Interest Bearing Notes **Vol. 19 No. 6**
November 2016

Contents

The next issue of Interest Bearing Notes will appear in January 2017 so please send comments, suggestions (such as your own or others' interesting research), and requests to be added to our distribution list, to Bob Cull (rcull@worldbank.org) by January 6th.

IBN is a product of the Finance and Private Sector Development Team in the World Bank's Development Research Group. Our working papers and descriptions of research projects in progress can be found, along with a list of forthcoming seminars and conferences, on our web page (http://www.worldbank.org/en/research/brief/finance-private-sector).

I What's new on our website

New blog series on financial inclusion and the sustainable development goals
The Consultative Group to Assist the Poor (CGAP) is hosting a new blog series that is an accompaniment to the CGAP and UNSGSA paper "Achieving the Sustainable Development Goals: the Role of Financial Inclusion," written by our own **Leora Klapper** together with **Mayada El-Zoghbi** and **Jake Hess**. The new blog series is

meant to deepen and broaden the discussion started in the paper on how financial inclusion can help achieve the sustainable development goals. Click here to go to the blog.

II World Bank research

Social capital, finance, and household consumption in China

Social capital, often thought of as the accumulated level of trust in a society, has been shown to encourage arm's length contracting and private financial development in developed economies such as Italy (see, e.g., Guiso, Sapienza, and Zingales, AER 2004). Using the 2013 Chinese Household Finance Survey, IBN co-editors **Bob Cull** and **Colin Xu**, together with **Li Gan** and **Nan Gao**, revisit these issues in the context of a major emerging economy. They focus on two measures of social capital, the size of private social networks and membership in the Communist Party, and investigate how they are related to use of formal and informal credit. Their main finding is a strong link between the extent of private social networks, use of informal credit, and household consumption levels. Those links hold when the authors instrument for informal credit using the number of siblings of the household head (and his/her spouse), which summarizes an exogenously determined component of the size of private social networks. In contrast, membership in the Communist Party is not significantly linked to the use of informal credit. Party affiliation does appear to boost consumption levels somewhat, but the regressions indicate that the effect is direct and does not work through credit markets. In short, reliance on private social networks and informal credit arrangements remains crucial for Chinese households, especially in rural areas, whereas the analysis provides no indication that more formal measures of social capital have facilitated arm's length finance as in other country contexts.
http://documents.worldbank.org/curated/en/160891477329772619/Social-capital-finance-and-consumption-evidence-from-a-representative-sample-of-Chinese-households

Savings defaults and payment delays for cash transfers: Evidence from Malawi

In a new field experiment, our own **Xavier Gine**, together with **Lasse Brune**, **Jessica Goldberg**, and **Dean Yang** test different interventions on the timing of cash transfer payments to assess hypotheses on money management among recipient households in Malawi. The authors divided the sample into three groups: one that received payments immediately, another with a one day delay, and one with an eight day delay. They also experiment with depositing cash transfers directly into savings accounts, which leads to higher bank balances for several weeks. However, neither the timing delays nor the savings account defaults lead to changes in spending patterns. While the result that savings defaults matter is consistent with existing literature in behavioral economics, the subsequent result that spending patterns remain unaffected or that the time delays for receiving payments are also unimportant suggest that poor households may be

capable of managing cash without the aid of dedicated financial products. The authors acknowledge the limitation of their experiment in that it studies a one-time transfer, and that other settings may reveal greater value for saving defaults such as helping smooth seasonal income or when habit formation is possible through repeated transfers.
http://documents.worldbank.org/curated/en/248911472655880193/Savings-defaults-and-payment-delays-for-cash-transfers-field-experimental-evidence-from-Malawi

