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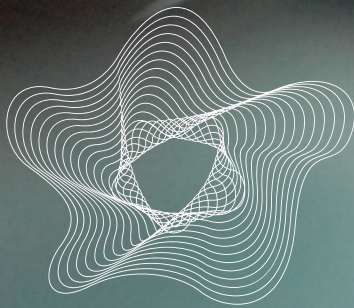
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NEW ORGANIZATIONAL MODELS
OPEN-SOURCE FINANCIAL SERVICES RESEARCH



Selected works: 2008-2010 research from the
Institute for Money, Technology & Financial Inclusion
School of Social Sciences, University of California, Irvine

August 2010 | Tokyo



IMTFI

INSTITUTE FOR MONEY, TECHNOLOGY
& FINANCIAL INCLUSION



CONTENTS

6 Introduction

Bill Maurer

10 Cash streams with personality

Melissa Cliver, Catherine Howard, Rudy Yuly

14 Drops make oceans

Mani Nandhi

18 Honoring the unseen

Kenneth Omeje

20 Community savings

Syed Aiman Raza

24 Complex debt

Caroline Schuster

28 Navigating fluctuations

Catur Sugiyanto, Sri Yani Kusumastuti,

Duddy Donna

32 Yesterday and tomorrow

Svetlana Tyukhteneva

36 Reciprocal hands

Magdalena Villarreal, Maria Eugenia Santana

40 Design principles

Bill Maurer from IMTFI research

42 Real money and its alternatives

Scott D. Mainwaring

44 About the contributors

46 Acknowledgements





تبادل الاستعداد

MONEY EXCHANGE

AND CREDIT CARDS

تبادل الاستعداد

MONEY EXCHANGE

AND CREDIT CARDS

Dr. Bill Maurer

In the remote Altai region of Russia, people are far more comfortable using cattle as a standard of value than national currencies. Many such currencies circulate there, but are more useful as offerings to deities than as money. In Sri Lanka, the success in “banking the unbanked” has been shown to be more apparent than real: people set up bank accounts, but then never use them. In a region of Nigeria, powerful deities are thought to strike dead defaulters who have borrowed from the gods. The gods have become lenders of last resort, but at the same time are able to leverage a community’s assets toward productive ends, as people borrow not just cash but capital equipment like motorcycles and wheelbarrows for use in their entrepreneurial activities. The snapshots provided in this catalog are just a small part of the range and depth of diverse practices uncovered by researchers supported by the Institute for Money, Technology & Financial Inclusion.

The Institute for Money, Technology and Financial Inclusion (IMTFI) is a unique experiment in collaboration. Founded in 2008 to help shed light on monetary practices around the world, the Institute supports research on people’s everyday innovation with money and mobile technology. People in the developing world are the inheritors of ancient monetary cultures and practices that long predate modern, Western money and finance. With mobile communications, they are now linking their monetary practices to new technologies in surprisingly innovative and original ways. This has caught the attention of industry, the philanthropic sector, development organizations and governments. Many of these actors see great potential in mobile phone-based money savings and transfer services – “mobile money” – to enhance financial inclusion, economic stability and the quality of life for the world’s poorest people.

The remarkable success of early mobile money systems, like GCASH in the Philippines and M-PESA in Kenya, may warrant their hopes. While the diverse use cases of the mobile phone around the world are becoming well documented – from mobile phone sharing to SIM card swapping to informal repair cultures – the diverse use cases of money are surprisingly under-researched. Most writers simply assume that money is what economists, and everyday practice in the developed world suggest that it is:

A means of exchange, A method of payment, a store of value, a measure of value and a unit of account. We buy things with money every day, we pay bills, we balance budgets. Yet people do much, much more with state-issued currencies. We also gift money, usually wrapping it in a special covering first; some people mark money with special symbols or inscriptions, signaling religious, political or community values. People throw coins in wishing wells. People post bills in frames behind the till, bury money under building foundations, place money with the dead. In addition, people use more things as currency to fulfill money’s classic functions, like cattle, shells, gold, pieces of paper and promises kept in the head and the heart.

The goal of IMTFI is to inform the set of actors involved in accelerating mobile money design and implementation by bringing to light these existing monetary ecologies and repertoires. An understanding of the field of practices and currency relationships into which mobile money enters may better inform the design of new services in a way that enhances their adoption and works with, not against, those existing practices and relationships.

This research focus sets IMTFI apart from other endeavors in the mobile money space. But it is also, significantly, the way that IMTFI is working to achieve this goal that makes it truly unique

Rather than driving a top-down research agenda, IMTFI solicits proposals for independent projects that speak to its main areas of interest. So far, it has issued three competitive calls for proposals from researchers all over the world. It has funded two cohorts of researchers to date (2010) and plans to fund a third cohort in 2011. Proposals are reviewed by a panel of academic experts from the University of California, Irvine, representing disciplines ranging from computer science to anthropology and business. Next, proposals are reviewed by a panel of external experts in industry research labs. Final award decisions are based on the comments of these two review panels. The awards are small compared to other such research enterprises, ranging from US\$3000 – US\$20,000, and most are for year-long, in-depth projects that use a mix of qualitative and quantitative methods..

The researchers are diverse and represent a distinctive set of voices in this new field of inquiry and practice. Rather than funding mainly Americans or others from the wealthy North to parachute into a country, conduct a quick study, and come home again with their findings, IMTFI strives to create and nurture a community of inquiry made up of scholars and researchers from the developing world. And rather than selecting only highly experienced researchers with lots of grant funding and successful projects under their belts, IMTFI also tries to support new talent, and to mentor people who have not had opportunities to conduct independent research. Many of the people we have funded have never received a research grant before. Indeed, it has been a lesson in the difficulty and expense involved in moving money – something the mobile money business seeks to mitigate – as we have sent funds to institutions and universities that have never been awarded such grants in the past. Our researchers' expertise includes, therefore, a long history – often, a lifetime – of experience and deep knowledge of the places where they are conducting their research.

Many of IMTFI's researchers are from the countries where they are conducting their research. While not necessarily "native ethnographers" (they are mostly from different class backgrounds, regions and/or ethno-religious groups from their subjects), they do have the advantage of a greater appreciation of local context, and greater long-term commitments to their country of research, than most "outsider" researchers would have. The researchers are living in the context of intense and rapid innovation on the ground. As soon as a new service or product is unleashed, people adapt it to their own uses. By virtue of their deep knowledge of the contexts they are studying, they have experience with the seasonal surges of local agricultural and religious cycles that others might lack; they are familiar with dealing in currencies that require lots of zeros; they know what it is like to experience a sudden and dramatic drop in the value of a currency and how to manage issues of identity and privacy in developing world contexts. Our researchers are also, in this key way, participants in their studies and the larger meta-project of IMTFI.

