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The next issue of Interest Bearing Notes will appear in November 2016 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 4th.

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

Improving the impact of financial education
IBN co-editor **Bilal Zia** was recently featured in the World Bank Research Digest for his work with **Fenella Carpena**, **Shawn Cole**, and **Jeremy Shapiro** on improving

financial education programs. In it, they argue that programs can have greater impact if they address behavioral impediments through goal setting and personalized counseling. Bilal's article (on p. 6) is part of a special issue of the Digest on behavioral economics.
http://documents.worldbank.org/curated/en/850821467992049436/pdf/Research-Digest-Spring-2016.pdf

II World Bank research

The role of subsidy in the microfinance business model

Our own **Bob Cull** and **Asli Demirguc-Kunt** team up with **Jonathan Morduch** to assess the importance of subsidized funding for the sustainability of microfinance institutions (MFIs). Using data from 930 MFIs that were jointly serving 80 million customers in 2009, they show that the vast majority were profitable in an accounting sense (simply whether revenues cover costs). But a substantial share of the funding received by many MFIs comes in the form of donations or loans charging below-market interest rates, and once the authors take account of the opportunity costs of capital using the local prime interest rate, they find that only about one-third of the institutions in their sample are economically profitable. By calculating the difference between the market rate of capital and what the microfinance institutions actually paid, they go on to develop measures of the subsidies they received on their funding. Less commercially oriented MFIs, such as NGO MFIs, tend to make smaller loans to poorer borrowers and their costs tend to be commensurately higher per dollar lent. Not surprisingly, therefore, subsidies per dollar lent are also higher for NGO MFIs. However, the range in subsidy per dollar lent across MFI types is relatively narrow, while their average loan sizes vary widely (with more commercially oriented, for-profit institutions making substantially larger loans), and thus subsidies per borrower tend to be small for NGO microfinance institutions. Subsidies also tend to be smaller for institutions that lend more to female customers, and their allocation is persistent over time. The patterns suggest that subsidy is unlikely to be allocated toward MFIs with the clienteles that might have the greatest needs for microcredit (poorer borrowers and women). More generally, the analysis reveals that subsidies remain an important element of the microfinance business model, thus underlining the importance of pursuing new ways to change the cost structure faced by most microfinance institutions such as digital payments and mobile money.
http://documents.worldbank.org/curated/en/404501470669620154/The-microfinance-business-model-enduring-subsidy-and-modest-profit

Pathways to profits: Identifying separate channels of small firm growth through business training

In a new working paper, **Stephen Anderson**, **Rajesh Chandy**, and IBN co-

editor **Bilal Zia**, differentiate the impact of improved marketing and finance skills for entrepreneurs and their small businesses. The paper poses the following research questions: Do those with better marketing skills run their businesses differently than those with better finance skills and if so, how? Secondly, who is helped most by improvements in marketing skills relative to finance skills? The authors conducted a randomized experiment in South Africa where small and medium enterprises were allocated to receive marketing or finance training or no training at all. Their analysis shows that the marketing group achieves greater profits relative to the control group by adopting a growth focus on higher sales, greater investments in stock and materials, and hiring more employees. In contrast, the finance group achieves similar profit gains but through an efficiency focus on lower costs. Both groups show significantly higher adoption of business practices related to their respective training program. Consistent with a growth focus, marketing/sales skills are significantly more beneficial to firm owners who ex ante have less exposure to different business contexts. In contrast and in line with an efficiency focus, entrepreneurs who have been running more established businesses prior to training benefit significantly more from finance/accounting skills. These results provide new insight on the design and effectiveness of business training programs where different aspects of how to run a business are emphasized, and provide guidance on how best to design and target such interventions to maximize benefit.
http://documents.worldbank.org/curated/en/932291469740775507/Pathways-to-profits-identifying-separate-channels-of-small-firm-growth-through-business-training

