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The next issue of Interest Bearing Notes will appear in November 2018 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 November 9th.

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

What drives the costs of financial intermediation around the world?
A recent blog post by **Pietro Calice** and **Nan Zhou** summarizes the findings from their paper that investigates the determinants of bank net interest margins – used as a proxy for financial intermediation costs – in 160 countries using a panel of more than 14,000 banks during 2005-14. The post highlights, for example, that financial intermediation costs are especially high in Latin America and the Caribbean and in Sub-Saharan Africa. It concludes with policy recommendations for lowering the costs of financial intermediation.
http://blogs.worldbank.org/allaboutfinance/benchmarking-costs-financial-intermediation-around-world

II World Bank research

Can government intervention make firms more investment-ready?

Our own **David McKenzie**, together with **Ana Paula Cusolito** and **Ernest Dautovic**, study the effect of an investment readiness program for innovative start-ups and small and medium-size enterprises (SMEs). They report on the results of a five-country randomized experiment in Croatia, Kosovo, Macedonia, Montenegro and Serbia where 346 SMEs were divided into a treatment and a control group. The treatment group received a high-cost and intensive program that involved help developing firms' financial plans, product pitch, market strategy, and willingness to take equity financing, along with master classes, mentoring, and other assistance. The control group received access to an inexpensive online-only basic investment readiness course. After the program, both groups of firms competed in a pitch event, where they were scored by independent judges (blinded to treatment status) on their investment readiness, with the top 50 firms going onto a finals stage where they pitched to investors. Treatment group firms received investment readiness scores 0.3 standard deviations higher than control group firms at this event and were more likely to be selected to pitch in front of investors. David and his co-authors tracked firm outcomes over the next two years via two follow-up surveys, and through measuring firms' subsequent media mentions and social media attention. Treatment group firms received significantly more media attention than control group firms and were 5 percentage points more likely to receive external financing, although this increase was not statistically significant (95 confidence interval of -4.7 to +14.7 percentage points). The authors conclude that although the program led to substantial changes in investment readiness, this increased readiness translated into smaller changes in actual investment outcomes.
http://documents.worldbank.org/curated/en/453261533567046459/Can-government-intervention-make-firms-more-investment-ready-a-randomized-experiment-in-the-Western-Balkans

Who are America's star firms?

Recent research has shown that some firms are generating extraordinary returns and pulling away from the rest of the U.S. economy. Their emergence has coincided with the introduction of technologies that signal a structural shift toward a more intangible-intensive economy. As such, concerns about the market power these firms enjoy and systemic problems and disruptions they impose on the rest of the economy have become increasingly common. Our own **Asli Demirguc-Kunt**, together with **Meghana Ayyagari** and **Vojislav Maksimovic**, use Compustat data from publicly listed firms to investigate who these star performers are, what they produce, and how they generate such high returns. They do find a widening gap between star performers and other firms in terms of returns on invested capital (ROIC). But conventional returns measures do not account for intangible capital, which star performers have in abundance. Once the appropriate adjustments for intangible capital are made, the gap between stars and others shrinks and shows no trend over time. Stars tend to come from industries that rely on a labor force possessing complex cognitive skills and they tend to have more market power than other firms, as reflected in higher operating markups. At the same time, market power is not the key driver since a large proportion of star firms do not have higher markups, and star firms in general do not cut their output any less than other firms with the same markups in response to economic conditions. Nor are the extraordinary returns of star firms linked significantly to industry concentration or high market shares. So why all the fuss in the press about the disruption caused by star firms? Asli,

Meghana, and Max argue that it's a handful of firms (Amazon, Facebook, Google, Apple and Microsoft) that are driving the concerns. They do have supernormal returns, but it's not due solely to their markups, which are high, but not overly so (near the 90th percentile for the sample). Rather, the policy challenges arise because they may be following strategies that involve holding markups and profits below their short run maximum values and growing quickly in order to dominate their industries in the long run.
http://documents.worldbank.org/curated/en/109791531501183455/Who-are-Americas-star-firms