IMTFI is currently funding 35 projects in 25 countries (see map). This includes support for 54 researchers, of whom over 70% are from the developing world. 44% are women. Although the overall intellectual and methodological impetus for creating this large-scale research collaboration came from the discipline of anthropology – with its commitment to long term, qualitative, ethnographic research – in fact, the best represented discipline so far is economics and business, representing 32% of the researchers; 26% have a background in anthropology; 9% have a background design and/or information science. The rest are from fields ranging from psychology to engineering to political science, including two journalists; 67% have some affiliation with a university or academic institution. The rest are based at NGOs, microfinance institutions, consultancy firms, and other organizations.

The disciplinary diversity is not without its challenges. Nevertheless, the researchers have come together in a common spirit of engagement, dialogue, and mutual assistance. Researchers have struggled with new ways of doing research and asking questions. Getting at what one researcher called "the 'before-the-survey' perspective" involves building real relationships of trust with one's research subjects, so that they will open up and share what is really going on in their money worlds, instead of what they think the visiting scientist or surveyor wants to hear. It helps that most of the researchers have such lengthy experience and longstanding ties in the places they are studying. Getting at the before-the-survey perspective has also meant leaving aside one's presuppositions about what is rational, natural or normal.

Researchers have uncovered a wealth of calculative techniques that sometimes "don't make sense" or "don't add up." Yet, in the complex monetary ecologies of the world's marginalized and excluded, other ways of doing the numbers make more sense, do better work, solidify (and sunder) relationships and connections in a manner that enables people to create a more meaningful and secure livelihood for themselves.

This catalog is the product of one team of IMTFI researchers' vision for trying to capture a sense of this spirit of engagement and collaboration. Melissa Cliver and Rudy Yuly wanted to share the innovative organizational model of IMTFI with researchers and practitioners of ethnography in industry and design.

The catalog you are holding contains personal reflections and snippets of research findings from some of the first cohort of IMTFI researchers. Funded in 2009 and submitting their final reports in 2010, this cohort has produced marvelous and surprising work. That work also led to the development of eleven provisional design principles for mobile money, appended at the end of this catalog. Like all of the knowledge generated by this unique collaboration, it is all offered in an open-source fashion. IMTFI, like the university in which it is housed, is committed to the free, public dissemination of its research findings.

Since the creation of IMTFI, many visitors from industry have commented on how refreshing and useful it has been to have a forum for honest discussion and debate unencumbered by the strictures of non-disclosure and intellectual property.

I invite you to learn more about the Institute for Money, Technology and Financial Inclusion by visiting our website:

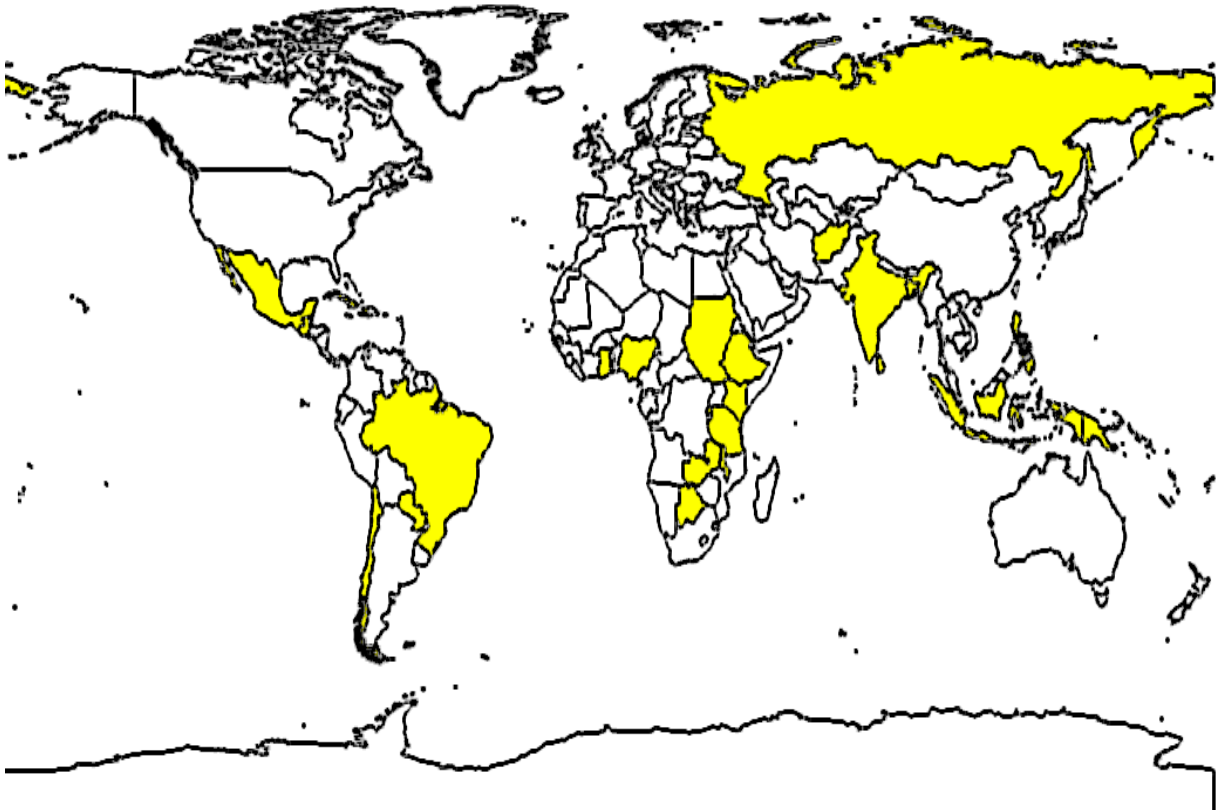
www.imtffi.uci.edu

If you are interested in learning how you can help support the work of IMTFI, please contact the Institute Administrator, Ms. Jenny Fan, at:

imtffi@uci.edu,

or feel free to contact me directly, at:

wmmaurer@uci.edu





Cash streams with personality

“Finding novel ways to create new income streams which can build a safety net is a huge opportunity area, and a necessary precursor to creating tools for financial management. Information communication technologies such as mobile phones can support more effective service models for savings.”

Melissa Cliver

Melissa Cliver Research and Design

Catherine Howard

Jump Associates

Rudy Yuly

Rudy Yuly and Associates

Our original intent was to look into the creation of a visual-based financial management tool addressing the needs of the world's poor—many of whom are illiterate. However, in the process of our research we realized an unavoidable fact that forced us to reframe our efforts: poor farmers and day laborers most urgent core need is for a cash reserve.

Finding novel ways to create new income streams which can build a safety net is a huge opportunity area, and a necessary precursor to creating tools for financial management.

