

THE HARVARD KENNEDY SCHOOL REVIEW

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An HKS Student Publication



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Harvard Kennedy School Review

Volume 16

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HARVARD Kennedy School
JOHN F. KENNEDY SCHOOL OF GOVERNMENT

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Introduction

Last year, the Kennedy School Review turned fifteen years old. In the foreword to the 2015 journal, our predecessors Sarah Allin and Amelia Mitchell reminded readers of KSR's storied history at the Kennedy School, and the way in which its evolution has beautifully mirrored and celebrated the diverse perspectives of those who have come and gone through the school.

If the last issue was an ode to KSR's past achievements, this issue is a symbol of its future potential. 2015-16 has been a pivotal year for KSR, with an unprecedented focus on going digital and being bigger and better than before. Our goals from the start were to innovate constantly in order to most effectively give voice to the members of our community, and to encourage lively discussion and debate about the most pressing issues of our time.

Our website doubled its content from last year, attracting more traffic than ever before (so much so that it brought the site down on one evening in November, to our mixed amusement and horror!). We were able to provide timely commentary and analysis on some of the year's most significant events: the Greek debt crisis, the status of refugees fleeing Syria, the terrible attacks on Beirut and on Paris, the climate change conference COP21, the 2016 US election primaries and debates, Apple's battle over encryption with the Federal Bureau of Investigation, and Supreme Court Justice Antonin Scalia's death. We organized a very successful storytelling event at the Kennedy School that focused on immigration, we made a big push on social media to keep our followers aware of new content and speakers who came throughout the year, and we strategized intensively for long-term growth.

The nineteen longer articles in this issue are a product of months of writing and editing—they tackle large-scale problems and offer compelling insights and ideas towards solutions. A futuristic theme runs through this print issue too, with pieces about the potential of self-driving cars in China, Iranian youth's propensity for liberal thought leadership in an increasingly volatile Middle East, challenges for 'smart cities' in an increasingly connected and vulnerable cyberspace, and how companies can better protect consumer data online, looking to the European model as an example.

None of what we have been able to accomplish as an organization this year would have been possible without the tireless dedication and creative energy of an all-star editing team. They took the call to thinking beyond established norms seriously, and we ended up with a fabulous year to look back on as we write this letter. The future of KSR is bright, and we cannot wait to see where it goes next.

Uzra Khan, Editor-in-Chief

Caitlin Callahan, Print Journal Managing Editor

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at Harvard Kennedy School

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◆ Fair Housing: Regulation is Not the Answer

By Vanessa Calder

The US Department of Housing and Urban Development (HUD) has promulgated a new rule that requires equal housing outcomes in an attempt to clarify and give teeth to the Fair Housing Act of 1968, which requires racial groups be given equal access to housing. HUD's "Duty to Affirmatively Further Fair Housing" requires cities and towns to publicly report and scrutinize housing patterns for racial bias every three-to-five years. Effective as of August 2015, HUD has the ability to punish communities that fail to provide this data or fail to proactively rebalance underlying population demographics.

Ironically, the demographic imbalances in question are largely a product of certain dated, heavy-handed urban regulations. Instead of adding another broken regulatory apparatus on an already defective regulatory backdrop, local municipalities should loosen existing land use regulations and directly address the problem: once-fashionable zoning policy produced homogeneous development patterns that today's government planners consider harmful.

Although it received public scrutiny, HUD's new policy underwent zero legislative scrutiny and is applicable at the city and regional level. The policy comes on the heels of last summer's Supreme Court ruling in *Texas Department of Housing and Community Affairs v. Inclusive Communities Project* that made "disparate impact" in housing development analogous to intentional discrimination and, consequently, against the law.

The rule allows the federal government to withhold funding from communities that fail to provide data on racial patterns, English proficiency, national origin, ethnicity, and the distribution of community amenities like schools, transportation hubs, and jobs. The community is required to set goals to level demographic imbalances and track the results of their efforts. The rule also requires that local municipalities explain demographic imbalances using HUD-approved descriptions. Explanations for segregated housing patterns include a "lack of [a] Housing Choice Voucher program," "patterns of community opposition," and "private investments," among others. Although HUD does provide zoning regulation as an option, it appears to have been added as an afterthought at the request of the public. A closer look at the underlying forces causing racial imbalance in neighborhoods reveals that zoning regulation is the most dominant. Notwithstanding the misguided focus, the descriptors place local municipalities in an impossible position, forced to point a finger of blame at themselves, their constituents, or local industry.

The federal government will openly publish the data, adding to a growing trove of accessible public data. HUD maintains that this will support program participants in evaluating and identifying factors that contribute to segregation. Although increased transparency and data accessibility are a boon to liberty, aggregating the data in this way will arm individuals with information to claim discrimination is occurring based on outcome, even if it is not occurring in an intentional way. It is easy to envision a scenario where a discrimination suit will be brought against a company or municipality which is doing nothing more than following local zoning laws—laws established by city planners a generation or more ago. The aggregate data will open municipalities and private companies up to frequent lawsuits when new facilities and services are provided.



(Source: IDuke, Wikimedia Commons)

viduals. Although inflexible Euclidean zoning policy is no longer en vogue among urban policy professionals, American cities are still largely organized in this way.

Some zoning laws in the early twentieth century were more pernicious, directly excluding individuals of specific

The new policy begs the question: is it acceptable for racial groups to choose to live near each other? How can the government integrate groups without giving race preferential treatment in the process and thereby discriminating against the out-group? Although the regulation is intended to help a certain group, associated costs are not borne by groups but by individuals. At what cost will municipalities' goals be implemented? The new policy leaves much of the details of implementation vague.

At some level, the issue that is being engineered away by the HUD rule is a product of existing development regulations. Zoning regulations are one development tool that local officials use to guide development by regulating the type, density, scale, and function of the built environment.

Historically, conventional Euclidean zoning practices mandated that unique land uses, like apartment complexes and single-family homes, be deliberately separated. This seemingly innocuous practice results in formally partitioning lower and higher socioeconomic groups: the affluent often purchase houses in the suburbs and the poor rent apartments across town. These conventionally accepted zoning policies not only define supply-side choices (i.e., what can I build on my property?) but also constrain demand-side choices (i.e., where can I live?). Naturally, they restrict the demand-side choice set more heavily for low-income indi-

viduals of specific racial or ethnic backgrounds from residing in communities like Baltimore or Los Angeles, in direct opposition to constitutional law. Although racially exclusionary zoning practices have since been struck down, the conventional zoning laws described often have a similarly insidious effect. Perhaps less explicitly, conventional zoning provides state-sanctioned impediments to residential mobility and socioeconomic integration.

Even when land uses are not deliberately separated, burdensome design restrictions suppress development diversity. Design restrictions touch everything from aesthetic choices (e.g., building materials) to functional choices (e.g., required number of parking spaces) and make the development of affordable housing economically prohib-

itive in some areas. In fact, in Manhattan it is estimated that up to half of the price paid for housing is directly attributable to the

hidden costs of restrictive zoning. It is no wonder that many US cities claim to be in the throes of an affordable housing crisis.

Take the example of a low-income-household head who would like to find housing near city amenities, like quality schools and park space. He or she knows that nothing is available in high-amenity geographies; as a consequence of regulation, apartment buildings are prohibited in his or her neighborhood of choice. Ostensibly, without the hindrance of the zoning law, an opportunistic

private developer would find it profitable to build multi-family housing in this area. A free market would both provide more choices for housing and result in more demographically balanced areas.

Oddly, HUD believes that the solution to counteract the unintended consequences of past regulatory debacles is to develop a secondary layer of regulation, in part to oversee the wreckage of the first policy. This time the policy will monitor the product of existing urban regulations and punish communities for adhering to conventional zoning rules. HUD's regulation is an only-too-common example of a policy Band-Aid layered over policies that produced unintended consequences.

A powerful alternative to HUD's newest onerous policy intervention is for local municipalities to voluntarily relax the rigid zoning regulations that have historically isolated and constrained urban development. Cities have long held the authority to self-actuate through their zoning ordinances and community plans. Relaxing development regulations will provide property owners greater flexibility in determining the most profitable use for their property, which is often different than the designated use. In such an environment, racial or socioeconomic groups may still choose to gather in one neighborhood because it is where their family or community is established, but they will not be trapped

there, and property owners will not be held hostage to outdated zoning regulations. Over time, a natural mixing of development will occur via free-market exchanges, allowing greater choice in housing for people of all backgrounds.

Houston, Texas, offers a case study. The southern city is the largest American city to shun zoning restrictions but boasts an impressive diversity profile. Jeff Taebel, director of Community and Environmental Planning at Houston-Galveston Area Council (HGAC), described Houston as having attracted more than three times as many foreign immigrants as Los Angeles since the 1990s, though Los Angeles is more than double Houston's size. In fact, Houston is the most ethnically diverse metropolitan region in America, surpassing even New York City. More remarkably, racial diversity in Houston is not isolated to a particular neighborhood as it often is in other diverse urban areas.

Residents agree with local urban policy professionals: Carla Lane, an African American Houston resident and entrepreneur listed racial diversity and integration among Houston's virtues. In a recent *City Journal* article, she described Houston as:

...very different from Dallas, where I grew up, which was very segregated. My daughter has a totally different experience—many of her friends are white, Hispanic, or Asian. Living out in Pearland [a Houston suburb],



(Source: Nikita Gavrilovs, Flickr)



(Source: Kurt Bauschardt, Flickr)

vision of the local planning board. Still, surely many cities could be persuaded that such concerns pale in comparison to rules which perpetuate residential segregation.

Moreover, it is helpful to keep in mind that with many government regulations the individuals who have the most to gain by limiting the supply of a

you can have that experience, and then you cross Highway 6 and you see people with big hats, boots, and straw in the mouth. That's Houston to a tee.

While policy professionals may find it easy to discount local interpretations as sentimental or biased, it is more difficult to contend with consistent academic analysis. A recent Harvard University study finds that over half of the difference in levels of segregation between strictly zoned Boston and lenient Houston can be attributed to zoning regulations. A study in *Urban Affairs Review* uses multiple regression analysis to document the same pattern on a regional basis; density-conscious zoning is associated with exaggerated

African American residential segregation, even after controlling for other zoning policies and a variety of metropolitan characteristics. A Brookings Institution report reveals a similar relationship between

density zoning and Asian or Hispanic residential segregation, where greater low-density zoning is associated with greater segregation of Asian or Hispanic communities. It may come as a surprise to HUD that ethnic mixing in Houston and other lightly zoned metropolitan areas is not achieved by way of careful monitoring and HUD's "Assessment Tools."

As in the case of most policy changes, local municipalities would be prescient to expect pushback from some groups. Community stakeholders may reasonably argue that deregulation could lead to other problems—for example, aesthetically unappealing development. Perhaps deregulation would also give rise to development that is incongruous with the character of the community or the

In fact, in Manhattan it is estimated that up to half of the price paid for housing is directly attributable to the hidden costs of restrictive zoning. It is no wonder that many US cities claim to be in the throes of an affordable housing crisis.

good or service are the stakeholders that arrive first to the scene. Zoning policy sets expectations for property-owners and this makes the repeal of conventional zoning politically difficult in practice. Aesthetic concerns are likely to worry property-owners in affluent neighborhoods and districts most. It is likely that some misgivings could be overcome through the development of voluntary associations of property owners, similar to the way homeowner associations operate in neighborhoods across the United States. Meanwhile, low-income families may worry that they will be the target of animosity when development standards change. It should be assumed that, much like zoning regulation

itself, any policy change cannot satisfy every taste or concern while side-stepping every trade-off. Consequently, HUD and its local subsidiaries need to find clarity about their first priority, understanding

that not all preferences can simultaneously be satisfied.

Unfortunately, HUD's current policy makes the opposite argument. HUD believes that if they just have enough data and enough regulation, the varied urban development problems can be uniformly solved. However, this very mindset produced the problem.

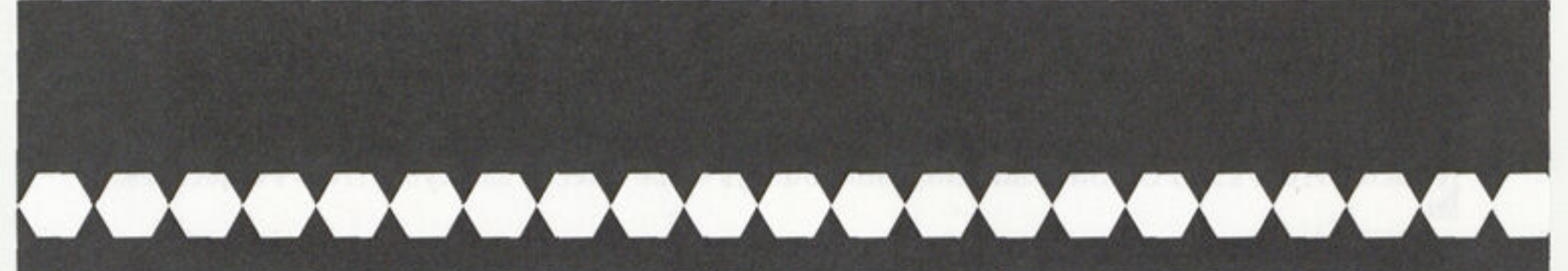
HUD fails to recognize that when the offending law is local, the solution is not obligatorily federal. Likewise, when the offending problem is regulation, the solution is not necessarily more regulation. Rather than using force to obtain outcomes through a federal mandate, the relaxation of existing regulations at the local level would address some of the root causes of disparate housing

development patterns while providing individuals of all demographics with additional choices, reducing HUD's and US cities' administrative outlays while directly satisfying HUD's objectives.

Vanessa Calder is a second-year master in public policy student. Her experience includes involvement with urban policy at multiple junctures, both applied and theoretical. Prior to graduate school, Vanessa worked on citywide moderate-income housing, zoning, and transportation plans. More recently, she focused on federal housing policy as a graduate fellow at a national think tank in Washington, DC. Vanessa also holds a bachelor of science degree in urban planning.

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◆ Federal Reserve Rate Normalization and Emerging-Market Risk

By Edward Cuipa

On 16 December 2015, the US Federal Reserve announced the first increase in the federal funds rate in almost a decade, hiking the target benchmark rate range by 0.25 percent to 0.25–0.50 percent. The move impacts economic growth because the federal funds rate sets the rate at which banks can lend to one another overnight, which in turn affects lending rates throughout the economy. Although the symbolic move may be viewed as a vote of confidence in the overall strength of the US economy, potential stumbling blocks abound.

Capital outflows, or sales of assets held by foreign investors and driven in part by the Federal Reserve's move, have already reached significant levels: the Institute for International Finance (IIF) estimates that in 2015, emerging markets faced annual net capital outflows for the first time since 1988. A sharp reduction in emerging-market capital flows and the slowdown it entails would inhibit global growth, because according to the International Monetary Fund (IMF), emerging markets made up 56 percent of global gross domestic product (GDP) and 79 percent of global GDP growth over the five-year period from 2010 to 2015.

Interest rate markets in the United States currently forecast a more moderate pace of rate increases than projected by the Federal Reserve. And with rising political risks, stalling reform efforts, and falling commodity prices placing further headwinds on emerging-market growth, interest rate increases are occurring at an inopportune time. Given this economic backdrop, IMF Managing Director Christine Lagarde stated in December 2015 that “global growth will be disappointing and uneven in 2016.” With all these negative factors, many fear that the Federal Reserve may even be forced to reverse course as growth stalls.

A Commodity Menace: China's Economic Rebalancing and the Commodity Reversal

The persistent decline in commodity prices has worsened fiscal conditions in energy-producing nations. Low oil prices have mired markets in energy-producing developing countries, worsened fiscal budget imbalances, and increased the likelihood of social tensions as governments cut back on subsidies or benefits. The oil-producing countries of Azerbaijan and Kazakhstan have already taken action, abandoning their currency “pegs,” which fix exchange rates to the dollar, as their currency reserves dwindled and limited the ability of the central bank to defend a peg. The move to floating exchange rates eliminates the possibility of a speculative attack on the currency—this happens when traders bet the country will abandon the peg—which could severely impact growth and lead to high inflation.

Driving the decline in commodity prices are efforts by Chinese policy makers to shift China's economy away from export- and credit-led growth toward one driven by consumer spending. Policy makers worsened sentiment when they adjusted the renminbi fixing mechanism in August 2015 to allow the currency to better reflect market and economic conditions, rather than dollar movements. The move stoked deflationary fears, as well as concerns that China, worried about growth prospects, was seeking to boost exports through currency depreciation.

These currency moves suggest intensifying pressure on governments in the emerging world

to act. However, with increasingly integrated global financial markets, policy makers in open economies confront a "trilemma" in that they can simultaneously choose only two out of three conditions: free capital flows, an independent monetary policy, or a fixed exchange rate. Thus, when faced with a balance-of-payments crisis (which arises when foreign capital inflows, which financed current-account deficits that occur when the value of a country's imports of goods and services exceeds the value of its exports, sharply reverse), policy makers in countries with free capital flows and adequate reserves can take two paths. One option is to finance a current-account deficit by selling foreign-exchange reserves, essentially delaying the needed rebalancing while supporting the domestic currency. Alternatively, policy makers can take action through expenditure-switching or expenditure-reducing policies.

Expenditure switching occurs when policy makers allow the domestic currency to depreciate, generally inducing consumers and firms to allocate a greater share of income to domestically produced goods at the expense of imports. Expenditure reduction occurs when officials tighten fiscal or monetary policy with the aim of reducing overall expenditures. The goal of both types of adjustments in this case is to improve the trade balance and decrease the price of domestic goods relative to foreign goods. However, these measures are costly because currency depreciation can decrease domestic consumers' purchasing power or increase dollar-denominated debt payments, while tighter fiscal policy can make corporate investment less attractive and reduce economic growth.

The Flow Awakens: Herding Behavior and the Search for Yield

Cross-border capital flows can be beneficial to both advanced and emerging economies if they increase the set of investments available to developed market investors and provide emerging markets access to lower-cost capital. However, the Mundell-Fleming model, which

provides a framework to analyze exchange rates, interest rates, and output in an open economy, suggests that, holding all else equal, capital inflows are contractionary because they lead to currency appreciation in the country receiving inflows and a decrease in the country's net exports. In addition, different forms of capital flows react to macroeconomic events asynchronously, with investor portfolio flows more transitory or short term in nature than foreign direct investment. Nevertheless, recent research by Olivier Blanchard et al. at the IMF shows that non-bond capital inflows tend to be expansionary in practice; inflows lead to reduced costs of capital, increased investment, and higher rates of growth. Thus, capital inflows can help countries receiving them finance growth-inducing investment.

So what's the catch? The IMF's October 2015 Global Financial Stability Report highlighted that global "push" factors, as opposed to country- or firm-specific "pull" factors, have been the driving force behind increased debt issuance in the emerging world. Unconventional monetary easing by major developed-market central banks makes it likely that as interest rates in advanced economies increase, emerging markets could face a prolonged period of capital outflows and increased financing costs.

In the wake of the global financial crisis, the Federal Reserve, through large-scale asset purchases called Quantitative Easing (QE), sought to maintain low real, or inflation adjusted, interest rates in order to help decrease real debt burdens. However, QE altered the behavior of institutional investors. In the hunt for higher returns in assets considered to be more volatile, investors allocated greater portfolio shares to assets in emerging markets. The ongoing unconventional monetary policy led to herding by institutional investors as they collectively chased higher returns. This can prove problematic and lead to adverse financing conditions when investors unwind their positions.

In anticipation of Federal Reserve rate hikes, emerging-market currencies faced an onerous environment in 2015. To get a sense of the magnitude of currency depreciations over the course of the year, Table 1 below lists the current account as a percentage of GDP at the end of 2014 and currency depreciation

for twenty emerging markets over 2015. Since the foreign exchange rates are measured in terms of domestic currency versus USD, a positive value of depreciation indicates that the currency weakened. The data show that the currencies of countries that started 2015 with higher current-account deficits faced more severe depreciation on average. This pattern is similar to trends seen during the “taper tantrum” in 2013 when Federal Reserve Chairman Ben Bernanke merely suggested that the Federal Reserve may begin to slow down the pace of its asset purchases. In the wake of the announcement, emerging-market currencies sold off dramatically and risk aversion quickly spread. The “fragile five,” a group of emerging-market countries (Brazil, India, Indonesia, South Africa and Turkey) with high current-account deficits and a reliance on foreign capital inflows, faced particularly severe outflows and currency depreciation.

Return of the Debtor: Dollar-Denominated Risks

To be sure, not all inflows portend future turbulence as the Federal Reserve raises rates. In fact, there has been a positive trend of increased issuance of local-currency bonds—that is, bonds denominated in domestic currency—by emerging-market sovereigns. As a result, it seems that many emerging-market governments have escaped the problem of “original sin,” whereby emerging markets

struggle to issue sovereign debt denominated in their own currency. In fact, Moody’s Investors Services estimates that local-currency sovereign debt issued by emerging-market governments has increased substantially since the global financial crisis, with the average local-currency share of sovereign debt rising from around half at the turn of the millennium to about three-quarters in 2014. This caused emerging-market local-currency sovereign debt to increase an average of 14.4 percent annually. Compared to USD-denominated debt, local-currency debt helps protect issuers from sharp appreciation of the dollar and reduces “currency mismatches,” or unhedged dollar exposures.

In the private sector, the growth in overall emerging-market corporate debt has been immense, with the IMF estimating that it has risen from \$4.0 trillion in 2004 to more than \$18.0 trillion in 2014. Moreover, there has been a sharp increase in the issuance of dollar-denominated debt. Indeed, offshore dollar credit—that is, USD-denominated debt of issuers based outside of the United States, and which includes bonds and loans—has risen from 28 percent to 54 percent of US GDP and from 11 percent to 16 percent of global GDP (excluding the United States) over the past decade. Furthermore, emerging-market corporate debt issued by non-financial firms and denominated in USD, yen, and euro rose from \$1.8 trillion in 2010 to about \$3.0 trillion in 2014. With QE in the United States,

dollar bond issuance has been matched by demand as investors in advanced economies chased higher yields in the emerging world. As a result, some corporations may be exposed to latent balance sheet imbalances from unhedged dollar-debt exposure as the Federal Reserve hikes rates and the dollar continues to rise (see Figure 1). Simply put, a rising dollar makes the dollar-debt payments of firms in emerging-market more burdensome.

The trade-weighted US dollar index is calculated as a weighted average of the foreign exchange value of the US dollar against the currencies of a broad group of major US trading partners. Liquidity is another consideration that is vital for the efficient

Table 1: Current Account and Exchange Rate Changes (Source: International Financial Statistics, International Monetary Fund)

Country	Current Account (Percent of GDP, Year-end 2014)	Depreciation (2015, vs. USD)
Brazil	-4.42	0.47
Bulgaria	1.24	0.11
Chile	-1.16	0.16
China	2.12	0.06
Colombia	-5.18	0.32
Hungary	2.22	0.11
India	-1.34	0.05
Indonesia	-3.09	0.11
Malaysia	4.28	0.23
Mexico	-1.93	0.17
Pakistan	-1.41	0.04
Peru	-3.96	0.14
Philippines	3.83	0.06
Poland	-2.03	0.11
Romania	-0.49	0.13
Russian Federation	3.12	0.30
South Africa	-5.46	0.34
Thailand	3.59	0.09
Turkey	-5.82	0.25
Ukraine	-3.49	0.52

functioning of markets, since high levels of liquidity allow investors to transact without significantly impacting market prices. However, deleterious liquidity conditions in bond markets could also boost volatility in a sharply risk-averse environment. Indeed, many market commentators believe that the Volcker Rule, part of the Dodd-Frank financial reform bill that prohibits federally-insured banks from taking proprietary positions in the market, has led to sharp reductions in bond inventory held on the balance sheets of primary dealers (that is, firms that serve as market-makers for bonds). This decline in inventory may lead to yield spikes when market sentiment shocks occur. Consequently, increasing interest rates and an appreciating dollar could heighten liquidity shocks and price jumps if investors exit emerging-market risk en masse.

A New Hope: Improved Safeguards?

The risks of an overreliance on cross-border capital flows highlights the need for global institutions that can provide adequate financing measures in the event of financial contagion—situations when a crisis in one country spreads to seemingly unrelated markets. However, given its legal mandate to target domestic inflation and employment, the Federal Reserve has a limited role to play. To be sure, the Federal Reserve can offer currency swap facilities, in which the Federal Reserve provides USD to emerging-market central banks in exchange for foreign currency when dollar-financing runs dry. However, these swaps are only offered on a case-by-case basis. And although the Federal Reserve referenced global economic and financial developments when it decided not to raise rates in September of 2015, political and legal constraints essentially limit the Federal Reserve's ability to address financial instability outside of US markets unless it directly impacts domestic economic conditions.

Many emerging-market countries, however, have improved safeguards since the Asian financial crisis of 1997, primarily by boosting foreign-exchange reserves and moving from fixed- to floating-currency regimes. This, in turn, makes emerging-market policy makers better positioned to adjust in times of financial crises. For example, foreign-exchange reserves in developing economies have risen 60 percent between 2008 and 2014, from \$4.8 trillion to \$7.7 trillion. As a result, in the event

of a currency crisis, policy makers may have more room to finance current-account deficits and defend their currencies by selling foreign-exchange reserves. Moreover, in 2010, members of the Association of Southeast Asian Nations, along with China, Japan, and South Korea, formulated the Chiang Mai Initiative Multilateralization Agreement, which now pools together \$240 billion in foreign-exchange reserve. The initiative could theoretically allow for countries to access pooled reserves through dollar currency swaps in the event of a short-term liquidity crisis and ease financial strains.

Despite these measures, there is currently no global lender of last resort with adequate firepower to combat global financial crises. This reveals the importance of improving the effectiveness of multilateral institutions in addressing global financial contagion. However, in the years since the global financial crisis, we have witnessed sclerotic progress in efforts to expand and reform preexisting multilateral institutions. As a result, many countries have supported the development of institutions, including the BRICS New Development Bank and the Asian Infrastructure Investment Bank (AIIB) spearheaded by China, that exist outside of the Bretton Woods framework that gave birth to the IMF and World Bank. Even Western allies of the United States, against the wishes of the Obama administration, backed the AIIB.

Fortunately, some progress has been made on this front. In December 2015, Congress passed an omnibus spending bill that included IMF reform doubling the quota share, or permanent equity funding, and allocating a greater voting share to emerging-market countries. Moreover, the IMF recently softened its view on capital controls, or measures that limit inflows and outflows of investor funds, and suggested that capital controls may be optimal in emerging markets if regulatory and financial institutions have not reached an adequate level of development. However, to effectively guard against financial instability, a better path would be for emerging-market policy makers to maintain fiscal and monetary prudence and develop more robust regulatory regimes. Countercyclical policies that boost reserves and increase savings during periods of growth would grant policy makers the flexibility to increase spending during sharp declines in growth and investor sentiment across markets.

More recently, IMF officials have discussed new crisis-fighting mechanisms. In

Figure 1: Trade-Weighted U.S. Dollar Index



The trade-weighted US dollar index is calculated as a weighted average of the foreign exchange value of the US dollar against the currencies of a broad group of major US trading partners. (Source: Federal Reserve Bank of St. Louis)

a 2016 speech, Christine Lagarde suggested that the IMF may develop short-term credit lines for emerging market governments that face liquidity problems but are otherwise solvent. However, a recent Wall Street Journal article pointed out that with only about \$400 billion in available bailout funds, the IMF has limited financial resources in a world with trillions of dollars of cross-border capital flows. Another interesting proposal by Edwin Truman, Senior Fellow at the Peterson Institute for International Economics, calls for an arrangement in which the IMF and a global network of central banks would decide, based on predefined criteria, when central banks should provide currency swaps during periods of global financial contagion.

With sharply lower energy prices and deteriorating fiscal positions in many emerging-market oil-producing countries, unforeseen geopolitical shocks have the potential to lead to contagion.

contagion as the Federal Reserve continues to normalize interest rates. Indeed, since emerging-market debt has grown at a rapid pace after the global financial crisis, capital will likely continue to flow out of emerging markets as higher US short-term rates and

With sharply lower energy prices and deteriorating fiscal positions in many emerging-market oil-producing countries, unforeseen geopolitical shocks have the potential to lead to contagion. Furthermore, the rising disparity between the wages of high- and low-skilled employees could continue to boost populist politicians who advocate protectionist policies in the Western world, including the United States and European Union. As a result, protectionism is a potential long-term threat that could lead to a sustained

a stronger dollar dampen sentiment. Moreover, new regulations like the Volcker Rule could make volatility spikes more likely since primary dealers have stepped back, reducing liquidity in the corporate bond markets.

With sharply lower energy prices and deteriorating fiscal positions in many emerging-market oil-producing countries, unforeseen geopolitical shocks have the potential to lead to contagion. Furthermore, the rising disparity between the wages of high- and low-skilled employees could continue to boost populist politicians who advocate protectionist policies in the Western world, including the United States and European Union. As a result, protectionism is a potential long-term threat that could lead to a sustained

Conclusion

Given the prolonged period of inflows into emerging markets, the region may be vulnerable to sharp capital flight and bouts of

decline in global trade and economic growth. Despite these risks, emerging markets can be better prepared for crises of the future through continued efforts to build more efficient multi-lateral mechanisms that can address sharp capital outflows and domestic reforms that lead to procyclical fiscal policies and an improved mix of equity and debt financing. ¹⁸

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◆ Driving the Future of Future Driving: Scaling Up Adoption of Electric Vehicles in China

By Jack Gao and Diana Zhou

Imagine a world where cars operate on electricity alone. Cars are silent, engineless, odorless. Gas stations are replaced by individual electric charging stations located in homes, offices, and shopping mall parking lots. Roads and pavement use friction technology to charge cars as they drive. In dense urban metropolises like Beijing, Mexico City, and New York City, the air is crystal clear because electric vehicles do not release pollution or particulate matter. People no longer remember the smell of diesel exhaust because even trucks and buses are electric. Sound incredible? It doesn't to the Chinese government.

In fact, the Chinese government is currently working to make a majority of the nation's vehicle fleet electric. It has published an official target of five million electric vehicles on its roads by 2020. Moreover, the government identified New Energy Vehicles (NEVs), a broad category that includes electric vehicles (EVs), as a strategic priority for the State Council in its recent 13th Five-Year Plan, the social and economic development targets released by the Chinese Communist Party (CCP) every five years. However, building and scaling up an industry as complex and capital-intensive as electric vehicles is no easy task. It requires coordination amongst numerous competing factions—private auto manufacturers, state-owned electricity and automotive enterprises, local and national governments, and, most of all, consumers. The government has failed to bring about this transition before. What would it take to succeed this time? We discuss the rationale for developing EVs in China, reflect on the failures of past policy interventions, and explore two policies the Chinese government should consider to promote the adoption of electric vehicles in the world's largest auto market.

Why China Needs the Electric Car

China faces three urgent challenges as it transitions from a low-cost manufacturing hub to a consumption-driven economic powerhouse: a lack of indigenous innovation, energy dependency, and environmental degradation. The mass-market adoption of electric vehicles would address all three.

First and most importantly, EVs represent an opportunity for China to gain a significant technological advantage over the developed world while driving economic growth. China fears it will fall into a “middle income trap,” continuously manufacturing low value-added products such as textiles and relying on foreign innovation. In order to sustain economic growth, the CCP believes it should upgrade its industry to a higher-value, higher-technology role in the global supply chain. EVs represent a part of this goal, and battery technologies offer an opportunity to “leapfrog” foreign competitors. Indigenous innovation in this sector would help China create new domestic jobs, build a large domestic market, and develop globally competitive products for export. In this way, China's EV industry could surpass other developed world auto sectors while driving sustainable economic growth.

EVs also provide a promising solution to China's energy dilemma. China is already exposed to significant risk in its energy supply, which is expected to grow as energy demand increases by a predicted 4.8 percent per annum until 2020. Today, approximately 60 percent of the country's oil is imported, with over 80 percent of this coming from the Middle East. Much of this oil is imported for vehicle use. According to the Ministry of Industry and Information Technology,

new vehicle sales made up as much as 70 percent of China's annual growth in gasoline and diesel consumption in 2013. Given increasing geopolitical uncertainties in the Middle East as well as the South China Sea, through which much of China's imported oil travels, it is critical for the nation to reduce oil dependence. By transitioning to EVs and away from conventional fuel vehicles, China can greatly reduce its exposure to risks in the global oil markets.

Finally, EVs have the potential to reduce carbon emissions and air pollution. In 2010, China recorded almost 1.3 million deaths from air pollution, more than twice the amount in all countries within the Organization for Economic Co-operation and Development (OECD) combined. Vehicles are a major source of pollution and carbon emissions. For example, vehicles in Beijing accounted for nearly a third of local emissions of PM_{2.5}, a type of fine particulate matter which is one of the leading causes of respiratory diseases. Because widespread adoption of EVs will shift pollution and emissions from vehicles in urban centers to electricity generation plants located in less densely populated areas, EVs can significantly cut air pollution and reduce health risks in cities. Moreover, the possibility of transitioning from coal to renewables or less dirty forms of energy generation means the switch to EVs can further reduce China's overall carbon and pollutants emissions.

