and means to plan for the future. Any monetary surplus is injected into this network through gifts or loans. Freezing wealth in a bank account makes little sense, barring the willingness to cut oneself off from one's social surroundings. Saving is mostly relational and takes the form of investment "in people"[4].

Social networks: a safety net but not for all?

During the demonetisation, and for around 3 months, the scarcity of cash has significantly slowed down the economy. Among villagers interviewed after the demonetisation, 61 percent of adults (15 and more) have worked during the past year and, among them, one fourth (24 percent) have two or more occupations. More than one third (37 percent) declare having worked less for their primary occupation because of the demonetisation and 6 percent had to stop. As for their secondary occupation, almost half villagers (49 percent) worked less and one third (33 percent) had to stop. With regards to consumption, an important part of our respondents declare having consumed less during the demonetisation (53 percent), or in same quantities but less often.

Many economic transactions, however, have been continued on the basis of mutual trust and credit, through deferred payments of wages and consumer good purchases. Various arrangements had been found for wages, often combining payment in kind (for instance rice for landowners, free meals for restaurants) and delayed payments. Among the post demonetisation respondents, wage jobs represent 50 percent of their occupations.[5] More than half of these jobs (52 percent) have experienced delayed payments. In some cases (5.5 percent), wages have decreased and 9.5 percent have suffered from both decrease in salary and delayed payment.

Shopkeepers were already used to selling on credit, which is a major source of client loyalty. Among post demonetisation respondents, 18 percent declare buying less on credit while 10.5 percent declare the opposite. Qualitative analysis confirms the diversity of scenarios, both with regards to consumers and shopkeepers, given that behaviours are closely related to the issue of trust and to the wider networks in which people are embedded. Unable to access credit from their wholesalers, some shopkeepers have been able to reduce their sales and couldn't afford selling on credit. Others, on the contrary, thanks to credit facilities, have considerably extended repayment periods but usually only to their most faithful customers. We encountered households who hadn't paid their shopkeeper for the past two months. On the side of consumers, among those who have reduced buying on credit, it can be by force – they are not eligible anymore – or by choice, since they have a greater access to other sources of cash locally. Informal local moneylenders explained to us that demonetisation led them to repatriate their activities locally, which were considered safer.

Some financial circuits were stopped during the demonetisation. This has been the case for some door-to-door moneylenders, who stopped collecting repayments to help their clients (but then had to wait before disbursing new loans). The same was observed among some microfinance organisations and banks. Running out of cash, they refused to disburse microcredit loans and gave priority to savers. Similarly, chit funds (local roscas) have been at a halt for a while and started again slowly in January. At the same time, the lucky ones who were managing to get cash were able to lend to others.[6] Indeed,

[4] This is a key result of a research done with the Institute of Money, Technology and Financial Inclusion. A summary can be found at http://blog.imtfi.uci.edu/2017/01/ceremonial-expenses-as-relational.html.
[5] This figure excludes NREGA scheme that provides 100 rupees wage by working day.
[6] This is the case for civil servants, who are usually paid by cheque or wire transfer. In the wake of several public demonstrations, public administrations have organised cash payments for their staff.

money lending has increased after demonetisation: the share of individuals declaring lending money to others has almost doubled, from 7 percent to 14 percent (Table 1).

If networks have probably been instrumental in coping with the demonetisation shock, all households, however, were not equally equipped. One of the effects of demonetisation has probably been to strain pre-existing networks. By and large, and even if our data should be taken with caution, it seems that trust in close circles has strengthened: 63 percent of individuals expressed a strong trust in their neighbourhood before demonetisation, and this increased to 78.5 percent after demonetisation. Among those interviewed only after the demonetisation, 11 percent express more trust, 13 percent express less trust and for the remaining there is no change. This may suggest that some have been able to activate their networks while others have failed. Other figures confirm this finding. Among the post demonetisation respondents, almost one third (33 percent) needed some help during the demonetisation: 10 percent asked for help and got it, 18 percent had no one to ask, while 3 percent asked but were denied. This suggests that interpersonal relationship networks have partially helped mitigate the drawbacks of demonetisation, while excluding those who don’t have anyone to count on.

Social life, informal arrangements, and the dark side of social networks

Ceremonial transactions make up a large share of households’ expenses. In our sample, households declare a median amount of 14,500 INR per year (206.5 euros), which represents 39 percent of annual household expenses. During the demonetisation, ceremonies have involved various informal arrangements, especially marriages. The average amount spent for household members marriage is 265,200 INR (3778 euros). Qualitative observation indicates that some events have been cancelled because of cash shortage, often with serious consequences for the reputation of the family. Events that have gone ahead have often been scaled down (for instance, having the wedding at home instead of renting a hall) but multiple chains of debt have allowed the event to take place. Instead of bringing the traditional cash – gifts represent a major source of funding, guests simply gave a pledge document to be honoured once cash has become available. Others promised to give more at the next ceremony. Here too, social relations have truly been put to the test. Merchants or service providers, be it for catering, jewellery, sarees, music, photography, film, agreed to be paid later if they were able to afford it. Ceremonial organisers borrowed from financial companies and negotiated for direct wire transfers to merchants and providers (and will themselves pay back later in cash).