Our overall approach is to pair systems thinking with ethnography. By organizing the observations and insights from secondary and primary research into guiding design principles we aim to create concepts that respond to varying needs of all stakeholders in the system—from the poor to venture capitalists to consumers. Our ultimate goal, the creation of a platform that can be replicated in various international trade milieus, requires a framework within which we can prototype our concepts. We have chosen the cooperative farm framework within the sustainable trade industry as having the best characteristics to support our efforts.

In our research in Zaragosa, we discovered the limited cash funds received by cooperative farmers

or day workers were spent in ways that had special relationships—“partnerships”—to the specific type of work that generated the funds. For example, “extra” money earned from small jobs like selling flowers (which was enjoyable) went to buying butter or cheese (enjoyable), while money coming back from the United States was seen as serious and pain-taking, and went into building projects (cement or stone). Our observation is that these cash streams have “personalities”—emotional and habitual allocations based on where and how the money has been generated.

We realized that there is no “partner” cash stream dedicated to security or fending off the unforeseen—what we would commonly call “savings.”

Putting a little cash aside here and there was common in the household, in addition to saving rice or cash for ritual celebrations—but the cooperative itself had no nest egg or emergency fund. The intangible, abstract, unthinkable future did not have a partnered cash stream.

We have developed concepts derived from our ethnographic research in the field that address the need for a new savings cash stream as well as Information communication technologies to assist with various stakeholder needs. These concepts live as prototypes to be tested with cooperatives, financiers, day workers and importers.



**Melissa Cliver
Catherine Howard
Rudy Yuly**

Navigating value and vulnerability with multiple stakeholders

A study of financial management for cooperatives in the sustainable trade industry



| Previous |

▶ *Single women day workers share strategies for getting through the year, managing several jobs, but it's still hard*

| Right |

▶ *Participatory design session with 22 coffee farmers. Farmers created drawings that referenced their daily challenges in farming*

▶ *21st of September Coffee Cooperative with their new seedling coffee plants after a nursery-building workshop*



▶ *women preparing mole for a celebration*

| Opposite |

▶ *Pedro describes the washing process on his newly built cement washing platform standing with his helpers and grandchildren.*





“ Financial inclusion for the poor generally refers to enabling them to open a bank account. This is expected to eventually open the door to additional financial services.

However, the biggest challenge is that a majority (87 percent) of sample respondents do not have any personal identification - most are homeless. ”

Mani Nandhi

Jesus and Mary College

University of Delhi

This study on rickshaw pullers in Delhi was triggered by Uttam, a young puller from West Bengal whom I got to know during my daily rides to the nearby market. As he pulled me around, I learned from this amiable smiling puller the rough life lead by him. It never occurred to me to think about how Uttam managed his money earned in an arduous work that required him to pull rickshaws in crowded markets, congested narrow lanes or uphill streets in scorching heat or in monsoon or cold winters.

Since rickshaw pullers form a sizeable segment of urban poor migrants in Delhi, the study is an empirical venture focussed on capturing how they handle their money while in extremely difficult and dismal living conditions. For any financial inclusion efforts to be successful, technology has to be the crucial driver in offering cost effective solutions. The study funded by IMTFI is critically concerned about how technology led solutions could help to bank the unbanked (for example, mobile banking) in overcoming financial exclusion. Our observations noted cell phone use, indicating this may be a service useful to our participants.

The grit and tenacity shown by the pullers in eking out a living as much as in managing their earnings in a variety of ways and practices has been a humbling experience. ‘Where there is a will, there is a way’ is an idiom that can suitably be used to my subjects in this study.

Notwithstanding their near illiteracy or semi literacy levels, rickshaw pullers earn, save, and remit in various ways – most of these methods, however, fall outside of the formal financial channels. Financial inclusion of the poor in simple terms refers to enabling them to open a bank account which is expected to open the door for accessing other financial services eventually. However, the biggest challenge is that a majority (87%) of sample respondents did not have any personal identification in addition most are homeless. Nearly half the sample (49%) did not possess any personal identification which makes it impossible to open a bank account. However, migrant pullers have been ingenious in using several financial practices. They save money regularly, but they store money in different ways since they do not have a safe place to keep it. Nearly 1/3rd of the sample stored their savings with ‘neighborhood shopkeeper bankers’, petty vendors selling cigarettes, tea, grocery etc. found in the city. These poor pullers do not pay them any fees for safe keeping money; neither do they get any interest on deposited money. A simple projection of the notional savings deposited with shopkeepers or remittances sent home by pullers (assuming conservatively only for 1/3rd of 6,00,000 pullers) was insightful in terms of millions of rupees that pass via informal channels. ‘Every drop makes an ocean’ is an axiom that needs to be the mantra for financially including the untapped poor but highly bankable clients.



Mani Nandhi

Jesus and Mary College
University of Delhi

The urban poor and their money:

A study of urban
rickshaw pullers in Delhi



| Previous |

▶ *Migrant puller on his rickshaw*

| Right |

▶ *Migrant puller on his rickshaw*

▶ *Migrant puller on his rickshaw*

▶ *A puller counting his money earned for the day*

| Opposite |

▶ *Rickshaw puller with ambitious load*





“ The deities have continuously recorded 100% debt repayment rate. The repayment date is customarily set by the potential borrower in a vow to deity and the borrower is bound by any date s/he fixes. Loans are disbursed in an informal way and without any collateral. ”

Kenneth Omeje

Professor of International Relations

United States University, Nairobi, Kenya

This study derives from a concern with traditional credit institutions in Africa, the study focuses on the role of oracular deities as traditional sources of credit among the Igbo of Southeastern Nigeria. Some of these communities include Okija, Oba, Ogrugu, Umulumgbe, and Ugbaike. The central objective of the study is to use the experiences of three ethnic Igbo local communities to enhance the understanding of the history, operation, opportunities and externalities of the relatively unknown fetish divinity credit institution.

Our findings indicate that despite having a number of life-threatening externalities (e.g. delay or default in repayment of a debt owed to a fetish god could result in death by remote magical means), borrowing from the gods has a strong appeal to a considerable number of local people in the focused region because the oracular shrines chiefly disburse credits for a wide range of unorthodox and [non-] business-oriented areas that are central to the locals' social existence and realism. These issue areas for which shrine credits are disbursed include ceremonial activities, such as organizing befitting funerals for deceased relatives, hosting/settling one's mother-in-law on a traditional post-natal birth attendant visit, footing marriage expenses, human capital investments, such as payment of children's school fees, and employability skills acquisition training. The deities have continuously recorded 100% debt repayment rate. Borrowers have always paid their debt to the fetish gods before the agreed repayment dates (usually not more than one year) for fear of incurring the wrath and magical retribution of the gods.

