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The next issue of Interest Bearing Notes will appear in March 2019 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 (mailto: rcull@worldbank.org) by March 8th.

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

Can bank capital substitute for supervision and oversight?
A blog post by our own **Asli Demirguc-Kunt**, **Deniz Anginer**, and **Davide Salvatore Mare** discusses how the relationship between bank capital and systemic risk varies with a country's bank supervision, regulation and information availability. A key insight, coming from their recent paper, is that the link between capital and systemic risk is weaker in countries with institutions that foster effective public and private monitoring of banks. This finding suggests that capital can substitute for oversight in reducing systemic fragility.
http://blogs.worldbank.org/allaboutfinance/can-bank-capital-substitute-supervision-and-oversight

II World Bank research

Helping firms realize the benefits of (partial) formalization
Our own **David McKenzie**, together with **Francisco Campos** and **Markus Goldstein**, conducted a randomized experiment in Malawi to learn more about how governments can bring

small firms into the formal system. Malawi, like much of Africa, separates registration of the business name (which gives the firm a business registration certificate), from registration for taxes. Many of the purported benefits of becoming formal only require business registration, such as opening a business bank account, registering land, and accessing government programs. David and co-authors randomly divided 3,002 informal firms into a control group and three treatment groups: (i) costless registration for the business registration certificate (ii) costless registration for the business registration certificate, as well as for a tax-payer identification number, and (iii) costless registration for the business registration certificate, along with an invitation to information sessions at a bank where business bank accounts were offered. Results from four follow-up surveys show that all three treatments led to a more than 50 percentage point increase in business registration, and almost no change in tax registration. The benefits of formalizing did not come automatically to firms who received treatment 1 or 2. Only an additional 1 to 2 percent of these firms set up business bank accounts, with no significant impact on their profits or sales. In contrast, adding the bank information sessions enabled many more firms to get business bank accounts in treatment 3 (a 39-percentage point increase). This in turn helped the firms grow, with sales growing 20 percent and profits 15 percent.
http://documents.worldbank.org/curated/en/880711538673183990/How-Should-the-Government-Bring-Small-Firms-into-the-Formal-System-Experimental-Evidence-from-Malawi

Gross capital flows by banks, corporates, and sovereigns

Combining data from several publicly available sources, **Stefan Avdjiev**, **Bryan Hardy**, **Sebnem Kalemli-Ozcan**, and **Luis Serven** construct a new comprehensive dataset of gross capital inflows (for 85 countries) and outflows (for 31 countries) from 1996 to 2014. The large number of developing countries and emerging markets in the sample are a major improvement over standard sources and the quarterly frequency of the data make it easier to study the relationship between capital flows and the business cycle. The authors then de-compose debt flows by type (to/from banks, corporates, or sovereigns) since those flows are generally the largest component of total capital flows. Some patterns are unsurprising. For example, during domestic downturns, capital inflows to domestic banks and corporates decline in all countries and vice versa during expansions. But the authors go on to pinpoint that the procyclicality of capital inflows is due to the procyclicality of private sector capital inflows since advanced country sovereign inflows are a-cyclical and emerging countries' sovereign inflows behave countercyclically. The decomposition also shows that capital outflows are procyclical only for advanced country banks and emerging country sovereigns. This implies that during expansions banks in advanced countries invest more abroad and retrench during contractions. Similarly, the procyclicality of emerging markets' sovereign outflows indicates that those governments accumulate reserves during booms and run them down during downturns. Importantly, this implies domestic private agents do not bring investment back to their own countries during downturns in emerging markets, and thus only sovereigns provide the needed risk sharing. In advanced economy downturns, banks bring money back to their home countries to smooth credit flows during the bust period. Overall, the decomposition highlights the importance of separating capital flows by type of borrower and lender to better understand their effects and the risks they may pose for the borrowing and lending countries.
http://documents.worldbank.org/curated/en/277751531244010849/Gross-capital-flows-by-banks-corporates-and-sovereigns