Markets, contracts, and uncertainty in a groundwater economy
Our own **Xavier Gine**, together with **Hanan Jacoby**, develop and test a structural model of groundwater transactions to understand how uncertainty about payoffs due to unpredictable changes in water levels during the dry season affect decisions to buy and sell under different contract structures. The authors use detailed micro-level data from India to estimate the parameters of the model, and find that contract distortions have a sizable impact on the amount of area irrigated especially among small farmers. Also, the aforementioned uncertainty about contracts in groundwater markets and payoffs attenuates the benefits of water saving technologies that are heavily promoted in the region.
http://documents.worldbank.org/curated/en/2016/06/26437790/markets-contracts-uncertainty-groundwater-economy?cid=DEC_PolicyResearchEN_D_INT

Firm financing and growth in the Arab region
Juan Jose Cortina Lorente, **Soha Ismail**, and **Sergio Schmukler** use a comprehensive transaction-level data set on equity, corporate bonds, and syndicated loans in domestic and international markets from 1991 to 2014 from 96 countries to describe how funds are raised by firms in the Arab region and compare it with

issuance activity in the rest of the world. In a region typically characterized as having thin bank-based financial markets, it might come as a surprise that the amount of funds raised via equity and syndicated loan issuance compares reasonably well with that of other regions (as a share of GDP), though bond issuance, while growing, still lags that of other regions. The number of issuing firms has also risen substantially, indicating expansion at the extensive margin whereas issuance gains in other regions were predominantly on the intensive margin. Within the region, they also find that growth of assets and employees is swifter for issuers than non-issuers. While some of this is no doubt attributable to non-random selection since issuers are larger ex ante, the size gap widens over time suggesting that these forms of finance enable issuers to grow more quickly than other firms. In short, while there is still much to do in the Arab region in terms of financial market development Â– the number of issuing firms remains small, while debt financing predominantly takes place in international markets and is denominated largely in foreign currency, which makes these economies more prone to external shocks Â– there are signs of progress.
http://documents.worldbank.org/curated/en/2016/07/26584763/firm-financing-growth-arab-region

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

Banking the unbanked? Evidence from three countries
A new paper by **Pascaline Dupas**, **Dean Karlan**, **Jonathan Robinson**, and **Diego Ubfal** studies the impact of expanding access to basic bank accounts in Malawi, Uganda, and Chile, where the percentage of households with an account at a financial institution is about 16%, 28%, and 63%, respectively. In each country the authors started with a sample of about 2,000 households who live close enough to existing banks to potentially use them, but who had not opened accounts on their own (presumably due to financial or other barriers). The authors then randomly selected half of each sample and offered this treatment group assistance with filling out the paperwork required to open an account, as well as waived account opening and maintenance fees. The rate of account opening among treatment households was 69% in Malawi and 54% in Uganda, but only 17% in Chile. A much smaller percentage actually used the accounts: within two years after the intervention, 10% of households made at least five deposits in Malawi, 17% in Uganda, and just 3% in Chile. The amounts deposited by these few households were quite high, but they translate into low effects on average savings in the overall sample. Estimation results show that monthly deposits into formal financial institutions increased by about 0.5% of monthly income in Malawi and 2.0% in Uganda (with no significant effect in Chile). About half of this increase appears to come from shifting informal savings into bank accounts, with the other half representing an increase in overall savings. The effect on overall savings is so small that it is not statistically significant. The authors conclude

that the basic accounts offered through their experiments did not produce beneficial treatment effects on average for unbanked households in any of the three countries. Additional evidence suggests that households in Malawi and Uganda did not use the accounts more because they did not have enough money to save. In Chile, on the other hand, households report having no need to save which is consistent with the existence of a generous social safety net and ubiquitous store credit.
http://www.nber.org/papers/w22463

