Interest Bearing Notes **Vol. 20 No. 2**

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

Effective business training for Kenyan women

Our own **David McKenzie**, together with **Susana Porto**, provide exciting new evidence from a cost-effective business training program that lifted the incomes of female microenterprise owners in Kenya without harming their competitors. For the full policy note, see:

http://documents.worldbank.org/curated/en/364401488865513851/Business-training-for-female-microenterprise-owners-in-Kenya-grew-their-firms-without-harming-their-competitors

II World Bank research

Experimental evidence on the return to additional labor in microenterprises
Most firms in developing countries have no paid workers. Our own **David McKenzie**, together with **Suresh de Mel** and **Christopher Woodruff** conducted a study in Sri Lanka to determine whether hiring workers would benefit such firms. The study covered 536 male-owned microenterprises, 286 of which were randomly selected in to a control group and 250 into a treatment group. Treatment group microenterprise owners were offered a wage subsidy for approximately half the cost of an unskilled worker during six months, with an additional two months of subsidy at half this amount. If firms are constrained from hiring workers because it takes time to train them to become productive, or because it is costly to search for and identify good workers then this short-term subsidy could lead to long-term increases in employment. The study began in 2008 with two baseline surveys. Ten follow-up surveys were conducted during the years 2009 through 2014, making it possible to trace out effects of the wage subsidy over time. Only 11% of microenterprises in the study had a paid worker at baseline. About 24% of treatment enterprises took the subsidy to hire a worker, resulting in an increase in employment during the subsidy period. However, once the subsidy ended, firms fired some workers, others quit, and there was no long-term impact on employment. In fact, some control group firms also hired workers and in the last survey rounds about 30% of firms in both groups had paid workers. The subsidy had no impact on profitability or sales, but it increased firm survival after four years by about 6 percentage points (relative to a survival rate of about 80% in the control group). Overall, the results suggest that the labor market functions with modest frictions for firms in the study and that hiring frictions are not the main constraint to their growth.
http://documents.worldbank.org/curated/en/635781482172997729/Labor-drops-experimental-evidence-on-the-return-to-additional-labor-in-microenterprises

Agent banking in the Democratic Republic of Congo
Together with **Sven Harten** and **Anca Bogdana Rusu**, our own **Bob Cull** and **Xavi Gine** analyze drivers of the number and volume of financial transactions through the agent network of FINCA DRC, one of the largest microfinance providers in the Democratic Republic of Congo. Agents are owners of small-scale retail businesses that also provide banking services. Using the agent's point of sale (POS) device, a client can make transfers to other FINCA accounts, do withdrawals, repay loans, or make deposits into an account. Because agents are often located closer to clients and generally have shorter queues than formal FINCA branches, they can be a convenient alternative for performing basic financial transactions. While agent characteristics

such as age are significantly linked to more transactions, market characteristics explain the lion's share of variation in transactions across FINCA DRC agents. Specifically, the number and volume of transactions are higher in relatively low-income, densely populated areas with high levels of commercial activity. This suggests that agents might be best at supporting financial transactions among the urban poor, who tend to have fewer sources for financial services than those in wealthier market segments. There is also some evidence that transactions increase as agents become better at liquidity management and branding (e.g., through signage).
http://documents.worldbank.org/curated/en/722441488208513171/Agent-banking-in-a-highly-under-developed-financial-sector-evidence-from-the-Democratic-Republic-of-Congo

Financial information in Colombia
In a new paper, our own **Xavier Gine**, together with **Nidia Garcia**, and **Jose Gomez-Gonzalez** follow the protocols in Gine and Mazer (2017) to assess the quality of information that financial institutions in Colombia provide to potential customers seeking savings and credit products as well as the adequacy of products that are offered. The research design involved trained auditors visiting financial institutions seeking to acquire loans or savings products. Exogenous variation was introduced through differing scripts that involved auditors seeking different account types (transaction vs investment accounts), different leverage percentages on loans, and exhibiting different financial sophistication and awareness of competing products. The authors develop a transparency index which measures the accuracy and extent of information provided by financial institution staff, and find the levels to be fairly low. Specifically, the authors find that staff provided auditors enough information to allow them to apply for a loan or to open a savings account, but that very little voluntary information about the costs of the respective products was provided. Moreover, the auditors were provided with too little information to make meaningful comparisons across products. These findings are in line with the earlier work presented in Gine and Mazer (2017).
http://documents.worldbank.org/curated/en/921961488894400509/Financial-information-in-Colombia

