Interest Bearing Notes **Vol. 19, No. 1**

January 2016

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The next issue of Interest Bearing Notes will appear in March 2016. 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

The Global Findex data and saving for a rainy day

The 2014 version of the Global Findex data is sparking interest in how the poor in developing countries amass savings. Our own **Leora Klapper** is widely quoted in a two-part series that recently appeared in the Guardian. In part 1, the focus is on Findex responses indicating that most households could amass sizable funds to meet emergencies, but largely by relying on informal savings sources.
http://www.theguardian.com/visa-partner-zone/2015/dec/21/alternative-savings-

philippines-world-bank-global-findex

In part 2, the focus is on how Kenyan matriarchs use the mobile phone-based money transfer service M-Pesa to redistribute remittances across their networks of family and friends.
http://www.theguardian.com/visa-partner-zone/2015/dec/28/saving-for-a-rainy-day-in-alternative-ways-part-2

While the examples in the series highlight the financial ingenuity of poor households, Leora argues that many of these arrangements could be better tailored to meet their needs, both in terms of security and convenience.

II World Bank research

The long-term impacts of international migration: Evidence from a lottery
Income differences between developed and developing countries are vast: in 2014, GDP per capita in high-income OECD countries was 9 times that in middle-income countries, and 68 times the per capita income in low-income countries. The existing literature therefore shows migrants can gain some, but not all, of the income gap between countries upon migration from a poorer to a richer country. A key question is whether they are then able to gain more of this gap over time? Income gains may increase over time as migrants assimilate and gain new skills. But a competing hypothesis is that the gains may weaken over time if migrants have given up occupations at home that had growing income trajectories to work in occupations abroad that offer higher immediate incomes but less prospects for career growth. Our own **David McKenzie**, together with **John Gibson**, **Halahingano Rohorua**, and **Steven Stillman**, shed light on this issue by comparing immigrants who had successful ballot entries in a migration lottery program, and first moved almost a decade ago (from Tonga to New Zealand), with people who had unsuccessful entries in those same ballots. The results show a long-term gain in income that is similar in magnitude to the gain in the first year, despite migrants upgrading their education and changing their locations and occupations. Nevertheless, since the initial gains in income are so enormous, migrants derive very large lasting benefits from migration. They continue to earn almost 300 percent more than non-migrants, have better mental health, live in households with more than 250 percent higher expenditure, own more vehicles, and have more durable assets. The authors estimate a conservative lifetime gain to migration of about US$237,000 in net present value terms. These gains seem to accrue mostly to the migrant and their immediate family who accompany them, with little significant measureable impact of this migration on extended family remaining in Tonga.

http://documents.worldbank.org/curated/en/2015/11/25467812/long-term-impacts-international-migration-evidence-lottery

The impact of the global financial crisis on firms' capital structure

Our own **Asli Demirguc-Kunt**, **Sole Martinez**, and **Thierry Tressel** use Orbis data from 277,000 firms in 79 countries from 2004 to 2011 to study how their capital structures changed through the crisis and beyond. During a crisis, uncertainty and risk rise and expected returns decline, and thus both lenders and borrowers may become reluctant to pursue long-term funding arrangements to finance investment. And indeed, on average the authors find that firms' leverage and debt maturity declined both in advanced and developing countries, even in those countries that did not experience a crisis. However, the interplay of firm and country characteristics had a strong influence on the size of those declines. They were steeper among privately owned firms, particularly small and medium-sized firms, in countries with poorer financial infrastructure – meaning less efficient bankruptcy procedures, weaker credit information sharing mechanisms, and less developed banking systems (in part because of more stringent restrictions on bank entry). In contrast, there is little evidence of substantial declines in debt ratios and debt maturity for firms listed on a stock exchange, likely because they tend to be larger than other firms and have easier access to capital market financing. Overall, the evidence suggests that policies that improve financial infrastructure could help mitigate crisis-induced declines in leverage and debt maturity for smaller private firms that rely heavily on banks for financing.
http://documents.worldbank.org/curated/en/2015/12/25705513/impact-global-financial-crisis-firms-capital-structure

How does long-term finance affect economic volatility?