A Failed Transition

While a transition to EVs appears beneficial, shifting millions of consumers to a new technology has proven difficult for the Chinese government. Since the early 2000s, China has implemented a series of policies aimed to develop a domestic EV market. However, these interventions have failed thus far to meet targeted goals for several reasons.

As of the beginning of 2016, most government policies on EVs have focused on prioritizing consumer incentives. For example, in 2009, the Ministry of Finance selected 13 cities, including Beijing and Shanghai, for a pilot program offering subsidies of up to RMB 60,000 (USD 9,370) for the private purchase of battery electric vehicles. Many cities matched

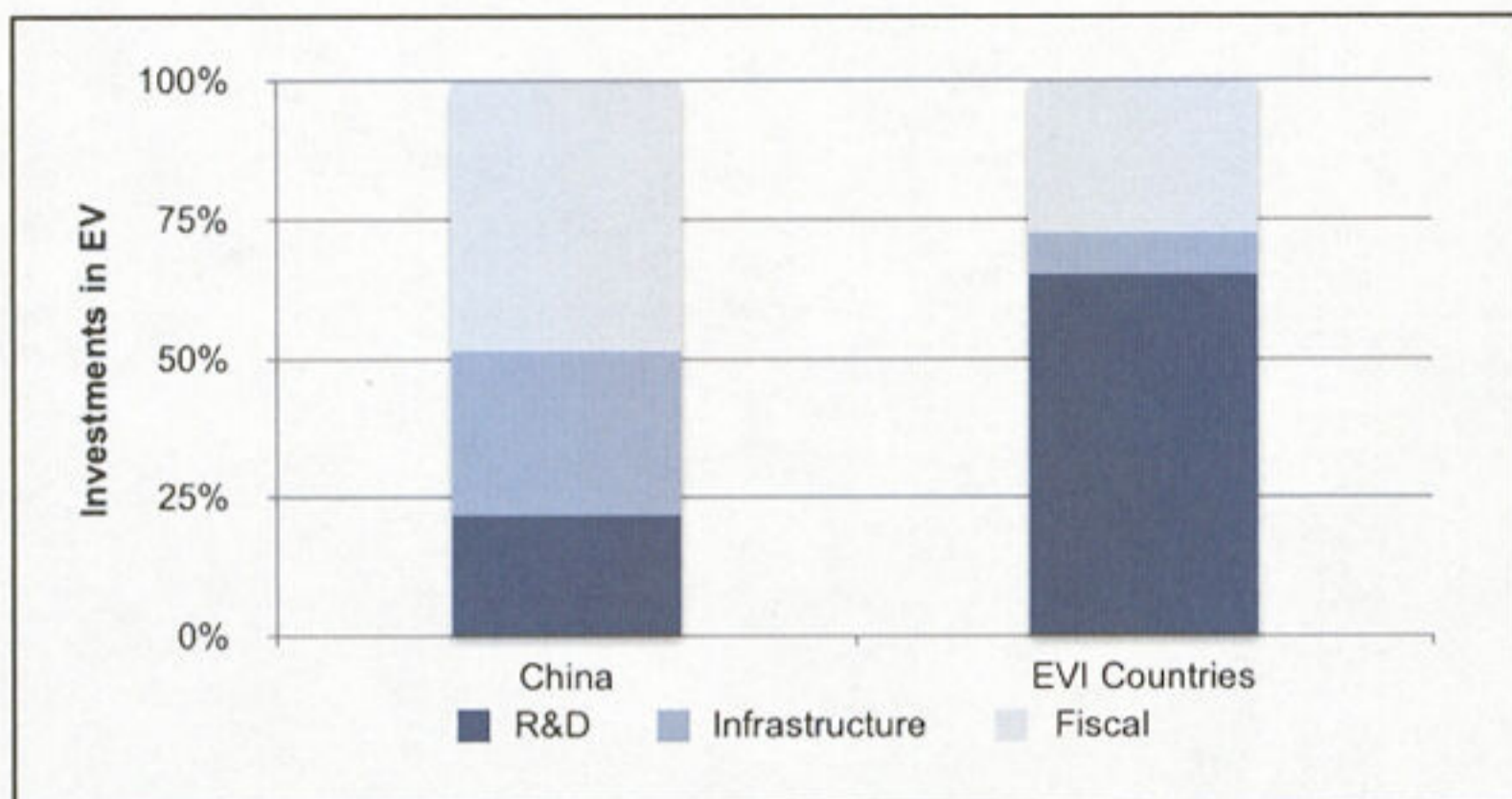
these federal subsidies, which together could cover up to 60 percent of purchase prices, and then went even further, rolling out administrative incentives to encourage EV adoption. For example, starting in 2015, Beijing exempted electric vehicles from its infamous car license lottery system and odd-even number plate alternation policies in which residents could only drive in the city on certain days of the week. Similarly, Shanghai waived EV buyers the approximately RMB 85,000 (USD 13,000) license plate fee and two-year wait that is typical among traditional car buyers. By mid-2015, the government had spent an estimated RMB 37 billion (USD 5.8 billion) on the EV ecosystem, mostly on purchase subsidies and tax reduction and exemption policies, in an attempt to make EVs attractive to consumers.

The results of these policies are mixed at best. On the one hand, many government-owned vehicle fleets have transitioned to EVs. For example, in 2014, China procured almost 30,000 electric buses, surpassing the United States and Japan to top the global ranking of electric bus fleets.

Adoption rates for passenger vehicles, however, have been underwhelming. In 2012, the State Council announced consumer purchase targets of 500,000 pure electric and hybrid vehicles by 2015 and 5 million units by 2020. As of December 2015, only approximately 220,000 EVs were on the road in China. Missing such an important target by more than 50 percent is a rare and embarrassing event for a planning state with a track record of exceeding development goals. Why did these policies fail despite strong government support? We posit two explanations.

Firstly, the government did not focus enough on EV product development. Instead, the regime poured money into consumer subsidies to encourage EV adoption. As can be seen in Figure 1, nearly 50 percent of the government investment in the EV ecosystem was spent on consumer subsidies and tax reductions, compared to only 21 percent on research and development. In contrast, countries participating in the Electric Vehicle Initiative (EVI), a global policy forum dedicated to accelerating worldwide adoption of EVs, spent approximately 65 percent of their budget on R&D and only 30 percent on consumer subsidies. Relying primarily on consumer purchase subsidies is extremely costly

Figure 1: Major Areas of Investment by China and EVI Countries to Build Up the EV Ecosystem
(Source: McKinsey & Company and IEA)



and unsustainable in the long-run, especially if consumers become dependent on these subsidies for product uptake. Moreover, these subsidies do not address the underlying market problem: creating a product consumers want in the absence of government incentives.

Secondly, the government did not invest enough in a robust charging infrastructure network. According to a recent McKinsey & Company study, only 32 percent of the charging stations and 7 percent of the charging poles the Chinese government targeted for construction by the end of 2015 had been completed by April 2015. This failure likely stems in part from the top-down efforts of the Chinese government to create charging infrastructure through its two state-owned electricity utility companies, China State Grid and China Southern Grid, which have been asked to foot the bill without an obvious business model. Installing charging poles by itself is not a profitable endeavor—meager revenues from electricity usage are unlikely to outweigh the costs of installation. As a result, the state-owned enterprises have dragged their feet and delayed building charging stations. Additionally, accessibility to what charging infrastructure exists is problematic. Many charging facilities are located in areas away from cities where land is relatively cheap rather than in

urban centers where consumer demand is high. This misalignment in incentives slows the pace of building charging stations, dissuading urban consumers from purchasing EVs and hurting overall uptake. With the government determined to increase the penetration of EVs and prepared

China's 13th Five-Year-Plan presents an opportunity to implement a new set of policies to facilitate the widespread adoption of EVs.

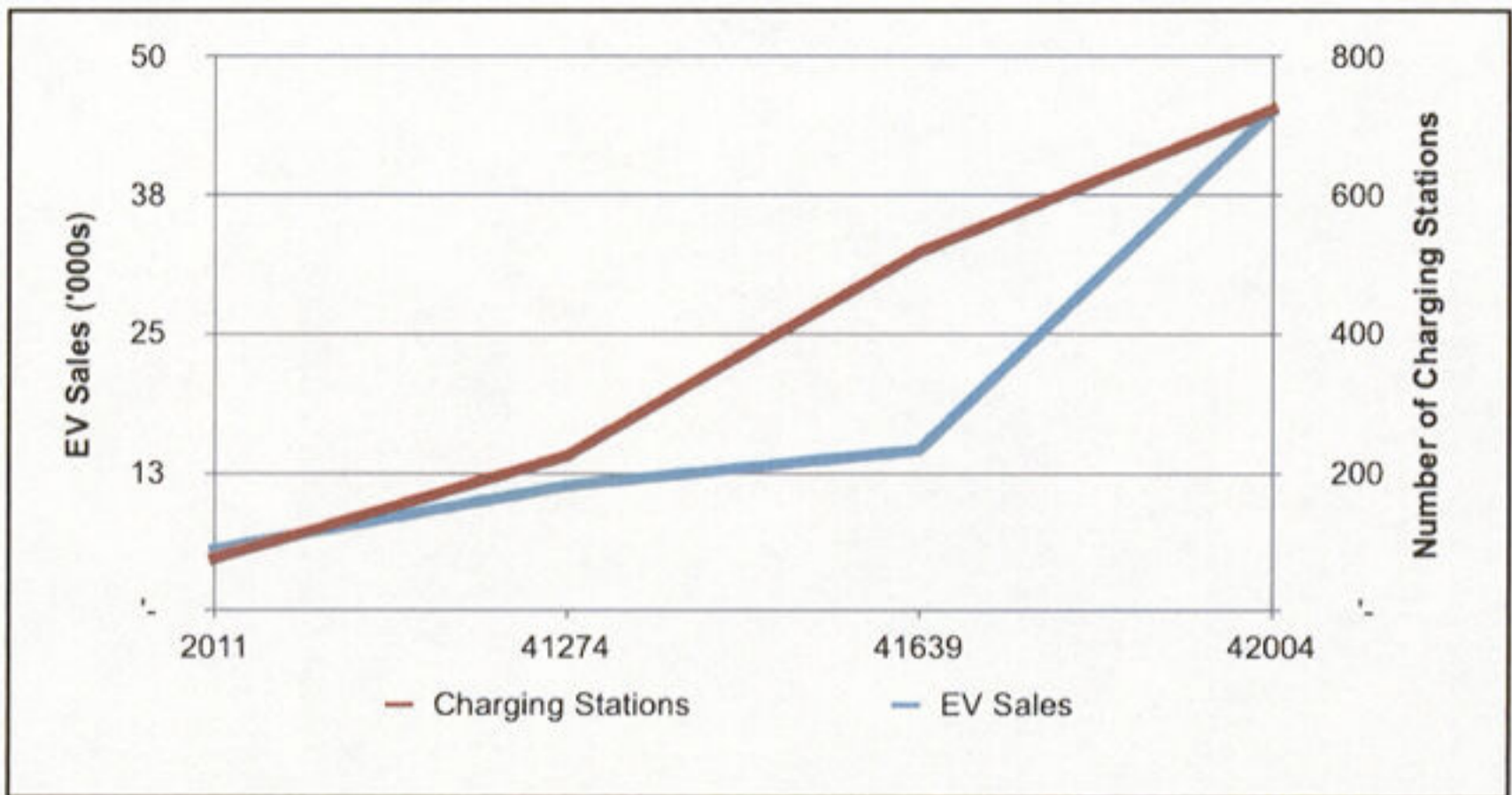
to develop supporting measures, more is at stake than ever before in this market.

Avoid Throwing Good Money After Bad

China's 13th Five-Year-Plan presents an opportunity to implement a new set of policies to facilitate the widespread adoption of EVs. To capitalize on this occasion, planning authorities must understand why past interventions have failed and craft policies that will better incentivize consumer purchases of EVs. We posit two policy solutions.

First, the government should create a targeted incentive structure for EV and battery manufacturers to spur investment in research and technology. This should be accompanied by manufacturer subsidies. Currently, China has no concrete targets for the performance of key EV component technologies. In contrast, the US Department of Energy plug-in electric vehicle program sets detailed targets for battery costs, vehicle weight, and other

Figure 2. Number of Charging Stations and Pure EV Sales in China in 2011 - 2014 (Source:Wind Economic Terminal)



systems costs. The Chinese government should follow this example and set subsidy amounts to incentivize EV manufacturers to reach predefined goals, e.g., creating lighter vehicles or producing more-efficient, higher-quality batteries at a reduced cost. Battery investments are especially critical and should be a focus of government intervention as battery and related management systems make up as much as 45 percent of the total cost of EV production. The government should hold manufacturers accountable by regularly monitoring research progress to prevent fraud. The regime should also fine manufacturers if they miss their targets. This combination of clear research targets, subsidies, and measures of accountability should help improve underdeveloped EV technologies and make EVs more attractive to consumers.

Second, the government needs to increase the number of charging stations and charging poles. As Figure 2 shows, EV sales are closely related to the number of charging stations. Without more charging stations, it simply does not make sense for Chinese consumers to purchase a vehicle that they may not be able to reliably charge and operate. The government should focus its efforts in urban areas where consumer demand is highest. As 80 percent of total charging demand comes from homes, workplaces, or public parking lots, the government should coordinate with real estate developers to create cheaper, more-widely-available

charging points in homes and workplaces. A special challenge in major Chinese cities such as Beijing and Shanghai is the fact that much of the population lives in very dense xiaoqu apartment complexes, where parking is limited and designated parking spots are costly or nonexistent. The government should pay particular attention to providing more charging options for xiaoqu residents to help spur EV purchases among average Chinese consumers. The government should also seek to forge partnerships with private companies that can contribute to building a robust charging infrastructure network, as relying on its two state-sponsored electricity enterprises alone has proven insufficient. By offering tax breaks for the installation of charging stations and poles, the government can incentivize companies to construct more charging stations. The regime can also frame such a partnership as an opportunity to be perceived

As the world's largest automobile market, China's successful transition to electric vehicles would have dramatic implications for the nation and the world.

as an environmentally-conscious company. By increasing private sector involvement, the government can help supplement its own efforts and provide a

much-needed boost in consumer confidence.

Conclusion

Will China be able to transition into an era of pollution-free electric vehicles? On the one hand, China's history of successful central planning and policy implementation makes

it seem likely. On the other hand, this push has failed once before. Generating widespread EV adoption will not be easy with the technological and infrastructure problems that China faces. However, given the potential benefits outlined above, it is a task worth pursuing for the Chinese government. As the world's largest automobile market, China's successful transition to electric vehicles would have dramatic implications for the nation and the world. Moreover, such a transition would showcase a new model of green innovation as China looks to venture into more sophisticated manufacturing. Armed with the interventions outlined above, China can make strides toward expanding the EV market, boosting sustainable domestic production and consumption, and demonstrating to the world that a central planning economy can successfully drive one of the most important shifts in consumer behavior in the twenty-first century. ¹⁸

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◆ Worker Cooperatives: A Bipartisan Solution to America's Growing Income Inequality

By Benjamin Gillies

The ancient Greek philosopher Plato argued that in order for a democratic society to function properly, the wealthiest members should never be more than five times as rich as its poorest. Yet, in modern America, CEOs and other elites can earn up to 600 times the wages of their lowest-paid employees. Responding to this disparity, a small but growing number of laborers are forgoing work in traditional businesses and investing in an alternative model: the worker cooperative.

In a 2013 White House address, President Obama called economic inequality the “defining challenge of our time,” and even Republicans now criticize such inequity. While representatives on both the left and the right acknowledge the problem, they diverge on solutions. The major proposal for curbing inequality among many progressive politicians is for the government to raise taxes on the wealthy. Conservatives, meanwhile, vehemently oppose such an approach. They argue that burdening the companies we look to for job creation is a short-sighted strategy that leaves us worse off when businesses head to lower-tax jurisdictions.

Certainly, we do rely on companies to provide the jobs we need. Yet, over the last thirty years CEOs have faced extreme pressure to maximize returns to shareholders, capitalizing on outsourcing and the mechanization of production to boost efficiency. While investors often enjoyed soaring profits, these measures led to the hollowing out of the middle class. Raising taxes cannot alone solve this problem because it fails to address the inherently contradictory objectives of profit-driven companies and their wage-seeking employees. Instead, Americans can adopt a more holistic approach, exploring the potential of a business model that addresses the key challenges facing workers today.

Though worker cooperatives are relatively well-developed elsewhere—Spain’s famous Mondragon Cooperative, for example, has been highlighted by *Forbes*—they remain marginal in the United States. Nevertheless, in today’s economic climate they offer a number of enticing benefits. Cooperatives are private, for-profit enterprises. Their workers, however, are the ones who own the company and make decisions. These owner-employees keep all profits, instead of seeing them distributed to outside stockholders who often have little connection to the business other than their initial investment.

In contrast to conventional corporations, worker co-ops frequently achieve the Platonic ideal, with the pay ratio between the highest- and lowest-paid workers between 3:1 and 5:1. This is not simply because higher-ups are paid less. With no need to provide a return to shareholders, more money can go directly to employees. Even more importantly, these businesses often offer regular hours, health insurance, and other benefits that are becoming increasingly difficult to come by for service employment in conventional companies. For example, for an ownership buy-in of \$1,000 paid out over time through paycheck deductions, owner-employees in Cooperative Home Care Associates, the largest cooperative in New York City, enjoy wages of \$16 per hour including benefits. At almost twice the market rate, it allows for a relatively comfortable living, which explains why “turnover stands at 15 percent, compared with an industry standard close to four times that.”

Through a one-worker, one-vote system, members are responsible for steering the company. This happens either directly through general assembly votes or, more commonly, by electing

a board of directors. The decisions made therefore put workers' interests first. During a downturn, employees may choose collectively to reduce working hours or pay and find innovative ways to boost sales, instead of laying themselves off. Moreover, because members have a strong vested interest in the success of the business, studies show they work harder and require less supervision, leading to better productivity.

When Mondragon began in Spain in the 1950s, one of its goals was to create employment for a depressed community. Today, members continue to place high value on ensuring the long-term health of the cooperative, typically reinvesting 50–70 percent of profits back into the company rather than paying them out as dividends. This strategy ensures the enterprise has plenty of capital for growth. Members support this approach because they believe the goal is more than just personal gain; it is also to provide employment opportunities for their children and grandchildren in the future.

In Amherst, Massachusetts, the worker cooperative Collective Copies directly invests 10 percent of its profits in initiatives undertaken by youth groups and other local organizations. Organic Valley Cooperative in LaFarge, Wisconsin, similarly provides grants ranging from \$500 to \$50,000 to projects focused on community enhancement and organic research, while encouraging ecological sustainability in its own production processes. Of course, other co-ops, particularly

in low-paying industries, opt to return the majority of their profits to members. Either approach is acceptable. The point is that the employees themselves decide how their business evolves, and can adopt a more holistic perspective on what defines success than the CEOs of shareholder-owned companies. As a result, they often seek to mitigate the externalities imposed on the community in which they and their families live.

Perhaps most enticingly for an economy recovering from the financial crisis of 2008, evidence suggests growing the cooperative base might actually be a more effective long-term strategy for boosting employment than encouraging growth in traditional businesses. A number of Canadian studies show co-ops are less risky than conventional business start-ups. A

[I]n modern America, CEOs and other elites can earn up to 600 times the wages of their lowest-paid employees. Responding to this disparity, a small but growing number of laborers are forgoing work in traditional businesses and investing in an alternative model: the worker cooperative.

2011 British Columbia-focused report found 66.6 percent of cooperatives survived past the six-year mark, compared to 38 percent for the province's businesses and 43 percent for Canada's conventional companies as a whole. On the other side of the country, a 2008 study published by Quebec's Ministry of Economic Development, Innovation, and Export noted 44 percent of cooperatives survived for at least a decade, compared to just 20 percent of conventional businesses.

2011 British Columbia-focused report found 66.6 percent of cooperatives survived past the six-year mark, compared to 38 percent for the province's businesses and 43 percent for Canada's conventional companies as a whole. On the other side of the country, a 2008 study published by Quebec's Ministry of Economic Development, Innovation, and Export noted 44 percent of cooperatives survived for at least a decade, compared to just 20 percent of conventional businesses.

The Slow Slog of Democracy

Certainly, the cooperative model is not a panacea. The democratic structure is time-consuming and onerous, going against the grain



Workers at the Cooperative Homecare Associates, the largest worker cooperative in New York City, enjoy wages almost twice the market rate. (Source: Stephanie Keith, Flickr)

of the corporate hierarchy most Americans understand and accept. Operations at the Black Star Coop in Austin, Texas, are illustrative of the cooperative process, where every worker gets a chance to lead the monthly meeting. It "can be annoying," says employee Dana Curtis, when new members bring up issues that have been extensively covered in the company's past.

Beyond this hassle, a lack of commitment to the democratic model can even lead to the eventual downfall of the enterprise. In 2006, the worker-owners of Burley, an Oregon-based cooperative that had thrived since the 1970s, sold the business to an investor who immediately laid off a number of staff. Sociologist Joel Shoening examined the fall of the cooperative, concluding the company had hired too many members who failed to buy into the democratic idea. Eventually, this rendered the structure unworkable. "The problem for Burley was not that it was a cooperative or that it was democratic, but that it was not cooperative or democratic enough," Shoening wrote in his final analysis. Through interviews with former employees he discovered that, as demand grew, the company took on more workers who prioritized their immediate wellbeing rather than balancing personal interest with the general health of the collective. As a result, the collective fell apart.

The lesson is that not every employee may be prepared to take on the effort and commitment to this structure—but when they do, the benefits can be substantial. Despite the small nuisances, Dana Curtis remains a strong proponent of the cooperative approach. "People can do so much more when they're empowered," she argues, and is quick to point out the advantages of having the entire team dedicated to problem solving whenever issues arise. When a lack of seating and slow service delivery caused sales to suffer, for example, the company had everyone pitching in to find solutions. These fixes were creative, and they worked: Black Star adopted a new point-of-sale system, started taking orders from places other than the counter, and covered their patio to provide extra seating space.

Furthermore, not all employees need to be owners of the cooperative. Some may be unwilling to share the risk in return for dividends, but the higher wages and other benefits provide their own sense of investment in the business and reduce turnover.

Still, even when everyone is committed, cooperatives must operate within the same global economic system as corporate enterprises. This means facing pressures to incor-

porate new technology and increase efficiency to survive, and dealing with the tension between the need to cut costs and the desire to ensure employment for worker-owners. Given this constraint, it is unsurprising most cooperatives in operation in the United States have thus far been in labor-intensive industries. That said, if the pool of cooperatives were to expand and the proper government supports were in place, it is plausible to see growth even in manufacturing and other sectors. Job retraining programs could assist workers in one cooperative transition to another as technologies rendered their positions redundant, providing the flexibility that shareholder corporations currently enjoy.

Admittedly, cooperatives remain marginal in the United States. Of the approximately 5.7 million US firms with employees, roughly 350 are employee-owned co-ops. With a growing number of citizens unsatisfied with the tumultuous work environment and stagnating wages of the modern economy, however, encouraging worker cooperatives might actually be one of the proposals most effectively able to win favor across the political spectrum from politicians looking to address inequality.

An Appealing Choice for Both the Left and Right

In 1978, a new Spanish constitution introduced a number of amendments to support growth in worker cooperatives. The most noteworthy was article 129, which explicitly ordered public authorities to promote co-ops through appropriate legislation. Following this instruction, subsequent regulatory changes have allowed cooperatives to enjoy a preferential tax rate of 20 percent as opposed to the usual 35 percent. Since the 1980s, Canadian federal and provincial governments have invested in a number of pilot projects and programs to promote co-op development.

Strong political support for worker cooperatives is in its nascent stages here in the United States, but is gaining significant ground at the local level. With many cities still reeling from the 2008 financial crisis, officials are willing to try novel approaches to encourage stronger job growth, and looking to worker cooperatives is part of their strategy. In Reading, Pennsylvania, the mayor is a strong advocate for co-op incubation as part of an economic re-localization plan that also includes public banking, urban agriculture initiatives, and investments in energy efficiency. Austin's city council has directed the



It can be tedious to use cooperative democracy to make major business decisions, but as workers in cooperatives attest, amazing things can happen when people have agency. (Source: Roger Blackwell, Flickr)

city manager to develop recommendations for the promotion of new and existing cooperatives, while Oakland, California, is looking at policies to give cooperatives preference in city contracting. In the biggest endorsement, New York City's council allocated \$1.2 million in 2015 to support the development of worker-owned businesses.

At the national level, Senator Bernie Sanders put forward a proposal in 2014 to create a US Employee Ownership Bank to loan specifically to cooperatives, although the bill died in committee. Yet the appeal of worker cooperatives should not be limited to those on the left. The principles of empowering individuals to shape their own economic destiny and promote a more equitable distribution of revenue without government intervention is very much in line with the ideals espoused by the right. Indeed, former President Ronald Reagan touted the advantages of cooperatives when he said, "I can't help but believe that in the future we will see in the United States [...] an increasing trend toward the next logical step, employee ownership. It is a path that befits a free people." As such, adopting policies to further their development could comfortably find a home in the platform of any political candidate.

While it is unlikely the US Constitution will be changed anytime soon, there are a number of other measures that could be adopted. Worker cooperatives often have trouble borrowing because their primary asset is labor, which private banks will not accept as collateral. A bank similar to the one envisioned by Senator Sanders would thus be advantageous. Additionally, there are substantial legal restrictions on "mom and pop" investors that frequently prohibit them from investing in small businesses unless the

company is able to prepare private placement memoranda or public offerings, which can cost upwards of \$100,000—not realistic for many cooperative firms. Loosening these laws as appropriate would allow community mem-

bers to support local businesses (including cooperatives) financially. Moreover, states can ensure their regulations permit cooperatives

to establish investment funds to capitalize other co-ops as they see fit. Finally, rules surrounding pension fund requirements, which frequently incentivize investment in large global companies, can also be updated to enable willing pension-holders to finance enterprise in their own communities.

As Melissa Hoover, executive director for the US Federation of Cooperatives points out, "starting a worker cooperative is a much less straightforward undertaking than forming a limited liability corporation or sole proprietorship." This challenge is compounded by the fact that co-op founders are often workers with skills in their industry but no experience starting a company, and even attorneys and accountants often do not understand the cooperative model. As Hoover notes, this means that "if you are trying to set something up, unless you find one of those few attorneys who understand worker cooperatives, you're basically trying to do it on your own." Ensuring state and federal small business resource centers have knowledgeable staff who can advise and encourage entrepreneurs interested in the cooperative model could therefore be a significant step in the promotion of cooperatives.

Finally, government initiatives can be retooled so as to remove unintended roadblocks for cooperatives. In New York City,

for instance, the Department of Small Business Services formerly required all owners to fill out paperwork in order to access grants, which was onerous for cooperatives with dozens of worker-owners. Going through existing policies to see where requirements might unintentionally place excessive burden on co-ops and modifying them where appropriate would level the playing field between conventional and cooperative companies.

These are just a few examples of the initiatives candidates at all levels of government can explore as they work to elucidate a vision for addressing the financial and political chasm between the rich and the rest. Undoubtedly, worker cooperatives are not a silver bullet to the challenge of ongoing, increasing inequality in the United States, and diverse strategies are almost certainly necessary to address the causes of growing disparity. Still, in polarized Washington, support for these companies offers a rare bipartisan opportunity to bring renewed fairness into the American economy. *BR*

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◆ Securing the Smart City

By Benjamin Goh

In 2015, Business Insider magazine predicted ten million self-driving vehicles will be on US roads in the next five years. While many people are eagerly awaiting the ability to read, eat, or check email as their cars themselves do the driving, this raises a whole host of critical questions. Who is at fault if the car crashes? What if the network for self-driving cars is hacked? Is there any way the human can override the commands of a car that is set for collision?

The world is undergoing a major revolution brought about by such 'smart city' technology. As defined by security expert Cesar Cerrudo, a smart city is "a city that uses technology to automate and improve city services, making citizens' lives better." Driverless cars, cloud-based services, and networks of sensors are all part of the smart city promise to optimize city performance to cope with urban immigration and unlock new frontiers of economic growth. The smart city will save human time in daily activities and eventually enhance productivity and improve standards of living.

The potential for efficiency and economic opportunity in the smart city has propelled adoption of some of its elements in cities such as Barcelona, New York City, and Singapore. However, the hunger for technological answers to urban management has crowded out a more important conversation on the smart city—how to address the growing threat of cyber-attacks. Unlike physical space where individuals are generally familiar with the dangers that lurk, uploading infrastructure into cyberspace brings a whole host of vulnerabilities that deserve much greater attention as smart city technology proliferates.

Cyberspace challenges our traditional response to security threats. As Pulitzer Prize-winning journalist Ted Koppel points out in his book *Lights Out*, it is exceptionally difficult to attribute the origin of a cyber-attack to a particular actor, making it almost impossible "to retaliate against an aggressor with no return address." New technologies empower small groups and individuals to challenge states and other institutions of traditional authority, suggesting the need to rethink conventional concepts of deterrence and defense—at the very least, the role of primacy of the state in security. These questions and changes require significant amounts of time for deliberation, but they operate

under the reality that the economic draw of the smart city rapidly increases the vulnerability of the entire sector, making the ques-

The Smart City brings tremendous potential/promise to manage urban congestion. (Source: Official Photostream of the Prime Minister of the United Kingdom, Flickr)



tion of national security in the smart city more urgent than ever before.

Data Sharing and Free Enterprise

Smart city technology makes the city uniquely more vulnerable in at least two ways. Firstly, the smart city is built on creativity and innovation, driven by entrepreneurial activity in small and medium enterprises (SMEs). Although they contribute to a dynamic industry that commercializes cutting-edge technology, SMEs often have lean profit margins and underestimate their security risk, significantly under-investing in cybersecurity.

A study by the Kaspersky Lab found that 57 percent of very small businesses do not invest in protection solutions. Since the smart city depends on interconnection and interdependence, having a significant number of firms that possess poor security and maintenance regimes threatens the security of the entire platform. As Keith Alexander, former director of the National Security Agency once suggested, if small companies are compromised “in the right order,” a “cascade effect” may be initiated that infects the systems of larger companies and eventually the entire network.

Secondly, the smart city runs on information technology, with infrastructure owned by private actors in order to enable the dynamism and flexibility required to fuel innovation and creativity. Abertis Telecom, for instance, has worked extensively with the Barcelona government to deliver connection services that power the smart city. Similarly, AT&T launched a smart city plan in Atlanta in early 2016.

Unfortunately, private companies are ill equipped to deal with sophisticated attacks. With extensive resources, the government is often best able to guard online networks from espionage and sabotage, but this poses a unique challenge. Unlike safeguarding critical physical infrastructure, protection in cyberspace requires granting government access to the entire data server—a much higher level of entry to privileged business information than is necessary when public agencies protect other private infrastructure, such as the mil-

itary standing guard over an oilrig.

The government’s responsibility to monitor critical assets therefore becomes at odds with the industry’s interest to operate freely. Some have argued that government should take control of the network after the cyber threat passes a certain safety threshold, but an agreed-upon framework for measuring threat levels is still a work in progress. [Done] Worse, perverse incentives of government overreach may in turn encourage less investment in security since public security agencies act as a guarantor of last resort. A middle-way approach could be to institutionalize information-sharing practices, but liability concerns and industry-confidential information have been stalling meaningful cooperation on these fronts as well.

In the smart city, cooperation among firms is often lauded as a way to build synergy across the city, but these economic-based arguments fall apart once the system is threatened. A company that relies on government grants to update its security infrastructure will be tempted to keep requesting more to consistently improve its system, whereas a company willing to surrender operations to the government may be able to fend off the attack initially but lose customer trust due to infringement of its ‘confidentiality’ clauses. To truly secure smart cities, pathways to cooperation and integration must be re-thought, with a clear eye to implications in corporate governance, liabilities sharing, and organizational integrity.

The Vulnerability of Everyday Devices

The smart city includes a plan to make personal devices “smart” by connecting a series of objects through cyberspace. The Back to the Future fantasy of automated daily chores such as toasting bread or making coffee will arrive in the next few years. Integrating everyday devices to the network can bring tremendous convenience, but it also exposes us to a series of threats at both the individual and societal level.

Take smart devices that report electricity use in real-time alert us to consumption patterns and enable better decisions. Knowing the air-conditioning unit is consuming elec-



With great technology comes greater security concerns. (Source: Flickr, Merrill College of Journalism Press Releases)

tricity when we are at work empowers us to send the unit for repair sooner than otherwise. Yet, these traceable consumption patterns also enable potential burglars to track when we are—or are not—at home.