The maturity of corporate borrowing across the globe
Using a comprehensive database on firms' corporate bond and syndicated loan issuances from 1991 to 2014, **Juan Jose Cortina-Lorente**, **Tatiana Didier**, and **Sergio Schmukler** study the evolution of maturities on long-term debt instruments across markets. Their data comprise nearly 300,000 bond issuances and 200,000 syndicated loan issuances, all with an original maturity of at least a year, from 83,370 listed and non-listed firms. Use of these debt instruments has grown tremendously since 1991, at four times the rate of GDP in both developed and developing countries. Unlike studies based on balance sheet data, which provide only a rough classification of maturities on debt (greater than or less than a year), the issuance data used in this study gives a much clearer picture of how maturities have changed and how issuers use different markets in response to changing conditions. For example, although maturities declined for each type of debt during the global financial crisis, borrowers were able to maintain the same level of average maturity by shifting from syndicated loans to bonds, which tend to have longer maturities. Borrowers from developing countries also shifted toward domestic loans because those, too, tend to carry longer maturities than syndicated loans. However, the results indicate that it was only the largest firms that were able to substitute effectively across debt markets during the crisis. Smaller issuing firms may have been displaced by larger firms, thus decreasing their average maturities, while small non-issuers had no access to the debt markets that might have enabled them to maintain their average maturities. Still, beyond the recent studies of U.S. listed firms, this is the first paper to provide evidence of firm-level debt substitution when firms with a positive demand for finance are hit by a supply-side shock,
http://documents.worldbank.org/curated/en/693621473341481743/How-long-is-the-maturity-of-corporate-borrowing-evidence-from-bond-and-loan-issuances-across-markets

Can email messages help to increase tax revenue from non-filing firms?
Low income countries have significantly lower tax revenue as a percentage of GDP than high income countries, despite similar tax rates. This tax revenue gap is thus largely due to a lack of compliance in low income countries. The existing literature has mostly studied how to improve compliance by getting informal firms to register or

by preventing underreporting among tax filers, finding these issues difficult to address. A new paper by **Anne Brockmeyer**, **Marco Hernandez**, **Stewart Kettle**, and **Spencer Smith** focuses instead on the issue of non-filing. The authors report on a randomized experiment in Costa Rica, where about 25% of tax-registered firms do not file their income tax declaration. About 50,000 of these non-filers took part in an experiment where they were randomly assigned to a control group and to two treatment groups that received email messages from the tax authority urging them to file their tax declaration. The content of these messages varied across the two treatment groups, depending on whether third party information was available on the firms or not. Administrative data from the tax authority show that firms in the treatment groups where three times more likely to file a tax declaration than firms in the control group. However, many of these firms declared zero tax liability, so that only a small share actually paid taxes. The percentage of firms that actually paid taxes more than doubled in the treatment group compared to the control group, but it still remained below 6% among firms with third party information and below 1% among firms without third party information. The authors estimate that the return to sending an email in terms of tax dollars collected was U$19 for firms with third-party information and only US$0.39 for firms without this information.
http://documents.worldbank.org/curated/en/660661475679714942/Casting-the-tax-net-wider-experimental-evidence-from-Costa-Rica

III "FYI": Our eclectic guide to recent research of interest

Can peer group meetings and peer text messages increase savings?
Felipe Kast, **Stephan Meier**, and **Dina Pomeranz** conducted two randomized experiments in Chile to study whether self-help peer groups and peer-related text messages can increase savings. As part of the first experiment, about 2,700 low-income microcredit clients were randomly assigned to one of three groups: 1) a control group where individuals were offered the opportunity to open a basic savings account at commercial bank, 2) a “peer group” treatment where individuals were offered a basic account and also had the option to set and publicly announce their savings goals, which were monitored in weekly meetings, and 3) a “high interest” treatment where participants were offered a savings account with a 5% real interest rate instead of the 0.3% rate on the basic account. Administrative data from the commercial bank show that individuals in the peer group treatment were more likely to deposit money into their savings account and their average savings balance was almost twice as high as that of the control group. The high interest rate treatment had a smaller positive effect on savings that is, for the most part, not statistically significant. The second experiment was conducted one year later. About 900 of the original study participants were randomly assigned to one of three groups: 1) a “peer pressure” group that received weekly text messages with feedback from a real-life

savings buddy who was regularly informed about the performance of the participant, 2) a “peer information” group that received weekly text messages with information about savings by others, and 3) a control group that did not receive any text messages. Both treatments led to more deposits and savings compared to the control group and the size of these effects is similar in both groups. This finding suggests that text messages can replicate the effects of peer groups and they also have the advantage of being more scalable and implementable in different settings.
http://www.hbs.edu/faculty/Publication%20Files/12-060_8c16f5e7-6fa1-48cc-858d-bba5f12c28ba.pdf