Foreign banks and trade: Bridging the information gap?
Francesca de Nicola and **Shawn W. Tan** investigate the relationship between the presence of foreign bank branches from 180 countries and the exports to those countries from 26 sub-regions in Turkey from 2002 to 2010. Because few firms use foreign banks to finance trade, the authors argue that Turkey provides a good setting to identify the informational role that foreign banks play in promoting exports (assessing the potential profitability of a product in their home market, providing

general information about export market conditions). Focusing on a single country also helps control for institutional, legal, and political conditions that contribute to differences in exports in cross-country studies. In their gravity model, they control for standard variables such as the size of the target market and that of the sub-region and the distance between the two, but also for measures of financial development in the sub-region to net out the pure financing contribution of banks to trade. Their main finding is that the share of bank branches in a sub-region from a specific target market is strongly associated with greater exports to that country, which held even during the global financial crisis. By their own admission, the authors cannot fully resolve concerns about the potential endogeneity of their financial development variables, which are based on the ratio of total credit to the level of economic activity in a sub-region. Still, the patterns suggest that, beyond the direct financing of trade, foreign banks may provide valuable information that spurs exports. At the least, this seems a topic worthy of study in other contexts.
http://documents.worldbank.org/curated/en/758541487079872870/Foreign-banks-and-trade-bridging-the-information-gap

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

How to enhance the effect of basic business training on sales and profits?
Impact evaluations of business training programs that are administered in a classroom setting have typically found little impact of these courses on business sales or profits. **Jeanne Lafortune**, **Julio Riutort**, and **José Tessada** study whether these impacts can be enhanced by adding complementary interventions to a standard business training program. They conducted a randomized experiment with about 1,500 entrepreneurs in Chile who all participated in basic business training. Some participants were randomly assigned to receive augmented versions of the program. First, some classes received a visit from a role model who had completed the training in the past and had since been successful in their businesses. Second, some entrepreneurs were taught part of the curriculum through one-on-one coaching sessions instead of in a group setting. The authors randomly selected whether one-on-one sessions took place at the class location or at the entrepreneur's business. Follow-up data was collected during the last class and then via a phone survey about one year after the training. The results show no significant effects on business sales or profits at the end of the course. In contrast, one year later, the complementary interventions led to increased sales and profits, but the effects are larger and only statistically significant for the groups that received the role model or one-on-one coaching at their business (i.e. not coaching at the class location). Given the relatively high cost of providing coaching at the business, the authors conclude that role models are particularly cost-effective. Further analysis suggests that role models did not improve knowledge or use of business practices but rather increased motivation and worked

best when similar to the participant. Also, the role models appear to have particularly helped those with a young business while more experienced and more educated entrepreneurs benefited more significantly from the one-on-one coaching.
http://mit-neudc.scripts.mit.edu/2016/wp-content/uploads/2016/03/paper_545.pdf

Soft skills to pay the bills: Evidence from female garment workers
A new paper by **Achyuta Adhvaryu**, **Namrata Kala**, and **Anant Nyshadham** assesses the impact of a long-term soft skills training program among female garment workers in India. The training involved teaching skills related to allocating time and money effectively, teamwork, leadership, relationship management, acquiring and assimilating information, and was delivered over 11 months. Through a randomized control design, the study evaluates the labor productivity, retention, and profitability consequences for firms of the training program. Treated workers are less likely to leave during the program, and exhibit substantially higher productivity up to nine months after program completion. This leads to being assigned to more complex tasks and a greater likelihood of promotion. Treated workers are also more likely to enroll in workplace skill development and production incentive programs. The study also explicitly measures spillover effects within production teams and finds such spillovers in productivity are substantial and persistent. In terms of cost-benefit, the authors conduct simple back-of-the-envelope calculations and conclude that teaching soft skills in the workplace can be profitable for firms even in high labor turnover environments.
http://mit-neudc.scripts.mit.edu/2016/wp-content/uploads/2016/03/paper_597.pdf