Moreover, some attacks pose a direct threat to human life. A study by security experts Charlie Miller and Chris Valasek recently found cellular networks in cars were an entry point for potential aggressors to shut the car down. Not only can this vulnerability result in car accidents, but also adversaries do not have to be physically close to the target since the attack can be conducted through the network, exponentially increasing the way one can be harmed.

Each device connected on the web creates another potential attack surface with unique vulnerabilities. Whereas computers typically have a user who can install system updates and antivirus software to guard against strikes, smart devices are “headless”—there isn’t a human being operating them who can input authentication credentials or decide whether an application can be trusted. The consequences of ceding such control can be

disastrous. A malware infection of an airplane monitoring system, for example, can contribute to severe plane mishaps, as it did in the crash of the Spanair flight 5022 in 2008.

The smart city goes further than we have ever been before, with interconnected and interrelated devices. This integration poses operational and functional risks that cannot be solved simply by switching off one’s computer. The quantity of data the devices generate (and therefore the complexity of their web of activity) far outstrips that created by a user and his or her mobile phone. Monitoring web traffic between these objects is challenging, and detecting intrusion in these networks will be a herculean task, making security many times more complex than for less integrated computing devices.

Security by Design

For private companies in the competitive startup tech sector, the incentive to prioritize ‘sexy’ features and functions to gain market share means security often takes a backseat. The benefits of security seem intangible,

Are we ready to let our cars do all the driving?
(Source: Chris Tsevis, Flickr)

privacy. Encryption is also a powerful tool in building trust in all transactions online. The “https” protocol (as opposed to “http”), for example, provides authentication of a website and creates bidirectional encryption of communications between a client and server, and has formed the basis of most e-commerce transactions today.

At a time when human communication is increasingly digital, guaranteeing the confidentiality of all our communications through end-to-end encryption is crucial to reducing our vulnerabilities as individuals. Until now, pushback against encryption has come primarily from law enforcement officials, who relish the ability to tap communications.


However, the risks of insecure communications in an increasingly digital society outweigh the cost, and smart cities should create encryption by default to minimize citywide vulnerabilities.

Encryption needs to occur at a more fundamental level too. Wi-Fi hotspots in cities, for example, should be mandated secure

by guaranteeing an encrypted connection. This ensures the safe handling of confidential information and personal data such as credit card numbers or social security numbers, which are increasingly at risk in a well-connected city.

Moreover, making users “invisible” on public networks leaves them safe from sniffers or potential adversaries, enhancing both systemic and personal safety.

Securing individual communications, nevertheless, is not enough. The driving force of the smart city is its ability to create value by integrating digital systems, but these interactions are precisely where vulnerabilities lie. As Steve Durbin, the managing director of the Information Security Forum attests, many “products and services are deployed with security that may be adequate in isolation, yet becomes lamentably weak when connected to other systems.” The number of vulnerabilities in a smart city network will thus be significantly higher than each of its sub-systems, which requires more investment in the areas of authentication, verification, and validation.



and unless one is able to assess how much can potentially be lost through an attack, it is difficult to determine how much investment should be made in protection. For small and relatively unknown companies, not experiencing an attack also gives a false sense of security that further delays investment. The market doctrine suggests profit should always come first in order to create capital fluidity that can later be invested in security.

However, computer-science pioneer Peter Neumann expresses the troubles of such philosophy: “People always say we can add it in later. [But] you can’t add security to something that wasn’t designed to be secure.” Security cannot be thought of as an add-on, but rather as integral to the reliable functioning of any device or program. Securing the smart city therefore requires security by design.

One way to ensure security is to institute encrypted communications, both between users and between devices. Encryption prevents communications from being intercepted by a third party, guaranteeing not just the integrity of communication but also its

At a time when human communication is increasingly digital, guaranteeing the confidentiality of all our communications through end-to-end encryption is crucial to reducing our vulnerabilities as individuals.

Security by design at every level
(Source: Defence Images, Flickr)

A key vulnerability lurking in integrated webs is that malicious software may attempt to impersonate another device in order to infect the system. Having a public key network, in which every device extensively verifies the identity of the system to which it is connecting, will help guard against such impersonation. Think of it like granting someone access to your house—just because a person has found your key does not mean that person is your friend; it will probably be more secure if you could verify the visitor's identity before you unlatch your door. Having a public-key encryption works the same way, to verify and validate each connection to the network, providing a high level of security for all forms of communications between devices.

Data sharing creates the possibility of generating insights through big data, and actors within the smart city should also start considering seriously the ways in which data and information are shared. The push for economic efficiency has created bodies such as the British Standards Institute's Smarter Cities Strategy that sets guidelines on the format, encoding, and interchange of data. Perhaps it is also time to consider standards for the security of information exchange. Enforcing benchmarks on data authentication and security forces companies to consider the importance of information security. More critically, it gives direction to the smart city development model by emphasizing the importance of sharing data in a way that protects the smart city platform.

Empowering Inhabitants

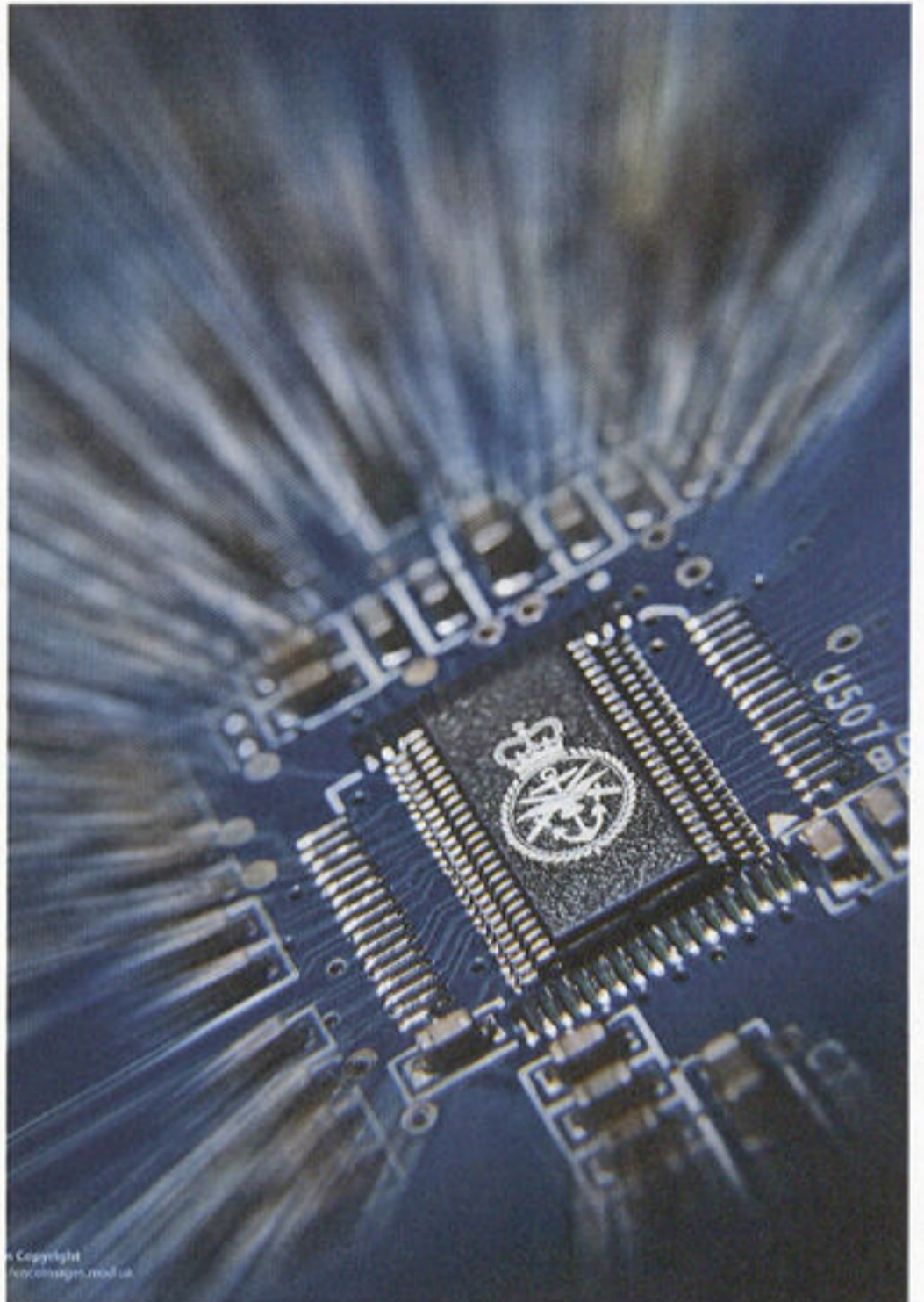
Ultimately, the smart city should be embraced not for its economic potential but for its ability to improve the lives of its inhabitants. A higher quality of life does not just entail saving time in traffic or accessing e-services on the go; it also means providing more opportunities for self-actualization and human agency. Providing such empowerment is more challenging than it sounds, because the rhetoric of a data-driven city implicitly

In securing the smart city, we have to realize privacy can enhance security.

suggests we have lost control of our ability to choose what information we want public, and that which we want kept private. Securing the smart city is not just about securing critical infrastructure; protecting human autonomy increases quality of life as well.

Prioritizing the needs of the citizen above business interests is sometimes good security policy. With encryption, user protection is the default option, which accords citizens a right to privacy but also protects them from bad actors like malware implanters and digital stalkers. Law enforcement agencies may still insist on the need to deny privacy, but encryption offers a more legitimate and targeted approach to soliciting data.

Instead of choosing between snooping communication channels or cracking encryption, city security can track targeted devices instead, to retrieve data from the end user. Indeed, this is the direction society is and should be moving towards. In *United States v. Friscosu*, the same principle applied, as the government sought a warrant that required the defendant to unlock her laptop and pro-



duce unencrypted contents of her computer. Doing so not only preserves privacy, but heightens security as well since the citizenry does not have to be paranoid about the intentions of law enforcement and will be more willing to cooperate.

In securing the smart city, we have to realize privacy can enhance security. The bureaucratic push to import data wholesale has to be subservient to security considerations but also the universal right to privacy. The connected world has made it increasingly unrealistic not to rely on devices to communicate, creating an urgent need to revisit archaic policies that do not guarantee protection for activities involving "third parties." More ethical data-use policies should be in place to meaningfully empower citizens to make choices about data usage in the smart city.


The smart city is a reaction to massive urbanization that is making cities more efficient, livable, and connected. However, the predominance of economic arguments in support of the smart city dangerously obscures its need for infrastructure and human security. To quote urban studies journalist Jane Jacobs, "to suppose that things, per se, are sufficient to produce development creates false expectations and futilities." Designing a technologically integrated city has to go beyond the employment of fancy gadgets and cool consumer apps. Giving the necessary attention to security needs of network systems, with an eye towards the aspirations and empowerment of the city inhabitants, can finally move urban areas towards a truly 'smart' city. *BT*

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● Trials and Tribulations: Relevance Beyond the Poverty Lab

By Courtney Han

The early 2000s was a heady time to be a researcher in Busia, Kenya. The town along Kenya's western border was packed with young aspiring economists sharing group houses, waiting for roast meat at Chauma, the local eatery, and practicing Kiswahili with their Kenyan host families. They worked on projects ranging from subsidized school uniforms to public finance decentralization, health, agriculture and banking. There was even a study on the role of rubber boots in reducing worm infestation. For the next decade, Busia would serve as the training ground for a new generation of development economists, some of whom have gone on to become highly respected economists at top universities and research institutions.

These researchers, sometimes called the "randomistas," were practicing a new method within development economics called the randomized control trial (RCT). Also referred to as field trials, field experiments, or program and impact evaluations, the RCT method is akin to pharmaceutical drug trials. But instead of taking place in a controlled laboratory setting, RCTs take place in real communities. The method randomly assigns an intervention—free textbooks, for example—to some study participants, and not to others. Since all participants have an equal chance of receiving the intervention, they are, on average, the same across all observed and unobserved characteristics. At the end of the trial, differences in outcomes between the two groups can be causally attributed to the intervention itself and not just innate differences between the groups, thereby resolving the identification problem endemic to social science research.

Causal attribution can only be made if an RCT study is well designed and implemented. Accounting for this kind of methodological rigor is expensive, with studies averaging between a quarter to half a million dollars, if not more. They are also time-consuming. Each study requires approval from an ethical review board, well-trained surveyors, a strong understanding of the local context, and an implementing partner's agreement to stay faithful to the initial design of the intervention for the duration of the study. These conditions result in a high fixed cost to run a successful RCT study, and help to explain why, in the early 2000s, many researchers chose to conduct their work in western Kenya, which already had the initial infrastructure in place, thanks to Harvard economist Michael Kremer.

Kremer, who is credited with pioneering the method in the international development field, first went to western Kenya in 1994 to visit a friend who was working for Dutch nonprofit International Child Support (ICS). He was curious about how ICS's free textbooks project affected test scores, so with the approval of ICS, Kremer set up a small experiment in which he randomly selected seven schools to receive free textbooks and seven that would not. Kremer went on to study many other ICS projects in subsequent years, including one on distributing deworming pills for children in primary school.

As the first Kenyan students were receiving their pills in January 1998, 26-year-old Esther Duflo was putting the finishing touches on her Economics dissertation at the Massachusetts



Typical rural home outside Hawassa, Ethiopia, on an RCT respondent visit (Source: Taken by the author, 27 January 2014)

Institute of Technology (MIT). Like Kremer, Duflo was interested in using real-world data to answer causal questions in development and she soon teamed up with him in western Kenya to experiment with fertilizer sales for farmers.

By 2004, the duo had made significant progress. Kremer's deworming paper was published in the journal *Econometrica* to widespread acclaim. Duflo had already turned down tenure offers at Princeton and Yale, and instead created a home for RCT studies at MIT in what is known today as the Abdul Latif Jameel Poverty Action Lab (J-PAL). Duflo envisioned J-PAL as a network singularly devoted to field experiments, where practitioners could collaborate and share resources, knowledge, and costs.

RCTs marked a significant departure from the prevailing development trends at the time. There was broad disillusionment with the indiscriminant application of the Washington Consensus, a cocktail of deregulation, privatization and trade liberalization reforms that the International Monetary Fund (IMF) and World Bank served to crisis-ridden devel-

oping countries. The 300 billion dollars of aid money distributed across the African continent since 1970 had not increased economic growth. Rather, average five-year GDP growth rates had fallen 4 percent between 1970 and 1995, and the percentage of people who lived on less than \$1 per day climbed from 48 percent to 60 percent over the same time period. The prevailing development prescription seemed in need of an upgrade.

By institutionalizing RCTs through J-PAL, Duflo married science with practicality and brought the fresh rigor of econometrics to pressing world problems. In doing so, she transformed what Victorian philosopher Thomas Carlyle called the "dismal science" of economics into the role of arbitrator of what does and doesn't work in development. The media bite-sized, scientifically sound findings were immensely palatable to

an aid industry starved for accountability. Perhaps not surprisingly, RCTs caught on like wildfire.

From Laboratory to a Revolution

By its 10th anniversary in 2013, randomized trials had become "the most popular technique in development economics," according to Shanta Devarajan, World Bank Chief Economist for North Africa and the Middle

The media bite-sized, scientifically sound findings were immensely palatable to an aid industry starved for accountability. Perhaps not surprisingly, RCTs caught on like wildfire.

East. Duflo herself appeared at the World Economic Forum, the UN General Assembly and the prestigious Collège de France in her native France, after which the British

newspaper, *The Independent*, elevated her to the same stratosphere as Voltaire, Rousseau, and Sartre by crowning her the "new face of Left Bank intellectualism." She received a MacArthur genius grant in 2009, followed by the John Bates Clark Medal, a "baby Nobel," for the best economist in America under 40.

As of January 2016, Duflo's J-PAL network

has grown to over 100 researchers and 698 projects, and has established a reputation as the “gold standard” of research. RCT centers now exist at U.C. Berkeley, the University of Chicago, and Harvard University. The study of RCT has also spawned a nonprofit, Innovations for Poverty Action (IPA); a major donor called the International Initiative for Impact Evaluation (3ie); and a new division at the World Bank called the Development Impact Evaluation Initiative (DIME).

In its short life, RCTs have changed how donors think, and consequently, what they fund. The UK Department for International Development (DFID), the US Agency for International Development (USAID), the World Bank, and the Global Innovation Fund, to name only a few, have integrated evidence-based learning and evaluations into their programs. The movement towards evidence has resulted in what Levine and Savedoff call a paradigm shift away from “input/output . . . that tracks resources used and deliverables produced to judge success towards one centered around outcomes and causal attribution.”

The revolution has cost a lot of money—and ink. Evaluations funder 3ie estimates over 2,400 impact evaluations have been published since 2000. If the average RCT costs half a million dollars, that’s \$1.2 billion worth of development money spent on evaluations in fifteen years. Major newspapers and journals continue to praise the RCT revolution, with articles lauding the method continuing to appear regularly in publications like *The New York Times* and *The Economist*.

other contexts. Randomistas claim that some degree of external validity exists, though to what extent is unknown, and this unknown has often become a justification for more RCTs. RCTs also can’t address complex macroeconomic policy (one can’t randomly assign fiscal policy to different countries); cannot test questions that may cause respondents harm (randomizing pregnancy, for example, or smoking); nor can they be used in crisis conditions, when the moral consequences of withholding supply outweigh the gains of learning.

Several particularly vocal skeptics include New York University economist William Easterly, and Harvard economists Ricardo Hausmann and Lant Pritchett. Hausmann argues that evaluations are unimaginative, and “minimize the design possibilities [of a program].” He likens randomistas to “auditors in charge of the design department . . . who have sacrificed learning on the altar of identification.” Pritchett, a self-proclaimed “early non-adopter” of the method, has a similar view that RCTs hold back progress by imposing rigid protocols that stifle the tinkering that effective programs should undertake to improve. Others, like Harvard economist Dani Rodrik, find the randomistas’ preoccupation with micro-scale projects to be limited in impact, when other issues, such as the right industrial policy, have far greater power to reduce poverty.

Perhaps the most famous dissident is Angus Deaton, the Princeton economist and 2015 recipient of the Nobel Prize in Economics. Deaton lampooned RCTs in a 2008

Dissidents of the Revolution

The RCT revolution is not without critics. One persistent concern is external validity, or how relevant one study’s results are to

Michael Kremer,
speaking at the JPAL
tenth anniversary in
Cambridge (Source:
Taken by the author, 5
September 2012)



presentation with one PowerPoint slide. On the left was a picture of a person in the sky with a parachute, and on the right was a person jumping out of a plane without a parachute. The pictures were labeled, “Esther Duflo” and “Abhijit Banerjee,” Duflo’s former advisor, frequent collaborator, and now husband. The point was harsh: We don’t need to test that parachutes are useful for people who jump from planes. In other words, why use an RCT to test a question that can be answered by theory? Learning that an English textbook won’t help a non-English-speaking second-grader improve his reading score doesn’t require two years of rigorous evaluation. Some common sense would do, and it would be a lot cheaper.

Problems of Replicability and Adoption

For the most part, critics have not managed to quell the media frenzy over RCTs, but fifteen years of studies help to bring some perspective. At J-PAL’s 10th anniversary, presenters celebrated several examples of programs that have achieved large-scale success as a result of evaluation. Kremer’s deworming study, for example, has led to over 90 million treated children across Kenya and India. Safe Water Dispensers, initially a chlorine water dispenser study, now serve clean water to 4.1 million people in Kenya, Malawi, and Uganda.

While RCTs can unearth some consistent evidence of what works in development, they may be an exception rather than the rule. Replication studies and meta-analyses have not found a compelling case for the generalizability of results. One recent meta-study by economist Eva Vivalt finds that outcomes across similar studies have differed dramatically; after grouping results by intervention category, the average variation on outcomes was four times the size of the same measure of variation in medical trials. Vivalt also finds that one study’s outcome was a very poor predictor of outcomes for the same type of program in a different context, and wrongly predicts replication results if redone in the same setting by 45 percent. Perhaps it is not a big surprise that out of 698 evaluations, the J-PAL website lists only 15 cases of scale-up after an intervention. That’s a 2 percent success rate—paltry, even for international devel-

opment’s standards.

Perhaps more troubling is the fact that RCTs, by virtue of their design, conflate interventions with their implementation when measuring impact. This can be problematic if RCT studies struggle to distinguish between a good intervention idea that is poorly implemented and a well-implemented but bad idea, as both can yield the same outcome. For instance, in 2012, Duflo and others found that short-

term contract teachers in western Kenya were able to raise test scores better than civil service teachers. But when the Kenyan Ministry of Education scaled up the contract teacher program, there was no improvement. Another group of researchers replicated the Duflo study, using a nonprofit to run a contract teachers program alongside the government’s national program. Contract teachers became effective again—but only under the study’s nonprofit implementing partner. In the intervention, the context and the timing were identical, but varying just one dimension—the implementer—changed the final outcome. Good intervention ideas are necessary, but not sufficient, for impact. Implementation is critical too.

If external validity is a tenuous supposition, RCTs may have at least helped organizations revise their operations in cases with strong internal validity. But this appears unsupported by the evidence. Over thirty-five projects have taken place in western Kenya, and nearly every household in the region has been part of a study at some point in time. Since internal validity is the first-order priority of an RCT, western Kenya should be the ideal context for any one of the thirty-five studies to be scaled-up or applied locally. For the most part however, interventions found to have significant positive effects in Busia have not been scaled. Carolyn Nekesa, a Busia resident and longtime collaborator on Kremer and Duflo’s studies, noted that while RCTs have contributed to the knowledge base of the region, there is little evidence of lasting intervention presence.

One explanation for this absence of lasting impact is that researcher agendas do not align well with those of implementers. In Busia in particular, many studies were designed and run entirely by academics, leaving little room for scale-up because there was no partner to carry the implementation forward after the

study ended. The protracted lag time between research and publication—the average gap taking 4.17 years—also reduces the relevance of results.

Another major bottleneck to implementation is political. Kenya's 2013 devolution led to the establishment of county government posts that have not received clear directives on the extent of their power. This has affected which level of government a persistent researcher must reach to disseminate findings. For example, staff from a 2013 Busia study on rural micro-grid financing schemes secured a meeting with the National Electrification Strategy Committee, the Kenyan agency in charge of rural electrification. But due to the piecemeal process of devolution, substantive county-level planning is on hold until electricity provision is successfully devolved.

Political constraints are one of many administrative, practical, and personal constraints that implementers optimize across on a daily basis. Is this policy relevant to my constituents' needs? Is this policy politically feasible? Will I lose my job if I propose this policy? Will I have to do much more work if this policy succeeds? The optimal answers to such questions do not naturally align with the economic equilibrium that is the randomistas' mono-focus. Thus in the context of the practical complexities of policymaking, it is not so unreasonable that supremely well-identified and quantifiable solutions are rarely applied,

even in places where interventions have high internal validity.

Such practical realities help to explain why the implementation of RCT findings have underperformed compared to expectations.

RCT purists also need to strengthen ties with the thinkers and planners within governments and implementing agencies, and not only when it is helpful for a new study.

More importantly, practical realities are weakening a critical assumption that underpins the RCT enterprise as a whole, which is that the

problems of poverty stem from a lack of precise answers. The RCT enterprise assumes that once concrete evidence is found, implementers will use such evidence effectively to reduce poverty. However, the evidence is showing, both through a lack of scale-up and adoption, that this assumption is not necessarily true.

The Next Generation

In fifteen years, RCTs have generated tremendous influence by moving the development paradigm from the rhetoric of hope to one of evidence. Organizations like J-PAL have added thousands of rigorous evaluations to the development knowledge base. But the resulting body of research shows mixed replicability of results and low adoption by the policy community. If the economist has not replaced the work of the development practitioner, and data is not solving the problem of poverty, where does this leave J-PAL and its affiliates?

The development consultancy IDInsight recently introduced a useful framework that

separates RCT studies into two categories: Knowledge-Focused Evaluations and Decision-Focused Evaluations. IDInsight considers the former to be the traditional focus of J-PAL and its affiliates, and catego-



Farm household in Busia, Kenya. (Source: LRI/Charlie Pye-Smith, Flickr)

rizes itself into the latter, which deploys methods of rigorous evaluation in bespoke ways, as requested by an organization seeking solutions to particular programmatic problems within particular constraints. In the process, they are willing to sacrifice some internal validity and scientific rigor for gains in time and learning. Other organizations like Dalberg and Yale economist Dean Karlan's "Goldilocks" project, which helps nonprofits build best-fit monitoring and evaluation (M&E) systems, also fall into this second category, and might be referred to as "RCT practitioners." J-PAL and IPA, the traditional "RCT purists," are best positioned to continue expanding and refining the knowledge base, rather than diluting their resources to reach for policy relevance.

J-PAL, IPA, 3ie, and the World Bank are taking steps to generate policy briefs and place them into the right hands. They are partaking in "matchmaking" between researchers and policymakers, and adding to the replications literature to consolidate learning. These are all steps in the right direction, but well-written policy briefs alone are not sufficient. RCT purists need to improve on better synthesizing and disseminating the causal chain of events within studies, not only trawl for patterns across outcomes. They should deploy effective communicators—program managers, media contacts, journalists—to move the dialogue from "more data" and "RCTs are good" to promoting a better understanding of the data that the movement has amassed.

RCT purists also need to strengthen ties with thinkers and planners within governments and implementing agencies, and not only when it is helpful for a new study. The Kenya IPA office is a good example of an organization making this transition. Though slow and sometimes difficult to coordinate, strengthening ties to government is a step in the right direction. In 2014, IPA attended a slew of education and health conferences to share RCT findings. The organization now has a seat at breakfast meetings with the Ministries of Education and Health, and an agreement with the Ministry of Education to help update Kenya's school curriculum. The results are promising, if not always recognized. "There's an attribution problem," says Francis Meyo, the IPA Kenya Policy Coordinator. Government offices take the lessons they circulate and sometimes use them, but don't always connect an idea to an RCT. This is precisely the role that purists should be striving for: presence, educated influence, and agnosticism about cookie cutter results from past RCTs.

The Real Work Begins

While a generation of RCT studies has not resulted in the tidy, generalizable outcomes that Duflo hoped for, the studies have produced many detailed individual portraits that can help to flesh out the strengths and limitations of particular strategies for poverty alleviation. As J-PAL and its affiliates mature into the next decade of evaluations, they must focus on the dissemination process of such specific pieces of rigorous evidence with an appropriate dose of humility. In this way, randomistas can remain relevant—not primarily as doers and fixers but as advisors and thought-leaders—to the global development agenda. Short of these steps, the RCT revolution may be talking itself into the annals of economic history. ^{KR}


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◆ Two Stories, One America: How Political Narratives Shape Our Understanding

By Stephen Hawkins and Tommy Flint

It's a troubling day when we have to admit that the TV pundits are right: America is politically polarized. From the halls of Congress, to news articles posted online, and even to our local neighborhoods, we're increasingly sorting ourselves along ideological lines. But reality is not as simple as our liberal and conservative ideological stories. Reality is stubbornly complex. As our ideologies have become more important to our identities, Americans are increasingly ignoring the facts, disputing reality, and maintaining their narratives—no matter what.

Ideologies: The Stories We Tell

In the phrase of literary scholar Jonathan Gottschall, humans are “storytelling animals.” We use narrative to make sense of a chaotic and unpredictable world, to imbue events with moral significance, and to define our own selves. It should be no surprise then that American liberal and conservative political ideologies may too be represented as narratives.

As we see it, the conservative narrative goes something like this:

By nature, people are immoral and lazy. But Christian families create moral, hard-working children, and our capitalist economy rewards their hard work. Our government exists to keep our prosperity safe from evil, both at home and abroad. And this is how America became great: self-disciplined people were given a chance to succeed and granted a government to protect them. Today America holds the moral high ground because we alone have set up the right balance of freedoms and rewards.

Liberals just don't get it. While government policies to reduce poverty have not worked, liberals won't admit that the solution lies in certain cultures and families becoming more self-disciplined. They can't see that welfare rewards laziness; that drug use leads to inactivity; that our moral standards are in free-fall; and that other religions aren't just different, they're false. And since they blame our government for society's failures, they don't really believe in America and are more trusting of international groups like the UN.

We would tell the American liberal narrative, on the other hand, as follows:

By nature, people are pretty much the same everywhere. Race, religion, and gender are just superficial categories that allowed white Christian men to subjugate others. These artificial categories justified American slavery, segregation, sexism, and homophobia. The social movements for women's rights, civil rights, and gay rights have been slow marches toward a more just society and economy. Our government exists to help move forward this work of making society fairer for all.

Conservatives just don't get it. Conservatives can't see that some people are facing harder struggles because of historical prejudices. They won't admit that government could fix these injustices—most developed countries have used government to provide a high standard of living for all. They can't see that wages are too low for the poor to advance, that our legal system disproportionately punishes minorities and the impoverished, and that Christianity is used to defend prejudices against women and gays. Oblivious to these problems, conservatives are blindly patriotic, believing America to be infallible.

Now, you have probably never come across these meta-narratives expressed so directly. Any meta-narrative is a simplification, and our reduction of American political attitudes into a binary requires exaggerated language and little nuance. Nonetheless, these narratives help explain the landscape of our polarized reality. Their hyperbolic phrasing and rejection of ambiguity are representative of our contemporary processing of current events.

These narratives can be felt in our news coverage, in our social media, and in our personal lives. According to Pew Research Center, the share of Americans who express consistent ideological opinions, either conservative or liberal, has doubled over the past two decades. These ideological purists are more likely than others to say that most of their friends share their political views. Moreover, dislike of the opposite party has more than doubled since the 1990s, with record high numbers of people Americans saying the other party is a "threat to the nation's well-being". So straying from the script can mean facing social alienation from friends and family.

Drawing upon the support of a burgeoning field of academic research, we will describe how our allegiance to narrative leads us to misperceive reality in three ways: we ignore pieces of information that don't fit our narrative, we dispute facts that challenge our narrative, and we maintain demonstrably false beliefs that confirm our narrative.

Ignoring the Facts—Ahmed's Clock

We'll begin our first case study not with a story, but with a set of five facts:

- On 14 September, 2015, Ahmed

Mohamed, a 14-year-old Muslim-American boy, brought a homemade science project—a digital clock—to his high school in Irving, Texas.

- Ahmed was known for bringing gadgets to class, and he was a member of the robotics club in middle school.
- When Ahmed showed his project to his teachers, he was accused of perpetrating a bomb hoax.
- Ahmed was handcuffed by police and taken to a detention center, where he was interrogated without an attorney present, before being released without charges.
- Ahmed received a scholarship to a prestigious science academy in Qatar, and his family has since relocated.

If you're not already familiar with the story, it may not be difficult to imagine why it set media outlets aflame. It fit the liberal narrative like a glove: here was an ambitious and inventive young man being humiliated and forced into exile by white authority figures who deemed him a threat on account of the color of his skin and his religious affiliation.

Media outlets on the right, however, were not so quick to accept this story. A new set of facts emerged:

- Ahmed's project was not part of a school assignment, and consisted of an alarm clock LED display fitted into a pencil case with a false-metal exterior.
- Ahmed's father had previously embraced controversy by serving as a defense attorney in Pastor Terry Jones' mock trial of the Koran. He encouraged his son to show the device to his teachers.
- Ahmed's engineering teacher told him the clock was "nice," but that he shouldn't show it to anyone else. However, Ahmed went on to show the clock to his English teacher.
- School and administration followed protocol for possession of a hoax bomb, a felony in Texas.
- Ahmed's family threatened to sue the former school district if they were not paid \$15 million in compensation.

This new set of facts, in turn, follows the standard conservative narrative of traditional authority being manipulated under the guise of multiculturalism.

The problem here is not that journalists and commentators are disputing the veracity of these facts—as far as we can tell no one is

arguing, for instance, that Mohammed was not actually a member of the robotics club—but that these facts are rarely, if ever, told together. In our search, we could not find a single news source that compiled all ten of the facts listed. It's not hard to understand why this is the case: the combined facts simply don't come together for a very good story.

The only known photo of Ahmed's homemade clock. What do you see? (Source: Irving Police Department Press Release)

Not coincidentally, the facts from the liberal narrative are easily found on media outlets that are more trusted by liberal readers, while facts from the conservative narrative are readily available from outlets more trusted by conservative readers. More generally, Democrats and Republicans each tend to have higher knowledge of facts that credit their worldview, and less knowledge of facts that challenge it.

The tendency to select facts that fit our narrative is on clear display in the media coverage of Ahmed and his clock. After all, if we accept both the likelihood that Ahmed and/or his father had some intention to provoke a response, and the possibility that the administration and police were unduly harsh on account of Ahmed's ethnicity, we're left without a strong ideological narrative to cling to. Instead of a tale of good versus evil that confirms the righteousness of our side, we discover a cast of morally ambiguous char-



The only known photo of Ahmed's homemade clock. What do you see? (Source: Irving Police Department Press Release)

acters and actions. Who could find comfort in such a world?