Decentralized delivery of financial education: Evidence from a country-wide field experiment
One of our co-editors, **Bilal Zia**, together with **Emmanuel Hakizimfura** and **Douglas Randall** study the impact of a country-wide financial education program targeted at Savings and Credit Cooperative Association (SACCO) members in Rwanda through a field experiment. The study provided training to SACCO representatives in Kigali who were then tasked with providing financial education to their members. The study tests two variations in the delivery of this training-of-trainers (ToT) model: first, one-third of SACCOs, randomly selected, were invited to the ToT workshop and stipulated to send the SACCO manager, a loan officer, and a board member to be trained. Second, another one-third were invited to the same workshop but allowed free selection of trainers. The remaining third were the control group. The results show significant differences in outcomes depending on slight variations in delivery channel. Specifically, the authors find that the autonomous selection model resulted in significantly more community members and fewer loan officers being trained as trainers. Within a year, these trainers successfully disseminated content to 68,000 households, with higher session attendance compared to the fixed selection group. Analysis from follow-up surveys finds stark differences in behavior change: recipients in the autonomous selection group show significant improvements in financial attitudes, grasp of rules of thumb, and planning, as well as budgeting and savings behaviors. In contrast, recipients in the fixed selection group show no significant improvements on any of the outcome measures. These results suggest that financial education can be successfully decentralized at scale, however, small differences in local leadership structure that tap into different aspects of the local capacity to deliver can have meaningful impacts on the success of the program.
http://documents.worldbank.org/curated/en/757641531332170199/Decentralized-delivery-of-financial-education-evidence-from-a-country-wide-field-experiment

Productivity shocks and repayment behavior in rural credit markets: A framed field experiment
In a new paper, **Guigonan Serge Adjognon**, **Lenis Saweda Liverpool-Tasie**, and **Robert Shupp** study the contribution of productivity shocks to the repayment behavior of borrowers through a framed field experiment in Nigeria. The experiment simulated a repeated interaction in an input market and finds strong evidence that negative productivity shocks do lead to higher default rates, even in the absence of negative returns. These findings are unaffected by availability and exchange of information, for example through a credit bureau. The authors connect these findings to recent phenomena in agricultural markets where climate change is resulting in negative productivity shocks. They argue that such shocks can exacerbate failures in rural credit markets and undermine efforts to develop inclusive financial solutions for poor farmers.

http://documents.worldbank.org/curated/en/126251531409559719/Productivity-shocks-and-repayment-behavior-in-rural-credit-markets-a-framed-field-experiment

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

When does advice impact startup performance?

Aaron Chatterji, **Solène Delecourt**, **Sharique Hasan** and **Rembrand Koning** study whether advice on people management received from peers influences startup performance. In a field experiment, the authors randomized 100 growth-stage startup founders into pairs during an executive retreat in Mysore, India. During the event, the paired founders advised each other on management and growth strategy for two days. Before the retreat, the authors conducted a baseline survey that measured how active or passive each founder was in the management of his or her startup, creating a peer management index. Active management involves consistently setting goals, providing feedback, and coordinating employees across various tasks. Passive managers take a more laissez-faire approach to management where they rarely direct, meet or coordinate with their employees. The authors collected follow-up data on startup growth and survival two years after the retreat from online sources, such as company websites, social media (Facebook, Twitter), and social network platform profiles (LinkedIn, AngelList, Crunchbase). Results show that founders who were randomized to a peer who was one standard deviation higher on the peer management index (moving from engaging in management activities monthly to weekly) had 28% more employees and were 10 percentage points more likely to have survived two years later. In contrast, founders paired with passive managers were more likely to fail, and those who survived grew more slowly. Since there is no comparison group that was not paired with a peer, it's not clear whether the net effect of peer advice is positive or negative. However, founders with an MBA degree or incubator/accelerator experience were significantly less affected by peer advice, suggesting that formal training may be a substitute for informal peer counsel.
http://www.nber.org/papers/w24789