In a somewhat related paper, **Asli** teams up with **Bálint Horváth** and **Harry Huizinga** to study how access to long-term debt affects the volatility of firm growth. They rely on a firm-level growth volatility variable based on accounting data and an asset return volatility variable from stock market data for firms from 76 countries from 1995 to 2013. To address selection problems associated with less volatile firms being able to attract more long-term debt, they follow the well-known Rajan/Zingales approach, relying on the ratio of long-term to total debt for U.S. economic sectors as a measure of each sector's inherent need for long-term finance. The working assumption is that the U.S. market is closest to the frictionless ideal for long-term debt. The sectoral long-term debt preference variable is then interacted with country-level measures of financial development which proxy for the availability of long-term debt finance in firm volatility regressions. The significant negative coefficient for that interaction provides a strong indication that, for firms in sectors with greater demand for long-term debt, the availability of long-term debt reduces their growth volatility. This could be because the availability of long-term finance mitigates liquidity risks

associated with continually having to roll over short-term debt. However, the results also indicate that institutional development can reduce the adverse effects of short-term debt. In countries with less long-term finance, growth volatility is shown to be lower if accounting standards are high and legal institutions that support credit contract enforcement and insolvency resolution are effective.
http://documents.worldbank.org/curated/en/2016/01/25801185/long-term-finance-affect-economic-volatility

Psychometrics as a tool to improve screening and access to credit
Small and medium enterprises (SMEs) often face greater credit constraints than large firms because they lack audited financial statements and other information about their operations, and as a result, financial institutions have difficulties assessing the risk of lending to them. Comprehensive credit bureaus where lenders share information have been shown to increase credit to SMEs. However, not all countries have credit bureaus and where bureaus exist, the information they provide may be limited. The Entrepreneurial Finance Lab (EFL) has developed an alternative credit information tool, based on psychometrics, which can potentially be used by lenders to better screen loan applicants. IBN co-editor **Miriam Bruhn**, together with **Irani Arráiz** and **Rodolfo Stucchi** examine the effectiveness of this tool in the context of a pilot exercise conducted by the fifth-largest commercial bank in Peru. The authors obtained monthly administrative data from the Superintendencia de Banca y Seguros which allows them to compare debt accrual and repayment behavior patterns across entrepreneurs who were offered a loan based on the traditional credit-scoring method versus the EFL tool. The results show that EFL's psychometric credit application can screen out high credit risk entrepreneurs from a pool of applicants who already have a credit history and who were accepted based on their traditional credit score. When used as a tool to find loan applicants with low credit risk among a pool of entrepreneurs who have a credit history and who have been rejected based on this history, the EFL tool has limited power and could even lead to an increase in portfolio risk. In other words, with respect to portfolio risk, the EFL tool does well in complementing existing credit history information, but not in replacing it. For loan applicants who do not have a credit history, the results suggest that the EFL tool can increase their use of credit without increasing portfolio risk.
http://documents.worldbank.org/curated/en/2015/12/25516966/psychometrics-tool-improve-screening-access-credit

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

Learning entrepreneurship from other entrepreneurs?
A new paper by **Luigi Guiso**, **Luigi Pistaferri**, and **Fabiano Schivardi** investigates whether selection into entrepreneurship and entrepreneurial success are affected by

learning opportunities. While individuals can potentially learn how to become an entrepreneur and how to be a successful one in a variety of ways (e.g., from parents, friends, schools, etc.) and at different stages of their life cycle, the authors look at one specific channel: learning from one's environment during formative years (adolescence). They use data from Italy to test whether the firm density in the location where individuals grew up predicts the choice of becoming an entrepreneur and their subsequent performance as an entrepreneur. The results show that individuals who grew up in areas with high firm density are more likely to become entrepreneurs when they are adults, controlling for firm density in their current location. Conditional on becoming an entrepreneur, individuals who grew up in areas with high firm density are also more likely to be successful entrepreneurs, as measured by business income or firm productivity. Strikingly, the firm density at an entrepreneur's young age is more important than current firm density for business performance. The findings hold when controlling for measures of access to external finance in the market where the firm is located and where the individual grew up, and for having parents who are entrepreneurs themselves. The authors conclude that their results are consistent with entrepreneurial capabilities being at least partly learnable through social contacts. In keeping with this interpretation, the authors also find that entrepreneurs who at the age of 18 lived in areas with a higher firm density tend to adopt better managerial practices later in life.
http://www.nber.org/papers/w21775

Where has all the skewness in U.S. productivity growth gone?
Can researchers reliably measure business dynamism in the U.S.? **Ryan Decker**, **John Haltiwanger**, **Ron S. Jarmin**, and **Javier Miranda** offer a new approach that uses the Census Bureau's Longitudinal Business Database (LBD) to create a measure of the skewness of the firm growth distribution. They refer to the difference between the 90th percentile of the employment growth rate distribution and the 50th percentile as the 90-50 differential, and define a 50-10 differential similarly. They contend that the difference between the 90-50 and 50-10 differentials can reasonably summarize changes in the skewness of the distribution of firm growth. Since job creation and business dynamism is largely attributable to young, high growth firms, and these firms tend to be the high productivity innovators for the economy, they argue that skewness is a good measure of business dynamism. The authors find that the U.S. economy exhibited a substantial decline in their skewness indicator in the post-2000 period, going from 16% in 1999 to 4% in 2007. The authors worry that this is an indication of a loss of business dynamism, though they also entertain alternative hypotheses such as changing patterns in the sources of economic growth.
http://www.nber.org/papers/w21776

