HARVARD Kennedy School
MOSSAVAR-RAHMANI CENTER
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Peter Sands on Eliminating High Denomination Bank Notes

Illegal money flows pose a massive challenge to all societies, rich and poor. Tax evasion undercuts the financing of public services and distorts the economy. Financial crime fuels and facilitates criminal activities from drug trafficking and human smuggling to theft and fraud. Corruption corrodes public institutions and warps decision-making. Terrorist finance sustains organisations that spread death and fear. The scale of such illicit money flows is staggering. Depending on the country, tax evasion robs the public sector of anywhere between 6% and 70% of what tax authorities estimate they should be collecting. Global financial crime flows are estimated to amount to over US$2tr per year. Corruption amounts to another US$1tr. Most of the effort to combat such illicit financial flows focuses on the perpetrators, the underlying criminal activities or on detecting illicit transactions through the banking system. Yet despite huge investments in transaction surveillance systems, intelligence and interdiction, less than 1% of illicit financial flows are seized. In this paper we suggest a different approach, one that would complement existing policies and make them more effective. Our proposal is to eliminate high denomination, high value currency notes, such as the €500 note, the $100 bill, the CHF1,000 note and the £50 note. Such notes are the preferred payment mechanism of those pursuing illicit activities, given the anonymity and lack of transaction record they offer, and the relative ease with which they can be transported and moved. By eliminating high denomination, high value notes we would make life harder for those pursuing tax evasion, financial crime, terrorist finance and corruption. Without being able to use high denomination notes, those engaged in illicit activities – the "bad guys" of our title – would face higher costs and greater risks of detection. Eliminating high denomination notes would disrupt their "business models".

To access **Peter Sands'** paper, visit *www.hks.harvard.edu/centers/mrcbg/*

M-RCBG Director Lawrence Summers on Why It's Time To Kill the $100 Bill

Harvard's Mossavar Rahmani Center for Business and Government, which I am privileged to direct, has just issued an important paper by senior fellow Peter Sands and a group of student collaborators. The paper makes a compelling case for stopping the issuance of high denomination notes like the 500 euro note and $100 bill or even withdrawing them from circulation.

I remember that when the euro was being designed in the late 1990s, I argued with my European G7 colleagues that skirmishing over seigniorage by issuing a 500 euro note was highly irresponsible and mostly would be a boon to corruption and crime.

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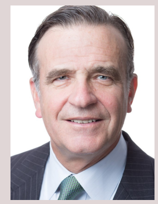
Seminars & Events

M-RCBG has over 80 seminars and events scheduled each semester, some of which are listed below. For a complete schedule, visit *www.mrcbg.org.*



Transforming New York City's Economy; **Robert Steel, Perella Weinberg Partners.** Bell, Mar. 10. 11:45am-1pm.

Electricity Market Developments in Mexico; **Jeffrey Pavlovic, Mexican Health Ministry.** Bell, Mar. 21. 12-1:30pm

Managing Citizenship in Israel and India after Independence; **Yael Berda, Hebrew University.** Pierce 100F, SEAS, 29 Oxford, Mar. 28. 12:15-2pm.

Current Issues in Bank Regulations; **Thomas J. Curry, U.S. Treasury Dept.** Bell, Mar. 31. 11:45am-1pm.

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Since the crime and corruption in significant part would happen outside European borders, I suggested that, to paraphrase John Connally, it was their currency, but would be everyone's problem. And I made clear that in the context of an international agreement, the U.S. would consider policy regarding the $100 bill. But because the Germans were committed to having a high denomination note, the issue was never seriously debated in international forums.

The fact that — as Sands points out — in certain circles the 500 euro note is known as the "Bin Laden" confirms the arguments against it. Sands' extensive analysis is totally convincing on the linkage between high denomination notes and crime. He is surely right that illicit activities are facilitated when a million dollars weighs 2.2 pounds as with the 500 euro note rather than more than 50 pounds as would be the case if the $20 bill was the high denomination note. And he is equally correct in arguing that technology is obviating whatever need there may ever have been for high denomination notes in legal commerce.

What should happen next? I'd guess the idea of removing existing notes is a step too far. But a moratorium on printing new high denomination notes would make the world a better place. In terms of unilateral steps, the most important actor by far is the European Union. The €500 is almost six times as valuable as the $100. Some actors in Europe, notably the European Commission, have shown sympathy for the idea and European Central Bank chief Mario Draghi has shown interest as well. If Europe moved, pressure could likely be brought on others, notably Switzerland.