The repayment date is set by the borrower in a vow to deity the borrower is bound by any date s/he fixes. Loans are disbursed in an informal way without any collateral. Most loan beneficiaries are male members of the community known to the chief priest. The priest conducts all financial transactions on behalf of the deity. Borrowers not known to the priest are required to be introduced by a guarantor known to the priest. Debt rescheduling is possible in the event that one foresees difficulty in meeting the agreed repayment deadline.

The credit system is just one of the many functions of these community gods and it is by no means their most important function. The various functions of the deities, including the perceptibly good, bad and the ugly, do not stand in isolation but are believed to be coherently related to the wellbeing of the community and its constituent units and members.

Prior to the fieldwork, I had an impression of the deity as an oppressive and exploitative cult that takes advantage of vulnerable local people. My perception was largely informed by the knowledge that the deities are attributed with the magical power and capacity to kill their loan defaulters and consequently confiscate their assets. The fieldwork interviews and my interactions with members of the local communities disproved my thoughts. Locals venerate the deities as highly benevolent gods that support their economic life and also help to preserve the communities' social order. Even though the deities are credited with the power to kill, locals believe that the deities are just gods that would not kill the innocent but only evil doers.

“ This project has not used any photographic images for reasons of cultural sensitivity. It is significant to note that there is scarcely any photographic or video image of the three community shrines, as well as most other similar deities in the Nsukka cultural area.

Everyone visiting the shrine is usually forewarned about taking snapshots and making a video coverage of the deities, an activity the deities are said to disapprove of and sometimes punish.

There is a legend strongly held in these local communities that all previous efforts by guests, including Western anthropologists and tourists, to capture the deity’s shrine in film has persistently failed any printouts or electronic storage has always appeared blank.

The Chief priests and a number of other interview respondents confirmed this legend. There is no independent corroboration of the legend as we could not find any previous researchers to interview.

Our fieldwork teams were too scared to attempt a photographic snapshot or video coverage of the deities. ”

– Kenneth Omeje

“This network of Beesi creates a “we” feeling among the members of the neighbourhood. The social ties tend to create bonds which give rise to important larger-scale social patterns.”

Syed Aiman Raza

Shia PG College, Lucknow, India

The present project is an ethnographic investigation with 60 households belonging to the Muslim 'Ithna Ashari Shi'ah' sect, who are involved in Zardozi (embroidery) work, from two distinct Shi'ah dominated areas of the old city in Lucknow - Ghazi Mandi in Bajaza and Raees Manzil in Husainabad.

During the last three decades one has witnessed resurgence in the production of Zardozi embroidered clothes after their induction as ethnic couture in bridal wear, fashion and glamour industry of India and abroad. Today, more than 80,000 artisans from the Shi'ah community are associated with this work, but are reeling under intense poverty and suffering as a result of pittance. What attaches them to Zardozi is their need for money and their inability to do any other skilled labour.

Zardozi is marred by seasonality and earnings crash during the months starting from March till August. Families try to curb their diets by either diluting the cereals or cutting in the amount of food intake. Cheap medicines are bought and the visits to the doctors are curtailed. Electricity is vital for Zardozi and its theft is common in these area through Katiya. The neighbourhood usually informs everyone, if there will be a raid from the Electricity Department. To secure overtime pay yet avoid the charge for extra electricity, families sometimes use their mobile phone as a light source.

Uncertainties and irregularity of income for a Zardozi (artisan) are omnipotent and hence there arises a need to save and invest money for unseen financial challenges in day to day life. Beesi are informal saving networks structured in which the basic element is a group of individuals who agree to regularly contribute money to a common “pot” that is allocated to one member of the group each period. The order of the recipients is determined either by lottery once or through mutual agreement of participants. Thus the group keeps on meeting on regular intervals as decided by the Organiser to collect dues and allocate the proceeds, until every member has had a turn with the “pot”

The Zardozi find saving in Beesi as uncomplicated, localized and efficient in the absence of any other saving mechanism because the participant in Beesi network share a common social bond being neighbours, friends, family members and co-workers and hence the desire to maintain the capital embodied in those bonds provides incentives against voluntary default. This network of Beesi creates among the members of the neighbourhood a ‘we’ feeling and the social ties tend to create bonds which give rise to important larger-scale social patterns.



Dr. Syed Aiman Raza

Assistant Professor
Shia PG College, Lucknow, India

Network linkages and money management

An anthropological purview of the Beesi network amongst the urban poor Muslims in old city area of Lucknow, India



| Previous |

▶ A group of Zardozi (artisans) working on a piece of cloth

| Right |

▶ Complex designs need a good eye sight. Hence, the aged are unable to flourish in the art. A child who is around 6 years old is seen working on a bridal dress. He is paid around Rs 50 (\$1.04) per week.

▶ Solidarity and trust are the two main components among the members of the network, which ensures timely payments to the Organiser. The members use this money in times of emergency, building houses, marriages etc

▶ Afsar Afsar Bano receiving the 'pot'- the full amount collected from all the members of the Beesi. It's Afsar Bano's turn to receive the money. All the participants, through lottery are given numbers which represent a particular month, in which they will be receiving their full Beesi amount.

| Opposite |

▶ Children are learning how to hold the Muthiya (needle). They are sent by their parents to the Karkhana (place where Zardozi is made) so that they can help the family with some earnings





“ I am finding that much of the ‘entrepreneurship’ in microcredit-based committees of women entrepreneurs involves successfully managing social relationships that transmit and store wealth. ”

Caroline Schuster

University of Chicago

Through eighteen months of participant observation with Fundación Paraguaya, I have come to appreciate the many different ways credit configures the economic lives and livelihoods of Paraguayans living along at the edges of Ciudad del Este’s commercial economy. I have been most surprised by the complicated ways in which people manage the many time-scales that configure credit; if debt is largely about deferral, then how long financial commitments can (and ultimately cannot) be postponed is a complex social process that always seems to spill over my broad analytic categories like “microfinance,” “commerce,” “family,” and “work.” I am finding that much of the ‘entrepreneurship’ in microcredit-based committees of women entrepreneurs involves managing social relationships that transmit and store wealth.

What does debt look like, when economic relationships can be figured as credits, as gifts, as favors, or as investments? This is an especially difficult question since debts are not always figured in currency. For example, food can be sold for profit as part of a business, used as a fund-raiser for a committee of women entrepreneurs, given freely in an after-school neighborhood lunch program, endowed by politicians as part of an election campaign, passed amicably across fences between neighbors’ kitchens, or borrowed on a tab from the neighborhood grocery.

These transactions are valued differently based on context of giving/sharing/borrowing and on the pursuant of time-depth imagined.

In other words, the modes of “solidarity” that are central to microfinance are themselves underdetermined by the financial technology and often are negotiated across longer or shorter cycles of obligation and responsibility.