When the old notes were still in circulation, debt was increasing simply because people with a cash surplus were desperately trying to get rid of their old notes and lending to anyone interested. This led to a significant drop in interest rates (by half in the places we visited). Credit markets remain highly segmented, however. In places where borrowers desperately need cash, interest rates have shot up. It is also worth noting that beyond a few service providers such as hospitals[7], which were authorised to accept old denominations until mid-December, many other traders have continued to do so illegally, such as jewellers, currency exchange offices, alcohol retailers, etc., most often for a commission (up to 20 percent in the cases we came across).

As usual, these kinds of informal arrangements also have a dark side. Intermediaries have sprouted up, offering high-cost services to queue at ATMs, deposit cash at bank branches, exchange the 2,000 INR notes (equivalent to 28.5 euros) nobody wants, or simply to advance cash. They were often to be found at pesticide shops, petrol stations, pharmacies, hospitals, and taxation departments. We also came across unscrupulous employers offering large advance payments to their workers in old denominations. Some accepted them, and have been struggling to get rid of these invalid banknotes. When the advance was for seasonal work that was meant to start later in the year, some workers have cleverly accepted but with the deliberate intention of not turning up, arguing that the money they received had no value, and even though they have been able to use part of it. Some have refused for ethical reasons: they did not want to be complicit in the whitening of black money. The strength of the rural poor's political awareness and commitment to the fight against corruption was astonishing. It was striking how much ordinary people have been affected by the demonetisation and at the same time

[7] Petrol stations, highway tollgates and government cooperative stores have also been authorised to do so.

supported it. But once citizens will realise that it is merely an illusion[8], the disappointment is likely to be bitter.

More broadly, it is well-known that the social structure of the Indian economy is both shaped by and constitutive of inequalities and hierarchies based on various institutions such as class, caste, gender, religion and localisation. For instance, in our survey sample, while around half households are from Scheduled Castes, employers are in great majority (around 80%) from middle and upper castes. Our first findings suggest heterogeneities in the ability to deal with demonetisation and activate supportive networks. Further work is definitely needed to examine whether demonetisation has strengthened pre-existing caste-based arrangements or on the contrary fostered inter-caste interactions.

POLICY IMPLICATIONS

Cash less policy and the social regulation of the economy: tempering or exacerbating inequalities?

Among various purposes, demonetisation aims to formalise the economy without any extra effort on formal protection. So far, the demonetisation has mostly caused a rise in the informal economy, especially informal debt. One could argue that this is only temporary and that digitalisation will gradually bring about formalisation. Here too, we have grounds for doubt. The social regulation of the economy gives a form of social protection, however flawed, hierarchical and unequal. As shown in our preliminary analyses above, most villagers are embedded into complicated webs of rights and obligations that ensure their daily survival through the constant circulation of cash, goods and services. In the context of India, where state social protection is still weak and where governmental schemes are known to obey to patronage and clienteles' networks, having a dense network of relatives, friends, acquaintances, and patrons ready to help when needed, remains the essential form of securing everyday life and the future. Eliminating such arrangements without offering alternative protection would be counterproductive. While cash less policies flourish in various parts of the world, we believe our findings have major implications and seriously question the merit of such policies, especially for the most marginalised segments of the population.

RESEARCH PARAMETERS

An original socio-economic survey in rural Tamil Nadu

The *Networks, Employment, dEbt, Mobilities and Skills in India Survey* (NEEMSIS, https://neemsis.hypotheses.org/) relies on a plurality of fields of research, encompassing political economy, sociology, economics and cognitive sciences.

Stemming from the 2010 original household data collection of the RUME project (*Rural Microfinance and Employment Survey*) in ten villages of Tamil Nadu, the NEEMSIS recollected information from the same 405 households in 2016-2017, in order to obtain panel household and individual data. Among the 405 original households, the NEEMSIS has been able to recover 95 percent of the 2010 household sample. Households who left their origin village since 2010 have then been tracked all around Tamil Nadu. In addition, around 10 households per village were added to the final NEEMSIS sample to increase the sampled household population. In addition to the household questionnaire which was addressed to the household heads in 2010 and 2016-2017, NEEMSIS' questionnaire includes new modules and one additional unit of analysis, the individual, using a specific

[8] Much black income is invested through gold and real estate. For more details on this, see Kholi and Ramakumar, *op. cit.*

questionnaire explicitly addressed to two household members.[9] These original socio-economic surveys focus on all aspects of rural life, including in-depth modules on the households' financial practices, migrations, remittances, labour, agricultural activities, access to government schemes, family events, and individual questions in 2006-2007 on labour, networks formation and usage, and cognitive and non-cognitive skills. A diversity of approaches and tools were used to design the individual questionnaire: it includes modules on labour force participation, professional aspiration, cognitive skills and personality traits inspired by psychology and cognitive sciences, and a social network module following the name generator sociological method.