Seeding the S-curve? The role of early adopters in diffusion
Christian Catalini and **Catherine Tucker** report on a unique experiment on technology diffusion of mobile money performed on MIT undergraduate students. The mobile currency, Bitcoin, was introduced to students in randomized waves with some natural early adopters having to wait for the technology, while some natural late adopters received the currency early. Natural tendencies for adoption were measured by students’ eagerness to sign up for the waitlist for Bitcoin, and were correlated with other individual characteristics of early and late adopters. The authors find that if natural adopters are randomly delayed, they are more likely to reject the technology and cash out of the currency with US dollars. Moreover, this effect is more profound in situations where natural early adopters can easily observe others who are not natural early adopters using the technology. There are also negative spillovers with dorm-mates and social circles who additionally reject the technology. These results suggest that small changes in the initial availability of a technology can have important implications for its success and that ignoring the value of distinctiveness among natural early adopters is counterproductive.
http://www.nber.org/papers/w22596

Intellectual property rights matter for innovation, even in China
The role of formal versus informal institutions in China’s development has long been a subject of academic interest and dispute. A new avenue for exploring these issues is to examine the extent to which intellectual property rights (IPR), a prime example of formal institutional arrangements, affect innovation. **Lily Fang**, **Josh Lerner**, and **Chaopeng Wu** examine whether firm ownership structures augment the effects of IPR on innovation using data from all publicly-listed firms and all others in the Annual Survey of Industrial Firms, the most comprehensive firm-level dataset available on Chinese industrial firms. They rely on a survey-based prefecture level IPR index published by the Chinese Academy of Social Sciences (CASS) from 2002 to 2011, which exhibits substantial regional and time-series variation. Since they think the IPR index is itself subject to reverse causality, they identify the effects of IPR by looking at the sample of privatized firms. Controlling for firm fixed effects, they

argue that the change in ownership and its interaction with the IPR index is the cleanest way to identify the causal effect of IPR regimes on innovation. To further support this argument, they provide evidence that the government's privatization program significantly preceded its emphasis on innovation (i.e., by half a decade or so). Their main finding is that innovation increased several-fold after privatizations, and this increase was especially pronounced where regional IPR scores were higher. The results thus indicate that formal institutions have played a crucial role in spurring innovation over the last decade in China.
http://www.nber.org/papers/w22685.pdf

The long shadow of a botched fiscal expansion
In November 2008, in the midst of the global financial crisis, China announced a 4 trillion Yuan fiscal stimulus package to be spent in the next two years. It was widely applauded by international agencies and pundits such as Paul Krugman. Yet there has been little serious analysis of the effects of the stimulus package to date. **Chong-En Bai**, **Cheng-Tai Hsieh**, and **Zheng Michael Song** conduct a timely analysis that shows that this package likely has done China long-term (and possibly permanent) harm. Lacking a reliable dataset to explore these issues, their first task was to pull together data from many sources in order to piece together a coherent picture. They show that the majority of the 4 trillion Yuan was spent in the next two years, but that the bulk of the spending was not coordinated by the central government. Rather, local governments were the main implementers due a policy change that allowed them to borrow on a large scale. Specifically, local governments were allowed to use "local financing vehicles" or off-balance sheet companies that borrowed and spent on behalf of local governments. The reform of the late 1990s took away local governments' power to influence the credit allocations of state-owned banks operating branches in their locations, and thus these new financing instruments resulted in rapid increases in lending to politically connected firms. The authors go on to show that dispersion in the average product of capital across firms increased dramatically after the crisis. Their paper can therefore help account for several facts including lower growth and productivity, but higher investment rates among firms. One of the most sobering conclusions is that local governments seemed to have made these local financing vehicles permanent, maintaining their spending at the same high levels after the stimulus package ran out in 2010. The patterns do not augur well for China's future growth (and the world economy).
http://www.nber.org/papers/w22801.pdf

IV Upcoming events and miscellanea

Calls for papers

The **6th MoFIR Workshop on Banking** will take place in London on June 15-16, 2017. It is organized by the Money and Finance Research Group (MoFIR) together with the Bank of England and the European Bank for Reconstruction and Development (EBRD). Scholars in the fields of banking and finance will meet to discuss current issues in banking, financial stability, and financial regulation, focusing on policy reforms for a stable global financial environment. The deadline for submitting a paper is January 31, 2017. More details are posted here.