I began this project with an interest in how development projects that aim at financial inclusion operate in a city already configured by extensive commercial activity: even marginal neighborhoods in Ciudad del Este are caught up in the financial flows of cross-border trade and petty arbitrage. If the microfinance Non-Government Organization (NGO)—Fundación Paraguaya—is working through solidarity loans to foster entrepreneurship in its committees of entrepreneurs, how is the institutional notion of entrepreneurship similar to or different from the lived-experience of commerce in the ‘special customs zone?’

The committee had a rocky start with Fundación Paraguaya, since it paid one of its bi-weekly quotas a day late after the then-treasurer left late on the bus to take the group’s payment to the NGO’s headquarters downtown and didn’t arrive before the office closed. They complained that the rigid repayment schedule of the NGO left no room for the daily uncertainties of life in Ciudad del Este, like slow buses and heavy traffic downtown due to an unusually high number of cross-border ‘shopping tourists.’ On the other hand, the uncertainties of calculating the repayment schedule of locally-held debts can refigure the obligations that hold the committee together.



Caroline Schuster

PhD Candidate
Dept of Anthropology
University of Chicago

Living on credit microfinance-led development initiatives, and the social regulation of entrepreneurship in Paraguay's tri-border area



Apellido	Nombre	Cuentas	Recepciones	Pagos	Saldo	Meta
Dionisio	C...	4.5	4.5	1	1	4.5
Zoraida	H...	19	10	11	7	43
Soledad	M...	12	8	10	7	12
Fabi	2.51	6	2	2	1	3
Oleg	2.38	0	0	0	0	0
Fabiola	E...	0	0	0	0	0
Cristina	1022	14	10	9	7	12
Midia		—	—	—	—	—
Soledad	Rec	—	—	—	—	—
Alfama total		52.5	31.5	34	23	41.8
Meta		25.5 3081 3385 65 344 3588				

| Previous |

- ▶ Collecting cash to pay microcredit quotas

| Right |

- ▶ Debts figured by the loan portfolios of credit councilors at Fundación Paraguaya
- ▶ Neighborhood bake-sale to raise money
- ▶ Neighborhood free lunch program run by members of a microcredit "committee of women entrepreneurs"



| Opposite |

- ▶ Sharing food from the garden with neighbors and anthropologists





“ Saving is the answer if income is more than consumption. But, the poor still prefer to save the money at home or buy assets (livestock, jewelry, and audios) rather than going to the local bank. ”

Catur Sugiyanto Sri Yani Kusumastuti Duddy R. Donna

Universitas Gadjah Mada

This study identifies how poor people resolve and anticipate fluctuations in revenue and expenditure (consumption). The survey was conducted in the district of Kulon Progo, Bantul, Gunung Kidul, Sleman and Yogyakarta City, all in Yogyakarta Special Province. The respondents are workers in agriculture (farmers), fishermen, contracted workers (in craft, food, and other services industries), uncontracted workers (in construction), peddler or street vendor, and producer goods (food and food products, craft, ceramics, producers). The total respondents are 125 people, divided into 5 districts and each district we interview the same groups of workers. Samples are not differentiated based on gender, so the numbers between men and women disproportionately.

We found a high fluctuation in both the income and expenditures (consumption). Different people in different jobs and place of living face different source of income and expenditure fluctuation. The ways they cope with the fluctuation are also specific to each type of job and gender. Beside the usual fluctuation due to seasonal shifts, we have found happenings such as weather and day to day events or celebrations to be a factor in expenditure fluctuation. For example the construction worker may fail to meet the set contract because of heavy rain.

The unexpected shifts are linked to a reduction of income of the producers, contracted and uncontracted workers, and even food vendors and farmers.

The sources of consumption fluctuation are usually more predictable, such as new school year and other religious related celebration. However, the family and extended family member illnesses are unpredictable. The unavailability of the necessary health insurance for these unfortunate families is also a contributor because large sums of money may be needed suddenly. Saving is the answer if income is more than consumption. But, the poor still prefer to save the money at home or buy assets (livestock, jewelry, and audios) rather than going to the local bank.

When the income falls short from consumption, first, our participants chose to borrow money from the neighbor. Next, they sell their assets. Such behavior was observed in all of the regions and with all types of jobs. We observed the recent developments, for example microloans, in the local credit banks and cooperatives such as, have not significantly change the saving behavior of the poor. The study concludes that overall the poor still have lack of access to modern financial institution, either local credit banks, cooperative or any forms of insurances.



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Managing risks

what poor households in Yogyakarta
do to smooth their consumption

| Previous |

- ▶ *The vegetable seller experiences a drop in demand when many moms are busy helping their neighbor to have a party.*

| Right |

- ▶ *Individual green beans porridge seller experiences drop in demand when his customers choose to have different food for breakfast*
- ▶ *Selling noodle on the pedestrian walk. The seller can not use his kiosk for accessing credit*

| Opposite |

- ▶ *Bread sellers receive a set-price margin of the sold bread from the producer*





SARI ROTI

SARI RO

“ According to the worldview of the Altai, every object of nature—the lakes, rivers, streams, mountains, and trees are spiritual masters. Modern Altai continue to “grant” to the spirits coins, food, and cloth ribbons of white, blue, and yellow by leaving a trail in nature. ”

Svetlana Tyukhteneva

**Institute of Anthropology and Ethnology of
Russian Academy of Sciences, Moscow**

The project entitled “Yesterday’s nomads and modern money” was implemented in the Republic of Altai (South Siberia, Russia) in 2009-2010, the focus was on the indigenous inhabitants of the republic - Altai. (Altaians speak the Turkic group of Altaic language family, representatives of the great Mongolian race, religious beliefs are based on modern Altai shamanism, Burkhanism (Altai version Northern Buddhism) and the cult of nature)).

The Altaians are primarily animal breeders. There are various types of animals - sheep, horses and cows, in some places yaks, camels, goats and deer. The modern economy of rural Altaians is based on breeding sheep, cows, horses for their own consumption and for sale to obtain cash.

Since the early 2000’s urban Altai, working in the public sector, use plastic cards. Now even the villagers enjoy the cards.

According to the worldview of the Altai, every object of nature—the lakes, rivers, streams, mountains, and trees are spiritual masters. Modern Altai continue to “grant” to the spirits coins, food, and cloth ribbons of white, blue, and yellow by leaving a trail in nature.

The project showed significant property and social stratification among the Altai. Traditional notions of wealth and poverty (the rich riding on horseback, the poor on foot) have become more complex. Today, wealth comes in the form of traditional livestock—sheep, horses and cows, and in some places yaks, camels, goats and deer—has grown to include many modern objects: mobile phones, televisions and parabolic antennas, cars, tractors and trucks. Actual money is increasingly present, and comes in many forms in the forms: Russian rubles and coins, U.S. dollar and Euros, credit and debit cards, and gold and silver jewelry.