I confess to not being surprised that resistance within the ECB is coming out of Luxembourg, with its long and unsavory tradition of giving comfort to tax evaders, money launderers, and other proponents of bank secrecy and where 20 times as much cash is printed, relative to gross domestic, compared to other European countries.

These are difficult times in Europe with the refugee crisis, economic weakness, security issues and the rise of populist movements. There are real limits on what it can do to address global problems. But here is a step that will represent a global contribution with only the tiniest impact on legitimate commerce or on government budgets. It may not be a free lunch, but it is a very cheap lunch.

Even better than unilateral measures in Europe would be a global agreement to stop issuing notes worth more than say $50 or $100. Such an agreement would be as significant as anything else the G7 or G20 has done in years. China, which is hosting the next G-20 in September, has made attacking corruption a central part of its economic and political strategy. More generally, at a time when such a demonstration is very much needed, a global agreement to stop issuing high denomination notes would also show that the global financial groupings can stand up against "big money" and for the interests of ordinary citizens.

This op-ed appeared in The Washington Post on February 16, 2016.

Bilmes publishes working paper on green bonds and land conservation

Prof. **Linda Bilmes** has co-authored a new working paper titled: Green Bonds and Land Conservation: The Evolution of a New Financing Tool. "Green Bonds" emerged as a new form of environmental financing in 2007. While most investors still view them as a niche product in the overall fixed income market, green bonds have grown rapidly to nearly $37 billion in issuance in 2014, with issuers from the World Bank to the State of Massachusetts. This paper examines the current and potential future use of green bonds for financing sustainable land use and conservation projects around the world. The paper draws on interviews with land conservation practitioners, bond issuers, investors, and financial analysts, as well as analysis of two case studies in China and Massachusetts. The paper summarizes the key insights from this community of experts, and lays out a series of steps that will be required before green bonds can develop into a significant and reliable tool in the conservation finance toolkit. The authors find that projects linked to water and storm water management may be investment "sweet spots" for green bonds and land conservation.

To access the paper, visit *www.hks.harvard.edu/centers/mrcbg/publications/fwp.*

Dan Quan, Senior Advisor to the Director of the U.S. Consumer Financial Protection Bureau, was a recent guest speaker at Jo Ann Barefoot's study group on Regulation Innovation.

Harvard Project, Stavins and the IPCC complete multi-year engagement

The opening ceremony of the fortieth session of the IPCC, Copenhagen, Denmark, October 27, 2014.

The Harvard Project on Climate Agreements—and its Director, **Robert Stavins**—have completed a multi-year, multi-faceted engagement with the Intergovernmental Panel on Climate Change (IPCC). The IPCC is an intergovernmental organization that engages the global scientific community in assessing research on climate change and synthesizing this research for policymakers. The IPCC, as the leading organization pursuing this mission, prepares its reports primarily for the United Nations Framework Convention on Climate Change (UNFCCC) and its member governments.

The IPCC's volunteer scientist-authors prepare major reports synthesizing the research literature on climate change approximately every five years. Over 800 scientists participated in the Fifth Assessment Report (AR5), completed in 2014. As did its predecessors, AR5 actually consists of three somewhat independent documents prepared by "Working Groups" on "The Physical Science Basis," "Impacts, Adaptation, and Vulnerability," and "Mitigation."

Robert Stavins served as a Co-Coordinating Lead Author for a thirteen-member team preparing a chapter for the Working Group III (Mitigation) report entitled "International Cooperation: Agreements and Instruments." Gabe Chan, who recently received his Ph.D. in Public Policy from Harvard University, served as a Chapter Scientist and a key member of the chapter team throughout the AR5 process.

Professor Stavins was also a member of the Core Writing Team (about fifty scientists total) of the AR5 Synthesis Report, which distilled the key conclusions of all three working-group reports and which must be approved by IPCC member governments.

The Harvard Project conducted a research initiative from mid-2014 through late 2015 exploring approaches to improving the process by which research on climate change is assessed—with a focus on the social sciences (economics, political science, policy studies). Participants in the initiative reviewed potential reforms in IPCC assessments and also the development of assessment processes complementary to the IPCC.

The major activity of the initiative was a research workshop held in Berlin in February 2015. The workshop was co-sponsored by *Fondazione Eni Enrico Mattei* (Italy), the Mercator Research Institute on Global Commons and Climate Change (Germany)—also the host—and the Stanford Environmental and Energy Policy Analysis Center (USA).

The research initiative on the assessment of climate science was supported in part by the Alfred P. Sloan Foundation.