Does mentoring improve business performance? Evidence from Kenya
Wyatt Brooks, **Kevin Donovan**, and **Terence R. Johnson** investigate the effect of mentoring on microenterprise performance and how this effect compares to that of classroom business training. They conducted an experiment in Kenya where 372 young, female-operated businesses were randomly assigned into one of three groups: access to a local, successful female business owner (a "mentor"), free entrance into a standard business training program, and a control group that received neither. With small cash payments, they incentivized four meetings between mentors and mentees over the course of a month with no continued support for additional interaction. Data from repeated follow-up surveys show that, over the twelve months following treatment, the mentor treatment increased weekly profits by 20 percent on average, compared to the control group. Business training, on the other hand, had no effect on profits. When examining how mentoring increased profits the authors find that it helped businesses find low cost suppliers. Mentees are nearly 40 percent more likely to have switched suppliers after treatment compared to the control group and their average inventory costs are 18 percent lower. These findings suggest that small businesses benefit from context-specific information. The business training provided through their experiment may thus not have worked since the information provided in class was too general in nature. Further analysis shows that the effect of mentoring on profits peaks at 4 to 7 months after treatment and then goes to zero at 12 months. This result appears to be due to a combination of substantial churn in suppliers and the dissolution of matches over time.
http://kevindonovan.weebly.com/uploads/8/7/0/2/8702484/dandora_web_current.pdf

The economic impact of universities around the world
The literature on human capital and development is vast, yet few studies have examined the impact of universities, and none has done this around the world. **Anna Valero** and **John Van Reenen** aim to fill this void. They compile a new regional-level data set for about 1,500 regions across 78 countries from 1950 to 2010. They then estimate how lagged changes in university density affects changes in GDP per capita, holding constant country-level controls, region-level controls, and the initial level of development, and incorporating country-specific time trends. They also conduct a series of sensitivity checks such as using region-specific time trends, de-

emphasizing outliers, and using regional population weights. Their base results suggest that doubling university density is associated with four percent higher future GDP per capita. Moreover, they find strong neighbor effectsÂ— with a neighbor being defined either as the nearest region or as all other regions within the country. They further provide evidence that the key channels through which universities affect GDP per capita are human capital development and greater innovation. Interestingly, greater university density is also associated with stronger support for democracy. The paper thus implies that the explosion of universities in the past century has contributed significantly to the rapid increase in the standard of living around the world.
http://www.nber.org/papers/w22501.pdf

CEO personality and corporate decision making
An increasing number of economists are incorporating psychological constructs in their research. One widely-accepted construct is the Big Five framework that measures personality using five traits: agreeableness, conscientiousness, extroversion, neuroticism, and openness to experiences. Because it is cumbersome and costly to apply the framework using survey instruments, little research has been done linking CEO personality traits to corporate outcomes. **Ian Gow**, **Steven Kaplan**, **David Larcker**, and **Anastasia Zakolyukina** overcome this hurdle ingeniously: they use transcripts from conference calls and apply linguistic analysis techniques to construct the Big Five measures. In particular, they count words for a number of specific indicators including thanks (e.g., 'thank you,' 'you're welcome'), vague quantifiers ('a load of,' 'a lot of'), qualifiers ('arguably,' 'as a whole'), generalizations ('all that stuff,' 'almost'), negative emotions ('adverse,' 'absurd'), agreement ('agree,' 'thanks'), and markers of cognitive processes ('admitting,' 'except'). They then aggregate these linguistic measures into indices for each of the Big Five traits and link those indices to corporate decisions. They find openness is positively associated with R&D intensity yet negatively with net leverage. Conscientiousness is negatively associated with growth, while extroversion is negatively associated with current and future returns on assets and cash flows. They do point out that these associations are just that, associations, and no causality should be inferred. But the patterns are certainly thought provoking and the paper is likely to be influential since it opens up an "easy" way to measure the Big Five traits.
http://www.nber.org/papers/w22435.pdf

IV Upcoming events and miscellanea

Mid-Atlantic Research Conference in Finance
The Twelfth Annual Mid-Atlantic Research Conference in Finance (MARC) will take place at the Villanova School of Business (Villanova, PA) on March 17, 2017. The deadline for submitting a paper is December 16, 2016. Papers in all areas of finance will be considered. Possible session topics include corporate finance, investments,

market microstructure, derivatives, international finance, financial institutions, corporate governance, and socially responsible investing. For more information and to submit a paper, go to:
http://www1.villanova.edu/villanova/business/newsevents/calendar/marc.html

Global banking: Recent developments and insights from research
Stijn Claessen's paper on recent developments in global banking is now coming out in the Review of Finance and is available for download on the journa's website (click here). The paper discusses how global banking has changed in the wake of the global financial crisis and highlights new challenges for policymakers and supervisors.

Happy reading!

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