Liquidity regulation and unintended financial transformation in China

While not much is known about the true extent of the threat posed by shadow banking on China's financial stability, **Kinda Hachem** and **Michael Song** argue that its rise has a lot to do with China's banking structure and changes in the enforcement of liquidity regulations. China has long had a loan-to-deposit cap (LTDC) of 75 percent, but for many years it was only weakly enforced. When the government began to enforce the rule rigorously in 2008, it created unintended consequences due in part to China's banking sector structure. Long dominated by large state-owned banks, recent years have witnessed a rising share of banking sector assets held by smaller commercial banks. In contrast to those smaller banks, the largest state-owned banks tend to have relatively low loan-to-deposit ratios, and thus the LTDC regulation is not binding for them. Smaller banks therefore evade the regulation by issuing short-term wealth management products (WMPs) to trust companies (an important part of the shadow banking system), which then lend the funds that they receive to the private sector at higher interest rates. Thus, the enforcement of the LTDC regulation compels small banks to use off-balance sheet instruments to absorb household savings, and channel them to the shadow banking sector. Since the shadow sector is much less regulated, this leads to heightened (but still largely unmeasured) risks for the Chinese financial sector and the whole economy.
http://www.nber.org/papers/w21880

The globalization of angel investments: Evidence across countries

In a recent study, **Josh Lerner**, **Antoinette Schoar**, **Stanislav Sokolinski**, and **Karen Wilson** use a regression discontinuity design to study the effects of angel funding on firms' growth, performance, survival, and follow-on fundraising. They describe funding from "angels" (groups of wealthy individuals that fund new ventures) as being less formal than the venture capital market, but more professional and formal than obtaining funds from friends and family. Because angel investment is typically not subject to regulatory disclosure requirements, compiling data on their activities and the firms they have funded is a challenge. Through connections and painstaking effort, the authors have compiled a data set of the investments made by 13 angel groups (based in 12 countries) in hundreds of firms located across 21 countries. Importantly, the data also contains information on firms that applied to angel groups for funding, but were denied. Based on information about the number and share of the group's investors that expressed interest in the applicant and/or evaluated the investment, the authors are able to identify a cut point for each group at which such interest substantially increased the likelihood that a venture received funding. They then compare outcomes for firms that were just above and below that threshold (but were otherwise similar on other dimensions). The main findings are that start-ups funded by angel investors were 14 to 23% more likely to survive for the next 1.5 to 3 years and grew their employment by 40% more than the start-ups that were denied

angel funding. A successful exit (meaning the firm underwent an IPO or was acquired) was also substantially more likely for angel-funded start-ups, who were generally more likely to receive follow-on funding from venture capital firms and other non-angel sources. In that sense, these largely non-U.S. angel groups appear to provide a type of accreditation for other investors that was not found for U.S. angel groups in previous research by these authors.
http://www.nber.org/papers/w21808

Putting China's growth slowdown in perspective
Robert Barro argues that China's recent growth slowdown should have been expected and that the current rate is a respectable one. He bases these assertions on simple growth calculations derived from two data series (89 countries from 1960 to 2010, and 28 countries from 1870 to 2010). Based on the simplest plausible specifications drawn from his vast experience with growth regressions, his projected growth rate for China for 2005-2010 was 4.2%. Though somewhat lower than the rate at which China actually grew during that period (8.9%), the prediction is not far from China's current growth rate. Also, some argue that China's GDP growth was lower than officially announced during that period. Going forward, Barro expects China to grow at around 3-4% per year, noting that maintaining such growth rates for two to three decades would still be sufficient to lift China from a middle-income country (its current status) to a high-income country. No doubt, this would be a remarkable achievement.
http://www.nber.org/papers/w21872

IV Upcoming events and miscellanea

Calls for papers

The **5th Money and Finance Research Group (MoFiR) Workshop on Banking** will be held at DePaul University in Chicago, Illinois (USA) on June 9-10, 2016. 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, 2016. More details are posted here.

The Fifth Symposium on Emerging Financial Markets will take place in Shenzhen, China, on May 25 & 26, 2016. This symposium is intended to provide a platform for researchers to discuss fundamental research and policy issues related to emerging financial markets. Submissions to the conference can also be submitted to the Review of Financial Studies under its dual review system, with the same submission deadline of February 15, 2016. More information is available on the conference website.

A new online journal

"European Economy – Banks, Regulation, and the Real Sector" is a new journal to encourage the debate among academics, institutional representatives, and bankers on the current banking regulation framework and its effects on banking activity and the real economy. The journal aims at becoming an outlet for research and policy based pieces, combining the perspective of academia, policy making and operations. Special attention will be devoted to the link between financial markets and the real economy and how this is affected by regulatory measures.
http://european-economy.eu/

Happy reading!

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