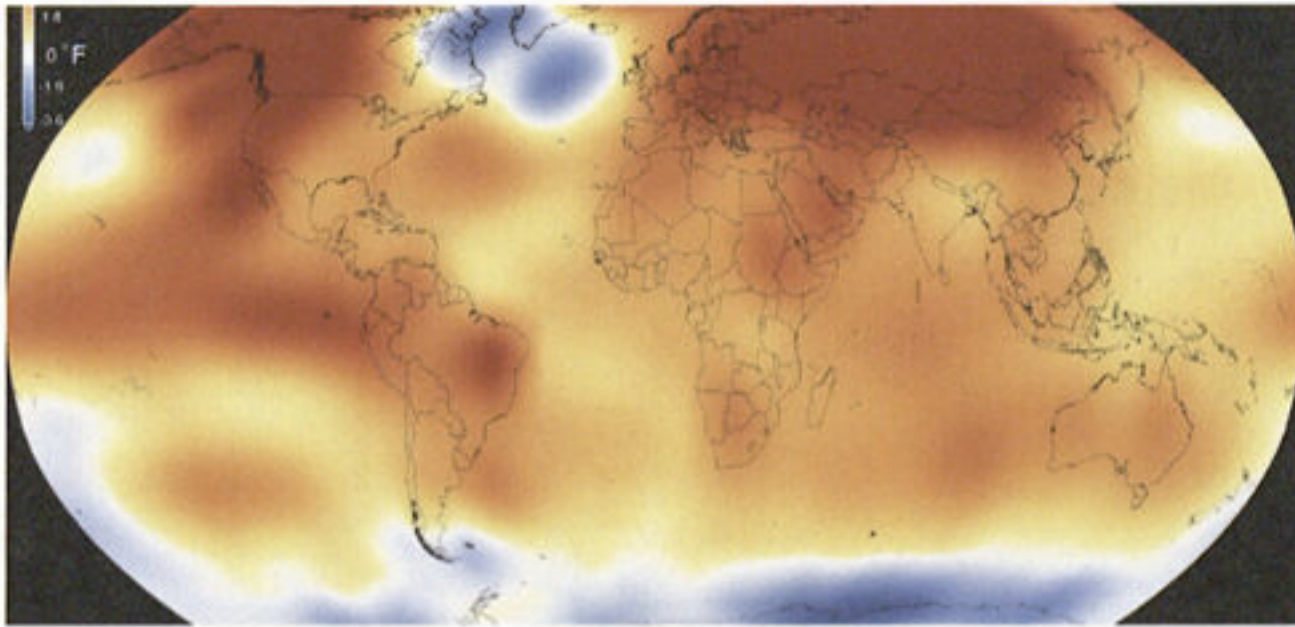
Disputing Reality—Climate Change

The above example has little material significance for those not directly involved. Unfortunately, this is not always the case. We would be remiss if we failed to explore perhaps the most notorious of ideological controversies: climate change. Numerous surveys of scientists have established a strong consensus that man-made carbon emissions affect global temperatures. Yet many doubt the validity of the emissions-climate link—and the overwhelming majority of these skeptics are politically conservative.

On the surface, it may not appear that this disputation of scientific theory has anything to do with an ideological narrative—why would one's beliefs about geophysics be relevant to his political ideology? However, when we engage the issue from the perspective of narrative, we see its salience. For generations, the conservative narrative goes, meddling liberals have used doom-and-gloom scare tactics to justify massive governmental interventions. Progressives used the threat of overpopulation, for instance, to embark upon campaigns of forced sterilization. Over-hyped claims about global warming are thus seen as the most recent iteration of the classic liberal strategy.

Surprisingly, the scientific literacy of conservative skeptics of climate change is higher than that of believers. Even more, the better versed a conservative is in the facts of the debate, the more likely he or she is to deny the consensus. This fits well with the research of Dan Kahan, a professor of law and psychology at Yale, who has shown that greater intelligence and scientific literacy tends to increase rather than reduce ideological biases.

In this case, conservative skeptics are exhibiting a universal tendency: on complex issues, we defer to experts who agree with our pre-determined conclusions. Since the presence of anthropogenic climate change conflicts with the conservative narrative, some conservatives will seek out and give credence only to those experts who dispute its existence. Cynics are thus likely to be well informed on the facts of the debate, but they only believe in those experts who are already on their side.



Heat map of temperature anomalies in 2015. (Source: NASA Scientific Visualization Studio)

As mentioned, this bias is not unique to conservatives—Kahan’s work also suggests that liberals and conservatives are equally susceptible to politically motivated reasoning. The ongoing contention over anthropogenic climate change is significant, however, in that it reveals the strength that our narratives hold—they may lead us to reject a belief that nearly the entire scientific community deems true.

Maintaining the Story— Michael Brown and Ferguson

Some events are so critical that they become part of the script of our narratives. Events such as 9/11, the 2008 financial collapse, and the 2012 Benghazi attacks necessitate explanations within the narratives we tell. When this happens, we fiercely maintain our versions of events.

Consider the infamous August 2014 killing of African-American Michael Brown by white police officer Darren Wilson in Ferguson, Missouri. Initial local outrage over Brown’s death was inflamed by eyewitness reports that Wilson had shot Brown in the back while the teenager had his hands in the air in surrender. This claim helped push the story to national coverage, drawing protesters and journalists from across the country to the small suburb to protest, chanting “hands up, don’t shoot.” The claim was truly disturbing: an execution-style murder by a law enforcement official.

With the facts still in dispute, the ideologues went to their corners. Liberals referenced the event to highlight systemic issues of police violence toward black Americans nationwide. To many liberals, this served as a classic example of the abuse of disenfranchised minorities by the privileged establishment. Meanwhile, conservatives emphasized the grave danger of failing to respect authority and condemned the unruly destruction of

rioters. To many conservatives, the nightly mayhem in Ferguson represented society’s failure to instill values of personal responsibility and self-discipline in its youth. Soon, ‘Ferguson’ became a featured point of both ideological positions.

After six months of investigation, the Department of Justice released two reports. Dramatically, the reports powerfully contradicted both the general liberal and conservative accounts. Undermining the liberal narrative, the Department of Justice concluded that Brown had not surrendered or raised his hands, but had punched Wilson in the face and then attempted to seize his gun. After subsequently fleeing on foot, Brown turned and charged at Wilson until he was shot dead.

Faced with this new reality, many liberal media outlets were quick to maintain the narrative. Some challenged the objectivity of the report, but most simply downgraded the importance of Michael Brown’s particular case. The wider narrative—that of rampant implicit and explicit discrimination against African Americans by law enforcement—was nonetheless true. The ‘truth’ then, existed not in Michael Brown’s posture, but in the minds and actions of police officers in Ferguson and across the nation.

Indeed, the second Department of Justice report exposed systemic racism and abusive practices by the Ferguson police department. Officers used excessive force, including the use of Tasers and canines, disproportionately against African-Americans. But for conservatives, the story remained largely the same as before. They focused on the confirmation that Brown had attacked the police officer, disputed the reports, and argued that the DOJ and its Attorney General had political motivations to smear police officers. For months afterwards, authors revisited the false story of the execution-style death, implying that the status quo of policing was acceptable.

The release of the Department of Justice reports demanded that both liberals and conservatives reexamine the stories they



A memorial to Michael Brown in Ferguson, Missouri (Source: Jamelle Bouie, Flickr)

had been telling regarding Ferguson. With some laudable exceptions, neither version represented the facts fully, and the emergent information recolored the picture in critical ways. Self-righteousness and sanctimony should have subsided to advance a constructive dialogue, but instead the sides maintained their original noise. This underscores a worrying dynamic:

when significant events are woven into our ideological narratives, we insist on maintaining them in the face of contradictory evidence in order to protect our ideologies.

Can we write a happy ending?

Given the powerful biases these ideological narratives engender, it would be nice to think that we could author our own escape from them. Unfortunately, such an ending would be mere fiction. Indeed, we can't escape our biases through reason alone. As alluded to in the climate change controversy, research shows that the smarter we are, the better we are at justifying our own biased interpretation.

Thus far, we've discovered only a couple ways that ideological bias can be minimized. When research participants receive money for answering politically-charged questions correctly—when they're forced to put their money where their mouth is—they exhibit much less bias. Likewise, when the same facts are framed with multiple ideological narratives, readers tend to perceive the issue more accurately. While interesting, neither of these approaches presents us with a means to reduce ideological biases en masse. It is simply not plausible that our government could require citizens to place bets on their beliefs, or censor journalism that doesn't fit an ambiguous standard of narrative framing.

Nor, necessarily, would we want to remove ideological narratives from our lives. They are the building blocks of our sense of nationhood: our narratives communicate our most essential ideals, determine our own goals and interests, and connect us with others. And sometimes, regrettably, they do mislead us. Even this essay, the reader may have realized, has presented a reality-distorting narrative of its own, in which two bumbling characters, 'liberal' and 'conservative', are advised by an all-knowing academic observer. Doing away with this narrative, however, would have hindered our ability to communicate our thesis.

We will thus make a humbler request. The next time you open your favored newspaper or news website, we challenge you to identify the narrative underlying the pieces presented, to seek out a news source that offers an alternative narrative, and to present an opinion to your friends that does not conform to your shared ideology. Finally, we ask that you question the stories you've been told—and the ones you tell yourself. *HR*

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◆ A More Ambitious Agenda Is Needed to Help Achieve Public Debt Sustainability in Greece

By Paul-Adrien Hyppolite and Nina Roussille

The 12 July 2015 Euro Area summit ended with a last minute agreement that avoided an imminent Greek exit from the Eurozone (“Grexit”). Even before engaging talks about the third bailout program in 2015, the Greek government had accepted several prior bailouts with accompanying conditions negotiated with their European partners and the International Monetary Fund (IMF). Leading up to the latest negotiations, Greece had already received €215 billion from official creditors (of which €183 billion was from European countries and €32 billion was from the IMF) since 2010. In the July 2015 summit, European officials agreed on an official loan from the European Stability Mechanism of up to €86 billion, again with strict conditions. Among these conditions, one of the most debated elements during the negotiations was the creation of a fund to monetize €50 billion of public assets through privatizations and other means (concessions, granting of licenses, rights of use, etc., on state assets), so as to reduce the public debt.

As of 2016, no official estimate of the total market value of Greek public assets exists. Therefore, it is hard to know whether the target is realistic. The motives of European partners who put the condition on the table were first and foremost political, and the asset sales target has been approved without prior official technical expertise. This question of feasibility is critical because it determines the level of debt relief necessary to achieve public debt sustainability. We argue

that current uncertainty surrounding the feasibility of the privatization target, coupled with the absence of an up-front deal on debt relief, undermines prospects for recovery.



(Source: Trine Juel, Flickr)

Is a €50 Billion Goal Reasonable?

Using data from the Greek financial accounts, we are able to assess the market value of government financial assets at €62 billion at the end of March 2015, of which only €30 billion are



(Source: Taken by Authors)

held in equity (excluding the shares in the national central bank). Using further data from the Hellenic Statistical Authority, we estimate that the market value of government fixed assets amounted to €107 billion at the end of 2014. Finally, extrapolating data on the value of “non-produced” non-financial assets for a regional peer country, we value the lands and natural reserves owned by the government at the end of 2014 at €152 billion (see Appendix 1 for details regarding the data and the estimation method). According to these calculations, the total market value of government assets exceeds two years of national income (222 percent), to be compared with a public debt to national income ratio of 214 percent at the end of 2014. Thus, net public wealth is slightly positive, which means that the value of government assets exceeds its debt.

Over the pre-crisis period, the ratio of estimated Greek government wealth to national income follows an increasing trend similar to other countries such as France and Spain, although it has consistently remained higher than in the main countries of the Euro Area (see table). This is because, in spite of deep fiscal deficits, substantial public investments

and a surge in domestic house and equity prices increased the value of government assets faster than its debt. Although net public wealth initially rose due to the sharp decline in the market value of Greek tradable bonds in 2010–2011 before the early 2012 sovereign debt restructuring, the crisis eventually led to a steady decline in the government wealth ratio up until now. This decline derives from a combination of factors: first, the surge in public debt following the official bailouts; second, the fall in domestic house and equity prices; and third, the sale of public assets as part of the previous privatization plan from 2011 onwards.

At this stage, the lesson is clear: the government has many assets worth several hundreds of billions of euros. The monetization of carefully selected assets (in particular those that are currently underexploited) could help the government lower public debt and achieve primary surplus targets by generating additional revenues thanks to long-term concessions or licenses, for instance. However, at least two issues hamper the privatization process, thereby threatening the credibility of the €50 billion target:

Figure 1

Greek government assets broken down by asset classes (end of period, market value)		
	€bn	% of 2014 national income
Financial assets (H = A+B+C+D+E+F+G)	62.3	43%
Unlisted shares and other equity (A)	20.9	14%
<i>(of which) in domestic non-financial corporations</i>	19.3	13%
<i>(of which) in domestic financial corporations (excl. BoG)</i>	0.7	0%
<i>(of which) in foreign corporations</i>	0.9	1%
Listed shares (B)	14.5	10%
<i>(of which) in domestic non-financial corporations</i>	2.3	2%
<i>(of which) in the national central bank (BoG)</i>	5.3	4%
<i>(of which) in domestic financial corporations (excl. BoG)</i>	6.9	5%
Other accounts receivable (C)	12.9	9%
Currency and deposits (D)	11.9	8%
<i>(of which) in the national central bank (BoG)</i>	1.4	1%
<i>(of which) in domestic financial corporations (excl. BoG)</i>	10.5	7%
Long-term debt securities (E)	0.9	1%
Loans (F)	0.8	1%
Investment fund shares (G)	0.4	0%
Fixed assets (I)	107.2	74%
Non-produced assets (i.e. land and natural reserves) (J)	152.0	105%
Total assets (H+I+J)	321.5	222%
Total liabilities	309.1	214%
Government wealth	12.4	9%

Sources: authors' calculations, Bank of Greece, ELSTAT and European Commission

Notes: (1) fixed assets include tangible (e.g. dwellings, non-residential buildings etc.) and intangible (intellectual property product, R&D etc.) assets; (2) other accounts receivable for the general government typically include trade credits and deferred payment such as taxes and social contributions; (3) government wealth is defined as total assets minus total liabilities of the government

• First, the structure of government assets is a hindrance: the value of the state's equity holdings in corporations, excluding the central bank, represents only 9 percent of the value of all public assets, while the value of lands and natural reserves—which are much harder to monetize—amounts to 47 percent (see table).

• Second, the current low price environment (for both housing and equity) amid low confidence in the economy may be far from the ideal environment to sell public assets. Rapid liquidation of assets could lead to fire-sale prices for the government, ultimately

reinforcing public debt unsustainability.

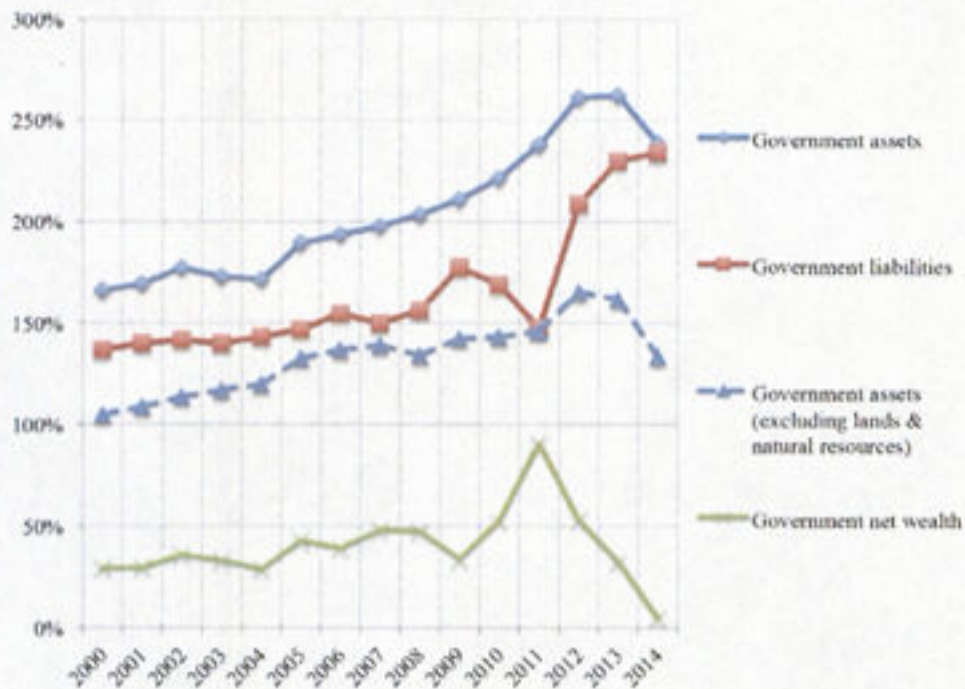
Hence, the ambitious €50 billion target is unlikely to be a sufficient signal to strengthen the credibility of primary surplus targets, change investors' negative expectations, and ultimately make Greek public debt sustainable.

Rapid liquidation of assets could lead to fire-sale prices for the government, ultimately reinforcing public debt unsustainability.

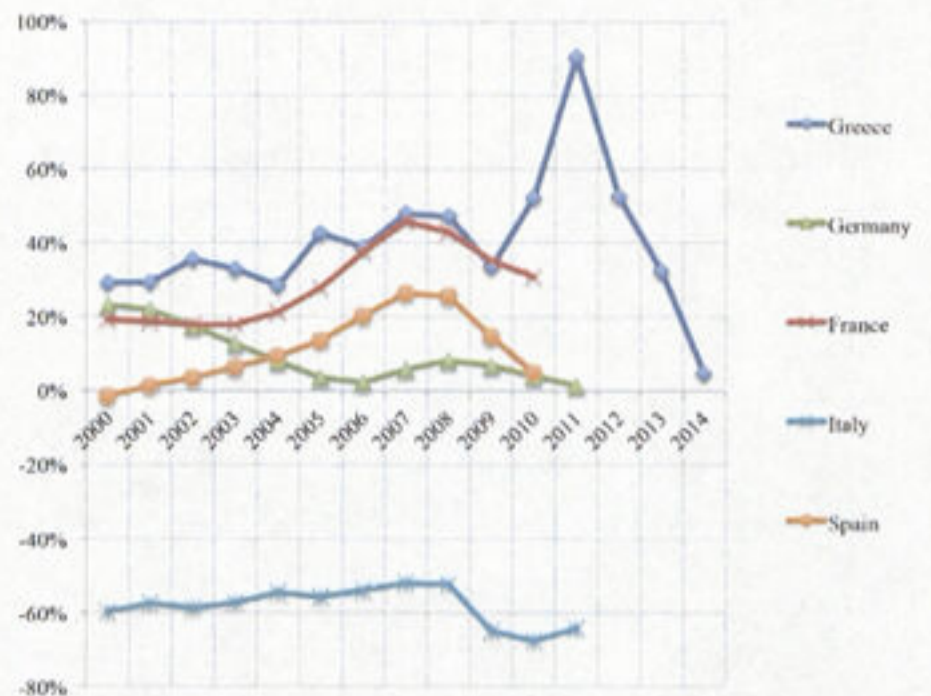
Hence, the ambitious €50 billion target is unlikely to be a sufficient signal to strengthen the credibility of primary surplus targets,

Greek government wealth

Evolution of Greek government assets and liabilities, % of national income



Evolution of the Greek government wealth from a European perspective, % of national income



Sources: authors' calculations (Greece), Piketty-Zucman wealth-income dataset (other European countries)

Note: government wealth is defined as the difference between government assets and liabilities (valued at market prices whenever possible)

change investors' negative expectations, and ultimately make Greek public debt sustainable.

Tackling Tax Evasion

How can Greece find credible sources of revenues to make public debt sustainable in the current environment? There is little leeway. Imposing further austerity could be counterproductive. The government is unlikely to obtain significant debt relief from its Euro Area partners because (1) a nominal haircut (i.e., a reduction in the face value of outstanding debt) has been clearly excluded, and (2) the public debt already has an accommodating redemption profile (long-term maturity and very-low-interest burden). Further extending the current grace period will not solve anything if growth does not pick up.

With the current deadlock in mind, we looked into the wealth illegally held by Greek households in tax havens. While several studies have already stressed that tax fraud is a rampant phenomenon in Greece, there has been no estimate of the value of assets held by Greek residents in offshore centers. Compiling data from the Swiss National Bank and Treasury on holdings in local banks and drawing on a methodology developed by Gabriel Zucman, we estimate that Greek households' hidden assets in Switzerland amounted to €70 billion at the beginning of 2014. Since Switzerland holds approximately 50 percent of the European offshore wealth hidden in tax havens worldwide, the total offshore assets that evade taxes every year in Greece could

reach €140 billion (see Appendix 2 for details regarding the estimation method).

The extent of the phenomenon is alarming. The bank accounts hidden in Switzerland could represent about 50 percent of the official net financial wealth of Greek households, which amounted to €146 billion in early 2014. By comparison, Greek households own, in value, as much hidden money in Switzerland as the Spaniards, while their net financial wealth is about five times smaller.

To what extent could ex post taxation of hidden savings alleviate the need for debt relief? When the government discovers a hidden account, it can levy a tax on the returns made over the last five years, as well as on inheritance if the latter has occurred fewer than five years ago. In addition, it can make the evader pay a penalty for tax evasion, as well as interests for the delay in the tax payment.

According to our computations, if the Greek government could track down the accounts hidden in Switzerland, it would receive a one-time revenue of at least €8 billion or 4.5 percent of 2014 GDP. In addition, assuming a 6 percent return on these assets, the government could increase its annual revenues by €600 million or 0.3 percent of GDP (see Appendix 3 for details on tax revenue computations). If it was able to tax all offshore accounts—i.e., not only the ones located in Switzerland—it could immediately obtain a total of €16 billion or 9 percent of GDP in new taxes and penalties, as well as €1.2 billion or 0.6 percent of GDP annually in additional taxes.

Lastly, we examine the dynamics of Greek tax rates on the returns on assets held abroad by domestic residents. While tax rates amounted to 25 percent for foreign-earned dividends and 45 percent for foreign-earned interest in 2012, they went down to 10 percent and 15 percent respectively in 2015. These rates are about half the European average. The same pattern is observed for the inheritance tax rate on the closest relative, which decreased from 20 percent in 2007 to 10 percent today. While this decrease in tax rates is unlikely to bring offshore assets back, it forces the government to turn to other revenue sources, such as the VAT, which depress aggregate demand and growth prospects.

Alleviating the Burden of Fiscal Consolidation by Rethinking International Economic Cooperation

In times of fiscal tightening, bank secrecy—just like international tax competition to attract corporations—imposes a drag on countries by significantly increasing the costs of adjustment and putting the weight on the less well-off. The problem is particularly acute in Greece where the amounts of hidden assets and the magnitude of the required fiscal adjustment are higher than in other countries.

Now, Greece needs an ambitious plan to ensure debt sustainability; it is a prerequisite to restoring confidence in the economy. We think that this will not be achieved by simply promising uncertain privatization proceeds. Additional sources of revenue are needed to strengthen the credibility of the primary surplus targets, which, along with output growth, are critical to alleviate the debt burden in the medium-term.

Taxing offshore assets is potentially a more efficient and fair means of increasing such revenues than additional austerity measures. The main issue is whether finally putting an end to bank secrecy is feasible. In that respect, rethinking international economic cooperation at the European and G-20 levels to broaden the current focus on trade agreements towards cooperative efforts to combat tax evasion is urgent. Steps have already been taken in this direction: an agreement on automatic exchange of information was signed between Switzerland and the European Union on 27 May 2015. However, this agreement is far from solving the problem because only the accounts that are held directly by Europeans are subject to this mandatory transmission of information. Thus, if a Greek resident holds his Swiss account through a sham corporation domiciled in the Cayman Islands for instance, he will not be worried by the mandatory transmission of information scheme. Additionally, since this agreement only comes into force in 2018, the Greek residents who currently hold their offshore account in their own names have time to implement financial setups to avoid the regulation.

Hence, one should not neglect the difficulties of the path forward. As argued by Richard Baldwin on VAT fraud, “there is nothing common about common sense when it comes to the EU and taxation”. And on the Greek side, efforts to improve tax collection and the payment culture have largely failed to date, as noted by Olivier Blanchard. Let us hope that the depth of the current crisis will change this story.

Appendix I: Estimation of Government Wealth

We use the estimated market value of Greek government fixed assets published by ELSTAT (the Greek national statistical institute) for the end of 2012 and derive the value for 2013 and 2014 by cumulating net investment flows (gross fixed capital formation minus consumption of fixed capital, a.k.a., fixed capital depreciation) to the stock. We also adjust the end-of-period value of the stock using an appropriate price indicator published by the Bank of Greece to obtain a market value estimate for each period.

Regarding non-produced assets (land and natural reserves), we use the official national balance sheet data (OECD national accounts) available for a regional peer country, the Czech Republic, and make a series of adjustments assuming that the marginal value of natural resources is the same in both countries. Then, we derive the data for Greece by adjusting for the relative size of natural resources as detailed in the World Factbook database. Finally, we adjust the price of land to obtain data in market value using an appropriate price index,

namely the price of dwellings in urban areas computed by the national central bank.

Appendix 2: Estimation of Greek Offshore Assets


Swiss offshore portfolios are made of two types of assets: either “securities” held directly by the account holder or “fiduciary deposits,” namely investments made by the fiduciary for—and at the risk of—the account holder. The Swiss National Bank (SNB) only provides a country-breakdown for fiduciary deposits. The estimation of the value of Greek households’ assets held in Switzerland thus necessitates two adjustments. First, the SNB wrongly records a large amount of funds as belonging to other tax havens. This is because the SNB does not look through “sham corporations.” For instance, it will register the shell company of a Greek resident located in the Cayman Islands as belonging to the Cayman Islands instead of Greece. An important adjustment is therefore to re-integrate such entities to their ultimate owners: we do this in proportion of direct holdings. We can now derive the “actual” share of total fiduciary deposits held by Greek residents in Swiss banks (3.8 percent at the beginning of 2014). Second, we have to assume that this country-breakdown also holds for securities in order to compute the value of the total offshore wealth held by Greek residents in Switzerland (€70 billion).

Furthermore, Zucman (2013) shows that total offshore wealth is \$5.9 trillion at the end of 2008, so that Switzerland concentrates about one third of total offshore wealth. Since Europeans are the first beneficiaries of the Swiss bank secrecy we assume that roughly half of their worldwide hidden wealth is located in Switzerland. We further assume that this repartition is about homogeneous across European countries. Therefore, the estimates should be interpreted as orders of magnitude. It should also be born in mind that the recent flight of private wealth due to the fear of an imminent “Grexit” may have significantly increased their offshore wealth in mid-2015.

Appendix 3: Tax Revenue Computations

The one-time revenue of €8 billion is computed applying the taxes, interests and penalties to the estimated revenues generated by offshore assets over the last five years. Offshore revenues are calculated using a 6 percent return on investment. This is a conservative estimate for the effective return on investments made by high-net-worth individuals. Indeed, as evidenced in the 2014 publication of the “World Wealth Report” by Cap Gemini (<https://www.worldwealthreport.com>), the average annual returns on investment for high-net-worth individuals is about 7–8 percent. The expected annual tax revenue is computed using a capital income tax rate that combines interest and dividend income tax rates to reflect the investment portfolios of European investors in Switzerland, as described in the SNB data. Similar estimates for the other European countries can be found here: <http://piketty.pse.ens.fr/files/Rousille2015.pdf>.

The additional annual revenue of €600 million estimate is a static computation made by applying the current capital tax rate to the revenues made on the Greek offshore wealth that remains after applying the previously described penalties and taxes. It is likely to increase in the upcoming years since the wealth held—and therefore the revenues derived—will increase with future accumulation of interests.

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● The High Cost of the Model Minority Myth for Asian and Pacific Islander Americans

By Tracey Lam and Jonathan Hui

“If you say ‘Asian,’ what pops into your head? They think we’re all supposed to be doctors, you know? Or they think we come from a good, rich family. But we don’t.”

These words are from *Pass or Fail in Cambodia Town*, a documentary about the true stories of Cambodian Americans in Long Beach, California. Shameka is one of them, and her situation is not uncommon among Asian Americans in the United States. Shameka’s family fled the Khmer Rouge in Cambodia and resettled in the United States as refugees. Shameka is pregnant, may not graduate high school, does not have a permanent home, and cannot communicate with her mother. Many others share her story.

On aggregate, Asian and Pacific Islander Americans (APIA) are indeed the best-educated, highest-income, lowest-crime racial group in America. In less than one generation, APIAs went from being despised as dirty, uneducated “Yellow Peril” laborers to touted as the shining example for all minority groups in the US to follow.

However, behind the “model minority” statistics is a more nuanced picture, mirrored by every other racial group in America. Low-income APIA communities and first-generation APIAs struggle in education, income, and crime at levels similar to low-income and first-generation individuals belonging to other racial groups. Complicating policymaking is the heterogeneity of the group. The APIA racial group created by the US Government for census purposes encompasses more than forty distinct ethnic groups and over one hundred language groups. It contains some of the best and least educated ethnic groups in America and the richest and poorest, reflecting the range of immigration experiences of individuals within the APIA community. For every well-to-do APIA techie, doctor, and banker, there is also a poor APIA manicurist, launderer, and cab driver.

APIAs comprise almost 6 percent of the US population and are the fastest-growing racial group in the country. Over 74 percent are foreign born. In 1965, Congress passed the Immigration and Nationality Act, which ended the 1882 Chinese Exclusion Act and reinstated Asians’ rights to immigrate to America and obtain US citizenship. Asians have since overtaken Hispanics as the largest group of new immigrants to the US. The wealthiest APIAs are often “employment preference:” highly educated H-1B visa immigrants from this post-1965 group and their offspring. The poorest are often refugees, low-income immigrants, and their offspring.

The issues the APIA community face are unnoticed and poorly understood, largely due to obstruction by the model minority myth. Until 2007, Asian American Native American Pacific Islander serving institutions (AANAPISI) were ineligible for federal funding and designation as minority-serving institutions, and APIA students were excluded from federal grants and assistance programs. To this day, APIA students remain underserved in federal programs and routinely excluded from many non-governmental public and private sector assistance programs.

Asian privilege undoubtedly exists. Many attribute APIA successes to cultural values sur-



Not every Asian American is a lawyer or a doctor, but many are just trying to make it work.

(Source: David Alonso Rincon, Flickr)

people to say that we need to get over it, because those things you never get over.

When refugees arrive in the US from Asia, they have lived through war, genocide,

rounding education, family, and hard work. However, a quick glance at disaggregated data on both APIAs and Asians and Pacific Islanders in countries of origin shows that culture does not lead to success. If race and culture are not responsible for the success of APIAs who have “made” it, we cannot continue to allow race and culture to hold down APIAs in need.

Significantly more APIAs live in poverty than the US average, with more than two dozen APIA ethnic groups having above-average numbers of poor people. APIAs experience more workplace discrimination than any other racial group but file only 3 percent of the Equal Employment Opportunity Commission employment discrimination complaints. There are 1.5 million undocumented Asian immigrants in America, many of whom are exploited. Though there are many challenges facing the APIA community, we focus on three: refugee resettlement, health care, and education.

Refugee Resettlement

An APIA community organizer recalls with agony the experience of his grandparents and parents:

Two million people perished in genocide, in the most atrocious ways. Babies being bashed against trees. Men being kidnapped in the middle of the night, blindfolded, thrown off cliffs. Some of the most atrocious things, that you can't even imagine, happened in our country. I think it's kind of unfair for

extreme persecution, and the indigence of refugee camps. Since 1975, the US has accepted a large number of Asian refugees, first from Cambodia, Laos, and Vietnam, and in the last decade from Bhutan, Nepal, and Myanmar. These more than 1.3 million refugees receive few of the services they need to make a life in the US.

Upon arrival, each refugee receives just thirty to ninety days of assistance from a US government partner and five additional months from the government, for a measly maximum of eight months. After this, refugees must fend for and navigate the social

services system themselves, tasks that are difficult for many Americans but become effectively impossible for refugees who must

also cope with low English proficiency, lack of a support network, and mental health issues.

Services provided to refugees are inadequate to meet their needs. Refugees and their offspring have some of the highest dropout rates and lowest high school graduation rates of any group in the country. In cities with large refugee populations, refugees and their offspring have some of the highest youth arrest rates of any group. Refugees are among the poorest ethnic groups in the country, with poverty rates far surpassing, sometimes more than tripling, the US national average. Many continue to struggle with undiagnosed and untreated post-traumatic stress disorder (PTSD), with rates reaching more than 60 percent in some communities. Though refugees are highly motivated to seek employment and become economically self-sufficient, lack of English-language ability and education relegates them to positions with no potential for

improving their socioeconomic status.