Financial development and industrial pollution

In a fascinating new paper, **Ralph De Haas** and **Alexander Popov** use a large panel data set of countries and industries from 1974 to 2013 to study the relationship between financial development and industrial pollution. Their main findings are that credit market development is associated with higher levels of CO2 emissions per capita, while stock market development is associated with lower emissions levels. When further analyzing the impact of financial development on industries that pollute more for intrinsic technological reasons, they use a difference in differences approach to show that such industries emit more carbon dioxide in countries with larger credit markets. Their analysis of sectoral patenting data also confirms that deeper stock markets (credit markets) are associated with more (less) green innovation in traditionally polluting industries. Ralph and Alexander point to a number of reasons for these patterns: banks may fear that funding newer, cleaner technologies may erode the value of collateral that underlies existing loans associated with "dirtier" technologies; banks many find it harder to fund technologies involving assets that are intangible, firm-specific and linked to human capital (and thus difficult to redeploy elsewhere); banks may lack the skills necessary to assess green technologies in the early stages of adoption; and finally, banks typically operate with a time horizon shorter than equity investors, and thus their loans may not be of sufficient

maturities to finance green investments. Regular IBN readers will remember our research and conferences on the effects of financial structure. These results suggest that the nature of intermediation in banks versus markets has a direct effect on pollution levels and the propensity to finance green innovation.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3204976

Elites in authoritarian countries
How are top leadership positions filled in countries such as Sub-Saharan African nations and North Korea? North Korea, for example, is notoriously opaque in terms of how top leaders are selected and changed. **Adlai Newson** and **Francesco Trebbi** offer a methodological summary of recent papers that sheds light on this important topic, since such countries account for a quite a large share of the world economy and population. They survey evidence showing that the conventional wisdom that "winners take all" (i.e., the top leader's faction takes all key jobs and most rents) is wrong. In Sub-Saharan African countries, for example, ethnic proportionality (as measured by each ethnicity's share in top government positions) is more balanced than in many democratic countries, perhaps because in the latter case leaders do not fear coups. They also offer a case study of China, showing how one can use information from government officials' CVs to describe political factions, and then summarize different factions' representation in top jobs. They go on to offer suggestive evidence that factions do, in fact, constrain the discretion of the top leader in allocating top political positions in China. They then offer a detailed analysis of North Korea by using information on the number of appearances of political leaders in state propaganda, showing how changes in appearance patterns (particularly in terms of co-appearances with the top leader) can signal changes in the composition of governmental elites.
http://www.nber.org/papers/w24966

Sexism and American women: The role of norms vs. discrimination
How does sexism affect American women? How do we distinguish the role of norms from actual discrimination? Using multiple large datasets, **Kerwin Kofi Charles**, **Jonathan Guryan**, and **Jessica Pan** offer clever ways to begin answering these questions. Sexism variables come from the General Social Survey on attitudes and beliefs on women's place in society (based on reactions to statements such as "women should take care of running their home and leave running the country up to men"). Individual-level answers are aggregated to derive state-level indicators of sexism. Two types of sexism are distinguished: background sexism (which is associated with a woman's birthplace) and residential sexism (which summarizes discrimination and associated behavioral patterns in day-to-day life). Background sexism measures are intended to summarize the influence of internalized norms. Residential sexism for the male sample is used to capture tendencies to discriminate, while for the female sample residential sexism measures are drawn from proxies reflecting norms that influence women's social behaviors (e.g., the age at which to get married and have children). Both background and residential sexism measures are found to lower women's wages and reduce their labor market participation rates, and lead them to marry and have children earlier, indicating strong influences of both social norms and prevailing discrimination against women on economic outcomes and family life.
http://www.nber.org/papers/w24904

IV Upcoming events and miscellanea

The Centre for Advanced Financial Research and Learning (CAFRAL) invites submissions for its second annual conference on the *"Financial System and Macroeconomy in Emerging Economies,"* which will take place in Mumbai, India on December 10 and December 11, 2018. The organizers especially welcome papers that examine national and global issues surrounding macroeconomic, financial and policy linkages between emerging and developed economies. The conference will provide round-trip airfare for presenters and discussants as well as pay for their local expenses (including hotel), but the deadline for submission of papers is nearly upon us, September 30, 2018.
http://cafral.org.in/ResearchNominationForm.aspx?id=%7b0056-0108-0148-0228-0246-0192-0225-0256-0289-0320-0353-0384-0417-0448-0481-0512-0545-0576-0609-0640%7d

Registration for the "Seventh Wharton Conference on Liquidity and Financial Fragility" closes on September 30th. The conference will be held October 12th and 13th in Philadelphia. To view the program, click: https://whartonliquidity.org/2018-conference/2018-conference-program/
To register for the conference, click: http://bit.ly/2018LiquidityConferenceRegistration

Happy reading!

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