Interest Bearing Notes **Vol. 19 No. 2**

March 2016

Contents

The next issue of Interest Bearing Notes will appear in May 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

On seemingly significant experimental results
In a recent working paper, **Alwyn Young** re-estimates regressions from 53 experimental papers published in high-quality journals to show that many significant results are not robust to corrections for multiple hypothesis testing (across treatments and outcomes) and use of more reliable standard errors for finite samples. http://economics.mit.edu/files/11362

Does this critique invalidate much of what thought we had learned from recent experiments? Not so fast, says our own **David McKenzie** in a recent blog. http://blogs.worldbank.org/impactevaluations/what-does-alwyn-young-s-paper-mean-analysis-experiments

II World Bank research

Can wage subsidies boost employment in the wake of an economic crisis?
The rise in unemployment during an economic crisis poses a significant concern to policy makers, and thus 22 countries around the world used some form of wage subsidy program to promote employment retention during the recent crisis. A new paper by IBN co-editor **Miriam Bruhn** measures the effect of such a program in Mexico on employment during and after the crisis. Under this program, manufacturing firms in certain durable goods industries were eligible for receiving wage subsidies if they decided to keep their workers instead of letting them go during the period of January 2009 to August 2009. Miriam uses monthly administrative data on employment at the industry level from the Mexican Social Security Institute (IMSS), along with propensity score matching to construct groups of eligible and ineligible durable goods manufacturing industries that display statistically identical pre-program trends in employment. Difference-in-difference results show a positive but not statistically significant effect of the wage subsidies on employment during the program's duration, ranging from 5.7 to 13.2 percent in magnitude, depending on the specification. The size of the effect increased to a statistically significant 24 percent after the program ended and the results indicate that employment after the program recovered faster in eligible industries than in ineligible industries. The lack of a statistically significant effect of the program on employment during its duration suggests that the firing restrictions imposed by the program were not binding. Instead, the program's effect seems to have operated through the payment of subsidy funds. These funds may have provided liquidity for hiring back workers, thereby allowing firms to take advantage of market opportunities at a time when other funding sources were scarce. In fact, firms typically received the subsidy many months after they limited layoffs, and the time when funds started to be paid out corresponds to the time when employment in eligible industries started to increase again after its initial drop during the crisis.
http://documents.worldbank.org/curated/en/2016/03/26085106/can-wage-subsidies-boost-employment-wake-economic-crisis-evidence-mexico

The political economy of bank lending: Evidence from an emerging market
Sumit Agarwal, Bernardo Morais, our **own Claudia Ruiz,** and **Jian Zhang** use a comprehensive loan-level dataset containing the universe of commercial loans in Mexico from 2003 to 2012 to identify politically motivated loans. Previous literature

has focused on political lending in government owned banks, but the current paper fills an important gap by enhancing our understanding of whether political lending persists in a privatized banking sector, such as that in Mexico. The authors exploit changes in the state of origin of senate committee chairmen as a source of exogenous variation to identify political connections, and find that politically motivated loans persist in a privatized banking sector. Specifically, the paper finds that banks offer favorable loan terms to politically connected firms including larger loan quantities, lower interest rate spreads, longer maturities, and lower collateral requirements. Interestingly, the authors show that the degree of favoritism increases with stronger political connections, and is stronger among large and domestic banks. In return, the study finds that these banks receive favorable and better quality government financial support. Since the authors have the universe of loan data, they are able to estimate the deadweight loss associated with political lending: the increase in loan defaults was around 0.4 basis points of Mexico's annual GDP. Overall, although in theory privatization should help eliminate politically motivated resource allocation, this study finds that even in a private banking market, banks channel lending to politically connected firms in exchange for favors from politicians. In terms of policy advice, the authors advocate that a better way to overcome the root problem of rent seeking may be stricter regulation in terms of increased reporting requirements, scrutiny of illegal transactions, and closer supervision.
http://documents.worldbank.org/curated/en/2016/02/25970617/political-economy-bank-lending-evidence-emerging-market

Access to finance and job growth: Firm-level evidence across developing countries
A new paper by **Meghana Ayyagari, Pedro Juarros,** our own **Maria Soledad Martinez Peria,** and **Sandeep Singh** conducts cross-country analysis on the effect of financial access on job growth in 50,000 firms across 70 developing countries. Statistical identification comes from exploiting the arguably exogenous introduction of credit bureaus as a positive shock to the supply of credit in an economy. The results show that greater access to finance leads to higher employment growth, especially among medium, small, and micro enterprises. The authors conduct a number of robustness checks to verify their findings, including using firm fixed effects to rule out time-invariant unobserved firm heterogeneity, industry measures of external financial dependence as have been used extensively in the literature before, and propensity score matching in a complementary firm panel dataset available for 29 countries. In terms of policy, this paper makes a valuable contribution by studying the relationship between credit and job growth in developing countries; previous work has mostly focused on the U.S. experience. In addition, the finding that financial access helps smaller firms more is important for designing targeted interventions intended to produce job growth in medium, small, and micro enterprises through increased availability of financing.