Ros, a Cambodian refugee who resettled in Lowell, MA, reflects, “[Refugees] who were my age who are in prison today were affected by their youth. To see death and mutilation and then living in the inner-city dealing with racism and drugs and violence—it has to affect you.” For refugees to adapt successfully to life in America, caseworker support must be made long-term, and English as a Second Language (ESL) training must improve. Because they cannot rely on adequate support from the government or their new communities, refugees have grown dependent on self-help community organizations created and run by the refugees themselves. These organizations play a critical role in helping refugees adjust to life in America. However, without the knowhow to apply for funding, these groups receive no assistance, relying instead on small, five to ten-dollar contributions from each refugee. If refugees are to lean on self-help community organizations, these need to be strengthened with capacity-building support, adequate funding, and formal recognition, so that self-help organizations can both support their communities and advocate for them.

These issues are still relevant for many Cambodian, Laotian, and Vietnamese refugees who fled in the aftermath of the Vietnam War. They are especially salient for the more than 100,000 Burmese and Bhutanese refugees who have resettled in the US in the last decade. The 2012 Pew Study on APIAs, like most US coverage of APIAs, perpetuates the model minority myth of the highest-income, best-educated, lowest-crime racial group and excludes any analysis on smaller APIA ethnic groups, including those of most refugees.

Disparities in Health Outcomes

Health care experts often point to APIAs as the “healthy minority,” citing high life expectancy and low obesity rates. While true in many cases, this

label masks disparities in health outcomes within the APIA community; superior health outcomes are not uniform across all APIA subgroups. For many APIAs, cultural and language barriers have led to disparities in health literacy, access, and insurance provision. While health outcomes across all APIA subgroups are still better than those of other racial groups, the healthy minority stereotype hides the true need for health care services for specific APIA populations.

The healthy minority stereotype has led to a belief that APIAs generally have excellent access to health insurance. Many associate the low unemployment rate among APIAs with health insurance access, believing that higher employment rates lead to insurance. The reality is that many APIAs are in part-time, low-wage jobs that do not offer insurance. In fact, only 6 percent of APIAs receive employer-sponsored health insurance, compared to 26 percent of all Americans.

Some APIAs are also reluctant to seek medical help because of language and cultural barriers. As opposed to American-born APIAs who are more familiar with Western medical practices, many first-generation APIAs lack the language ability to communicate with their health care providers and do not share the same views toward medical care. Many immigrants, particularly the elderly, have found that Western medicine ignores the norms and practices of Eastern medicine. They therefore become less likely to seek health care and opt for self-medication and



(Source: Jakub Kadlec, Flickr)

treatment or unregulated alternative medical practices. Even when they do seek help, immigrants with limited English proficiency are also less likely to ask for information or advice about their conditions.

Many APIAs, especially the elderly, lack access to regular and consistent health care (Photo Credit: Ronnie Macdonald, Flickr)

These cultural and language barriers have left many APIAs without regular access to health care, even for those with health insurance. The reluctance to seek medical assistance has also led to disparities in health literacy. Many APIA subgroups rank lower than other groups in terms of understanding of important practices in health care. For example, white women are more than twice as likely to understand the need for regular mammograms as Korean American women are. Deficient health literacy prevents many from seeking the help they need and receiving preventive care.

False Picture of Academic Achievement

The picture of Asian children as the first to answer a question in class or receive the highest grade on a test is common. We see it in the media, in conversation, even in our own educational experiences. However, this stereotype—however flattering to some—paints a false picture of academic success for all APIAs. It hides the reality that many APIAs living in poverty face barriers to access quality schools, that many first-generation APIAs struggle to learn English, or that many do not know how to navigate the American higher education system. APIAs struggling in school risk being ignored, simply because they are conflated with their high-performing APIA peers.

The model minority stereotype often refers to APIA families that are

well educated, have high household incomes, and have stable jobs. However, the reality of poverty for many APIA subgroups means they face similar challenges to many other high-poverty communities. Communities with concentrations of high-poverty APIA groups, such as Shameka's in Long Beach, have school systems performing far below state standards, plagued with meager graduation rates, low test scores, and poor access to higher education. Shameka's story is not uncommon; she is struggling to receive the academic and

social-emotional support she needs, but she and others like her are often forgotten.

Only around 60 percent of Cambodian and Thai Americans possess at least a high school degree, compared to the national average of 85 percent. In schools themselves, more Vietnamese and Thai Americans are considered Limited English Proficient (LEP) than other APIAs or Latinos. Many LEP APIAs are also unable to continue ESL once they begin working, an almost inevitable reality for those just trying to survive. When services are allocated, however, these APIA populations are ignored because of the relative success of their peers. Schools associate APIAs with superior academic achievement, leaving many LEP and first-generation, often poor, APIA students without adequate access



Many APIAs, especially the elderly, lack access to regular and consistent health care. (Source: Ronnie Macdonald, Flickr)

to academic, English language, and social-emotional support.

Contrary to the model minority myth, many APIAs are the first in their family to attend college (See Figure 1). In these communities, however, there is little social and academic support to help students adjust to higher education, and many drop out, having incurred significant debt. On college campuses, services tailored toward APIAs are not focused on academic support, but social or cultural aspects, meaning that many APIA students struggling academically may find themselves marginalized within the APIA community itself.

Caption: In the University of California system, more than 70% of students from some APIA subgroups are first-generation college students.

The model minority myth has also perpetuated a stereotype that Asian students are often focused on academics at the expense of other aspects of education like social-emotional learning. The reality is that social-emotional support needs to be prioritized in many APIA communities to assist students in adjusting to school. Just as many newcomer high schools, which are available to immigrants in some cities, provide wraparound services for newly arrived immigrants, our public high schools and colleges must provide similar services to support first-generation APIA students, especially those coming from high-poverty areas. The academic success of some APIAs cannot represent the entire APIA community; rather, services need to be provided to subgroups of APIAs—particularly first-generation immigrants, LEPs, refugees, and those living in high-poverty—that desperately need social and emotional support to access and adjust to high-quality education.

Recommendations

We must build comprehensive support systems in targeted APIA communities to address the issues plaguing the APIA community. These systems must include extensive support for refugees and their families, increased information and access to health care, and socio-emotional and academic support for youth. They can be channeled through schools, community centers, churches, and neighborhood organizations, focusing particularly on cities with significant low-income, immigrant, and refugee APIA populations. Special attention should be paid to refugee communities in the West and Northeast, where most Southeast Asian refugees have resettled, and in the South and Midwest, where most Burmese and Bhutanese refugees are settling. Only by providing a holistic system of services can we ensure a generation of APIAs who can finally fully access their rights as participatory members of civil society and receive the opportunities they deserve as Americans.

Undergirding any effective intervention is a proper understanding of the challenges APIAs face. This is critical for specific APIA subgroups and individuals, many for whom little data exists. Blanket policies have done little to help the APIAs most in need. A low-income Tongan student faces a different set of circumstances than a Bhutanese refugee, but because both are grouped under the “Other Asian” category during US data collection, little is known about either group. Disaggregated data must be collected so that scholars and policy makers have access to information that is accurate and representative of APIA diversity. This is critical to focus on the needs of specific communities and ensure they retain their individual characteristics without being generalized simply as “Asian American.”

While most Americans are largely unaware of the challenges facing the APIA community, it is more disturbing that many APIAs remain oblivious as well. APIAs must become aware of these issues and not subscribe to the model minority myth. However, the myth cannot undo itself. We have an opportunity to reframe the conversation and focus on the actual needs of many Americans who still lack access to health care, a quality education, and support to adjust to life in the US. These are not APIA issues—they are American ones, and Americans must work together to ensure that stereotypes do not undermine the wellbeing of fellow citizens who are struggling but are often overlooked. ^{BR}

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◆ A European Perspective on the Protection of Personal Data in Cyberspace: Explaining How the European Union Is Redefining Ownership and Policies of Personal Data beyond National Borders

By Nikolas Ott and Hugo Zylberberg

Practical yet effective digital data regulations are an enormous policy challenge. Both in the United States and in Europe, businesses, privacy-advocacy groups, and government all have competing interests, and they are struggling to find a workable solution. Meanwhile, machines are tracking their users in an ever-increasing number of ways. All-day activity trackers are widely available, and the market for connected trackers is growing significantly. While most of these devices are used to record such ordinary activities as the number of steps taken or the time spent biking, some are used in more adventurous ways, such as keeping track of sexual activity. We argue that as the quantity and sensitivity of data increase, users should have more information about “ownership” of the data in question. Indeed, if users generate the data and companies provide the tools to capture and analyze it, who should own that data?

Market economies rely on the principle that once a good is created, its owner can trade it based on its monetary value. Following this logic, data that users help create should be, at least in some sense, their own. But how can they evaluate its value independent of the processing done by the companies that help them record it? The Boston Consulting Group predicts that digital identities will become a major source of revenue for private companies, while IBM, a technology and consulting corporation, believes that “data is valuable but most [users] don’t know how to harvest [their] own personal data or how to exchange it for something that really matters.” While it is true the companies which help record that data provide free services in exchange, the rise of user-generated content prompts a discussion in how we understand the “our” in “our data.”

This data-for-service argument puts the user in a position of customer and does not consider the fact that, in this new data-driven economy, the user is responsible for much of the value creation. In that sense, to be fairly compensated, users should be considered not only as customers but also as producers. We first examine several ideas that rely on the notion of “users as producers” before outlining how the European General Data Protection Regulation implements this notion into cyberspace. More specifically, we believe that the European Union’s (EU) efforts reflect a feasible interpretation of data protection in the twenty-first century. Finally, in an age when the Internet of Things (where more objects get connected to the Internet) increases the pervasiveness of data collection and Big Data analytics make data processing ever more valuable, we argue that the data-protection approach favors user-centric models.



The data we exhaust on the Internet is of an increasingly personal nature, including fingerprints. (Source: Flickr, CPOA)

company collecting his or her data and thus compensated. While this might appear to be a radical idea, it is easy to see how the current systems and online services we use might be understood in such terms. Instead of understanding Facebook as a company providing a free service, we should think of it as a digital

Data Exchanges Are Not One-Way Commercial Exchanges

John Lanier, an American computer scientist and digital-media pioneer, was among the first individuals who started claiming that the creation of data has value. He argues that consumer-generated data which companies can convert into profits should be considered as a kind of labor (some call this “digital labor”) and thus compensated (e.g., through “nanopayments”). We first consider these ideas of nanopayments and digital labor to understand how exactly they challenge the common perspective on data possession.

Lanier argues for some kind of monetary compensation every time users share their data with a company. Why indeed should users not at least know the value they help generate to be able to decide whether the respective benefit is a fair compensation for the use of their personal data? Indeed, since that data is valuable in itself, a very small amount of money would help people make trade-offs—is that data more or less valuable than the amount of money users are being offered for it? This compensation would potentially incentivize companies to be more frugal in the way they collect and process personal data, since they would then have to pay for collecting it. Unfortunately, this idea is excruciatingly difficult to operationalize.

Another notion that has been proposed is that of “digital labor.” The idea is that the user should be considered to be a worker for the

factory that aggregates users’ data to sell it to advertisers, paying its users by allowing them to use Facebook free of charge. In this model, the value that Facebook creates originates in the data that people create. The major difference is therefore that, in this perspective, data exchanges are not merely commercial exchanges but rather labor exchanges.

There is no doubt that consumers receive compensation for their data by receiving improved services and personalized features. The fact that Google knows more about users’ preferences enables it to provide search results that are more accurate and ads that are more relevant. However, the term compensation here can take two distinct meanings. If we consider that users buy a service with data that they own, we frame this as a commercial relation and therefore see the user as a consumer. However, if we consider that users have worked to create that data in the first place, then we see the user as a producer who deserves to be protected from exploitation and expropriation. While the “user as a consumer” model implies that one might have to weigh the value of the data that’s being given against the service that is being provided, the “user as a producer” model considers data in another way: since users have spent some time creating data and generating value for the data-collecting company, they deserve to be fairly compensated.

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Surveillance is the business model of the Internet, as security guru Bruce Schneier says. (Source: Flickr, Finishing School)

Leveling the Playing Field between Users as Producers and Companies through Data Protection

Proper compensations, however, are scarce. As evidenced by a recent study by the Annenberg School for Communication, Americans do not feel that they are fairly compensated.

The study writes “marketers are misrepresenting a large majority of Americans by claiming that Americans give out

information about themselves as a trade-off for benefits they receive. To the contrary, the survey reveals most Americans do not believe that ‘data for discounts’ is a square deal.”

Strengthening users’ rights in their relationships with commercial providers might help build trust in the digital economy. Digital innovations are opening up opportunities to improve our lives, but such features tend to include opaque data analytics and business models. In that sense, giving more rights to users would mean asking for more transparency about the algorithms that process our data, the companies those algorithms are shared with or sold to, and the nature of that data. There will be no meaningful consent given as long as users do not understand how their data is used and do not have the means to seek redress when they feel that such uses are incompatible with what they consented to. There is a trade-off between the protection of users’ data and the economic value created by the companies processing it. With our current notion of consent, many of us consent to give away our data when we decide to use modern

Regulators should strive to have users express their preferences and have those preferences respected throughout the lifecycle of data.

technology at all, which makes protection hard to envisage.

Moreover, this trade-off between protection and economic value is becoming increasingly hard to make as the Internet of Things and Big Data analytics become commonplace. The Internet of Things is based the idea that the objects could be more valuable if connected to the Internet. This brings connected trackers into every aspect of our lives, making the issue of protecting our data more palpable. The phenomenon of Big Data is the ability to create value out of the processing of large datasets that could not have been extracted out of smaller ones; however, ex ante regulation of processed personal data is a challenge since its value is unclear prior to the actual aggregation of the datasets.

Combined, these two phenomena make it increasingly difficult for users to answer the question of whether or not they should share a certain piece of data and with whom.

To give users more information about the choice they are making, and enable them to make this choice in the first place, the EU has been working on an approach to personal data. After 20 years of regulative legal developments, that approach will be updated in spring 2016 with the General Data Protection Regulation.

The European Union’s Push toward a Modern Data Regulation Policy

The EU has long been a key player in the international field of data protection, with its first Data Protection Directive in 1995 “on the protection of individuals with regard to the processing of personal data and on the free movement of such data” stating that “data which are capable by their nature of infringing fundamental freedoms or privacy should not be processed unless the data subject gives his explicit consent.” In 2012, the European

Commission introduced a reform plan that would “give citizens back control over of their personal data, and (...) simplify the regulatory environment for business.” It became the new General Data Protection Regulation. This new General Data Protection Regulation is built around several principles, including:

1. a strengthening of existing rights and the acquisition of new ones
2. increased importance given to national Data Protection Authorities who become the “one-stop-shop” for businesses

The first principle above is focused on the rights of citizens in cyberspace. Two examples of such rights are the so-called right to be forgotten, which the EU has been promoting since the European Court of Justice decision in May 2014, and the right to portability, which is supposed to reduce the costs for users switching between different service providers. If users feel such rights are being violated, they can seek redress through their national Data Protection Authority.

Those principles can be interpreted as a dual reality, where data is seen both as an economic good (the regulation deals with many commercial matters) and also as something that citizens should have the right to protect. This dual nature of data makes it hard to answer our first question about what the “our” means in “our data.” Instead of choosing one approach over the other, regulators should strive to have users express their preferences

and have those preferences respected throughout the lifecycle of data. This is, in essence, what the European approach of Data Protection tries to do by putting users’ preferences at the center of the regulation.

The Economic and Moral Argument in Favor of User-Centric Systems

We need to redefine our understanding of ownership of digital data. Such an understanding will better equip users to solve the sharing trade-off (to share or not to share). There are many technological projects aiming at improving the understanding of the life cycle of data. In some cases, Data Protection Authorities or technological companies have developed tools to be able to watch basic data transactions between websites. However, how can users know which of their data is collected and used? This seems like fundamental information needed to decide to share data with a third party. Researchers at the Computer Science Department at Columbia University are working on a way to reverse engineer data collection on websites to increase the transparency of the current methods employed. It would provide users with more knowledge and therefore empower them as consumers. The argument of empowering consumers



Artists have been showcasing the physical underpinnings of the Internet, here old undersea cables. (Source: Rob Koopman, Flickr)

in the digital age follows the Anglo-Saxon notion that the market has the potential to solve privacy problems if power is evenly distributed between businesses and consumers.

Creating user-centric systems will also level the playing field between companies on the international scene. User-centric views enable us to conceive of systems where local providers can leverage their geographical proximity and their knowledge of local cultural values into economic values, instead of normalizing consumers around a global average. This approach gives users the opportunity to decide how their personal data should be shared. When they are producing valuable data, they can protect it and share it only when transactions are deemed fair; when they are only producing data as a byproduct of a valuable service, they are free to give that data to private companies who are then able to monetize it.

The growth in user-generated value in the context of increased connectedness (the Internet of Things) and value extraction from large datasets (Big Data) asks for a fundamental shift in the way we understand data exchanges. They are not merely commercial transactions where users make an economic trade-off but rather labor exchanges where citizens deserve to be protected for the labor they produce. In this perspective, the European Data Protection approach tries to provide an adequate level of data protection

while preserving economic opportunities.

Conclusion

We believe that the question of what data ownership means is becoming a central issue for Europe's economic competitiveness. In fact, cyberspace calls for a revision of many definitions that had

been elaborated in an offline world. The data protection approach developed by the EU addresses

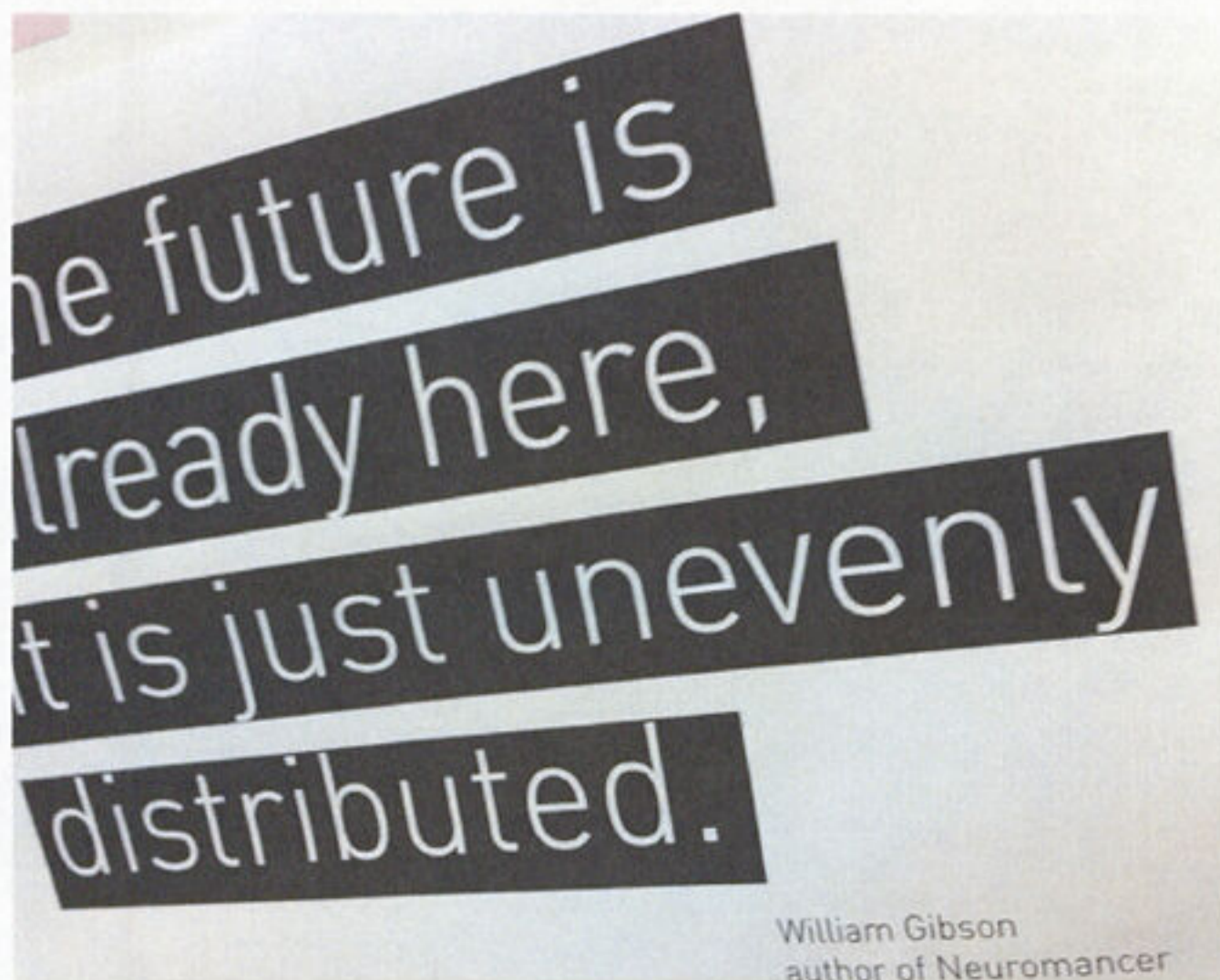
three main challenges of this endeavor. First, it creates new relevant concepts for cyberspace. Second, it leaves an appropriate measure of freedom for businesses to innovate. Third, it provides users with a practical application of their human rights in cyberspace.

Beyond mere producers or consumers, users are first and foremost citizens. As such, these debates connect to fundamental aspects of democracy—they challenge the concept of identity and how we define ourselves in relation to others and to society as a whole. If our sense of identity shapes how we behave offline and online, it also seems that the way we perceive our actions in turn shapes our sense of identity. While the digital transition continues, this shaping of identities will be affected by the relationship between states, private actors, and citizens. As a democratic endeavor, data protection seeks to put citizens

at the center of those relations to express their preferences and disagreements, as well as keep some measure of accountability over their institutions.

While not global in nature, this approach has strong extraterritorial consequences since data moves across borders. Indeed, it can be framed as the EU imposing its views of cyberspace data on the rest of the world. If the EU is committed

(Source: Joe Pemberton, Flickr)



to defending its data protection approach, then it should embrace this extraterritorial nature. Data protection is a political endeavor and the EU will continue to argue with its partners about how it thinks data flows should be organized in an interconnected world. Ultimately, the EU's actions shape the development of norms on data sharing and values and policies of personal data around the world. ^{BR}

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HARVARD Kennedy School

WOMEN AND PUBLIC POLICY PROGRAM

◆ The Final Axis: North Korea and Nonproliferation Negotiations

By Diana Park

On 6 January 2016, North Korean state media broadcast that it was now “a powerful nuclear weapons state ready to detonate [a] self-reliant A-bomb [atomic weapon] and H-bomb [hydrogen, or thermonuclear, weapon] to reliably defend its sovereignty and the dignity of the nation.” Even though initial seismic readings from US intelligence agencies indicated a high unlikelihood that North Korea detonated a thermonuclear weapon, it is known that the country continues to pursue a nuclear weapons program with alarming, unabated resolve. The long-range rocket launch on 7 February 2016 confirmed North Korea’s willingness to contravene existing United Nations Security Council resolutions against nuclear and ballistic missile technology tests. Multilateral negotiations have all but halted, and resuming bilateral negotiations with the United States seems nearly impossible.


This article seeks to explain how North Korea continues to elevate its bargaining power by persisting to develop a more survivable and powerful nuclear force. The piece will also identify possible reasons why the United States’ bargaining power has diminished in negotiations with North Korea. Finally, the article will test some of the core assumptions that have influenced US negotiation strategy since the George W. Bush administration, suggesting possible next moves to reshuffle the dynamics that have stagnated progress in negotiations with North Korea.

These recent events help paint a picture of a North Korea that is actively pursuing a nuclear weapons program. Unless presented with international pressure beyond sanctions, it is unlikely North Korea will consider suspension of the program.

Despite the shock and alarm caused by the recent nuclear test, Kim Jong Un has been steadily and publicly building up various aspects of its nuclear capability. For example, in September 2015 North Korea announced that all aspects of its nuclear program were in operation. This suggested the country had restarted both its plutonium and enriched uranium programs in order to produce fissile material for nuclear weapons. Additionally, satellite imagery from early December showed that North Korea was digging another tunnel at Punggye-Ri Test Complex, which turned out to be preparations for this latest nuclear test. Meanwhile, Kim seeks to improve the survivability and range of the North’s ballistic missile capabilities to include the development of a submarine-launched system. Furthermore, a future test launch of the road-mobile KN-08 intercontinental missile will be another significant step forward in the North’s attempt to improve the survivability of its long-range nuclear deployment capabilities (see Figure 1).

“Strategic Patience” and Its Failures

Hope for North Korean denuclearization occurred during 2012’s Leap Day “deal,” where North Korea indicated possible agreement to the pre-steps of a moratorium on nuclear activity, agreeing to suspend activities at the Yongbyon uranium enrichment plant. Immediately after, however, problems began to surface. First, their official statement following the deal failed to include any mention of disabling reprocessing activity. To make matters worse, North Korea conducted a space launch only months after the Leap Day talks. This demonstrated a clear disagreement with the United States as North Korea insisted that a space launch did not constitute



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a "missile test."

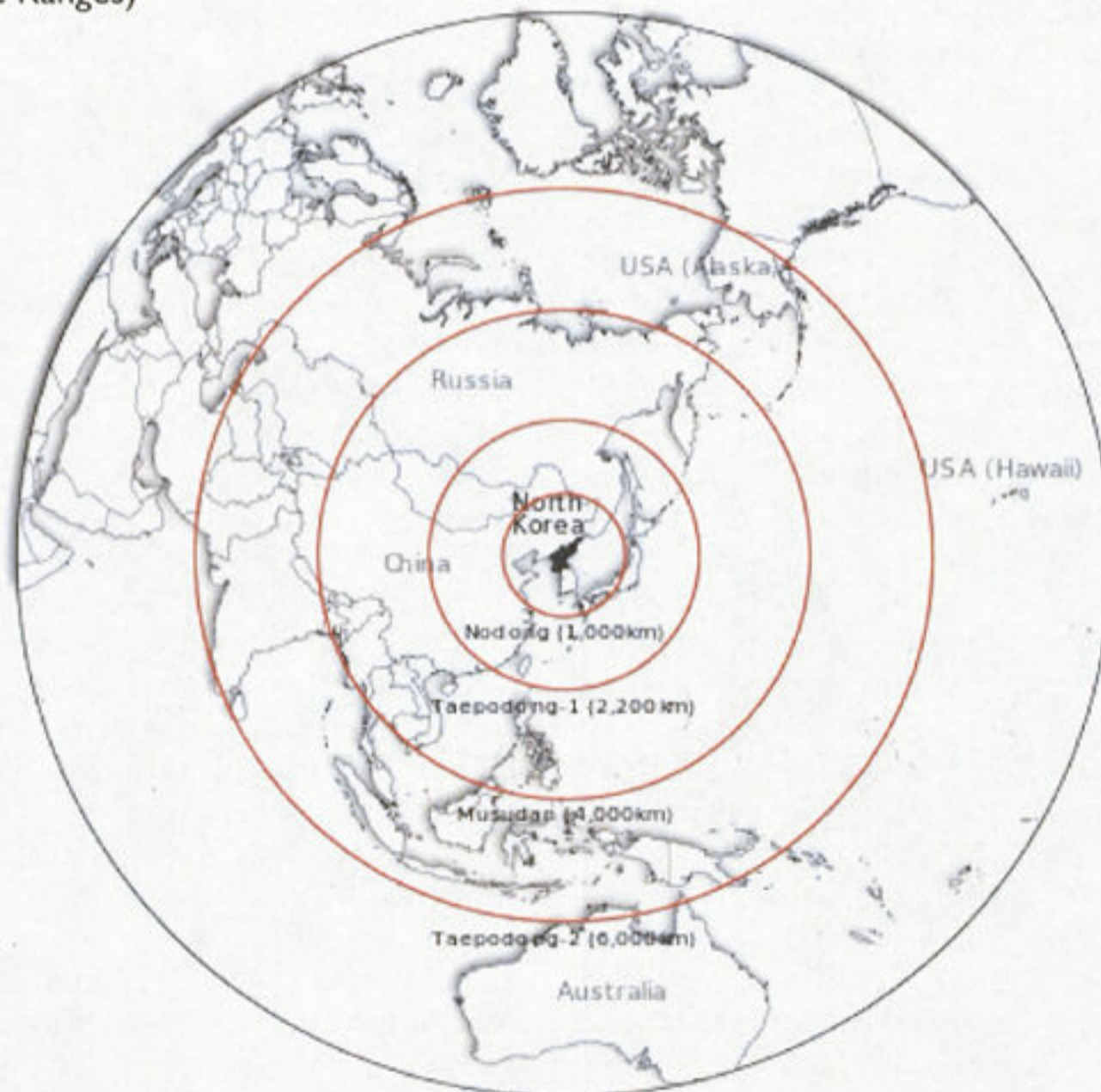
Since this diplomatic failure, President Obama has chosen to employ a policy of "strategic patience" toward North Korea. The approach enforces broad unilateral and multilateral sanctions (including three imposed by United Nations Security Council resolutions), as well as targeted sanctions enforced through numerous US agencies and offices. His plan was based on the rationale that cracking down on the finances of North Korea's elite, while also frustrating the North's ability to import materials for its centrifuge and weapons program, would influence the North to come back to the table.

Despite these measures, Kim Jong Un has been steadily expanding and improving his efforts to produce fissile material, build longer range ballistic missile capabilities, test more sophisticated nuclear weapons, and increase nuclear survivability through the development of underwater and land-mobile delivery systems. The country now possesses centrifuge cascades that could generate at least fourteen nuclear weapons by the end of

2016, assuming North Korea is not engaging in any plutonium production. However, activity at the 5 MWe reactor in Yongbyon suggests North Korea could indeed be producing plutonium, meaning an increase in nuclear weapons by the end of this year. The latest nuclear test reveals an embarrassing final piece of evidence that the Obama administration's approach lacks teeth when it comes to deterring North Korea's behavior.

In addition to "strategic patience," another characteristic of the Obama administration is its refusal to hold bilateral talks with North Korea until the country suspends all nuclear activities. While the Bush administration offered a combination of carrots and sticks, including fuel and food aid, the North still pursued a full nuclear weapons program and abandoned any progress made during the Six Party Talks. Toward the latter stages of the Six Party Talks in 2009, with almost a dramatic flair, North Korea test fired a Taepodong-2 intermediate range ballistic missile (IRBM), conducted a nuclear test, withdrew from the talks, and claimed that it possessed uranium

Figure 1: North Korea's road-mobile intercontinental ballistic missile, the KN-08, which has not yet been flight tested but may have a range that could reach parts of Alaska, will increase the survivability of its long-range ballistic missile capability. (Source: Jason Davies, North Korean Missile Ranges)





Trucks wait for the border crossing at Quanhe and Wonjong to open. Much of North Korea's illicit dual-use trade supporting its nuclear program passes through the land border with China. (Source: Wikimedia Commons)

initial diplomatic efforts; in the 1990s, a military option

enrichment capabilities and would use the fuel for a light water reactor. Therefore, after such a blatant loss of credibility, preconditions or "pre-steps" became all the more necessary for the Obama administration.

Many experts believe that cooperation with China remains the best and only option to exert pressure on North Korea. However, this option is lacking, as China has been slowest to sign onto sanctions with North Korea. As a result, China gave North Korea a lifeline to survive sanctions throughout the past decade. US efforts to impose crippling sanctions are only frustrated by China's lack of commitment to actually enforce them. China's priorities with regards to North Korea are misaligned with that of the United States and its allies, whose primary concern is the threat of North Korean nuclear weapons themselves. By contrast, China continues to prioritize its efforts to reduce the risk of North Korea's economic collapse. A failed state at China's borders raises concerns of a potential refugee flow that would strain state resources and significantly impact China's economy. As a result, much of North Korea's illicit trade, including the trade that feeds its nuclear program via dual use technology, has passed through the land border with China (see Image 1). Therefore, it is counterproductive to keep pursuing a policy that depends on China as a key partner on the denuclearization of North Korea.

After North Korea's nuclear test, the United States must make decisive changes to its diplomatic strategy with the country. In addition to reevaluating its reliance on China, a new diplomatic approach should reconsider the United States' current strategy for handling North Korea. We cannot ignore the effectiveness of military pressure during

was not left off of the table, and North Korea understood the threat. Since then, the region has become accustomed to scheduled large-scale, biannual military exercises. While these drills are still provocative to North Korea, they are no longer effectively used in concert with other diplomatic maneuvers to create the mounting and worrisome pressure that Exercise Team Spirit once brought to Kim Il Sung. These exercises have become too routine, when military power demonstrations could actually be utilized as a very important diplomatic tool in delivering pressure to North Korea when other options, including sanctions, seem to have lost their effectiveness.