In addition to the quantitative survey, various qualitative tools are being used to analyse a number of issues that can hardly be captured through a questionnaire, such as power relations, perceptions and subjectivities, complicated chains of causality, etc. Such tools include semi-structured interviews, discussions with key informants, group discussions, observation, etc.

We make use of the demonetisation shock as an exogenous source of variation in our sample of individuals and households. Indeed, the announcement of demonetisation was unexpected and unforeseeable and the policy change took place immediately (overnight). Hence, households could not have prepared for it in advance and were hit by this exogenous variation in money supply instantaneously. Demonetisation can thus be seen as a quasi-experimentation framework. Since demonetisation happened in the middle of the NEEMSIS, we have decided to stop the survey for two months, doing some qualitative fieldwork in between. From this, we were able to create and integrate an extensive module on demonetisation disseminated over the individual and familial questionnaires in order to tackle effects on a large range of dimensions, especially on employment and labour organisation, financial practices, and social networks. This additional module integrated to part of the sample provides remarkable first hand database close to a quasi-experimentation. Indeed, part of the sample (26 percent) was affected by demonetisation and thanks to the wide range of questions looking at various dimensions, we were able to identify, to measure and to delve the effects of demonetisation, by comparing to the other part of the sub-sample interviewed before the demonetisation.

Another innovation of NEEMSIS is the use of numerical tablets for data collection. This tool allowed us to improve the quality of the data collected, because data quality was checked at each stage of the data entry process (missing observations, constraints on answers), and also to reduce the cost and time as this was done instantaneously on the field.

Table 1. Preliminary descriptive statistics of households members interviewed before and after demonetisation

	Pre demonetisation sample	Post demonetisation sample
Caste (%)		
Middle caste (*vanniyar*)	31.7	38.9
Schedule caste (*dalits*)	50.8	50.4
Others	17.5	10.7
Total	100	100
Sex (%)		
Male	50.9	50.2
Female	49.1	49.8
Total	100	100
Mean Age	31.7	31.7

Source: NEEMSIS (2016-2017); authors' computations.

[9] These two household members, called '*egos*', are the household head and a second younger member randomly selected on a criterion of age – 18 to 35 depending on availability. NEEMSIS managed to interview 484 households and now has data for 943 *egos*.

Table 1. Preliminary descriptive statistics of households members interviewed before and after demonetization (cont'd)

Demonetisation and main financial variables		
Savings amount in bank account (median) in Indian rupees	500	800
Share of individuals lending money (%)	7.1	13.9
Number of loans contracted...	1306	363
... since demonetisation (%)		9.1
Nature of loans since demonetisation		
Informal loans [a]		72.7
Semi formal loans (moneylenders)		27.3
Total		100
Number of individuals [b]	**1,967**	**683**

Source: *NEEMSIS* (2016-2017); authors' computations.
Notes: a: Relatives, colleagues, employers, 'maistries', private moneylenders;
b: all household members.

FURTHER READINGS

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PROJECT IDENTITY

PROJECT NAME	NOPOOR – Enhancing Knowledge for Renewed Policies against Poverty
COORDINATOR	Institut de Recherche pour le Développement, Paris, France
CONSORTIUM	CDD The Ghana Center for Democratic Development – Accra, Ghana CDE Centre for Development Economics – Delhi, India CNRS (India Unit) Centre de Sciences Humaines – New Delhi, India CRES Consortium pour la Recherche Èconomique et Sociale – Dakar, Senegal GIGA German Institute of Global and Area Studies – Hamburg, Germany GRADE Grupo de Análisis para el Desarrollo – Lima, Peru IfW Kiel Institute for the World Economy – Kiel, Germany IRD Institut de Recherche pour le Développement – Paris, France ITESM Instituto Tecnológico y de Estudios Superiores de Monterrey – Monterrey, Mexico LISER Luxemburg Institute of Socio-Economic Research – Esch-sur-Alzette, Luxemburg OIKODROM - The Vienna Institute for Urban Sustainability – Vienna, Austria UA-CEE Université d'Antananarivo – Antananarivo, Madagascar UAM Universidad Autónoma de Madrid – Madrid, Spain UCHILE Universidad de Chile – Santiago de Chile, Chile UCT–SALDRU University of Cape Town – Cape Town, South Africa UFRJ Universidade Federal do Rio de Janeiro – Rio de Janeiro, Brazil UNAMUR Université de Namur – Namur, Belgium UOXF-CSAE University of Oxford, Centre for the Study of African Economies – Oxford, United Kingdom VASS Vietnamese Academy of Social Sciences – Hanoi, Vietnam
FUNDING SCHEME	FP7 Framework Programme for Research of the European Union –SSH.2011.4.1-1: Tackling poverty in a development context, Collaborative project/Specific International Cooperation Action. Grant Agreement No. 290752
DURATION	April 2012 – September 2017 (66 months)
BUDGET	EU contribution: 8 000 000 €
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EDITORIAL TEAM	Edgar Aragon, Laura Valadez (ITESM) Xavier Oudin (IRD) The views expressed in this paper are those of the authors and do not necessarily represent the views of the European Commission.