The research’s most unexpected finding was an increasing number of conflicts between people living in one village and one district, based on ownership and land use. Privatization of land, as I understand it, is closely linked with pastoralism. Anyone who has more animals (and, respectively, who is richer), needs more pasture and other lands. The rich also have more resources to bribe officials and documentation on land ownership.



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Yesterday's nomads and modern money



| Previous |

- ▶ *These coins passing through the pass lay people as a gift to the "spirit-master" of the Altai in reverence, as a symbol of obedience to him as an object of worship.*

| Right |

- ▶ *This stone is called in the Altai Kabai tash ("the cradle of stone" / baby bed). Here, hold rituals for childless women.*
- ▶ *Coins placed in a white source of drinking water as a gift to the "spirit-master" in gratitude.*
- ▶ *White horse - the symbol of sacred purity and social values simultaneously. White - color of milk. Horse - friend for Man and his wings.*



| Opposite |

- ▶ *People and land. A woman teaches the rules of conduct in the sacred place where life and human health depends on the "spirit of the host" mineral water source.*





“ We were puzzled by the evidence that Tzeltal and Tzotzil women seemed quite adept at managing money and negotiating in markets, despite the fact that many of them could not read or write. Also intriguing was the fact that both “traditional” and more “modern” financial practices were drawn upon in their daily transactions. ”

Magdalena Villarreal

The Center for Advanced Research and
Postgraduate Studies in Social Anthropology.

Maria Eugenia Santana

Chiapas State University at
San Cristobal de Las Casas

The study is focused on the frameworks of calculation resorted to by indigenous families in a region that is considered one of the poorest in Mexico, and also one with the highest rates of illiteracy.

We were puzzled by the evidence that Tzeltal and Tzotzil women seemed quite adept at managing money and negotiating in markets, despite the fact that many of them could not read or write. Also intriguing was the fact that both “traditional” and more “modern” financial practices were drawn upon in their daily transactions. Systems based on barter and *mano vuelta* (reciprocal hand, wherein people help family and friends in their agricultural plots and their labor is returned when they need it for their own fields), fiestas and different kinds of rituals are quite prevalent, as are those based on money and diverse forms of credit.

We thus set out to document women’s financial practices—including the management of income, the organization of expenditure, and practices regarding credit, loans, investment and saving—seeking to pinpoint the social mechanisms at play in the attribution and calculation of value.

How estimations were made and costs evaluated were of critical importance to our study, which involved participant observation, in depth interviews and life histories as well as a detailed survey.

The “milpa” or corn field, is central to the auto-consumption system that still exists in this region. Barter and *Mano Vuelta* is common in this system. Traditionally, men worked in the fields and women made pottery or sewed and embroidered their family’s clothing, but this has been changing. Money is increasingly indispensable to make do. Women sell their creations to tourists and men engage in wage work or set up greenhouses.

In an effort to curtail poverty, government encouraged the installation of greenhouses for flower cultivation. Land that was previously used for food production is now largely oriented to export and the procurement of money.

The community petitions for rain water during a severe drought. This group paraded into the entrails of a mountain and into a cave where we were told “the ancestors’ souls inhabit”. Inside the cave the indigenous people light candles, they decorate with flowers and pray to ask for rain and favors. Asking for favors involves giving. This ritual is based on reciprocity; they make offerings to receive rain.



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San Cristobal de Las Casas

Indigenous families' financial practices in two municipalities of the highlands of Chiapas, Mexico

| Previous |

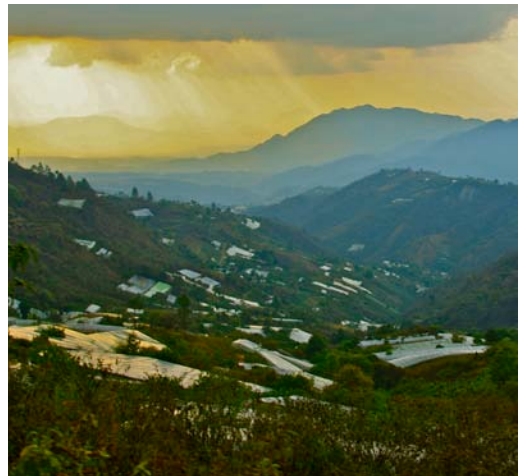
- ▶ *Rezo en cueva* traveling to a cave interior to ask ancestors for rain

| Right |

- ▶ *Tejiendo*: Woman weaving a now historic wedding-dress—wherein bird feathers are woven into the fabric—using old fashioned waist weaving.
- ▶ *Invernaderos en Cerro*: In an effort to curtail poverty, government encouraged the installation of greenhouses for flower cultivation. Land that was previously used for food production is now largely oriented to export and the procurement of money.
- ▶ *Hilando*: Women, however, still use traditional forms of manufacture. This woman is threading wool that is produced in the village.

| Opposite |

- ▶ *Quemando* Traditional ways of working with clay and “baking”. Efforts entail collective endeavors, where men occasionally help





Design principles

The following 11 design principles excerpted from Monetary Ecologies and Repertoires: Research from the Institute for Money, Technology and Financial Inclusion First Annual Report Design Principles, January 2010. The complete report is available at: www.imtfti.uci.edu/imtfti_firstannualreport_design_principles

1. Earmarked income outside of rank

Identify cash stream personalities: Government payments are for school; Remittance money is for houses; Loans are for equipment; Flower money is for extras like cheese and butter.

Create a new cash stream:
Income “for everyone” or income “to be distributed by the patron” in a separate savings product from other cash streams.

2. Design for rank

Identify social and ritual obligations.
Work with people who are nodes in networks of relationships.

Help people save wealth items necessary to support their rank obligations, while saving state currency for their own goals.

3. Flexibility with sanctions

Start with the ritual leader as agent or intermediary for savings. Leverage property held by gods.

Intertwine conventional savings products with ritual savings and credit systems. Work with the ritual sanctions. Help in accruing funds necessary for life course and ritual events.

Model savings rituals on religious rituals.

4. Structured illiquidity

Respect people’s preferences for illiquidity. In contexts where state currencies are weak and banking institutions are fragile, illiquid, non-financial wealth (land, livestock) can matter much more than money.

Illiquidity can be tied to individual, group or religious goals: you can deposit, but a portion of your deposits are withheld until you reach that goal.

Products can be structured in accordance with religious precepts and on ritual calendars. goal structures, such as religious ones.

5. Change iconography, design with local values

Change the iconography of savings and / or state currency itself.

6. Design for convertibility

Create systems that work with, rather than against, different standards of value.

Allow savings accounts in “cattle.” create notional currencies based on herds that can intermingle with state currency in one account.

Encourage the commensuration of cattle or other wealth items with money through iconography calculators or games.

Support people’s use of livestock as a form of savings : often, it makes good sense!

7. Calculate convertibility

Create systems that work with, rather than against, different scales of value.