De Nederlandsche Bank, The European Banking Center (Tilburg University) and CEPR invite submissions for a conference on **Avoiding and Resolving Banking Crises** that will take place April 20-21, 2017 at De Nederlandsche Bank in Amsterdam. Stijn Claessens, U.S. Federal Reserve Board, is among the keynote speakers. Papers on various aspects of future and past bank resolutions throughout the world will be considered, though a substantial part of the discussion will focus on whether and how the Single Resolution Mechanism (SRM) will provide for more efficient future resolution of banks in the Eurozone. The deadline for submission is December 15, 2016. For more details visit the conference website: https://www.tilburguniversity.edu/research/institutes-and-research-groups/ebc/events/show/event-ebc-avoiding-resolving-banking-crises/

The European Financial Management Association will hold its **26th Annual Meeting** at Deree-The American College of Greece in Athens, June 28-July 1, 2017. Professor William Goetzmann, Yale School of Management, will be the keynote speaker. Papers in all areas of finance are encouraged and the deadline for submission is January 15, 2017. For more information visit the conference website: http://www.efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2017-Athens/2017%20meetings.php

A review of Ken Rogoff's The Curse of Cash by Jerry Caprio

Your founding editor highly recommends Ken Rogoff's latest work (The Curse of Cash, Princeton University Press, 2016), where he advocates the phasing out of all larger denomination currency, maintaining for the foreseeable future small denomination notes (so a less cash society, not a cashless one). This radical proposal offers several key advantages. First, it would discourage tax evasion and other crime, including illegal immigration attracted by low-paying, 'off-the-books' jobs. Electronic payments create an electronic trail, which those evading the law will avoid. As Ken notes, even if illegal activities contract by only a few percent of GDP, the savings will far exceed the cost to the government in the loss of seignorage revenue. Although central banks might resist change due to this loss, for government overall it would be a net gain (just think of the economic costs of dealing with crime, let alone the lost tax revenue). Second, paper currency is a barrier to reducing interest rates below zero, so getting rid of larger currency notes will make it easier for central banks to use expansionary policy and end the 'zero lower bound' problem. And the move to a less cash society is happening: in Sweden, home to the first banknotes in the 17th century, cash accounts for only 2% of transactions and many banks do not even keep cash on hand nor do they accept it. Ken merely wants to accelerate this trend, to reap the gains sooner.

While the benefits to high-income countries are clear, what about their poorer counterparts? In many low-income countries, the largest denomination currency is only equivalent to a few dollars, with much illegal activity in foreign currency. If $20 and larger denomination bills (and their equivalent in dollars, Euro, yen, etc.) were eliminated, some underground activity in low income countries could come into the official economy, and since their underground economies are much larger, as a percentage of official GDP, the gains could be significant. If the main non-electronic way to make payments were to be in the form of low-value currency notes and coins, mobile money and other electronic means of transactions would grow even faster. These payment tools offer the advantages of greater security (than dealing in cash and coin), and as appears to be the case in Kenya, promote financial inclusion. Some government push will be needed (e.g. ensuring low cost debit cards or cheap mobile costs) to achieve these gains. At the same time, in light of the difficulties in India with demonetizing larger bills (even though the two bills in question are only equivalent roughly to $15 and $7.50), Ken presciently recommends a very gradual process unfolding over 10 years or more, and his focus is on bills of $100, $50 and eventually $20 bills.
http://press.princeton.edu/titles/10798.html

Happy reading!

Your editors Miriam Bruhn (mbruhn@worldbank.org), Bob Cull (rcull@worldbank.org), Colin Xu (lxu1@worldbank.org), and Bilal Zia (bzia@worldbank.org)