http://documents.worldbank.org/curated/en/2016/03/26078435/access-finance-job-growth-firm-level-evidence-across-developing-countries

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

When does foreign bank participation improve the supply of credit?
Regular IBN readers are well aware of the debates about whether or not the entry of foreign banks increases the supply of credit in developing countries. In a recent paper, **Markus Behn, Rainer Haselmann, Amit Seru,** and **Vikrant Vig** study credit market outcomes around episodes of banking liberalization in twenty-six emerging economies between 1995 and 2007. To measure liberalization, they rely primarily on the Abiad and Moody (2005) indicator of foreign bank entry restrictions, which they have expanded to include Eastern European countries. Their key insight is that the competitiveness of the domestic banking sector at the time of liberalization affects how domestic banks respond to the added competitive pressures imposed by foreign banks. They find post-liberalization increases in the aggregate supply of credit, but only in countries that had relatively competitive domestic banking sectors. Pre-liberalization banking sector conditions also appear to affect the allocation of credit after foreign banks enter. Countries with more competitive domestic banks show higher industry growth rates and less growth rate volatility, which is driven by greater credit to industries that are more reliant on external financing and to small firms. In contrast, those with less competitive banks show slower industry growth and increased growth volatility after liberalization. By relying on within-country variation at the bank, industry, and firm levels around these episodes the authors paint a consistent portrait of how initial banking conditions affect credit market outcomes when foreign banks enter. Their policy conclusion is that domestic banking institutions need to be developed to a reasonable degree for financial liberalization to have a positive impact on economic growth.
https://www.aeaweb.org/aea/2015conference/program/retrieve.php?pdfid=939

Nudging youth to develop savings habits: Experimental evidence using SMS messages
Catherine Rodríguez and **Juan Saavedra** report results from a field experiment that tests the effectiveness of text messages (SMS) with financial education content and savings reminders in increasing savings among low-income youth in Colombia. Unlike most previous studies of youth financial behavior, which have typically relied on self-reported measures of savings, the authors collaborated with one of Colombia's leading commercial banks to obtain administrative data on account balances and transactions. The authors randomly allocated 10,000 youth accountholders to one of four experimental groups i) twelve monthly financial education messages, ii) twelve monthly savings reminders, iii) twenty-four semimonthly reminders and iv) control.

During the twelve months when the messages were being sent, account balances of youth assigned to receive monthly and semimonthly reminders increased by 28 and 43 percent, respectively, relative to controls. Financial education messages did not increase account balances. The administrative data further show that lower account withdrawals rather than higher deposits drove the higher account balances among youth assigned to either of the two reminder treatments. Supplemental data from a phone survey suggest that at least two thirds of the account balance increases in reminder groups represent increases in savings overall, with the other third representing substitution away from savings at home. The savings effects of reminders were long-lasting: eight months after youth stopped receiving messages, those initially assigned to savings reminders still maintained significantly higher balances in their bank accounts relative to those in the financial education treatment or control groups. The lasting impacts on savings were not, however, the result of continued behavioral changes (i.e. further reductions in withdrawals) but rather due to the initial drop in withdrawals.
https://cesr.usc.edu/documents/WP_2015_018.pdf

Do tax incentives for research & development increase firm innovation?
A new paper by **Antoine Dechezleprêtre, Elias Einiö, Ralf Martin, Kieu-Trang Nguyen,** and **John Van Reenen** measures the effect of tax incentives for research and development (R&D) on innovation by firms in the UK. To identify this effect, the authors exploit a 2008 policy reform that raised the size threshold under which firms can access the more generous tax regime for small- and medium-sized enterprises (SME). The authors use 2007 data on firm assets from Bureau Van Dijk's FAME dataset to implement a regression discontinuity design that compares outcomes in firms with assets just above and just below the new SME threshold. Outcome data on R&D spending comes from confidential HMRC tax records and information on patents comes from PATSTAT, a database curated by the European Patent Office (EPO) that brings together patent documents from over 60 patent offices worldwide. The results show that the tax incentives led to a doubling in R&D expenditure and an increase in number of patents by about 60 percent. The authors estimate an elasticity of R&D with respect to its tax-adjusted user cost of about 2.6 – higher than the values typical in the recent literature of between one and two. They argue that the higher elasticity is because their study population is composed of smaller firms than have usually been examined and so are more likely to be credit constrained and more responsive to R&D tax credits. They confirm this intuition by showing the effects of tax credits are particularly strong for young firms, presumably because they are more subject to credit constraints.
http://cep.lse.ac.uk/pubs/download/dp1413.pdf

What is different about urbanization in rich and poor countries?