Options for 2016

Obama still has several options in the final year of his presidency. He could leave the situation as is, allowing North Korea to continue to produce fissile material, pursue missile tests, and potentially conduct another nuclear test. Because the recent nuclear test and rocket launch were conducted after copious prior warnings to the international community, we cannot dismiss the possibility that North Korea has orchestrated both the warnings and actions as part of a bargaining chip in its greater negotiations strategy. By conducting the test and rocket launch, North Korea brought the issue of its nuclear weapons back on the foreign policy agenda during the final months of Obama's second term. However, Obama may have something to gain by doing nothing, in an effort to provide the next president with a fresh start on North Korea. Additionally, if Obama decides to engage in multilateral negotiations efforts, he must also accept the political risk of engaging in formal

negotiations. This late in his presidency, reversing his tough stance on preconditions is unlikely to suspend North Korea's nuclear program. Such a move would be politically risky, and it is improbable that Obama will pursue it at this juncture of his presidency. If Obama does pursue a different course of action, he should look for alternatives to his administration's current assumptions and strategies.

The first major change should be to challenge the assumption that China still carries the ability to influence North Korea. China has not provided the cooperation and effort necessary to effectively sanction North Korea. Whether due to competing motivations, such as fear of economic collapse in a neighbor country, or else a true lack of sanctioning capabilities, China is not the pivotal partner the United States needs to accomplish denuclearization objectives in North Korea. Unless China is willing to fully cooperate in the multilateral efforts to sanction North Korea, the country cannot be considered a key partner. Secretary of State John Kerry's comments on China immediately following the January 2016 nuclear tests indicated that the United States is exerting more public pressure on China regarding its policy on North Korea sanctions; this should continue until China truly is willing to help enforce sanctions.

Second, if Obama were to engage in talks with North Korea, he would have to reassess the US precedent of allocating too few resources to the negotiations, including a lack of high-level involvement. While other countries have sent their highest-ranking government representatives to the Six Party Talks, the United States had not followed the same protocol. The United States sent an assistant secretary of state, while China and other countries sent vice foreign ministers or the equivalent. Appointing high-ranking officials to head the negotiations process will signal the United States' resolve and commitment to addressing the North Korea nuclear problem.

Finally, Obama must rely on the United States' strengths in the region, particularly alliances with South Korea and Japan. The two countries recently came to a resolution on the issue of comfort women issue, mending historical animosity stemming from the enslavement of Korean girls for service as sex workers for the Japanese imperial army. This signals greater potential for harnessing the trilateral security alliance in an effort to pressure on North Korea. For example, military cooperation, such as intelligence sharing and the ballistic missile defense burden, can mitigate the effects of North Korea's continued nuclear advances. In the days following North Korea's latest nuclear test, the three countries issued statements that they "agreed to work together to forge a united and strong international response to North Korea's latest reckless behavior." The growing strength of Japan-South Korean ties could lead to greater cooperation with respect to their shared interests in denuclearization of North Korea, as well as other intermediary actions such as shared ballistic missile defense capabilities. This trilateral response is a promising start toward a new policy that can utilize the United States' biggest asset in the region to tackle the mounting nuclear crisis in North Korea.

Dedication

I would like to dedicate this article to the late Ambassador Stephen Warren Bosworth, a distinguished diplomat and former US Special Representative for North Korea Policy from 2009 to 2011. He graciously provided invaluable insight and mentorship for this article, while also being an example of strength and indefatigable optimism for us all. *DR*

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◆ Neuroscience in the Courtroom

By Sunaina Rajani

Introduction

Imagine an impulse to sneeze. Now imagine if it were illegal. While we don't intend to sneeze and can't suppress a sneeze, most of us can suppress other urges.

One fundamental principle of jurisprudence is that humans have some ability to control their impulses and make decisions derived from an innate moral compass. Humans are assumed to have the freedom to choose how to act through a logical reasoning structure: forming intentions based on goals, responding to reason, and acting rationally. When the courtroom encounters people who do not act through a logical reasoning structure, a central challenge for the criminal justice system is balancing the need for consistent and objective interpretation of laws with the need to acknowledge individuals' mental limitations.

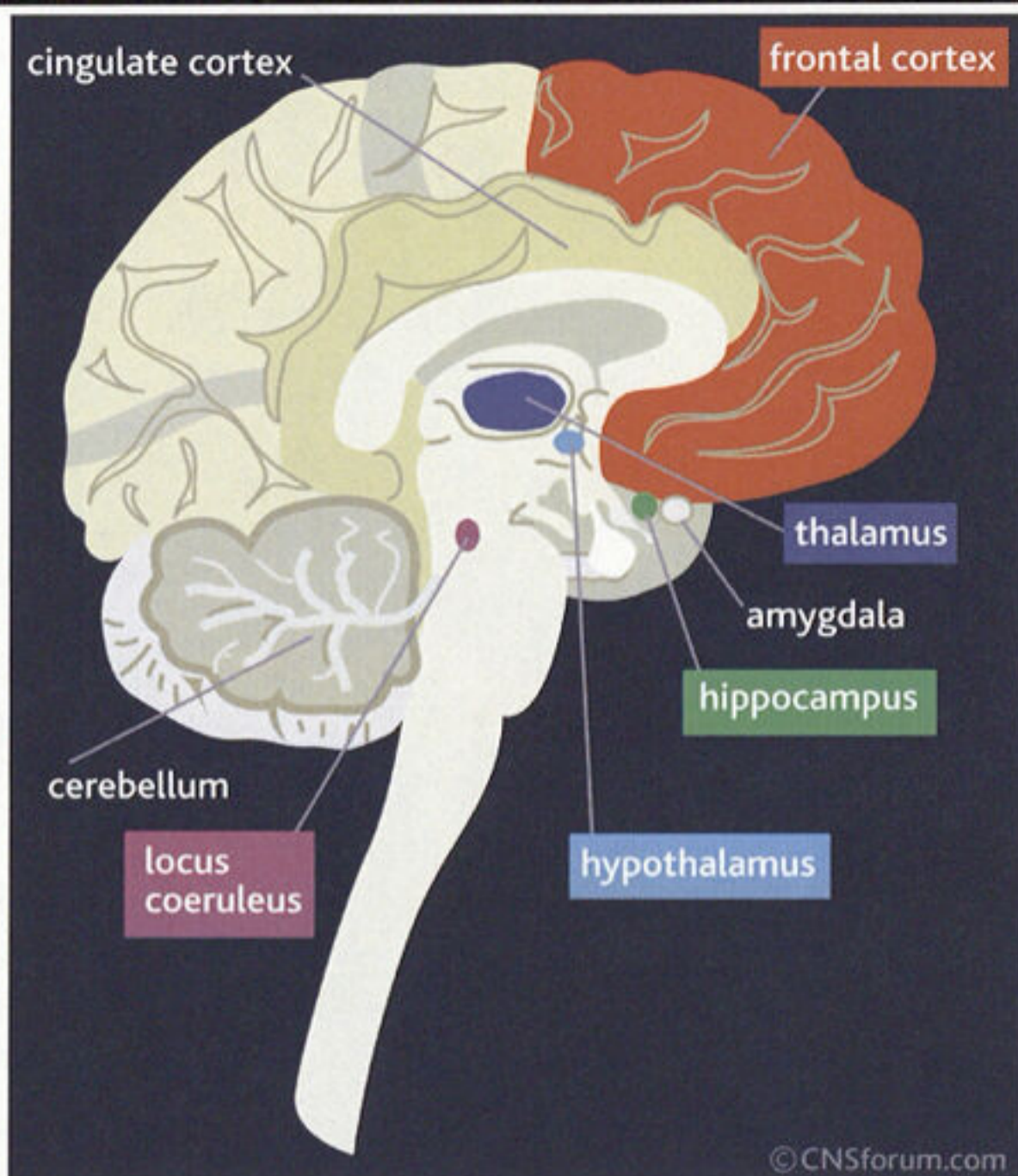
What if the brain is damaged or loses the ability to reason and control an individual's actions? How is the law to be interpreted then? Are the policies updated accordingly with neuroscientific discoveries?

The basic assumptions of American jurisprudence were solidified before society understood much about the brain; however, new neuroscientific discoveries are breaking barriers as we develop new perspectives of the brain. Neuroscience delves into the why and the how by looking at how we act on a fundamental—neuronal—level.

Historical Use of Neuroscience in the Criminal Justice System

The use of neuroscience in the criminal justice system is not new, as the brain controls humans' ability to decipher between choices, actions, and "right" versus "wrong." As former US Federal Judge Nancy Gertner, now a professor at Harvard Law School, said, "so many legal concepts involve state of mind. The defendant's state of mind defines the difference between first degree murder and the lesser degrees of murder, like manslaughter. His or her intent can define the crimes of which he or she is convicted. It obviously figures in the insanity defense." In addition, courts sentence juvenile offenders differently than adult offenders, as they recognize the distinction between the adolescent and adult brain.

For decades, it has been clear that physical abnormalities in the brain impact behavior. According to David Eagleman, a neuroscientist at Baylor College of Medicine, scientists discovered by the late 1800s that amygdalar damage could result in emotional and social disturbances. Around the 1930s, Heinrich Klüver and Paul Bucy demonstrated that lesions on monkeys' amygdalae led to a constellation of symptoms involving overreaction, emotion, and impaired fear management. Female monkeys with damaged amygdala neglected or physically abused their infants. Eagleman stated that "in humans, activity in the amygdala increases when people are shown threatening faces, are put into frightening situations, or experience social phobias." Physical brain abnormalities can mitigate criminal culpability, as the following two cases suggest.



The areas of the brain affected by generalised anxiety disorder. (Source: CNSforum.com)

ernor John Connally commissioned a task force of leading neurosurgeons, psychiatrists, pathologists, and psychologists from all over the country. The commission reviewed Whitman's medical history and brain tumor, concluding that the "highly malignant brain tumor conceivably could have contributed to his inability to control his emotions and actions." This conclusion has evolved and is shared by many neuroscientists today. According to Eagleman, "Whitman's intuition about himself—that something in his brain was changing his behavior—was spot-on." It's possible that if the tumor

hadn't been present, Whitman would not have committed mass murder.

In addition to cases involving murder, there are additional cases that show a connection between physical brain abnormalities and pedophilia. According to a case report by Burns and Swerdlow, orbitofrontal abnormalities—including tumors—are associated with poor impulse control, altered sexual behavior, and acquired sociopathy, symptoms that can manifest as pedophilia. This case reports a forty-year-old man whose sexual preferences began to shift toward an interest in child pornography. He was ultimately found guilty of child molestation, and then was sentenced to rehabilitation in lieu of prison. He took himself to the ER voluntarily - with no court order, where he underwent a brain scan that revealed a massive tumor in the orbitofrontal cortex of the brain. After the tumor was removed his sexual preferences returned to normal. However, his pedophilic preferences returned. He went back to a neuroradiologist and found that a portion of tumor had been missed in the surgery and was growing again. The tumor was once more removed, and his sexual preferences normalized. This illustrates the importance of including neuroscience in the courtroom, as identifying and treating the underlying cause of criminal activity is better than giving an ineffective punishment.

Case Studies

The 1966 Texas Tower Sniper shooting at the University Texas at Austin was considered at the time to be "the largest mass murder in American history." The shooter, twenty-five-year-old student Charles Whitman, killed fourteen people and wounded thirty-two others from the twenty-eighth floor observation deck of UT Tower. An officer shot and killed Whitman on the deck an hour and half after he began shooting. Officers found a suicide note Whitman had written the night before, requesting an autopsy (see Image 1).

A neuropathologist conducted an autopsy on Whitman and discovered a rapidly growing bean-sized tumor in regions that could have impaired Whitman's judgment and impulse control. This tumor was pushing against a brain structure called the thalamus (see Image 2), associated with impulse control, while also compressing the amygdala, associated with emotional regulation.

Whitman was described as "high-spirited and lots of fun as a child, [who] gave no trouble," an exemplary student growing up, well-liked at UT Austin, and an enlisted member of the US Marine Corp. Given the nation's perplexity at his actions, Texas Gov-

Sunday
July 31, 1966
6:45 P.M.

I don't quite understand what it is that compels me to type this letter. Perhaps it is to leave some vague reason for the actions I have recently performed. I don't really understand myself these days. I am supposed to be an average reasonable and intelligent young man. However, lately (I can't recall when it started) I have been a victim of many unusual and irrational thoughts. These thoughts constantly recur, and it requires a tremendous mental effort to concentrate on useful and progressive tasks. In March when my parents made a physical break I noticed a great deal of stress. I consulted a Dr. Cochran at the University Health Center and asked him to recommend someone that I could consult with about some psychiatric disorders I felt I had. I talked with a Doctor once for about two hours and tried to convey to him my fears that I felt some overwhelming violent impulses. After one session I never saw the Doctor again, and since then I have been fighting my mental turmoil alone, and seemingly to no avail. After my death I wish that an autopsy would be performed on me to see if there is any visible physical disorder. I have had some tremendous headaches in the past and have consumed two large bottles of Excedrin in the past three months.

Charles Whitman Suicide Note
(Source: Alt.CIMedia.com)

These cases demonstrate how abnormalities in the brain can impair individuals' cognitive abilities in a way that catalyzes criminal behavior. Cognitive abilities include executive functioning (EF), which is essentially a set of cognitive, self-regulatory, and higher processes that are provoked by goal-directed thought and behavior. Elements of EF include planning, mental flexibility, impulse control, and response inhibition. These overarching mental abilities are especially pertinent for the criminal justice system, as offenders rely less on EF when making moral and social judgments compared to the general population.

Criminal Justice System and Mental Health

Intent is a critical attribute of EF, in terms of goal-directed thought, as well as an element critical in criminal culpability. In doing so, the criminal justice system considers the defendant's knowledge, volition, capacity, and impulsivity when committing the crime.

Mens rea—the intent to harm—is a necessary element determining criminality of crime as it ties together the aforementioned factors. Conviction requires proof of mens rea. Insanity, lack of specific intent, and diminished capacity/responsibility defenses potentially negate or obviate mens rea as an element of crime. However, the reality is that there is some implicit bias affecting judges and juries' legal interpretations affecting determination of criminal responsibility.

As legal actors and decision-makers give context and meaning to existing regulations, assessments of EF and intent can vary from court to court. In Massachusetts, "a person is not responsible for criminal conduct if at the time as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality [wrongfulness] of his conduct . . ." In Texas, "a criminal defendant asserting insanity defense must prove that mental disease or defect caused defendant to commit conduct constituting offense which is charged; mental condition must cause defendant's inability to distinguish right from

wrong.”

The court’s overall interpretation of the above statutes, and therefore of guilt itself, is ultimately subjective. According to Proctor, “This is particularly concerning in the area of mental disease and the determination of whether a defendant . . . has the ability to appreciate the wrongfulness of their actions.” Moreover, there are equitability concerns, as those who are less able to afford the best experts must rely on “state-funded experts, who are often hit or miss when it comes to their competency and expertise,” adds Proctor. Additionally, even if the defendant raises an insanity defense at trial, such verdicts are extremely rare. Less than 1 percent of felony cases raise the insanity defense—of those, only a small percentage are successful. According to the National Institute of Mental Health, 90 percent of the defendants claiming insanity had been diagnosed with a mental illness. The question, then, is how neuroscience can bridge the gap to making the overall determination of criminal responsibility and sanity more objective.

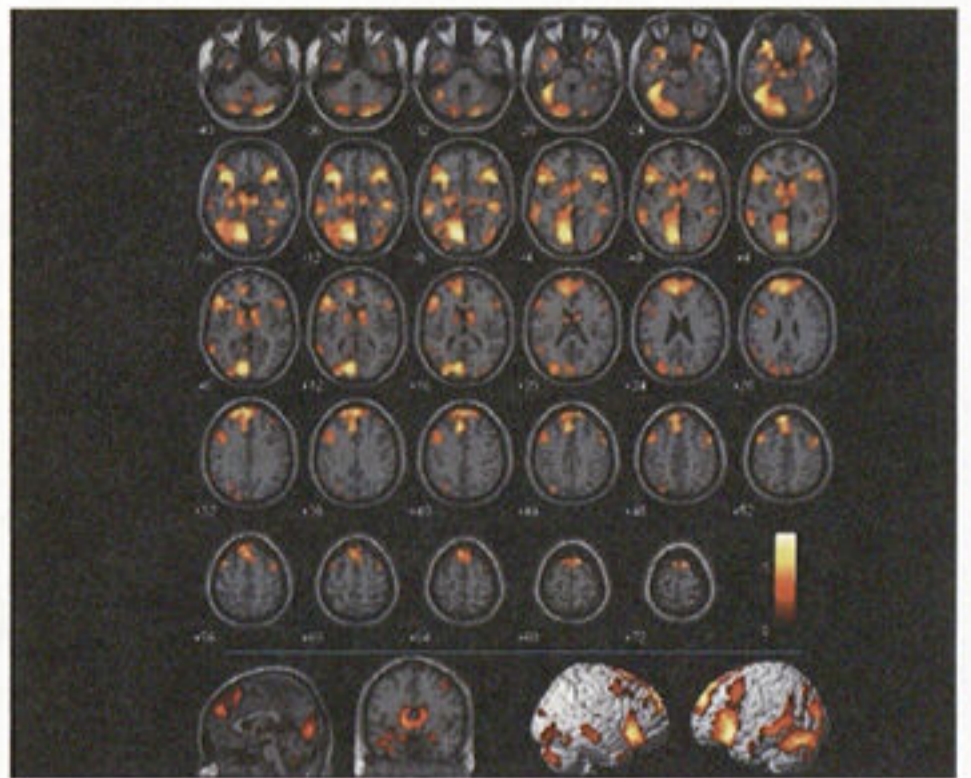
Despite recognizing impaired EF’s impact on a person’s actions, the current criminal justice system continues to fail distinguish between neurological patients (those that should go to the hospital) and disciplinarian patients (those that should go to prison).

Considering over a million mentally ill prisoners currently comprise over half of the prison population, how should courts better assess defendants’ intent?

In 2014, about 9.8 million people in the United States suffered from severe mental illness. According to the US Department of Justice, in 2005, more than half of the estimated 2.2 million prison and jail inmates had a mental health problem: 56 percent of inmates in state prisons, 45 percent in federal prisons, and 64 percent in local jails. About 1.5 million of the 2.3 million inmates in the nation’s prisons and jails meet the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) medical criteria for substance abuse or addiction. Fewer than 20 percent of them actually receive treatment. The criminal justice system’s lack of awareness of these EF impairments often leads to sentencing that does not address the underlying problems.

Recent Advances in Neuroscience

Revolutionary neurotechnologies provide



fMRI Images: “How your brain makes moral judgments” (Source: CNN.com)

new insight into the cognition of the brain, especially in assessing mental impairments. New technologies are better able to view brain circuitry and atypical neural structures, revealing locations of interruptions in cognition and EF.

For centuries, scientists were able to examine the brain only post-mortem. The introduction of MRIs and CT scans in the late 1970s allowed scientists to view brain structure non-invasively. Recent technology like the Functional MRI (fMRI) has made it possible to observe and approximate brain activity in real time that corresponds to varied actions, experiences, and functions (see Image 3). The spectrum of available technologies includes fMRIs, which can localize functional brain activation by showing the difference between stimulated and unstimulated brain tissue; Diffusion Tensor Imaging (DTI), which shows neuronal connectivity and organization; electroencephalography (EEG), which records electrical activity of a brain cell; and the recent, optogenetics technology, which allows us to control brain cells with light.

These techniques also allow us to compare the functional organization of different brains, potentially providing insight into the cause of criminal behavior. In the future, this could improve the court’s ability to distinguish between neurological versus disciplinarian patients.

The field of neuroscience is at the frontier of science. The discipline is rapidly advancing, catalyzed by the White House BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative announced by President Barack Obama in 2013. Over \$300 million in investments have been contributed toward neuroscientific revolutionary mea-

tures in an effort to understand the human brain and mind. This opens the window to understanding how people think and execute their intentions, with direct implications for the US criminal justice system.

Scientific progress in neuroscience fosters the growth of the emerging interdisciplinary fields of neurolaw and neurocriminology. Advances in neuroscience intersect with the justice system in a novel way: they can provide objective criteria of criminal responsibility, clarify parameters and interpretations of legal statutes, and improve judgements of recidivism while also tailoring treatment to reflect underlying conditions.

Objective Criteria of Criminal Responsibility

Robert Proctor, clinical instructor at the Harvard Law School's Criminal Justice Institute, says that "expert opinion is often presented under a veneer of objectivity." Norms, implicit biases, and lack of neuroscientific knowledge affect determination of criminal culpability, thereby increasing the chance of human error. Not only does this bias shape judges' evidentiary calls but also their statutory interpretations. Often an expert's evaluation entails a review of the defendant's medical records, an interview of the defendant, and, if the defendant is lucky, essential interviews with witnesses and family members. This evaluation, too, is ultimately subjective but could be enhanced by neuroscience.

In jury trials, determination of insanity remains a subjective conclusion that a jury may or may not accept. The question, then, is whether neuroscientific advances will be useful in the courtroom. Proctor adds, that we can help improve criminal responsibility analysis by "applying universally accepted scientific sources and methods of analyzing and interpreting the science of mental disease and defect" to ultimately will ensure fair access to justice in our criminal justice system.

In the neuroscientific sphere, fMRI studies have developed a robust composite of average brain activity that can be compared to a defendant's state of mind. In doing so, courts might be able to assess capacity, impulsivity, and fear management through a more objective lens. For example, when one experiences fear, scientists can assess to what degree can one generally 'distinguish right from wrong' by comparing brain activity. Moreover, recent brain imaging techniques can assess impaired

EF and other cognitive abilities, thereby improving a jury's overall evaluation of the defendant's ability to distinguish right from wrong.

It is important these neurotechnologies are applied not only in individual courts, but uniformly throughout the justice system. Depending on the justice system's level of neuroscientific awareness and the court's standards, judicial interpretations vary. Unfairly, similarly-situated defendants may receive different outcomes, especially in terms of sentencing. Setting standards using awareness of neuroscientific advances could ultimately help reduce these disparities and better tailor sentencing outcomes to minimize recidivism.

Reducing Recidivism

Societal parameters implement punitive measures to reduce recidivism. However, imprisonment hasn't fully achieved the goal of prevention. With an improved determination of criminal responsibility, courts may be able to implement a more tailored approach toward individuals with impaired neural constructs. Currently, most defendants with mental illnesses end up incarcerated. In 2007, a study found that 60 percent of offenders found not guilty by reason of insanity and sent to hospital were less likely to reoffend than untreated inmates released from jails. Additionally, in fields where neuroimaging and computer science intersect, there is the potential to develop an algorithm that evaluates levels of recidivism.

Neuroscientific criteria can inform tailoring treatment according to degrees of dysfunction. The sooner atypical neural structures are detected, timely and adequate interventions can decrease the risk of criminal careers or prevent avoidable crimes.

In light of the current criminal justice strategy's ineffectiveness and new understandings of EF from neuroscience, we must reform the criminal justice system. An increased understanding of our neural architecture opens the door to more objective criteria for criminal responsibility, insanity, and the determination of criminal punishment. The legal system must evolve to incorporate neuroscientific discoveries to increase courts' objectivity and reduce recidivism. Concrete reforms could include providing distinct dockets for defendants with disorders, tailored plans for rehabilitation and treatment, and neurocrimi-

nology training for judges, police officers, and lawyers.

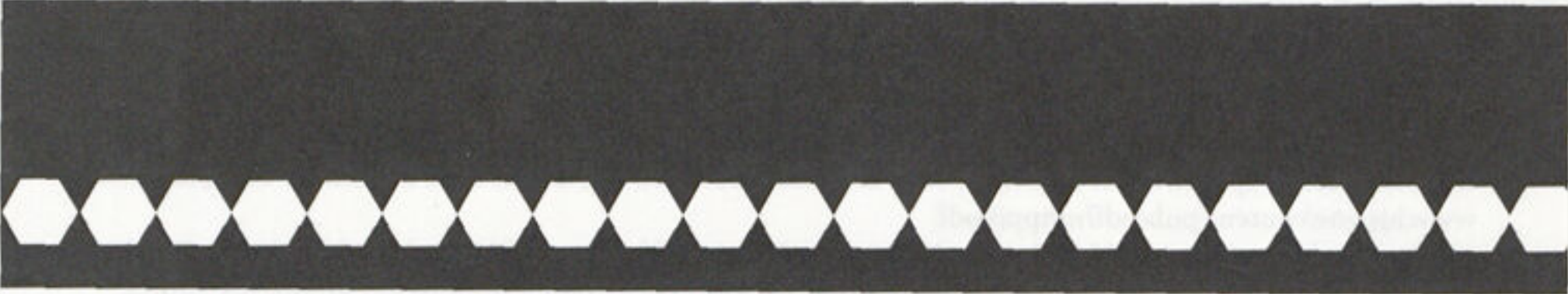
Discoveries in neuroscience add to our understanding of the human brain every day. Taking these new findings into account, we can better understand how to ensure justice while keeping people safe and healthy. *AR*

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◆ Consider the Source: Can We Tolerate Child Labor in Our Supply Chains and Closets?

By Caitlin Ryan

Stepping into a makeshift convenience store in Hanoi peddling toiletries and cleaning products, I immediately felt uncomfortable. In a shop smaller than a two-car garage with several rows of tall shelving, a dozen teenagers milled around as if waiting for a task. Numerous security cameras captured the room from different angles and an older woman monitored the video feed on multiple screens. Three girls in the toothpaste and cosmetics aisle told me they were employed at the shop; they were fifteen and had come from the Thai Binh province in the north of Vietnam. One girl said she left school at age eleven to start working. They all lived together in an apartment rented to them by the shop's owner.

But they were not in school.

I had so many more questions. Did they ever go to school? Did the employer treat them well? What career did they aspire to? Before I could ask, my interpreter signaled that it was time to leave; the woman at the monitors had taken notice of our conversation and was glowering our way.

I met these girls on a trip to Vietnam in December 2015. I went to conduct research for Sports Philosophy, a new company based in London that seeks to simultaneously produce sportswear and fight child labor. As the company's first impact consultant, my goal was to meet child workers and learn from their experiences. After years of working on various anti-modern slavery initiatives, the underlying question for my research deeply perplexed me: if children must work in some parts of the world, is there an ethical way to employ them?

Child Labor: Global Definition and Scope

According to International Labour Organization (ILO) estimates, around 168 million children around the world are engaged in child labor, more than half the population of the United States. The forms of child labor outlawed by international treaties fall into three categories:

1. Labor that is performed by a child who is under the minimum age specified for that kind of work by national legislation;
2. Hazardous work or labor that jeopardizes the physical, mental or moral well-being of a child; and
3. The unconditional worst forms of child labor, which are internationally defined as slavery, trafficking, debt bondage and other forms of forced labor, forced recruitment of children for use in armed conflict, prostitution and pornography, and illicit activities.

This three-pronged definition leaves troubling gray areas. Millions of young people legitimately perform work that is appropriate for their age and level of development. Through working, young people can gain skills, grow their families' income, and contribute to their countries' economies.



Teenage boys stock toilet paper in Hanoi convenience store, December 2015. (Source: Caitlin Ryan)

Case Study: Child Labor in Vietnam

The case of Vietnam provides useful insights to better understand the nuances within child labor.

On a policy level, Vietnam ratified The Worst Forms of Child Labor Convention (No. 182) in 2000 and The Minimum Age Convention (No. 138) in 2003. Under these conventions, students must stay in school until age fifteen and may not perform hazardous jobs before eighteen. Vietnam's Labor Code (2012) prohibits employing minors under fifteen. However, the Code also outlines detailed guidance for employment of minors including those as young as thirteen.

Despite Vietnam's Labor Code, 1.75 million children (ages five to seventeen) are engaged in child labor. According to a National Child Labor Survey conducted in 2012 by Vietnam's General Statistical Office in cooperation with the Ministry of Labour, Invalids, and Social Affairs (MOLISA) and ILO, one-sixth of Vietnam's 18.3 million children perform some form of economic activity. The vast majority of child workers (86 percent) lives in rural

areas, and most work in agriculture on small-scale family farms. In addition to agriculture, home-based subcontracting is on the rise; manufacturers reduce labor costs by employing women and children in local households. Only a fraction of these children qualify as child laborers under international standards.

While in Vietnam I visited many stores; I did not encounter child workers that fit into the ILO's categories—children under the minimum age of fifteen or working in hazardous conditions. Yet my market visits revealed several teens working in precarious situations. Teens also work in the many garment factories in southern Vietnam. These young people typically drop out of school at young ages, travel to Hanoi and Ho Chi Minh City from rural provinces, and live in housing owned by their employers. While further investigation could potentially uncover harmful working conditions—

excessive hours, night shifts, physical exertion, or exposure to hazardous toxins—children older than fourteen working in the market and garment factories would not be considered child laborers under current laws.

Causes of Child Labor

Through conversations with representatives from the Vietnamese government, the ILO, and non-governmental organizations (NGOs), I sought to understand more about the factors contributing to child labor in Vietnam.

Supply

On the supply side, the availability of children to perform labor is a symptom of larger problems.

Poverty

The lack of adequate income-earning opportunities for adult family members is a root cause of child labor. Household poverty pushes children into the labor market. According to

the ILO, “children’s work in many cases contributes a substantial fraction of household income, usually around 20 percent. For these households, the child’s income is necessary to bridge the gap between survival and starvation.” Further, by limiting access to higher education and skill development, child labor perpetuates household poverty across generations and slows national economic growth. However, child labor also persists in households earning above the national poverty line, indicating poverty is not the only cause. A World Bank study in Ghana found that beyond poverty, reasons for high incidence of child labor included “the country’s agricultural dependency, demographics and social norms, as well as the geographic isolation of Northern children and no returns to rural basic education.” Further quantitative studies are needed in contexts such as Vietnam to better understand the factors alongside poverty that contribute to child labor.

Geography and Migration

While poverty is a major contributor, the whole picture is more complex. Parents in poor rural areas often face a difficult decision: seek employment in the city and leave the kids to tend to the farm or send the kids to work in the city. In Vietnam, many children in urban centers come from poor fishing and farming villages where economic opportunities are limited. Because income is often not sufficient for family survival, farmers migrate to urban centers for work. With low incomes, poor benefits, unstable employment, and far from traditional family support systems, young migrants are particularly vulnerable to exploitation and encounter prostitution, drugs, and HIV/AIDS infection. Life is not easy for the children left behind, either. When young children are tasked with tending to absent parents’ household responsibilities, their own education and future opportunities may be stunted.

Demand

Demand for cheap labor (supplied by child workers) can be broken down into several components.

Low Wages

As of 2014, Vietnam had one of the lowest minimum wages in the garment and textile industry. Despite producing for some of the most profitable companies in the world, workers in Vietnam’s textile-garment industry work for poverty wages, under harsh conditions, and many take on excessive overtime work. Research on clothing and shoe manufacturing in

Albania and cottonseed growing in India demonstrates a correlation between low prices paid by purchasing companies and use of child labor.

Complex Global Supply Chains

Every year the US Department of Labor assembles a list of goods believed to be made with child or forced labor in violation of international standards. The 2014 list includes 136 goods from seventy-four countries, including bricks and garments from Vietnam. These items are made available domestically, but may also end up in global supply chains. Within the complex supply chains of the garment and textile industry, it is difficult for companies to control every stage of production. This complexity makes it possible to employ children without major brands and consumers ever knowing.

Lack of Regulation in the Informal Sector

Regardless of sector, child labor is largely prevalent in the informal economy, which is beyond the reach of official regulatory institutions including labor inspection services. Like many other industries, over the past few decades, global garment manufacturers have outsourced production to developing countries in order to cut costs and remain competitive. In these countries, increasingly work is done in the informal sector; middlemen are responsible for distributing unfinished garments into individual households and then returning finished products back to the factory. Today, a significant part of piece work—stitching, hand embroidery, finishing



Teens help unload and stock a shipment of dried foods and spices in a Hanoi shop, December 2015. (Source: Caitlin Ryan)

processes—is done in homes without any sort of oversight.

Thinking about demand brings me back to my core research questions: What standards are acceptable to companies seeking to produce apparel and other goods in a climate where there is such uncertainty around employing young people? And as consumers, are we comfortable with the idea of fourteen-year-olds dropping out of school to make our clothes and shoes?

TPP: An Opportunity to Rethink Approaches

In coming years, we will likely be seeing “Made in Vietnam” on a lot more of our apparel purchases. With the Trans-Pacific Partnership (TPP) now signed, Vietnam is projected to experience more growth than the eleven other countries under the trade deal. Over the next decade, expanded trade through TPP will likely boost Vietnam’s GDP by 11 percent, or 36 billion USD. Total exports could grow by a third, and apparel and footwear exports by half.

Much of the debate around the TPP in

the United States has been around the deal’s impact on labor. TPP proponents see the trade deal as an opportunity to promote international human rights. The deal commits the Vietnamese government to passing new laws that ensure better wages and working conditions, and would allow workers to freely unionize and strike. Skeptics express doubt about whether the government would enforce any new laws.

