Interest Bearing Notes | OCTOBER 2021

A Finance & Private Sector Development Research Newsletter

What's new on our website

Targeting tax enforcement efforts on larger firms: A necessary distortion?

Some tax administrations focus their enforcement efforts disproportionately on large firms. In a recent Research & Policy Brief, **Pierre Bachas** shows that such size-dependent tax enforcement is especially prevalent in lower-income countries, leading to increasing effective tax rates as firms become larger. Pierre quantifies the impact of size-dependent tax enforcement for aggregate economic production. The estimated impact is moderate and thus could be justified for tax authorities with limited resources, given the revenue gains of enforcement targeted to large firms.

World Bank research

The anatomy of index rebalancings: Evidence from transaction data

Because they entail sudden and large shocks in the demand for affected securities by investors, index rebalancing events have been studied extensively in financial economics to examine price effects. But little is known about the actual behavior of the population of investors in response to these events because high-frequency data on quantities traded by individual investors are typically not available. Using data covering the universe of transactions on the Colombian Stock Exchange from 2006 to 2017, our own **Alvaro Pedraza**, together with **Mariana Escobar**, **Lorenzo Pandolfini**, and **Tomas Williams**, examine both the price effects of, and investors' behavioral responses to, additions to and deletions from MSCI Equity Indexes (the most widely tracked international benchmarks for institutional investors in equity markets). Those price effects are large – inclusion in an international equity index leads to a median cumulative abnormal return, from the announcement to the implementation date, of 5.5%, driven largely by increased demand from foreign investors. Most of the trades take place on the effective day of the index re-composition rather than on its announcement day, and foreign investors' positions in the stock tend to persist for the next month. Because the authors have data on both quantities and prices from transactions, the index rebalancing episodes enable them to compute more reliable estimates of the demand elasticity for stocks than those that rely only on price data. For the median stock in their sample, a 1% increase in the quantity demanded of shares (relative to the number of shares outstanding) leads to an increase in its price of 2.94%, in line with the more inelastic estimates produced in prior studies. The authors conclude that there is a broad range of foreign investors that have implicit mandates to closely track the composition of the indexes they follow so that they deviate little from benchmark returns. Hedge funds and other investors that are supposed to act as arbitrageurs are too small to soften the price impact. The inelastic demand for stocks is a reflection of these behavioral patterns.

Changing perceptions of institutions and standard of living in Iraq

Our own **Saniya Ansar** and **Leora Klapper**, together with Bledi Celiku and Wael Mansour, use individual-level nationally representative survey data from Iraq from 2010 to 2019 to study the effects of violent conflict on two dimensions of inequality: inequality among individuals or households (vertical inequality) and inequality among regional, ethnic, and other categorical groups (horizontal inequality). To measure vertical inequality, they use the relative perceptions of women, poorer adults, and adults living in rural areas; horizontal inequality is measured by comparing perceptions across ethno-religious categories including Shias, Sunnis, Kurdish Muslims, and Baghdad residents. Overall, Iraqis' confidence in national institutions, quality of life, and quality of service delivery declined during control of parts of Iraq by the Islamic State, also known as ISIS (2014-2016), but is slowly picking up in recent years. However, that general trend masks important heterogeneity. With respect to vertical inequality, poor adults remain more likely to report being food insecure and to have a more pessimistic outlook about their standard of living. Regarding horizontal inequality, while assessments of job prospects and the standard of living declined for all groups (Shias, Sunnis, Kurds, and adults in living in Baghdad) during the period of ISIS control, improvements on those indicators in the post-ISIS period were more pronounced for Sunnis. A fundamental concern is that all four of these groups perceived the government to be corrupt, a viewpoint that was increasingly held before and during the period of ISIS control and only grew stronger in the post-ISIS period.