Create currency exchange calculators with a savings component built-in.

Convert + “keep the change” in a savings account

8. Design for volume, not increment; design for “enough”

People measure in interval scales (one dollar, two dollars). But they also measure in ordinal or categorical scales (“enough” or “not enough”).

Use collective measures like “herds” or volumetric measures like “cups” units within which there may be variability in the number of discrete objects. Design savings “pots” with a different number of discrete units of money within them.

9. Lucky numbers

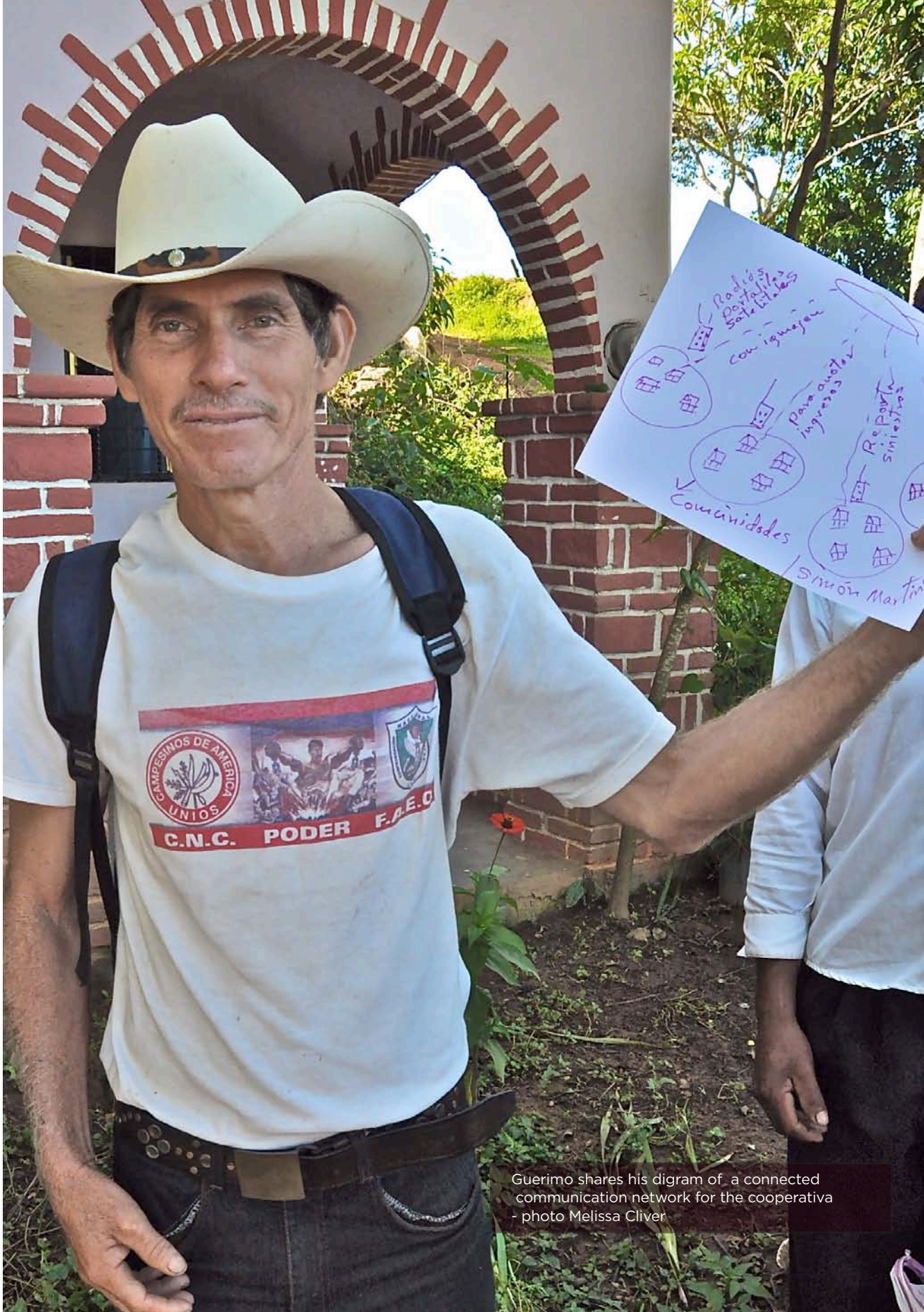
Devise products that exploit these numerologies by helping people save toward a multiple of these special numbers or that spur people to avoid bad numbers.

10. Tranches and tiers

Create a two tiered account: part of savings toward coming year’s celebration, with a percentage sequestered for next year’s celebration.

11. Design for cyclical events

Existing savings are often tied to multiple, intersecting and overlapping temporal cycles - seasons, ritual cycles, religion and the life cycle. Marry savings to these cycles to facilitate savings behavior.



Guerimo shares his digram of a connected communication network for the cooperativa - photo Melissa Cliver

Scott D. Mainwaring

The dominant view of money sees it as a kind of Platonic Ideal, an almost miraculous aether through which capitalism travels, allowing all things of value to be measured (quantified), exchanged (bought and sold), and indeed generated (financed). From this perspective, any Real instantiation of money can only be but a crude approximation to this frictionless, rational, virtuous Ideal; and monetary innovation – the rigorous, progressive exploration and testing of alternatives to current practice – can only be the difficult, never ending, but valorous task of seeking pathways from real toward ideal. This constructs a narrative of monetary progress that stretches from gold and precious metals, to bills and checks, to credit and debit cards, to smart cards and digital wallet-phones, to whatever more efficient, usable, secure solutions the latest technologies will provide. That the new never quite completely replaces the old is seen as just an unfortunate if inevitable resistance to change, to progress; that at any given time different New Moneys coexist, a temporary state of confusion to be eventually and inevitably sorted out in the marketplace.