While it is broadly accepted that foreign trade benefits developing countries, short-term benefits and costs are distributed disproportionately between different groups within society. One group that will most certainly be impacted by the increased labor needs of Vietnam’s garment sector is child laborers. In the roll out of TPP, companies have an opportunity to examine their impact on child labor.

The Goal: Eliminating the Worst Forms of Child Labor—or Developing the Best?

Whenever possible, companies should pay adults fair wages to avoid family reliance on supplemental income from children. Government efforts to crack down on child labor must be coupled with viable economic options. The Vietnamese government recently developed a national plan to eliminate the worst forms of child labor, which should be approved in coming months. Companies can help reinforce these efforts through policies and employment practices. For decades, multinational companies have tried to strike the right balance. To highlight one approach, Swedish furniture manufacturer IKEA implemented a “zero-tolerance” policy in Vietnam in the early 2000s, threatening to cancel all contracts with suppliers in Vietnam if a single incident of child labor were detected. Yet in many parts of the world, factors of poverty, migration, and demand for cheap labor converge to create conditions where child labor continues to thrive.

In 2014, the government of Bolivia turned a new corner in the child labor debate by legalizing work for children as young as ten years old. For children ages ten to twelve, work is allowed if they attend school, are self-employed, and obtain parental permission. Remarkably, it was children—as members of the Bolivian Union of Child Adolescent Workers (Unatsbo)—who drove this

change. Some children in Bolivia believe that an all-out prohibition of child labor prevented the implementation of any legal protection and made young workers more vulnerable to abuses by employers. Other Bolivian children oppose the new policy; they feel working during their developmental years will prevent them from obtaining an education and reaching their potential.

If we accept that some level of child labor will occur in the developing world, at least for the foreseeable future, efforts to protect children must shift from ineffectual zero-tolerance-based platitudes to actionable harm-reduction models. Zero-tolerance is not a feasible strategy. So what can companies like Sports Philosophy do? While elimination of child labor ought to be the ultimate goal, perhaps the interim goal should be reducing harm to those children who are already working.

Toward a Harm-Reduction Approach

Companies have an opportunity and obligation to develop programs that reduce risks to children who are unable to quit working. Further research and innovation is needed to find solutions that consider the best interests of working children. Here are some starting points.

Work and Learn Models

Working children have the opportunity to break out of a family cycle of poverty only if they can develop marketable skills. In the United States, the Jesuit Cristo Rey schools offer an interesting model to employ and educate inner-city youth. Through Cristo Rey's

Corporate Work Study Program (CWSP), high school students work five days a month in entry-level jobs in the community. In return, employers pay for 70

percent of educational costs. The CWSP not only covers the school's operating costs, it provides students with valuable work experience and empowers them to finance their education. Boldly innovative employers operating in Vietnam or other developing countries could adapt this model to fit the local context.

Reduce Information Asymmetry

Many laborers in the developing world, including child laborers, are disadvantaged due to a lack of information. Better knowledge about employment opportunities and risks could be shared with migrant worker populations. In one example, Contratados.org offers migrants from Mexico working in the United States an avenue to create and read

Yelp or TripAdvisor-like reviews of employers and labor recruiting agencies. Through the website, workers can warn others of employers to be avoided. Developing such tools would help fair employers attract and retain a sustainable workforce.

A young man sleeps in Hanoi's Dong Xuan market, December 2015. (Source: Caitlin Ryan)



Conclusion

My field research showed that definitions of child labor do not appear so black and white in practice. New solutions must meet families where they are today; protecting the best interests of the child may not always mean removing him or her from work. Further research is needed to understand all the difficult factors beyond poverty that a family weighs when deciding whether to send a child to work.

I think about the young women I met in the shop in Hanoi. I wonder whether there could be a pathway for the girls to work and to also pursue a decent education. As a student of public policy, a consumer, and a global citizen, I still have many questions about how to ethically employ children. But perhaps traditional zero-tolerance policies are missing the mark. ¹³

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◆ The Dirty World of Ranking Cities

By Sam Salkin

Cities differ vastly from one another.

That's probably too obvious of a statement.

During the summer of 2015, I worked for a non-profit consulting firm advising cities around the world on how to solve the nasty issues plaguing their citizen's quality of life. One of our clients, a major European city, came to us with a seemingly simple question. The city believed it ranked among the world's best cities at managing municipal solid waste—known to most of us as garbage or trash. The city not only wanted to see how they stacked up to other cities but also how to improve and tell people about their success.

Thus began a summer of investigating and evaluating how cities around the world manage their waste. I spent hours scouring websites of cities seeking all kinds of data. My hunt led me to open data portals, annual reports, and vendor audits to determine metrics such as the amount of waste a city generated and how they treated it. Google Translate simultaneously became my best friend and most lamented foe as I tried to decipher words such as incineration, plastics, and diversion in languages like French, Norwegian, and Japanese.

In the end, I couldn't tell our client they were the best.

I also couldn't tell them who was.

Cities vary in dizzying ways. Density, depth of transit networks, gross metropolitan product, and countless other measures vary widely. In trying to understand who was the "best in trash," I became convinced of the futility of the exercise.

As time progressed, I became even more skeptical of the usefulness of ranking cities. It's not just limited to solid waste, either. Cities obsess about who's above them and who's nipping at their heels in many different performance rankings. Instead, cities should focus on improving and benchmarking against themselves. The only place a city should compare itself to is . . . itself.

Perhaps our client had asked the wrong question from the start.

However, until I could persuade my client, I had to answer their original question: How did they stack up to other cities in solid waste performance?

Who Takes What from Whom

Take New York City. Its Department of Sanitation provides trash collection services for over eight million residents and all its public buildings three times a week using city vehicles. Recycling is collected once a week, but paper and cardboard must be separated from other recyclables. Municipal taxes cover the costs. However, all private businesses must hire a company to haul away their trash because the city does not collect it.

Compare this to Seattle. A city-owned public utility is not only responsible for garbage but also water, sewage, and drainage. For waste collection, households choose a specific size trash bin and pay a monthly bill depending on the bin's size. Recycling is free and there is a small fee to recycle organic waste like food or lawn clippings. City vehicles collect trash, recycling, and organic waste only once a week. Businesses and commercial property must purchase service from

the city at set rates. Then, Seattle contracts with two private companies to collect waste for the city.

These differences are not unique to the United States. Berlin owns a private company to collect household waste. Commercial customers can contract with this company, or they can seek better prices from competitors. Each of London's thirty-three boroughs has its own waste collection regime. Toronto will collect trash from all households, but only businesses under a certain size. Singapore's government does not collect any waste. Instead, private contractors handle all of it.

Beyond who collects what and when, how residents prepare their waste for collection also varies widely.

North American cities almost exclusively enjoy door-to-door collection where trucks roam the streets, picking up waste from our front or back doors. Conversely, in rural areas, some municipalities only operate a transfer station and citizens bring trash to the dump themselves.

In Europe, door-to-door collection is far from the norm, though some cities offer it. Many cities use shared bins located around neighborhoods for residents to deposit trash. Rome is currently transitioning from a shared-collection system to door-to-door. Brussels collects all trash and recycling door-to-door—except for glass. Zurich only collects paper from individual customers and everything else goes in neighborhood bins.

If a theme of inconsistency is emerging, it only goes deeper.

Think about how you bring your trash out for collection. Do you separate recycling from other waste? To what extent do you separate different kinds of recyclables? Are plastics in a separate bin from metals or paper? Does your city accept organics or compost such as yard or food waste? Houston collects all trash in a single bin that is later sorted for treatment or recycling and resale. Compare that with San Francisco where customers have three bins—one for trash, one for recycling, and one for organics. The other extreme is a city like Helsinki with individual bins for each kind of waste and recyclable where papers,



(Source: Isado, Flickr with Creative Commons License)

plastics, metals, and glass all have their own containers.

Definitions of important terms also vary between cities. In the waste management realm, "diversion rate" is a popular term to describe waste not going to a landfill. New York City's Department of Sanitation defines diverted waste as trash "sent to reuse, recycling, or composting." Across the country, Los Angeles works from a different definition that counts diverted waste as "recycling, composting, waste-to-energy (the technological successor to incineration), transformation, and source reduction." To clarify, municipalities in California can count a reduction in waste generated by their citizens as "diversion." Therefore, if a city decreases the amount of waste generated, their diversion rate goes up despite the waste never actually existing.

To be fair, California has abandoned "diversion rate" as a key statistic in favor of the "total amount disposed." Still, this made me wonder how you can possibly compare two cities' statistics when there is disagreement over what simple terms mean.

All of these complications occur before a city even decides what to do with waste once it's collected. Some cities send trash to a landfill while others sell to a recycling company or treat it and burn it for energy or heat.

Spreading the Word

Another challenge arises when looking for good relevant information about each city's waste management system. As with everything else, it is an exercise in inconsistency.

Some cities provide regularly updated and detailed reports breaking down waste collected from specific areas on a monthly basis. Other cities tie information into an open data portal that publishes the information in a variety of formats for deeper analysis.

Unfortunately, this isn't the norm. Aside from translation and website navigation issues, finding reliable and comprehensive information creates challenges. Some cities have not updated their website in years. Others provide copious information on how much waste they collect but provide no information about how they treat that waste. Many cities offer strategic plans on how to reduce their waste output or achieve higher rates of composting, but provide no information on their current activities.

My other big concern stemmed from identifying data sources. Since a city's "customers" vary widely, it is often unclear whether a city's data represents waste generated by all its citizens and businesses or only the residents from whom the agency collects. In a city like Singapore, where private companies handle all collection, the city conducts rigorous audits to present a comprehensive picture of the city's waste profile.

As someone trying to answer a simple question, all of these differences became exhausting.

A simple apples-to-apples comparison was completely out of reach. Even when I tried to normalize data by converting it to a per capita measure, it did not seem fair because of underlying differences between how cities operate, define, and report on trash.

Defining "Best"

Halfway through the summer, after poring through the data and reports, I developed a new take on the question at hand. On some level, a city's waste performance has far more to do with citizens than the agency responsible for collecting and processing waste.

It occurred to me the amount of waste a city processes is a function of what its population consumes and generates. The amount a city recycles certainly stems from policy decisions, but ultimately reflects citizen compliance with those rules. Culture dictates how much waste is generated both in aggregate and on a per capita basis. If a city has a particularly high recycling rate and low per capita waste generation, that is obviously something to celebrate, but is largely a consequence of citizens' actions, not a city's efficacy at waste management.

This challenge mirrors the metrics used to judge cities. It doesn't matter if it is museum attendance or traffic safety - both are a consequence of policy and culture. They can't be completely attributed to the actions of a city government.

Aside from how much waste a city generates, there are innumerable ways to measure a solid waste agency's operational performance. Customer service and satisfaction are easily measured through metrics such as missed pickups per thousand or how long it takes to resolve customer complaints. I am less knowledgeable on industrial methods, but I am certain a city's efficiency at processing waste and money received for recyclables is measurable. Unlike other metrics we've examined, these are helpful for comparing cities.

All this information must be gathered somewhere, but throughout my research, I saw very little reported. Perhaps cities like to keep this data confidential, or few people care about the information—aside from the trash-obsessed. However, considering how inconsistently cities report on their

(Source: Isado, Flickr with Creative Commons License)



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most basic activities, this lack of information was no surprise.

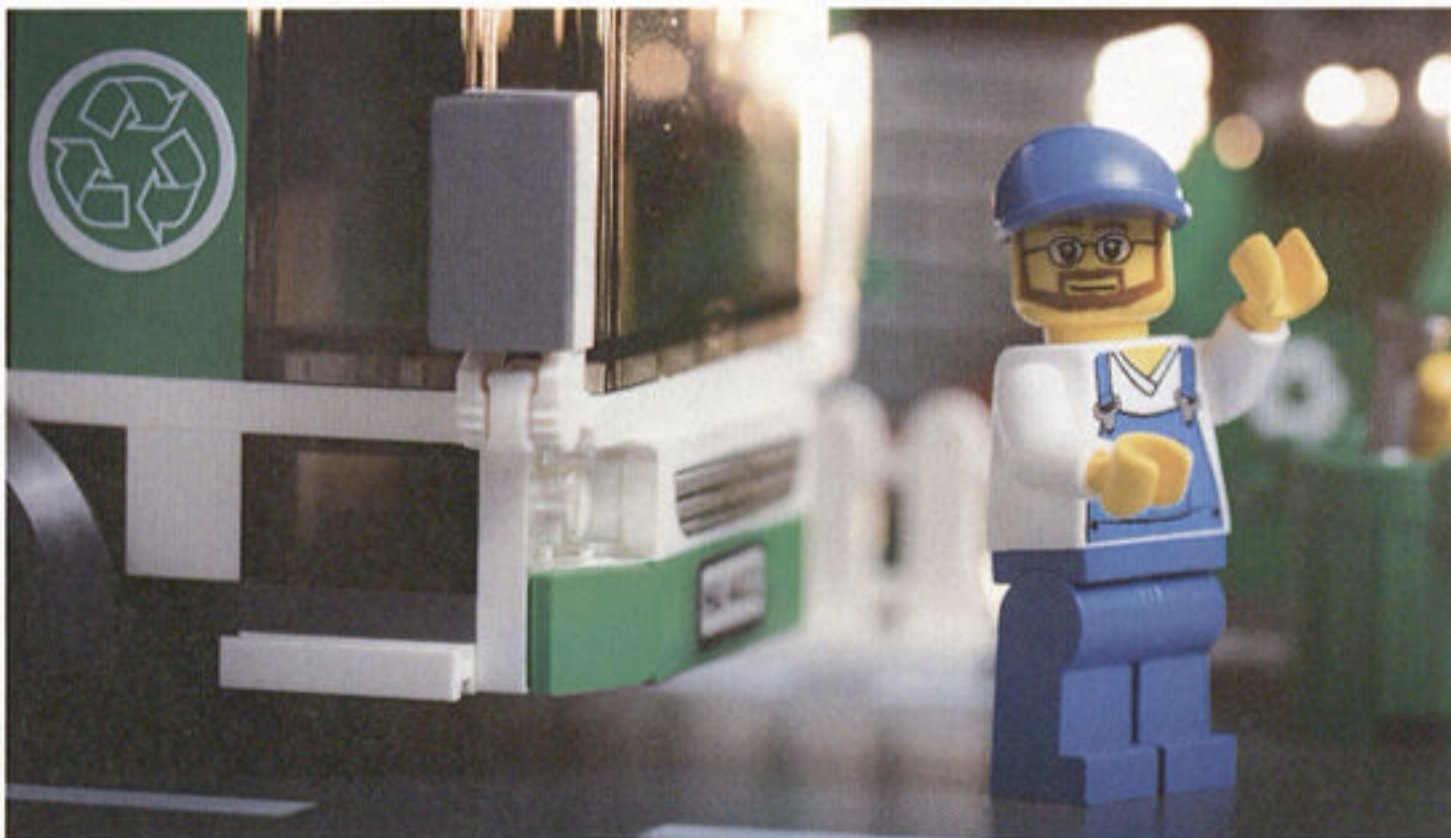
Best for Whom? Best How?

Throughout this discussion, one question loomed large. I started to wonder who cities are trying to impress. I questioned whether citizens care that their city is the “best at trash.” While it might be a source of pride for the wonks and urbanists among us, I’d imagine most people just care about trash being picked up when its supposed to, having clean streets, and not bearing the environmental hazards of their trash.

In asking legitimate questions about how much citizens really care, the importance of comprehensive reporting became undeniable because it signals a city’s commitment to delivering quality services and continuously improving.

The idea of “comprehensive” reporting might seem nebulous, but after seeing how cities around the world vary, the recipe is simple.

First, transparency is key. With definitions of seemingly straightforward terms varying widely, it’s important to explain exactly what “diversion” means in your city. Beyond definitions, cities should report as much data as they can—the good and the bad. The second key ingredient is frequency. It isn’t enough to post statistics to a website once every few years and claim they are “reporting.” Rather, cities should provide updates on a predictable schedule. They could provide deeper temporal details by going beyond annual stats and giving monthly or quarterly breakdowns. Finally, the last piece is accessibility. It isn’t enough to bury an annual report on an obscure web page that few will find. Cities should be up front and meet citizens where they get information. In many places, the web makes the most sense, but in areas without



stable Internet access, waste agencies could deliver report cards to customers or disseminate information via the press. Beyond being comprehensive, cities must make reporting relevant—the right information going to the right people through the right channels.

If you’re a city like my client, and your goal is demonstrating superiority in managing waste, provide a frequent comprehensive account of your activities to the people who pay attention. Perhaps your target audience is an industry group like the International Solid Waste Association or C40, a network of cities banding together to tackle climate change.

Regularly pushing out detailed information makes cities relevant and demonstrates leadership.

However, some cities should simply prove the strength of services to its citizens. This is where transparency is paramount—even if the news isn’t good. Provide updates on customer service metrics. Show levels of street cleanliness. Make sure local elected officials understand the quality of service in the areas they represent. When agencies consistently provide updates and put their cards on the table, their incentives to improve become inherent.

For cities looking to encourage behavior change and reduce waste, reporting should be citizen-centric and focused on helping residents understand their role in waste management. Present relevant data in non-technical language. If a city wants to increase composting, help explain composting to citizens, its benefits, and show how their neighborhood compares to others.

Instead of being number one, why not just be . . . better? Improve consistently. Tell your citizens and the world about that.

It's Between You and You

With all the pitfalls of comparing cities to each other, the better exercise is for cities to compare themselves to themselves. The underlying differences between Berlin and London and Toronto make it practically impossible to conduct meaningful analysis. An econometrician might disagree but no matter what formula and weights one comes up with, the nuance is so deep that the rankings or scores lose meaning. After this summer, I suppose I am slightly impressed that Los Angeles recycles more than Rome. Maybe. But they are vastly different cities with their own waste management regimes, too dissimilar for an objective comparison.

It would be impressive to see if a city's recycling rate has increased over the past five years and an explanation of how that was accomplished. The vast stakeholders ranging from ordinary citizens to elected officials and journalists, would probably see far more value in a positive trend than rankings of dissimilar cities. If a city is trending downwards or middling, they now have accountability to the public. It might be awkward but it puts pressure on to turn things around.

This is the challenge and opportunity in comprehensive and relevant reporting. Cities need to define their goals and implement an effective public communications strategy.


Beyond Waste

This article is about trash and my odyssey helping a city understand how it stacks up. But really, it's not about garbage.

Easily, I could have written the same 2,500 words about arts funding or public health. Our culture obsesses with rankings. These days, everywhere you turn there's a new list of the "ten healthiest cities" or "the most livable neighborhoods." While these are helpful heuristics, it is unclear how much they actually improve the quality of life for citizens. As much as we try to control for certain variables or normalize values, I'm not convinced knowing how much better City A is than City B helps anyone aside from people looking for bragging rights. Knowing how much better City A is than it was six months ago provides true public value.

When a city commits to honest appraisals of its performance and includes the public through comprehensive reporting, everyone wins. City employees see their work is relevant and citizens understand how their actions fit into the bigger picture. Think about this outside of the context of garbage and waste. Think about education or traffic congestion rankings. Striving for similarity is futile.


There is one city every city is similar to—itsself. Why waste time chasing the pack when cities should commit to improving itself for its citizens? Instead of being number one, why not just be . . . better? Improve consistently. Tell your citizens and the world about that.

It took me all summer to realize it, but our obsession with ranking cities might just be garbage. 

Sam Salkin is a master of public policy candidate at the John F. Kennedy School of Government at Harvard University. Originally from the New York City suburbs, with a brief stint in Atlanta, he recently lived in Washington, DC. After graduating from the George Washington University with a bachelor's degree in geography, Sam worked as a sustainable transportation consultant. He advised local governments and developers on strategies to promote multi-modal travel options that reduce congestion. He also worked as a communications consultant and served as project manager for public education efforts in the US Department of Veterans Affairs' initiative to end homelessness among veterans. At the Kennedy School, Sam focuses his academic and professional interests on cities because they are so multifaceted and dynamic. Beyond his love of cities, Sam loves the New York Mets, craft beer, and plowing through the stack of New Yorker magazines inevitably accumulating during the semester.

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● The Rising Tide of Intolerance in Narendra Modi's India

By Shanoor Seervai

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The resounding victory of Hindu nationalists at India's federal polls in May 2014 is attributed to one man: Narendra Modi. Fed up with the corruption and complacency of the Congress—the party that led India's anti-colonial struggle and governed for much of its independent history—the world's largest democracy voted for a leader who promised an era of growth.

The Modi “wave” that swept India cannot be chalked up to his political platform alone. It was the result of artful public relations and dogged hard work, which gave the Bharatiya Janata Party (BJP) the biggest majority for any single party in thirty years. One of the advertising gurus who played an instrumental part in the BJP's media strategy told me in an interview in July 2014 that Prime Minister Modi's election campaign was modeled along the lines of a US presidential one. “This was a situation where Narendra Modi equaled the BJP,” he said.

Modi's first post-victory speech to a sea of adulating supporters included a declaration that “to run the country, we need to take everyone with us.” But his past casts a shadow over his will to quell religious violence. Over one thousand people (mostly Muslims) were killed in religious riots in 2002 during his tenure as chief minister of the western state of Gujarat.

Some critics say he did not do enough to stop the violence; others believe he strategically engineered the massacre of Muslims. While a Supreme-Court-appointed investigation did not find sufficient evidence to convict Modi of wrongdoing, many senior officials of the Gujarat government were convicted of crimes including murder, attempted murder, and conspiracy. Modi, in a New York Times interview he gave in 2002—his last one—offered no consolation to the state's Muslims and expressed satisfaction with his government's performance. The only regret he voiced about the carnage was that he did not handle the news media well.

Eighteen months after Modi's triumph, it remains unclear whether he has any intention of fostering tolerance, religious or otherwise, in India. While Hindus are the majority, almost 250 million people—more than 20 percent of India's 1.21 billion-strong population—belong to religious minorities. Muslims are the largest minority, at 14.23 percent. India is one of the globe's most diverse countries, with a historical commitment to secularism tracing as far back as 270 BC, when Buddhist emperor Ashoka ruled a largely Hindu country.

The Hindu right in more recent times has worked to thwart this history of plurality, but the tenuous nature of its political power (until 2014, the BJP had never held a majority in Parliament) always curtailed its opportunities for unfettered sectarianism. With Modi at the helm today, however, senior politicians make bigoted remarks with distressing frequency, stoking

perpetually simmering embers of a fear that India's government prescribes to a bigoted brand of Hindu nationalism.

Religious Intolerance

When Muslim computer engineer Mohsin Sadiq Shaikh was killed in western India a week after Modi took office, I interviewed the head of an umbrella organization for Muslim groups in New Delhi. "I'm glad you are talking about this case," Zafarul Islam Khan told me. "But this is only one of several other, silent, undocumented acts targeting Muslims across North India." Modi never publicly acknowledged Shaikh's murder.

Emboldened by the Hindu government at the center, local BJP leaders have preyed on Muslims with a systematic attempt to prevent consumption of beef. Hindus believe the cow is sacred, and in its 2014 election manifesto the BJP pledged to increase "protection and promotion of cow and its progeny." Expanding a 1976 law that prohibited the slaughter of cows, a law passed in 2015 bans the slaughter and possession of bull and bullock meat in the western state of Maharashtra. Other states are following suit with similar laws. Such bans on beef hurt not only religious minorities like Muslims and Christians, but also lower-caste Hindus, who eat beef and work in industries related to cattle slaughter. More worrying than exercising legal muscle or illegal vigilantism over what people eat, is the violent manifestation of intolerance.

Hindu mobs beat to death a Muslim man in September 2015 for allegedly eating and storing beef, which was later discovered to be goat meat. Modi was studiously silent as national outrage erupted; he did, however, find time to tweet a famous singer to condole her son's death. He waited more than two weeks to acknowledge the lynching of Mohammad Akhlaq—and when he did, he called it "sad" and "unfortunate," but

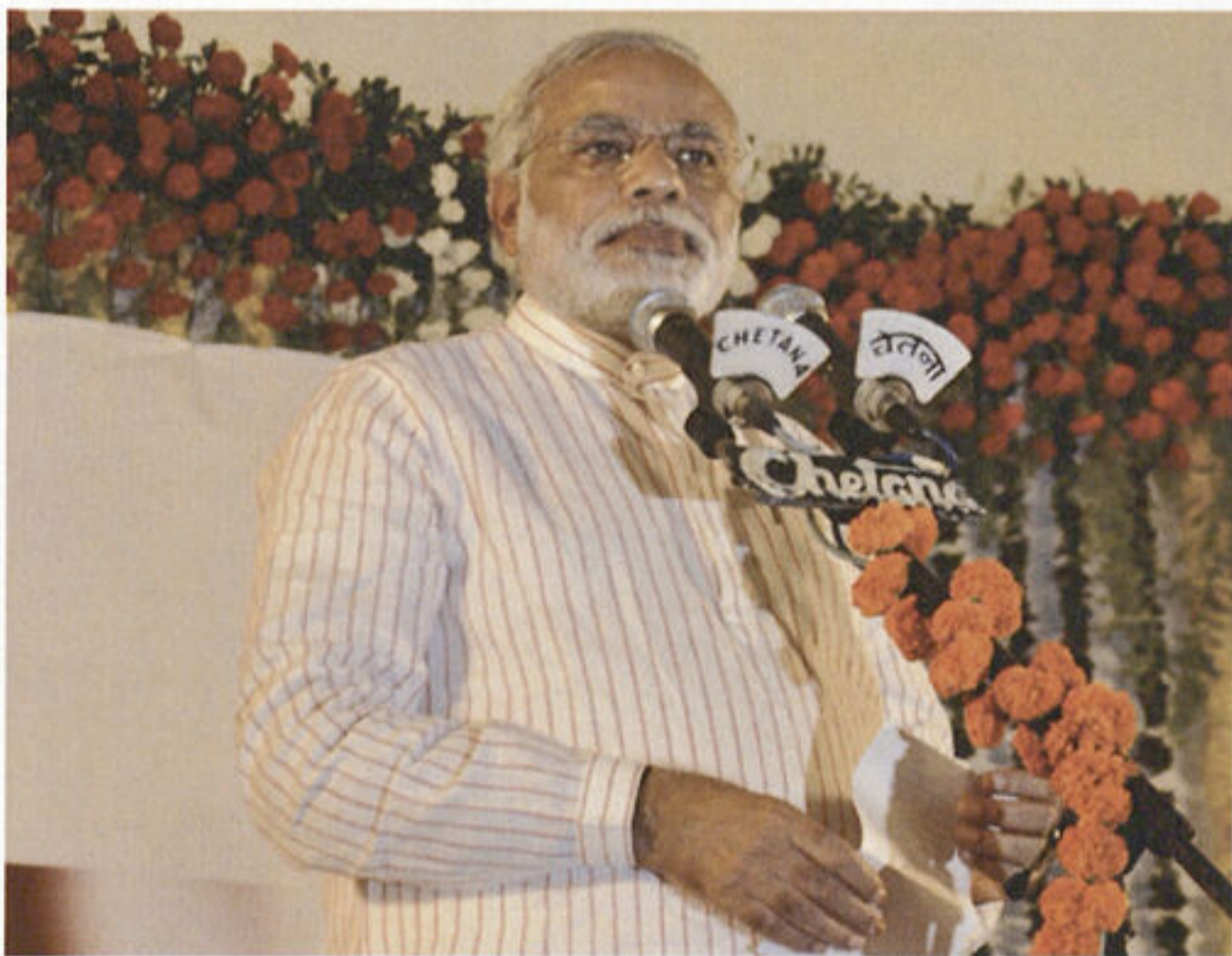
implied the federal government is unable to do anything to prevent such violence.

No Room for Dissidents

In the weeks after Akhlaq was murdered, writers started to revolt. Indian authors and poets returned prestigious awards from Sahitya Akademi, the National Academy of Letters, to speak out against the "violent retrogressive forces dictating terms in the field of literature and culture." The protest was also inspired by a series of endeavors to silence writers with alternative interpretations of religion. One writer posted on his Facebook page in early 2015 that he would stop writing after facing harassment from right-wing Hindu groups for his book depicting an ancient ritual.

The BJP government's willingness to clamp down on dissent is perhaps most insidious in the case of Teesta Setalvad. One of India's best-known human rights activists, Setalvad has tirelessly worked to bring justice to the victims of the 2002 Gujarat riots; her network of organizations is widely credited with helping prosecutors win more than one hundred convictions against those responsible for inciting the violence.

Setalvad has been the subject of a string of investigations since she began her work, including allegations of tampering with wit-



Narendra Modi (Source: Global Panorama, Flickr)

nesses, and a more recent federal investigation into alleged financial irregularities of her organizations. One reason India's Central Bureau of Investigation is persecuting Setalvad is that her organizations spent funds from the Ford Foundation to create "communal disharmony," tantamount to threatening national security. Setalvad told me in an interview in December 2015 that these funds, a tiny fraction of what she has received from donors over the years, were used to build a human rights archive. "It has been very difficult to continue with our justice work . . . their intention is to get us bogged down," Setalvad said, referring to the time she spends defending herself against criminal charges.

The trend of rolling out criminal charges against dissenters resurfaced with teeth as this piece went to press. Protests broke out across India in mid-February 2016 over the arrest of a student at a prestigious university in New Delhi on charges of sedition. Kanhaiya Kumar, president of the student union, was arrested after a discussion about capital punishment to mark the anniversary of the execution of a Kashmiri man convicted of a 2001 attack on India's Parliament. The BJP government justified the arrest with allegations that in speaking about the hanging, and the expressed desire of some Kashmiris to secede from India, Kumar and other students were making anti-national claims that were seditious and could not be allowed. Clamping down on the freedom of students to demonstrate at an institution of learning strikes at the very core of democracy. In his column about the arrest, political analyst Pratap Bhanu Mehta wrote, "Nothing that the students did poses nearly as much threat to India, as the subversion of freedom and judgement this government represents." As of two weeks after the arrest, Modi had nothing to say to the public.

Modi's ties to the Hindu right

What's frightening about Modi's silence is that it could be read as tacit approval of the mobs leading the charge against minorities, writers, and activists. It is no secret that Modi relies heavily upon the Rashtriya Swayamsevak Sangh (RSS), a Hindu nationalist organization, for ideological

support and manpower during elections. The RSS is a grassroots movement with thousands of local branches. Millions of volunteers across India serve its mission to create a militant Hindu state.

Hindutva, the incarnation of Hinduism as national identity, got a boost when in 1992 BJP leader and former RSS member Lal Krishna Advani led the charge for mobs to demolish a mosque in North India. They claimed it had been built on the same land where a temple to the Hindu god Ram once stood. The Congress government in power did nothing to prevent the destruction or stem the nationwide religious riots that followed. Hindutva dates back further; even as the country celebrated its independence, RSS activist Nathuram Godse assassinated Mahatma Gandhi. In 2014, less

[Modi's] typical, ostrich-like response, of saying nothing or tweeting platitudes when something serious or disturbing happens, is inadequate. It raises the question: what stake does Modi have in an intolerant India?

than a year after Modi had been in power, there were murmurings of RSS-affiliated parties building a temple in honor of the assassin.

Modi began his political career as part of the student wing of the RSS,

and rose rapidly through its ranks. Many believe he does not oppose the RSS's blatant attempts to drive its agenda because he subscribes to it. As rationality and secularism are slowly being bled out of Indian education, he has endorsed the views of those rewriting textbooks to depict science and history as a glorified Hindu past. He has also given his minister of human resource development free rein to appoint (often unqualified) RSS ideologues at key institutions of academic research.

A Brief History of Intolerance in India

Regardless of whether Modi is too secure in his power to care about the handful of voices raising concerns about intolerance, or fully endorses the censorship, witch-hunts, and cultural appropriation, it is too convenient and simplistic to exclusively blame him. India is no stranger to sectarian tension. When the subcontinent divided into India and Pakistan in August 1947, more than a million people were killed. The Congress leaders of independent India built secular principles into the Constitution, but friction between religious groups has diluted these in practice.

Supporters of the BJP are quick to point

out that Congress' record on minority rights is hardly pristine. Former Prime Minister Rajiv Gandhi responded to the anti-Sikh pogroms after his mother Indira Gandhi was killed in 1984 with the words: "Once a mighty tree falls, it is only natural that the earth around it shakes." More than thirty years later, perpetrators of the violence have not been prosecuted. Congress remained in power and won subsequent elections.

It is no wonder, then, that even those Indians opposed to communalism were able to forget or intentionally ignore the accusations against Modi for the 2002 riots. Many believed that in the decade that followed, he turned his attention to economic development in Gujarat, evidenced in the state's rapid GDP growth and relative ease of doing business. In the process, Modi forged close relationships with Indian industrialists, opening doors to oil-refining and auto companies while other Indian states remained mired in red tape.