M-RCBG welcomes Karthik Ramanna as a visiting scholar

M-RCBG is pleased to welcome **Karthik Ramanna** as a Visiting Scholar to the Center. Ramanna is Associate Professor of Business Administration at Harvard Business School. He teaches and writes on corporate accountability, political economy, and accounting standards. While at the Center and HKS, he will help to develop new curriculum and research in financial accounting and budgeting.

HPCA publishes new discussion paper

HEEP pre-doctoral fellow Jisung Park studies the impact of extreme heat on labor productivity in the Discussion Paper, “Will We Adapt? Temperature Shocks, Labor Productivity, and Adaptation to Climate Change in the United States (1986–2012).” He argues that regions accustomed to higher temperatures may handle extreme heat differently than regions less accustomed.

Student Internship Update: Andrea Sorce, International Diaspora Engagement Alliance at Calvert Foundation

This past summer, I worked on the strategic initiatives team at Calvert Foundation. I had the opportunity to work on several projects related to diaspora engagement in development, focusing specifically on Latin America. Calvert Foundation is the managing partner for the International diaspora Engagement Alliance (IdEA), a public-private partnership with the US State Department and USAID. Working with IdEA on its Global Diaspora Week initiative, I gained perspective on PPPs as well as the various opportunities for diasporas to engage with their countries of origin, and organizations operating in this space. My primary project focused on Calvert's new Latin America Diaspora Investment Initiative, called Raices, which launched in early October. I analyzed data from a national survey of Mexican Americans to assess their interest and potential for engaging in the impact investing space. Using this data and additional research, I prepared campaign materials for the initiative and helped develop inclusion criteria for potential borrowers in the portfolio.

Working on this initiative was a great experience for me, as it allowed me to apply some of the quantitative skills I learned at HKS and also gain experience in a strategic planning process. Having only worked in the public and nonprofit spaces prior to grad school, this internship also allowed me a window into the private sector and PPPs, and more broadly the fields of social enterprise and impact investing. I was also able to gain expertise on the demographic changes in the US and the importance of Hispanic/Latino populations in a variety of areas – this is a population I have worked with in the past and hope to continue working with in the future. After this positive internship experience, I am continuing the work in my SYPA (Second Year Policy Analysis) with Calvert Foundation as the client and the goal of analyzing various engagement strategies to involve Hispanic Americans in impact investing.

The annual B&G PIC-organized Davos Debrief. From left, PIC Co-vice President Magdalena Seol, Prof. Graham Allison, Prof. Iris Bohnet and Prof. Ricardo Hausmann.

Can OSHA Inspections Be Made More Effective?

The past decade has seen an explosion in the use of big data and algorithm-based learning. But can this information be used by regulators to target their interventions more effectively? Professor David I. Levine (PhD, 1987), Eugene E. and Catherine M. Trefethen Professor of Business Administration at the Haas School of Business at the University of California, Berkeley presented his perspective during a Regulatory Policy Program seminar on February 4th.

In one of the largest randomized group studies ever conducted, Professor Levine, along with Professors Michael Toffel of Harvard Business School and Matthew Johnson of Boston University, found clear evidence that work site inspections by the Occupational Safety and Health Administration (OSHA) had a positive and lasting impact in reducing workplace injuries. But how could our understanding that inspections reduce workplace injuries be applied to help OSHA do its job better? By combining randomized trials like this one with machine learning algorithms, Professor Levine suggested that OSHA could isolate the types of workplaces that would benefit most from an inspection.

Machine learning uses large amounts of data to recognize patterns and make predictions, and it is already being applied with great success by companies like Google, Uber, and Amazon to anticipate user behavior. Randomized experiments allow organizations to pinpoint the effectiveness of an intervention. Credit card companies like CapitalOne have used this technique to test the success of new products and marketing efforts.

The combination of these two techniques, while common in the private sector, has yet to be applied in the public sector. By randomizing workplace inspections that already take place, OSHA could determine what types of characteristics are most predictive of workplace injury. This information would then be plugged into an algorithm to determine how to allocate scarce inspector time and energy. Especially in the current political environment where evidence-based policy is the emerging gold standard for regulation, this could be a very appealing proposition.

Joseph Aldy, associate professor of public policy and faculty chair of the Regulatory Policy Program, moderated the presentation. The Spring 2016 New Directions in Regulation Seminar series is sponsored by the Regulatory Policy Program at the Mossavar-Rahmani Center for Business and Government. For more information about the seminar series, please visit *www.hks.harvard.edu/centers/mrcbg/programs/rpp/seminars.*

-Daniel Cheung