In light of the relative lack of research on urbanization in developing countries, **Juan Pablo Chauvin, Edward Glaeser, Yueran Ma,** and **Kristina Tobio** investigate what is different about urbanization in rich and poor countries. In particular, they focus on four large countries: the United States, Brazil, China, and India. They first examine whether the size distribution of metropolitan areas follow Gibrat's Law and/or Zipf's Law. Zipf's Law asserts that the population of the Nth largest city is 1/N times the population of the largest city, while Gibrat's Law implies that the growth rate of a city is unrelated to its initial population level. They find that these two laws hold in the U.S. and Brazil, but not in China and India. They then examine the implications of a spatial equilibrium which implies that higher wages in a city tend to be offset by worse amenities or higher rent. They find reasonable support for the spatial equilibrium approach in all countries except in India. They go on to examine the influence of human capital and agglomeration on city population and income growth, and find that the positive relationship between local human capital (such as the share of population with college degrees) and city growth tends to be much stronger in developing countries than in the U.S. Overall, they conclude that the basic frameworks underlying urban economics have predictive power for explaining urbanization levels and growth, except in India. Why India tends to be poorly explained by modern urban economics remains to be explored in future research.
http://www.nber.org/papers/w22002.pdf

University innovation and the professor's privilege
There is wide variation in how large a share university researchers receive of the earnings associated with their innovations. In the U.S. system, the university takes the majority, while in many European countries professors tend to be the residual claimant, taking up to 100 percent. Perhaps motivated by the U.S.'s superior performance in innovation, many European countries have begun to imitate the U.S. university innovation system, reducing the share of innovation income to professors and increasing the share going to the university. Norway ended the so-called 'professors' privilege' (i.e., receiving the full share of innovation income) in 2003. **Hans K. Hvide** and **Benjamin F. Jones** compile detailed data before and after that date to examine how ending professors' privilege affected innovation. Relying on a difference-in-differences framework for identification, they find a dramatic effect: both entrepreneurship and patenting rates by university researchers dropped 50% after the reform, and the effects are robust to a series of sensitivity checks. Their research implies that university involvement ultimately may not be that vital for a country's performance in innovation.
http://www.nber.org/papers/w22057.pdf

State capacity and American technology: Evidence from the 19th century
Daron Acemoglu, Jacob Moscona, and **James A. Robinson** shed light on the

underpinnings of the radically transformative technical changes in the U.S. in the past 150 years, as documented in **Robert Gordon's** *The Rise and Fall of American Economic Growth*. They argue that state capacity in the U.S. contributed in important ways to the underlying technical changes. To show this, they collect data on the presence of post offices in a county and on innovation. They first offer suggestive evidence that post offices were an important employer and played very fundamental roles in facilitating innovation. They then provide evidence that the presence and number of post offices in a county were positively associated with county patenting levels, and that the presence of post offices preceded increases in patenting. The results are robust to the introduction of a series of controls, including initial county characteristics interacted with time dummies, and linear county trends. They argue that effective state capacity was a key factor behind the U.S.'s technological revolution, in contrast to the prevailing view that U.S. governments did not play a key role in U.S. growth.
http://www.nber.org/papers/w21932.pdf

IV Upcoming events and miscellanea

Calls for papers

The **4th WB-BE Research Conference**, sponsored by Banco de España and The World Bank will take place at the Banco de España headquarters in Madrid on June 16 and 17, 2016. This year's topic is "**Labor Markets: Growth, Productivity and Inequality.**" The deadline for submitting a paper is April 3, 2016 (extended abstracts accepted). More details on topics and procedures are posted here.

The **2016 Portsmouth-Fordham Conference on Banking and Finance** will take place September 24-25 at the University of Portsmouth, UK. The conference aims to provide a debate among researchers and policy makers from around the world on recent developments in various aspects of banking and finance. Selected papers presented at the conference will be published in special issues of *Financial Markets, Institutions & Instruments* and the *Journal of Financial Services Research*. The deadline to submit a manuscript or an extended abstract is June 15, 2016. For more information on topics, registration, and other details, see the conference website: http://portcbf2016.eventsadmin.com

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)