When I began researching digital money in 2006 for a project within the People and Practices Research group within Intel Labs, I implicitly assumed many aspects of this dominant view. I sought out to explore the future of money and uncover new opportunities for computing technology to improve not just monetary efficiency, security, and usability but all aspects (emotional, cultural, personal) of its “user experience”. In broadly surveying the state of monetary innovation – ranging from the long-lived but self-limiting Ithaca HOURS local currency in upstate New York to Islamic banking and finance and its resistors in North Africa, from smartcard currencies sponsored by airline loyalty programs in Japan to Safaricom’s phenomenally and nationalistically successful m-Pesa mobile money system in Kenya – I saw a rich source of design ideas from which to draw inspiration and insight, and to potentially capture the interest of corporate strategists seeking compelling future “usage models” for mobile computing

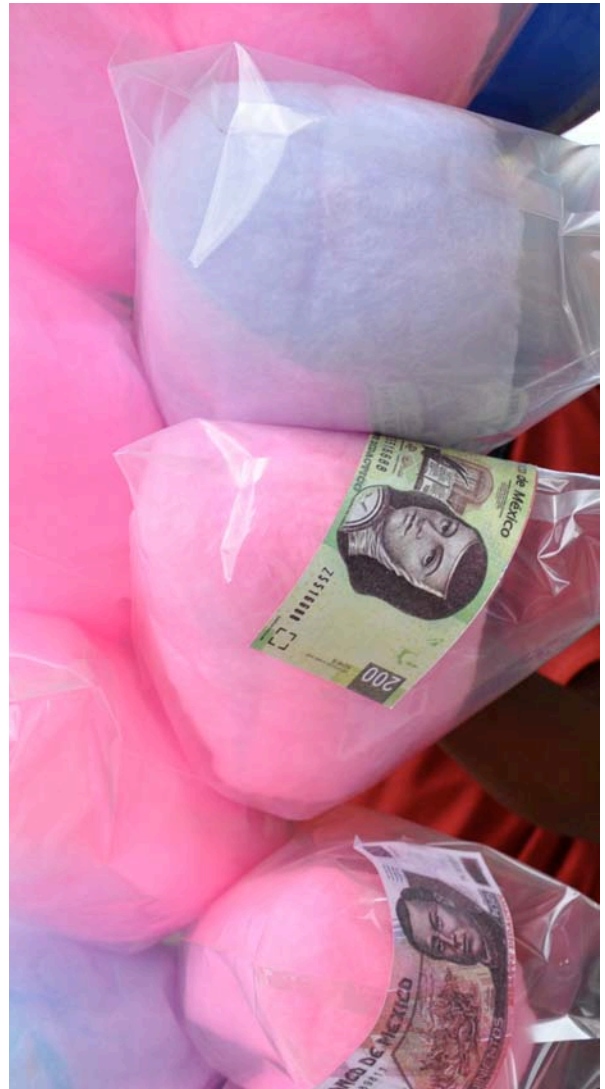
platforms and other technology-based initiatives.

The fieldwork I conducted on these sites of innovation in the service of future technology platforms, and that IMTFI-funded researchers around the developing world conduct on vastly more diverse and challenging sites in the service of financial inclusion, is indeed a valuable source of exactly this kind of inspiration and insight.

But such deliverables in and of themselves do not require a rethinking of the standard view that ultimately denies that there is any real alternative to “real” money – only increasingly better implementations of what money “wants to be”, and increasingly effective ways of transitioning people and societies from “unbanked” to “banked”. For example, my proposal to study alternative currencies, even only as a source of design ideas or an analytic lens on the nature of mainstream currencies, met some resistance when I presented the proposal to management: Wait a minute! Aren’t these fringe activists basically trying to turn back the hard-won achievement of having one rational unified legal currency in the United States? Isn’t this kind of backward-thinking just *wrong* and indeed *offensive*? This was valuable feedback, actually. It was the beginning of my slow realization that alternative money and the possibility (at least in theory) of actual disruptive innovation in this domain *might* pose a substantial, even moral, threat to the orthodox view. I owe my subsequent education on such matters to Bill Maurer, whose ethnography *Mutual Life, Limited: Islamic Banking, Alternative Currencies, Lateral Reason* and a colleagues’ recommendations first lead me to his office at UC Irvine that year to explore our mutual interests. We, and our respective research groups, have been collaborating ever since. I would characterize the understanding of “real” and “alternative” money that we have arrived at as basically opposed to the orthodox prediction of convergence towards one ideal form, seeing the layering of multiple co-existing and co-evolving forms of money and transactions as nothing particularly new nor necessarily a “problem” to be “fixed”.

Along with every other domain of human endeavor, the digital revolution is opening up tremendous and heterogeneous potential in the space of money and finance, so we may be in the midst of particularly interesting and dynamic times in monetary history. This is not to deny that there are powerful forces towards standardization and inter-operability, the worthiness of such goals, or the power of ideas like “real money”, “true value”, “reputable bank”, and “fair exchange” (indeed, for there to be “alternatives” to any of these requires compelling standard forms to exist). But it is to de-privilege them, and to call attention to the necessity for ethnographic and design-oriented investigation – alongside the fundamentally quantitative approaches of econometrics, market analysis, etc. – to even begin to come to terms with how people are driving, adapting, co-opting, or resisting the colliding trajectories of monetary and technological change, and how actually transformative change is or could be happening.

In this regard, IMTFI is leading by example. The basic idea of financial “inclusion”, of reaching out to those excluded from the economic mainstream because of the way interfaces, infrastructures, and business models are designed, by offering them better designs, is not *necessarily* a radical one. But the idea of contributing to the financial inclusion movement through the creation of a global network of ethnographic researchers, linking academia and industry, research and design, students and practitioners, in developing and developed regions is. Of the many innovations underway in money, commerce, and finance, unleashed by pervasive new technologies, IMTFI itself is an ambitious and important alternative to the dominant approach.



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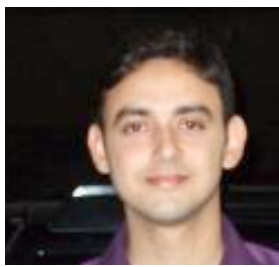
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Additional images

Cover - woman receives additional credits on her mobile phone - Accra, Ghana
-Jan Chipchase

Inside title page - Man holds wallet with spiritual leader
-Jan Chipchase

Contents page - Vendors in Kabul, Afghanistan
-Jan Chipchase

Director's letter page - a safe place in any country
-Ben Lyon

Design principles page - 21st of September Farmer shares his vision for a communication system
-Melissa Cliver

Scott Mainwairing essay pg. - cotton candy and play money sold together by bus stop vender Oaxaca city, Mexico
-Melissa Cliver

Acknowledgements page - man holds coupons for airtime and a phone
-Jan Chipchase

Closing spread 1 - Women from the 21st of September cooperative during a discussion on "savings" Zaragosa, Mexico
-Melissa Cliver

Closing spread - Multitasking in Ahmedabad, India
-Jan Chipchase

Back cover woman uses bottle caps for her jewelry to save on materials Teotitlan, Mexico
- Melissa Cliver

Map Illustration showing the countries of IMTFI researchers - Bill Maurer

Document design and editing

Melissa Cliver and Rudy Yuly



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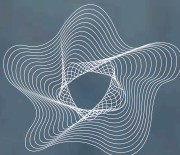




“ I was excited to participate in an interdisciplinary group, united by the concern of financial exclusion. Although my research methodology is largely ethnographic, I learned a great deal from sharing ideas communicated through different sorts of research and data.

I have gained a comparative perspective as well as a greater sense of purpose regarding an applied approach to research on new financial technologies to address pervasive economic exclusion. ”

– Caroline Schuster, IMTFI researcher



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