Not(ch) your average tax system: Corporate taxation under weak enforcement
Our own **Pierre Bachas**, together with **Mauricio Soto** study how developing countries tax corporate income with data from Costa Rica. The authors take advantage of the country's corporate tax design and rich administrative data to estimate the elasticity of corporate profits with respect to the tax rate and separate these estimates for revenues and costs. Specifically, they take advantage of the large variation in average tax rates as a function of marginal changes in firms' revenue to estimate behavioral responses to taxes. They find that two-thirds of firms' responses to higher tax rates are explained by increases in reported costs. Given these results, the paper uses tax system simulations to generate the finding that broadening the tax base while lowering the rate can generate tax revenue gains of up to 80%. Finally, the authors show that the main determinant of the revenue elasticity is tax evasion.
http://documents.worldbank.org/curated/en/174111531402052903/Not-ch-your-average-tax-system-corporate-taxation-under-weak-enforcement

The long-term impact of the Taiping Rebellion
How do civil wars shape a country's development? And what are the underlying mechanisms? IBN co-editor **Colin Xu** and **Li Yang** add to the literature on civil wars by examining the long-term consequences of the Taiping Rebellion, which lasted from 1851 to 1864 and entailed roughly 70 million casualties, making it the largest civil war in human history. To account for the potential endogeneity of where the rebellion took hold, the authors use longitude as an instrument for Taiping-dominated areas since that variable is correlated with the war strategy of the rebellion leaders and is reflective of Taiping's initial naval strength. Using prefecture-level panel data, the authors find that, one and half centuries later, population increases from pre-war levels remain 38-67 percent lower in areas affected by the rebellion. In addition, population recovery was faster in the rebellion areas that featured better land property rights, and in areas at a shorter distance from the rebellion capital (due perhaps to a stronger desire to hold that territory for a long time in order exploit resources as stationary bandits). Furthermore, areas that were affected by the rebellion have, on average, greater current fiscal capacity and economies characterized by more modern sectors (such as manufacturing and services). The authors therefore contend that the effects of the rebellion worked through two channels: the aforementioned stationary banditry, and the wartime strengthening of fiscal capacity in rebellion areas. Their analysis also shows evidence of complementarity between wartime state capacity and the quality of current local institutions, and of the long-term benefits of fiscal decentralization in a large country.
http://documents.worldbank.org/curated/en/970791540230641485/Stationary-Bandits-State-Capacity-and-the-Malthusian-Transition-The-Lasting-Impact-of-the-Taiping-Rebellion

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

Spillover effects of a debit card rollout in Mexico
Sean Higgins studies the effects of giving debit cards to the existing beneficiaries of a large conditional cash transfer program in Mexico (Prospera). Sean's identification strategy relies on the staggered rollout of these cards across different localities. He combines different administrative and confidential datasets to look at spillover effects on firms, as well as consumers who did not receive debit cards through the program. Results show that the rollout significantly increased the number of corner stores with point-of-sale (POS) terminals to accept

card payments, with no such effect among supermarkets, which already had high levels of POS adoption. Other consumers responded to the increase in POS terminals by increasing their adoption of debit cards: two years after the rollout, 28% more consumers (excluding Prospera beneficiaries) had debit cards. The adoption of POS terminals by small retailers also affected the consumption behavior of consumers who did not directly receive a card from Prospera. The richest quintile of all consumers— who were substantially more likely to have cards before the shock—substituted about 12% of their total supermarket consumption to corner stores. Overall, Sean estimates that nearly half of the consumer gains from the rollout are spillovers to existing card holders and to non-beneficiaries who adopt cards because of the shock. There was no aggregate gain to producers, as increased corner store sales were accompanied by decreased supermarket sales.
https://seankhiggins.com/assets/pdf/higgins_jmp.pdf

Move a little closer? Information sharing and the spatial clustering of bank branches
Shusen Qi, **Ralph De Haas**, **Steven Ongena**, and **Stefan Straetmans** document branching patterns in the U.S. and Europe from 2001 to 2014 showing that banks increasingly clustered together, closing branches in sparsely populated areas while opening new ones in economically vibrant areas. They then develop a spatial oligopoly model to explain branch clustering behavior and to develop testable hypotheses about the effect of information sharing on clustering. Borrowers prefer to seek credit in areas where there are multiple competing branches, but this lowers banks' lending rates and profit margins. In making branching decisions, banks thus balance the increase in market size tied to branch clustering against the price-cutting effects linked to greater competition. Formal information sharing (through public credit registries or private credit bureaus) relaxes information asymmetries tied to geographical distance between lenders and borrowers. In short, banks can lend to more distant borrowers when they can credibly share hard information about loan applicants. Using branching data from 22 Eastern European countries from 1995 to 2002, the authors confirm that the introduction of formal information sharing had a strong positive effect on branch clustering. Specifically, banks opened new branches in localities where they were not operating but where other banks were already present. In line with their theoretical predictions, they also show that information sharing did enable firms to borrow from more distant banks.
https://www.ebrd.com/publications/working-papers/move-a-little-closer