Why do firms invest in research?
Why do for-profit firms engage in research when so much of scientific knowledge is a public good? While many theories have been advanced, such as the need to absorb and then adapt outside research, to attract talented researchers and inventors, and to signal firm quality, there has been little empirical research on the topic. **Ashish Arora**, **Sharon Belenzon**, and **Lia Sheer** use data on the published papers and patents of roughly 5,000 publicly-listed firms in the U.S. to address this question. Their basic empirical approach is to link a firm's inventive activities in a year to its use of its own research papers published in the previous year, after controlling for other covariates and firm fixed effects. The firm's use of its own papers is measured as the number of citations to the firm's published papers in its own patents. They try a number of specifications, including instrumental variables approaches, and find robust evidence that firms that use their own research more tend to engage in more research. Moreover, they show that if a firm's research is used heavily by its rivals, it engages in less research. Finally, research that is internally used is valued more as reflected in a higher Tobin's Q ratio for the firm.
http://www.nber.org/papers/w23187.pdf

The rise of American ingenuity
A key insight from the endogenous growth literature is that innovation and technological progress drive long-run economic growth. To test this insight and also to examine the history of American innovation, **Ufuk Akcigit**, **John Grigsby**, and **Tom Nicholas** combine a comprehensive data set of U.S. patents, unique data on regional economic performance (covering more than a century from 1880 to early this century), and data on the labor income and personal characteristics of inventors. They find that innovation (measured as patents per 10,000 people) is strongly positively related to state-level growth. Using the U.S. Office of Scientific Research and Development (OSRD) contracts for technological developments during World War II as an instrument for innovation, they find suggestive evidence that the effect of innovation on state-level growth is causal. Increasing innovation intensity four-fold (or slightly more than two standard deviations) would increase the cumulative growth rate over a century by thirty percent. They also find that innovation is more likely in regions with high population density, better transportation, and better access to finance (as proxied by deposits per capita). Increasingly, overall innovation is also associated with better social mobility and lower income inequality at the state level. Finally, inventors tend to be highly educated, delay their marriages, migrate to more innovative locations, and earn significantly higher labor income.
http://www.nber.org/papers/w23047.pdf

IV Upcoming events and miscellanea

Calls for papers

FDIC/JFSR 17th Annual Bank Research Conference
The U.S. Federal Deposit Insurance Corporation Center for Financial Research and the Journal of Financial Services Research (JFSR) invite submissions for their annual fall research conference, which will be held in Arlington, VA September 7-8, 2017. Papers are sought on a wide range of topics including deposit insurance, financial sector performance, risk measurement, systemic risk and financial system resilience, and the interaction between regulation and the cost and availability of credit. Organizers are also seeking papers for a special session on technical aspects of regulatory capital and liquidity requirements under Basel III. Papers selected for presentation may also be invited for submission to the JFSR. The deadline for submitting a paper to the conference is June 19, 2017.
https://www.fdic.gov/bank/analytical/cfr/bank_research_conference/annual-17th/17th-brc-notice.html

2017 KFUPM Islamic Banking and Finance Research Conference
The King Fahd University of Petroleum and Minerals’ College of Industrial

Management and the Center of Research Excellence for Islamic Banking and Finance are sponsoring their Islamic Banking and Finance Research Conference, to be held in Riyadh, Saudi Arabia November 19-20, 2017. The deadline for paper submissions is June 15, 2017 and the Journal of Corporate Finance will publish a selection of the papers in a special issue. Mark Flannery will be the keynote speaker. See the conference website for additional details.
http://cim.kfupm.edu.sa/ibf2017/index.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)