Testing classic theories of migration in the lab

Despite the substantial financial benefits of migration, only 3.3% of the world's population live outside their country of origin. The literature has tried to understand constraints by incorporating liquidity shortages, risk and uncertainty, imperfect information, and destination choice in economic decision models. In this paper, our own **David McKenzie**, along with **Catia Batista**, use incentivized lab experiments to test how potential migrants trade off different location attributes and use this to distinguish between competing migration theories. Working with samples in Portugal and Kenya, the study randomly assigns observed and unobserved skill levels, as well as endowments. Further, the study varies factors such as unemployment risk, liquidity constraints, and information. The results show that adding real-world constraints of risk, liquidity, and information substantially lowers migration rates and makes selection less negative. The authors also test the popular assumption regarding independence of irrelevant alternatives and find that it holds for most people when migration decisions involve wages, costs, and liquidity constraints. However, the assumption starts to break down when risk and incomplete information are added to the mix. These findings demonstrate the need to move beyond classical theories to explain patterns observed in global migration.

Our eclectic guide to recent research of interest

[Big loans to small businesses: Predicting winners and losers in an entrepreneurial lending experiment]

Gharad Bryan, **Dean Karlan**, and **Adam Osman** designed and implemented an experiment with the Alexandria Business Association (ABA), a large Egyptian lender, to understand whether giving larger loans to some firms could benefit the lender and clients. ABA selected 1,004 approved borrowers for a larger loan. These borrowers were randomly allocated to treatment group and a control group. Treatment borrowers were offered loans four times larger than their previous loans. Control borrowers were offered loans that were two times larger (for fairness reasons). Administrative data show that all borrowers eventually repaid their loan, but treatment borrowers were more likely to make a late payment than control borrowers. These delays were not excessively costly for ABA since it earned more in late fees than it lost in foregone lending revenue. ABA decided to scale-up the program after the completion of the experiment. To measure the effects on borrowers' firms, the authors conducted two follow-up surveys, 20 and 30 months after disbursement of the loans. The larger loans had no effect on firms' profits on average. The authors then use machine learning and psychometric data, collected at baseline, to classify borrowers into "top performers" and "poor performers", based on their predicted treatment effects. This analysis reveals significant heterogeneity in the effect of larger loans: being allocated to the treatment group increased profits by 55% for top performers, but it reduced profits by 52% for poor performers, perhaps because the latter made risky and poorly thought-out investments.

[Closing the profit gender gap]

Female-led businesses often report earning less than half the profits of their male counterparts, even when operating in similar sectors. **Catia Batista**, **Sandra Sequeira**, and **Pedro C. Vicente** study two potential explanations for this gender profit gap: limited access to savings accounts and lack of financial management skills. The authors conducted a field experiment with 1,270 formal microentrepreneurs in urban markets in Mozambique. The microentrepreneurs were stratified by gender and randomly allocated to a control group or one of three treatment groups. To help microentrepreneurs accumulate capital, the first treatment group received access to a mobile money account that paid a promotional 5-percent interest rate each month for the first three months (and no interest thereafter). The second treatment group was invited to a 4-hour financial management training session. The third treatment group was offered the combination of both mobile money accounts and training. Follow-up survey data was collected 12 months and 6 years after the intervention. The results show that the mobile money and combined treatments significantly increased profits for female-led businesses, but not for male-led businesses, suggesting that access to mobile money accounts can help close the profit gender gap. Training alone had no significant effect on profits.

[Loan officers impede graduation from microfinance: Strategic disclosure in a large microfinance institution]

In a new working paper, **Natalia Rigol** and **Benjamin Roth** study the determinants of an important puzzle in microfinance – borrowers do not graduate to larger and more flexible loans. Using observational and experimental data from a large microfinance lender in Chile, the authors find that loan officer compensation contracts are an important impediment to loan size graduation. Specifically, loan officers are rewarded for the size and performance of their portfolio and, therefore, are disincentivized to graduate their best clients. After confirming this observation in the data, the authors experimentally study the effects of changing the loan officer contract structure. Once the implicit penalty is removed, the authors find that graduated borrowers who are endorsed by loan officers are 34% more profitable for the lender compared to those endorsed before. A simple calculation suggests that this strategic behavior of loan officers is costly, in the range of $4.8-29.2 billion in social value from forgone borrower graduations in microfinance worldwide.