The creation and evolution of entrepreneurial public markets
Shai Bernstein, **Abhishek Dev**, and **Josh Lerner** study the creation and evolution of second-tier stock exchanges around the world, which are geared towards entrepreneurial companies. The authors use novel data to document the proliferation of such stock exchanges in a vast number of countries worldwide. They also show that these exchanges attract a significant volume of global IPOs, were introduced fairly cyclically, and have lower listing requirements than first-tier exchanges. The analysis further shows that shareholder protection strongly predicts the success of such exchanges, and that second-tier exchanges in countries with better shareholder protection allowed younger, less profitable, and fast-growing companies to access capital. These results reinforce the importance of institutions in enabling the provision of entrepreneurial capital to young companies.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3303419

Social proximity and bureaucratic performance
Is it a good idea to assign bureaucrats to locations where they have strong personal connections (such as their birthplace)? Throughout Chinese history, for example, it had been a rule that bureaucrats were not assigned to the province in which they were born. **Guo Xu**, **Marianne Bertrand**, and **Robin Burgess** examine this issue using a long panel summarizing the assignment and performance of bureaucrats under The Indian Administrative Service. The pros of assigning bureaucrats to places where they have local connections stem from access to local information and networks, while the cons relate to the potential for local capture. They go on to link assignment to a place with strong social connections (a "home assignment") to subjective and objective performance measures. To address the potential endogeneity of home assignment, they first provide institutional evidence that it was related to the pool size of annual candidates from a location-caste cell. They then use a dummy variable indicating whether a candidate was the only one from a particular cell as their instrument for home assignment. Their evidence indicates that home-assigned bureaucrats are perceived to be more corrupt and less able to withstand illegitimate political pressure. Moreover, they are more likely to be promoted as they become more senior, likely due to the tendency of incoming top administrators in a location to selectively promote home-assigned officers.
http://www.nber.org/papers/w25389

IV Upcoming events and miscellanea

Calls for papers

The 2019 **Comparative Analysis of Enterprise Data (CAED) Conference** will take place in Ann Arbor, Michigan, on May 17-19, 2019. The conference promotes scientific research using enterprise microdata on a variety of topics and from different (and inter) disciplinary approaches. Keynote speakers include Eric Bartelsman (Tinbergen Institute), John Haltiwanger (University of Maryland), and Nina Pavcnik (Dartmouth College). The deadline for submitting either a full paper or an extended abstract is approaching fast: January 31, 2019. More information is posted here.

2019 Northern Finance Association Conference
The Northern Finance Association is holding its 31st annual conference September 13-15 at the Vancouver Marriott Pinnacle Downtown Hotel. Papers on any topic related to finance will be considered, as long as they have not already been accepted for publication in a journal. The conference will have Campbell Harvey as its keynote speaker and will include a special FinTech panel on September 13th. The deadline for submissions is March 23, 2019 which should be submitted electronically at https://www.openconf.org/nfa2019. Conference registration will open by mid-May, 2019. Registration and hotel booking details will be available at https://northernfinanceassociation.org/conference.

2019 Red Rock Finance Conference
The finance department at Brigham Young University (BYU) is organizing a three-day conference in Springdale, Utah next to Zion National Park on September 12-14, 2019. Papers on any topic related to finance will be considered. The deadline for submissions is midnight PST on March 23, 2019. Outside of the formal research sessions, conference participants will have time

each day to explore the beauty of Zion Canyon and surrounding areas through a variety of professionally guided outdoor activities. More information on the conference and activities, as well as the paper submission link, can be found at: http://redrockconference.byu.edu.

Happy reading!

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