The long-term effects of industrial policies in Korea

Industrial policies have been frequently used by countries of all ideological stripes, but their long-term causal effects remain underexamined. **Jaedo Choi** and **Andrei Levchenko** examine the effects of one of the most prominent industrial policies ever pursued by a country: The Heavy and Chemical Industry (HCI) Drive implemented in South Korea in 1973-1979, which subsidized access to foreign credit for firms in selected industries and regions. HCI was implemented for military purposes and was unanticipated, resulting in large variation across industries and regions, all features that facilitate identification of the causal effects. The authors find that the long-term effects of the HCI Drive were substantial – an increase in the sales growth of subsidized firms of 8.5 percentage points for the subsequent three decades. They propose that the key drivers of this large impact were learning by doing and relaxation of financial constraints. Using a counterfactual analysis, they estimate that the HCI Drive raised South Korea's overall welfare by 22-31%.

Bureaucracy and development

Two opposite views shape our understanding of bureaucracy and development. One considers bureaucrats as ineffective, either prone to industry capture or "grabbing hands" simply out for themselves. The other view, most prominently held by Max Weber, considers bureaucrats as professionals specialized in providing public goods integral to development—think, for example, of the East Asian development states. **Timothy Besley**, **Robin Burgess**, **Adnan Khan**, and **Guo Xu** take stock of a vast theoretical and empirical literature on bureaucracy and development to identify what makes for an effective bureaucracy and the critical ingredients of state capacity. The authors provide stylized facts about the quality of bureaucracy, such as its persistence and its strong link with the level and growth of income. They argue that whether bureaucracy promotes development depends on interactions (i) between different levels of bureaucracy, (ii) between government departments, (iii) between citizens, politicians, and bureaucrats and (iv) between bureaucrats, firms, and NGOs. While the analysis and conclusions are nuanced, the authors appear to give more weight to the second view, or at least the conditions for the second view to hold. Their coverage is very thorough, including theoretical takes on bureaucrats from both the principle-agent and the multi-task perspectives, and key empirical insights from contemporary research that uses administrative data and field experiments. For those interested in how bureaucracy facilitates/hinders development, this is a must read.

Upcoming events and miscellanea

2022 University of Oklahoma Energy and Climate Finance Research Conference

The University of Oklahoma’s (OU) Price College Center for Financial Studies is organizing the fourth OU Energy and Climate Finance Research Conference, to be held on the OU campus in Norman, Oklahoma on April 22-23, 2022. About 12 papers will be accepted for presentation in plenary sessions over a day and a half. After the conference, participants will be invited to visit an energy facility in Oklahoma. The conference is co-sponsored by the Review of Financial Studies (RFS). At the authors’ option, papers submitted to the conference will, in addition, be considered for publication at the RFS free of charge. The deadline for submissions is November 30, 2021.

9th Annual Conference on Financial Market Regulation (CFMR 2022)
The SEC’s Division of Economic and Risk Analysis (DERA), Lehigh University’s Center for Financial Services (CFS), the University of Maryland’s Center for Financial Policy (CFP), and CFA Institute will jointly host the CFMR 2022 in the afternoon on Thursday, May 5 and all day on Friday, May 6, 2022 at the SEC Headquarters in Washington, DC. The goal of the conference is to bring together participants for an exchange of views on topics of relevance to the SEC. Two papers will be selected in each of four broad topic areas: corporate finance, market microstructure, financial intermediation, and asset management. The deadline for paper submissions is November 18, 2021 with a submission fee of $40.

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)