The BJP's 2014 watershed election victory was in large measure because many Indians want to see across the country the economic success Modi rolled out in Gujarat. With a majority in Parliament, the BJP is not

beholden to a coalition partner and can push its sociocultural agenda. "What were fantasies in Vajpayee's day can become a reality in Modi's day," explained writer Salil Tripathi, referring to the prime minister under India's only other long-standing BJP government. Both Tripathi and activist Teesta Setalvad were quick to point out the fallacy in arguing that Atal Bihari Vajpayee and his Home Minister L.K. Advani were more moderate than Modi and his top officials. They attribute any restraint the previous BJP government displayed to its political inefficacy.

Despite being ostensibly inclusive, India's track record on freedom of expression has always been poor, Tripathi told me in an interview in December 2015. "Indians are very tolerant of intolerance," he said. The "right to freedom of speech and expression" is a fundamental right under the Constitution. But due to fears of the recurrence of religious violence India witnessed at partition, its criminal law includes several provisions, including ones on obscenity and religious offense, which restrict this freedom. India was the first country in 1988 to ban Salman Rushdie's *Satanic Verses*, under a government led by the professedly



Narendra Modi at a BJP rally (Source: Al Jazeera English, Flickr)



Narendra Modi at the Republic Day celebrations in Himatnagar. (Source: Narendra Modi, Flickr)

secular Congress. Almost three decades later, Rushdie has voiced concern about the “real grave danger” to discuss ideas freely in India under Modi’s leadership.

Where the right to express oneself ends and the right to practice one’s religion begins is an enduring question facing most modern societies. In January 2015, after murders at the headquarters of French satirical magazine *Charlie Hebdo*, the magazine returned to publication a week later with its iconic “Je Suis Charlie” cover. News outlets across the world carried the cartoon to show solidarity, but an Urdu newspaper in India was forced to shut shop after it published the image. One of its editors lost her job, and has since been unable to find work as a journalist.

India’s poor record on tolerance notwithstanding, the long list of encroachments on freedom of expression, the climate of fear, and the systematic targeting of dissenters under Modi are alarming. But is this reading too much into the hate speech and stray acts of a handful? Politicians everywhere, after all, say outrageous things to attract and retain public attention.

But in India, the hot air is accompanied with poison gas. Senior political leaders not only say that Indian Muslims should go to Pakistan, they also have been known to compel Muslims to renounce Islam through conversions, thereby violating their constitutionally protected right to freedom of religion. With public encouragement from the RSS chief, mobs of Hindu nationalists in North

India forced hundreds of Muslims to “reconvert” to Hinduism in late 2014. These Muslims, the hardline Hindu groups argue, have strayed from their path and are returning home to the Hindu fold. True to form, Modi had nothing to say about these forced reconversions. Months after they began, he paid lip service to “complete freedom of faith” in India.

Looking Ahead

Throughout repeated assaults on freedom of expression, Modi has remained stoic and stony-faced. When he does address the public, he uses banal phrases instead of taking a stance against bigotry. He cannot be held accountable for every instance of intolerance; undoubtedly, many take place out of his purview. But his typical, ostrich-like response, of saying nothing or tweeting platitudes when something serious or disturbing happens, is inadequate. It raises the question: what stake does Modi have in an intolerant India?

Modi is a master politician—his public appearances are a performance of thundering oration and rainbow-colored garb. But beneath the sweeping statements about India’s bright future lurks his unresolved past. Perhaps ambiguity is part of his master strategy—his critics are right to read into his track record in Gujarat, muteness on growing intolerance, and alignment with the Hindu doctrine of the RSS. His moderate supporters can seek solace in his silence, and pin their hopes on his assurance of rapid economic growth—although he has yet to deliver his

avowed miracles.

In the interim, Modi must confront the impatient churn of Indian democracy. The Congress is currently in disarray, but the Aam Aadmi (Common Man) Party (AAP), founded in 2012 on anti-corruption principles, trounced the BJP in local elections in the capital, New Delhi, in February 2015. The AAP's leader has his eyes set on the next federal polls, and while it is too early to gauge the party's national appeal, it may give the political establishment a run for its money.

In November 2015, the BJP also lost state elections in the poor, densely populated eastern state of Bihar, in spite of Modi's vigorous campaigning across the state. The defeat was more likely the result of an unexpected but effective alliance of rival political parties that contested the BJP rather than the rising tide of intolerance in India, but it implies that Modi is not invincible. State elections in crucial states in East and South India in 2016 may indicate growing discomfort with his brand of politics.

Modi may continue to enjoy his power as prime minister even if he ignores threats to freedom of expression, but in the long run may lose some of his shiny popularity and perhaps even a second term in office. He may not care about convincing his detractors that he is not spearheading a movement to turn India into the unified Hindu nation his supporters want to create. But he should care about respecting and preserving the religious tolerance to which India has always aspired in spite of its unmanageable diversity. At the very least, he should be concerned about his legacy—not only of leading India into an era of economic growth, but also of deepening openness and tolerance. ^{KR}


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◆ Justice, Inc.: Examining the Criminalization of Corporate Misconduct

By Alexander Smith and James Howat

Gone are the days of American criminals like Al Capone, John Gotti, and Bonnie and Clyde. Recent prosecutorial practices of US regulatory agencies suggest that modern America now confronts an entirely new class of “criminal.” They are listed on national stock exchanges, occupy flashy corporate headquarters, and are run by individuals adorned with white collars and pinstriped suits. After years of financial market scandals, environmental catastrophes, and disregard for consumer safety, recent years have seen an unprecedented wave of criminal prosecutions brought by US regulators against some of the world’s largest corporations.

Prosecuting corporations for criminal wrongdoing is not new, but companies now operate in a modern regulatory environment that is incredibly complex. Over 300,000 US regulatory provisions currently carry criminal penalties, making compliance a struggle for even the most sophisticated institutions. Given firms’ desire to avoid the expense and uncertainty of court battles, the troubling incentives of the US legal system allow prosecutors to threaten legal action in order to force firms into lucrative out-of-court settlements. These confidential deals rarely shed light on the facts of a case and very few individuals are ever actually charged with wrongdoing.

As the regulatory process becomes troublingly opaque and capricious, policymakers should ask whether justice is actually being served by increasing efforts to criminalize corporate America. Allowing regulators to continue to extract mob-like ransom payments from corporations risks degrading the integrity of the US legal system and fostering an opportunistic environment that threatens to undermine due process and the rule of corporate law. While today’s corporate “criminals” may not look like the gangsters of old, policymakers should be worried by the justice system’s newfound reliance on the familiar tactics of extortion and blackmail.

Law and Corporate Disorder

Regulation through prosecution has become big business in America. And in recent years, business has been booming. In 2014, Citigroup paid \$7 billion to settle allegations that it misled investors over the sale of mortgage backed securities, while BNP Paribas forked out \$8.9 billion for violating sanctions against Sudan. Since 2008, JP Morgan Chase alone has settled nearly forty separate claims with US regulators at a cost of over \$32 billion. Bank of America reached the largest settlement between US regulators and a single company at \$16.65 billion, and has coughed up a staggering total of almost \$60 billion to a slew of regulators. Since the financial crisis unfolded in 2008, US regulators have extracted over \$160 billion in fines and settlements from banking institutions alone. (See Table 1)

And it is not just the financial sector that has found itself on the wrong side of regulators. In 2014, after Toyota acknowledged safety defects in its vehicles, the US Department of Justice used wire fraud charges against the company to extract a record \$1.2 billion settlement under a Deferred Prosecution Agreement. Similarly when General Motors found itself in the spotlight for ignition switch defects in its cars, it signed an agreement in 2015 under which it agreed to pay regulators \$900 million. It is no wonder that Volkswagen has readied \$7.3 billion for an expected wave of criminal settlements following the emissions

Table 1 (Data: Financial Times)

Aggregated Fines by Institution	
Financial Institution	Amount
<i>Bank of America</i>	\$57.9 billion
<i>JP Morgan Chase</i>	\$32.2 billion
<i>Citigroup</i>	\$12.8 billion
<i>Wells Fargo</i>	\$9.67 billion
<i>BNP Paribas</i>	\$8.9 billion
<i>Deutsche Bank</i>	\$4.5 billion
<i>Credit Suisse</i>	\$4.35 billion
<i>UBS</i>	\$4 billion
<i>RBS</i>	\$2.18 billion
<i>Goldman Sachs</i>	\$2.17 billion
<i>Morgan Stanley</i>	\$1.9 billion
<i>Barclays</i>	\$1.6 billion
<i>Standard Chartered</i>	\$1 billion

scandal that rocked the company in 2015.

America's Pinstriped Prison

Not only have corporate fines risen inexorably higher, the nature of legal action taken against firms has also changed. Remarkably few of the mammoth settlements mentioned above resulted in adjudicated legal proceedings against any individuals. Instead, prosecutors have preferred to pursue the corporate entities themselves. Under US law, corporations are treated as separate legal "persons" distinct from their owners and managers, meaning it has long been possible to hold corporations criminally liable—even for actions allegedly committed by a single employee. While the word "corporation" derives from the Latin word for "body" (*corpus*), regulators have discovered it is considerably more complex to impose criminal liability on corporations because companies have "no soul to be damned, no body to kick." Thus, it is natural to ask with all this alleged criminal behavior happening, who is actually going to prison? Well, usually no one. Prosecutions rarely end up in court because lawsuits are simply bad both for business and share prices. The emergence of civil class actions long ago taught corporate executives that when a discreet settlement is on the table, you take it, pay for it, and move on.

Regulators increasingly rely on Deferred Prosecution Agreements (DPAs) and Non-Prosecution Agreements (NPAs) to settle disputes discreetly, with over three hundred such agreements having been executed in recent years. In return for the target company paying fines and conducting other remedial actions, prosecutors agree to suspend the case pending court approval. Prosecutors wield enormous amounts of power under these settlement mechanisms as they can impose fines, compliance conditions, and suspensions or revocations of trading licenses. The use of DPAs and NPAs in lieu of prosecutions in white-collar practice has become so frequent that some legal experts have said that they represent the most significant change in corporate law enforcement policy in the past decade.

Distinguishing between Reasonability and Racketeering

Companies ought to be punished when they break the law and US regulators' ability to criminally charge corporations comprises an important part of the "stick" that underpins modern corporate law. In many instances,

Chart 1: Cumulative U.S. fines against financial institutions by year 2007-2014 (Data: Financial Times)



corporations' gross misconduct and willful negligence renders it appropriate to greet these defendants with the full strength of the law. But the prosecutorial practices of US regulators increasingly resemble an extortion racket. As chart 1 below demonstrates, the recent scale of prosecutorial operations and the quantum of settlements ought to make policy makers ask whether the basic objectives of a coherent legal system are being met—the need to punish and deter corporate misconduct; to encourage stronger corporate governance and regulatory compliance; and to protect and compensate consumers, where appropriate.

Spearheaded by the DOJ's Financial Fraud Enforcement Task Force, opaque charges are regularly levied against corporations, billions of dollars and admissions are extracted behind closed doors, and consumers who were wronged are too often left empty handed. As *The Economist* has observed, a troubling pattern of regulatory behavior has emerged: regulators identify a large corporation that may or may not have engaged in wrongdoing; bully its managers with threats of financial ruin and criminal charges; negotiate a settlement preserved by a seal of confidentiality; extract vast sums of money; and then look for a new target. Current practices ought to raise policymakers' eyebrows for several reasons.

First, the prosecutorial process, and its reliance on DPAs and NPAs, suffers from an

appalling absence of transparency. In an environment where multi-billion dollar settlements are being regularly concluded beyond the view of judicial officers, no trials take place, there is no way of knowing whether evidence is properly scrutinized, and too few questions are asked by those in a position to monitor US regulators. When the prospect of criminal liability is introduced, the risk becomes so great that firms will—and do—pay billions of dollars to avoid even a remote possibility of an adverse finding. One need only reflect on the 2002 criminal trial of the accounting giant Arthur Andersen for its alleged role in the downfall of Enron in order to understand the prudence behind modern firms' risk aversion. When Arthur Andersen refused a last minute settlement offer, the subsequent guilty verdict led to the catastrophic collapse of the firm—notwithstanding the fact that the criminal conviction was later overturned on appeal. Corporations are so willing to settle with prosecutors because confidential settlements provided by DPAs and NPAs offer reputational protection, minimize exposure to legal costs, and are driven by firms' rational aversion to litigation risk. But this means that firms are rendered liable to extortion by regulatory bodies behind closed doors where settlements are concluded without the legitimacy of the underlying charges being explored or adjudicated upon in an open and impartial setting.

Secondly, we ought to question our collec-

tive comfort with public officials condoning, if not encouraging, corporations to settle criminal charges against them via monetary payments. In cases where a prosecutor determines that it is appropriate to bring criminal charges against a corporation for egregious misconduct, it is not at all clear why policymakers should then effectively allow a company to pay its way out of criminal liability. The willingness of regulators to settle corporate criminal charges raises the question of whether such practices constitute a white-collar subversion of justice. Unlike civil claims, it is generally not possible for individual citizens to buy their way out of a criminal prosecution. This is because, in principle, criminal charges seek to pursue a variety of public justice objectives, rather than merely extracting civil remedies like monetary compensation. Although raising criminal charges often enables prosecutors to threaten companies with larger financial sanctions that would otherwise not be possible, we should feel deeply uncomfortable with authorities threatening criminal sanctions in circumstances where there is no legitimate intention to pursue them to trial because such practices are tantamount to blackmail and subvert the integrity of the judicial system. Our level of discomfort ought to rise even further when

regulatory agencies seek to enter state-sanctioned settlements that enable executives to purchase a “get out of jail” card using company shareholders’ resources.

Thirdly, it is rarely clear how prosecutors exercise their discretion when they determine settlement amounts and how they decide whether to continue a prosecution against a defendant. This leaves the process exposed to accusations that many of the astronomically large fines paid under settlement agreements are arbitrarily determined. Indeed, prosecutors are not required to give justification for the fines they seek and, therefore, rarely volunteer explanations with specificity. Admittedly, it is immensely difficult to quantify the harm inflicted by a financial institution when it breaches US sanctions or misleads investors over mortgage-backed securities. However, prosecutors should not shirk their duty to provide specific justification for the fines levied, and ought to adhere to more robust settlement principles. As law professor Brandon Garrett has commented, prosecutors “offer corporations leniency and forego prosecutions in exchange for ill-defined compliance and rarely useful cooperation in pursuing charges against individual employees.” The absence of clarity further opens the process to accusations that regulators are engaging in a

Table 2 (Data: Financial Times)

Repeat Offenders: Number of Settlements by Institution	
Financial Institution	Number
<i>JP Morgan Chase</i>	39
<i>Bank of America</i>	20
<i>Wells Fargo</i>	17
<i>Citigroup</i>	16
<i>Barclays</i>	14
<i>UBS</i>	11
<i>RBS</i>	10
<i>HSBC</i>	10
<i>Deutsche Bank</i>	8
<i>Morgan Stanley</i>	8
<i>Credit Suisse</i>	8
<i>Goldman Sachs</i>	7

form of opportunistic rent extraction.

Finally, one might reasonably expect that the eye-popping size of fines in recent years would serve as a sufficiently strong deterrent against misconduct, and

perhaps even an incentive for firms to improve corporate compliance. But recent experience suggests otherwise. As Table 2 indicates, a glance at recent settlements exposes the repeat patronage of defendants such as JP Morgan Chase, Bank of America, and Wells Fargo. Whether the policy objective underlying huge fines is rehabilitating the defendant or deterring other would-be corporate criminals, policymakers ought to ask how current practices affect corporate governance and compliance. It is not clear whether large fines actually deter corporate executives and boards from misconduct and cause them to tighten their ships, or whether it is simply seen a new cost of doing business in America. The figures in Table 2 suggest the latter and, therefore, could be said to undermine much of the justification offered by regulators for extracting billions of dollars in shareholder value in the first place.

Following the Money

Given all these problems, why do US regulators remain so ready to reach for criminal enforcement proceedings to address corporate misconduct? The perverse incentive structure of the American legal system deserves much of the blame. In many instances, if prosecutors do not levy criminal charges, then enforcement is often limited to restitutionary actions and is bound by relatively small civil penalty caps. Indeed, the US Securities and Exchange Commission, which is generally limited by law to imposing relatively small civil fines for securities fraud, is far less likely than other regulators to resort to DPAs.

Public authorities have become addicted to revenues from corporate fines. As Chart 2 demonstrates, some regulatory agencies have come to resemble profit centers. Evidence suggests that states like New York, for example, regularly earmark such funds for general expenditure, applying the proceeds to services such as “housing and related purposes.”

This practice risks engraining dependence on a source of revenue that is unpredictable

and arbitrarily derived, and threatens to instill a system of perverse incentives for prosecutors and the agencies they serve. Public authorities must be accountable for how funds from enormous fines are allocated.

For example, of the billions of dollars extracted by the DOJ via settlements and judgments in 2011, only \$116 million was paid to victims as restitution. It is one

thing to use proceeds from fines to compensate consumers or to refund public pensions depleted after banks misled public investors. We should, however, feel far less comfortable with public authorities treating such funds as a source of ordinary revenue.

Where to from Here?

The prosecutorial practices of US regulators must change. It is apparent that the use of criminal charges may not be an appropriate tool to achieve justice and redress corporate misconduct in many instances. Yet, current practices will likely continue unless policymakers move to bolster the non-criminal alternatives available to regulators. Regulatory agencies like the US Securities and Exchange Commission (SEC) are understaffed and lack the resources required to monitor and effectively enforce the hundreds of thousands of legal provisions governing an increasingly complex and sophisticated US corporate sector. Lawmakers must empower agencies like the SEC to levy far larger civil penalties against the companies they are supposed to be monitoring—powers that regulators have long requested.

Lawmakers and judicial officers ought to question the economic rationale behind some of the large fines that are being handed out and declare that discretionary charges brought by prosecutors who have no intention of going to trial is a practice that degrades the rule of law and ought to be stopped. Greater transparency and judicial oversight needs to be injected into the system. This requires that policy makers and legislators hold public agencies to higher standards by demanding that clear grounds for prosecution be established from the outset, and that public agencies be forced to disclose how they allocate the billions of dollars they extract. And when executives are found to have committed criminal acts, they should not be able to use share-

holders' resources to purchase expensive "get out of jail" cards and be left to go about their business.

As privileged creatures of statute, modern corporations are extended so many benefits under law that it is entirely reasonable for regulators to hold them to the highest standards. But in a country that prides itself on transparency, accountability and the rule of law, corporate "justice" cannot be allowed to continue to consist of coercion behind closed doors. ^{AR}

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◆ A Free Middle East: Pipedream or Possibility?

By Yael Stern and Gal Lin

“Will you answer a survey we are conducting to understand people’s values?” the surveyor asked the young Iranian man on the other end of the phone line. “Sure,” he answered. The young man answered the surveyor’s questions pleasantly and openly, even joking occasionally. They reached question twenty: How similar are you to someone for whom tradition is important? Suddenly the man’s tone changed. “Tradition is important to me, but not the current tradition,” he said with a stiff voice. “Today, I don’t mind seeing everything go up in flames.”

This young man was expressing frustration with the stark contrast between his liberal worldview and the fundamentalism that dominates the politics of his country. The substantial gap between the autocratic government and the Iranian people was unveiled in this innovative survey, conducted in Iran in 2011. The study of over 900 respondents measured Iranian society’s potential for liberal democracy based on its value structure. The study found that Iranian society has stronger liberal tendencies than Egypt and Jordan, and even – outside of the Middle East – countries like Ukraine and Romania, among others. The results of this work reveal a different Iran than is commonly perceived. Findings point towards new courses of action that can be taken in the Middle East, which consider the potential that Iranian society represents for liberal leadership in the region.

Seeds of Hope

We are living in a new era in the Middle East. As Israelis, we grew up hearing about the fierce and menacing Iraq and Syria; it is humbling to think the countries as we knew them no longer exist. Astoundingly, it took the Islamic State only four months to capture an area the size of Britain. Meanwhile, Iranian and Saudi money, weapons, and ideology have a heavy presence in almost every conflict zone in the region. Bloody wars in Syria, Iraq, and Yemen are fueled by the Iranian regime’s hegemonic ambitions. Peoples in failing countries, searching for meaning and leadership, can currently find answers only among extremist leaderships such as those in Iran and Saudi Arabia and fundamentalist organizations such as the Islamic State. There is a lack of vision and leadership for any other future.

The rest of the world, dealing with a grave refugee emergency and watching as oppressive regimes and violent organizations challenge the most extreme lines of morality, seems to be at a loss for how to deal with this crisis.

Research we conducted together with our partner Yuval Porat sheds new light on this regional turmoil. In 2011, against the backdrop of the Arab Spring, we decided to explore not the superpowers, regimes or terror organizations, but rather the people of the Middle East. The Arab Spring presented many opportunities for positive change in this part of the world, but in countries such as Egypt and Libya, these opportunities soon went sour as proponents of freedom found themselves in the minority. It seemed that although citizens were succeeding in overthrowing their autocratic regimes, they were not steering their countries in a more liberal and democratic direction.

Our objective was to examine whether there are societies in the region that are characterized by liberal values and a potential for meaningful democracy. We focused on Iranian society—a people of an ancient culture and heritage, reputed to have values of progress and unfulfilled

dreams of political pluralism and liberty. We conducted first-of-its-kind research to examine where the majority of the Iranian people stand between the forces of liberty and extremism. The aim was to reveal the principal values that characterize Iranian culture, in order to measure its people's potential to foster a liberal society and meaningful democracy.

Notably, it is of special significance that a team of Israelis conducted this research. We did so not out of fear or suspicion, but rather out of curiosity. As residents of a region going through extreme upheaval, we identified a possible source of hope and decided to explore quantitatively. At a time when Iran is viewed as Israel's greatest threat, we chose to observe Iran not as an icon of Islamic extremism, but instead as home to a complex and diverse society.

Overcoming the Fear Bias

According to Iranian urban legend, half a million handicapped veterans of the Iran-Iraq war are employed by the Iranian regime to tap every phone call in the country. Regardless of how much truth there is to this myth, every survey conducted in Iran that even faintly smells political is treated with suspicion and fear that could cast doubt on the credibility of the results. As an English proverb says, however, necessity is the mother of invention. Overcoming this fear bias required us to come up with a methodological innovation.

Teaming up with Israel Prize laureate Professor Shalom Schwartz from Hebrew University in Jerusalem, we developed a measure of liberal attitudes based on a seemingly innocuous psychological questionnaire. Over more than two decades, Professor Schwartz, a world-renowned expert in the field of cross-cultural psychology, developed the Theory of Basic Human Values—a universal theory for the content and organization of the values systems of individuals, valid across cultural and national boundaries. This theory was validated using 160,000 subjects from sixty-two different countries, from Sub-Saharan Africa to Scandinavia. Professor Schwartz and his colleagues identified nineteen distinct basic human values, differentiated by the type of motivational goal they express (i.e., security, achievement, conformity, etc.). These values form a circular structure of contradicting or

tangent relationships between one another. People differ substantially in the importance they attribute to the values, but the recognition and organization of the values are

common across most literate adults around the world (see Chart 1).

“Tradition is important to me, but not the current tradition,” the respondent said with a stiff voice. “Today, I don't mind seeing everything go up in flames.”

The significance of Schwartz's Theory of Basic Human Values is that the questions

appear to be part of an inconspicuous psychological survey, such as the following:

“How similar are you to someone for whom accepting people even when he disagrees with them is important?”

“How similar are you to someone for whom maintaining traditional values or beliefs is important?”

However, the findings of different value sets correlate with very specific individual behaviors and attitudes, such as choice of university major, attitudes towards immigration, and even voting patterns. On the collective level, the prevalence of certain value structures has been closely associated with democratic societies. Therefore, the use of The Theory of Basic Human Values allowed us to test people's liberal attitudes indirectly, while bypassing the fear bias and protecting the respondents from persecution in case their participation was revealed.

To provide a comparative tool for evaluating a society's potential for liberal democracy based on its values, we formulated the Societal Potential for Liberal Democracy Index. Under the guidance of Professor Schwartz, we analyzed the value sets of 160,000 survey respondents in relation to the degree of political and civil liberties in their countries (as measured by Freedom House). We found a positive correlation between a high degree of political and civil liberties and values such as universalism, benevolence, and self-direction; we also found a negative correlation with values such as conformity, security, and power. We used these findings to compose a unified score that reflects individual and collective support for liberal democracy, based on observed values.

Behind the Electronic Curtain

Once we formulated the methodology, we turned to another challenge in administering the questionnaire in Iran—the language

barrier. The questionnaire had to be translated into Farsi with the utmost accuracy in order to preserve the finer connotations and nuances of the English questionnaire. When dealing with abstract and complex concepts such as values, any deviation from the questionnaire administered in other countries runs the risk of being incomparable. A team of professional English-Farsi translators, including native Farsi speakers and academics in the field of Farsi linguistics, conducted seven rounds of translation and back-translation to ensure maximum compatibility with surveys in English and other languages.

An additional challenge was overcoming the weak phone penetration in Iran. Communication infrastructure in certain rural regions is unreliable and prone to breakdowns. In addition, there is no phone directory in Iran, making it difficult to find survey subjects and impossible to sample the population in a representative way. To address this challenge, we innovated a technological solution that automatically and randomly acquired and verified landline and mobile phone numbers from all thirty-one provinces in Iran, in both urban and rural areas. Since there is a high correlation between geography and ethnic association, our technological solution assured a random and representative sample of all six main ethnic groups in Iran (verified by respondents' self-testimony and mother tongue). Finally, since the sampling was random, equal numbers of women and men were included.

A New Perspective on the Iranian People

To administer the survey, we recruited and trained twenty members of the Jewish-Iranian community in Israel, who agreed to voluntarily conduct the telephone survey in Iran out of a strong sense of pride in their Iranian heritage. The surveyors were native speakers who spent the majority of their adult lives in Iran. They were intimately familiar with Iranian culture and etiquette, and spoke Farsi with flawless accents. These measures were crucial to avoid recognition, since identifying the surveyors as Israeli could have skewed the responses

as well as compromised the security of the respondents.

The survey was conducted between 24 October 2011 and 31 December 2011. The interviews were conducted from Israel, through a secure and untraceable telephone system, and were monitored in real-time for quality control and precise sampling.

In total, 914 Iranians were interviewed, constituting a representative sample of the entire Iranian society across segments of geography, ethnicity, gender, age, and marital status, with only minimal weighing required. The data and the findings were reviewed and validated by leading experts in the fields of Iranian society, cross-cultural research, and statistical methodology. The highly representative sample allowed us to draw conclusions regarding Iranian society at large.

Our objective was to examine whether there are societies in the region that are characterized by liberal values and a potential for meaningful democracy. "Our objective was to examine whether there are societies in the region that are characterized by liberal values and a potential for meaningful democracy."

We analyzed findings to produce the value set that characterizes Iranian society (see Chart 2), and compiled to calculate Iranian society's score on the newly formulated Societal Potential for Liberal Democracy Index. We

then compared Iranian society's score to the scores of sixty-two other countries, ranging from developing states such as Ghana, Indonesia, and Egypt to developed ones including Sweden, France, and the United States.

The results were eye-opening. We found Iranian society's potential for liberal democracy to surpass other Arab countries such as Egypt, Morocco, and Jordan. Furthermore, Iranian society's value structure is more liberal than societies in Asian countries like South Korea, India, and Thailand, and Eastern European states of Russia, Ukraine, Slovakia, and Romania. In addition, when comparing countries' potential for liberal democracy with the actual level of democracy (as measured by Freedom House) an abnormally large gap was found between the potential for democracy in Iran and the actual level of democracy. As seen in Graph 1, most countries fall within one standard deviation of the regression line. Iran falls an unusual 1.6 standard deviations beneath the line. These findings indicate Iranian society as a whole is characterized by a pro-liberal value structure, which is at glaring odds with the current regime.

Stirring a Public Discussion in Iran

These research findings were published in a Wall Street Journal op-ed on 13 May 2012, and later featured in events and discussions at prominent research institutions including the German Marshall Fund, the Washington Institute for Near East Policy, the Hoover Institute, the RAND Corporation, and in US State Department briefings. Iranian media outlets soon caught wind of the article as well: over 100 Iranian media outlets, including those closely linked with conservative factions and the Supreme Leader, reported and debated the research.

A New Way Forward in the Middle East?

The struggle between ideas is one of the most significant factors influencing the choices of individuals and the course of human history. Nowhere is the battle more apparent today than in the Middle East. The region is experiencing a crisis not just of arms, but also more fundamentally of identity and vision.

Iranians, and other Middle Eastern peoples, should not be viewed solely through the prism of the extreme elements that have a hold on their countries' political institutions, but rather through the struggle of conflicting and interlocking values among their complex and diverse societies. Middle Eastern liberal societies—yes, they exist—provide the only long-term path to a freer region.

The strategic and long-term battle against extremist and violent elements in the Middle East cannot be defeated solely at a military level. It also cannot be defeated exclusively at the diplomatic level, through engagement with suppressive regimes and extremist organizations over the heads of citizens. Rather, this battle must also be fought at the level of hearts and minds, in partnership with the people in the region who are liberal and yearning for freedom.

Fostering an alternate, authentic and convincing vision and leadership is imperative to lessen the hold of extremist ideologies. To do so, existing organic liberal currents should be identified and supported. Specifically, the Iranian people have extraordinary intrinsic liberal values that, when coupled with Iran's substantial regional influence, make the country a potential leader for a freer and more tolerant Middle East.

The Iranian nuclear deal signed last year between Iran and the UN Security Council's five permanent members plus Germany provides an opening to redefine engagement policy and strategy with regards to Iran.

Our proposition is that a significant cornerstone of American and, more broadly, Western policy should be to foster the potential of the people within Iran as regional leaders, by encouraging cultural openness and stronger communication between the outside world and Iranians. Due to its immense impact on the region, a more liberal Iran can serve as a model for liberal and democratic Islam. It holds tremendous promise for the advancement of a freer and more hopeful Middle East. In parallel, other liberal forces in the region should be identified and supported in this way.

Our hope is that one day the Iranian people, and other liberal forces in the region, will represent a new way forward in the Middle East. ^{AR}

Yael Stern and Gal Lin are foreign affairs professionals and entrepreneurs who grew up in Israel. For the past four years they have partnered to promote peace in the Middle East through empowering civil society. They are currently pursuing master of public policy degrees from the John F. Kennedy School of Government at Harvard University.

The authors' complete research, which informed this piece, can be accessed at www.iranresearch.org.

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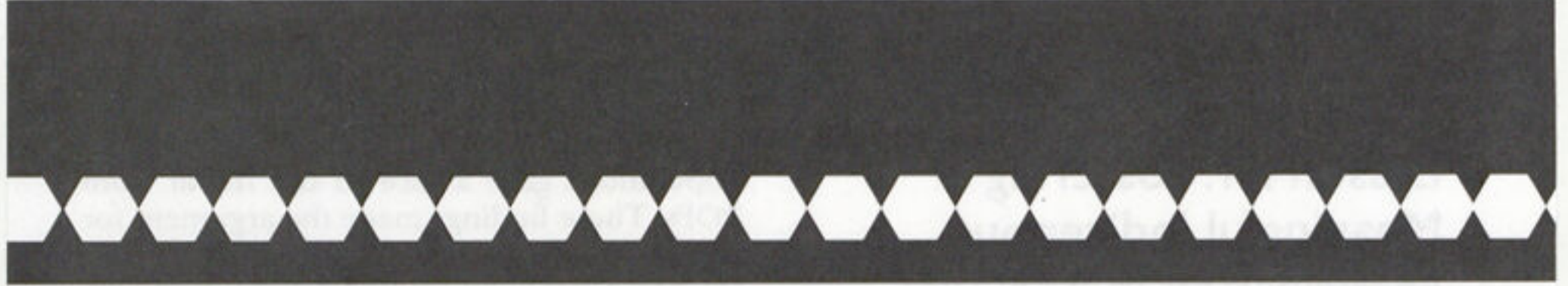
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◆ Amazon and the Arctic: Sharing Lessons Learned in Governing Complex Regions

By Katie Burkhart and Natalie Unterstell

The Amazon rainforest and the Arctic Ocean both conjure images of frontier lands: the Arctic as a cold and desolate region inhabited by reindeer and polar bears, and threatened by a warming climate; the Amazon as a dense, humid forest teeming with wildlife and threatened by deforestation. Both are seen as distant areas, rich in natural resources, awaiting future exploitation and occupation.

In fact, neither region meets the accepted definition of a “frontier.” For one, neither is a “border between two countries,” as each ecosystem spans various countries.. Also, neither the Amazon nor the Arctic are “a region that forms the margin of settled or developed territory” as they have been home to humans since time immemorial. The inhabitants of these regions have not just lived on the margins of other societies, but have developed their own vibrant societies with rich cultures and traditions adapted to the local conditions.

This misconceived frontier image frustrates practical policymaking. Neither region is a pristine space devoid of human contact, so the choice is not simply between commercial exploitation and environmental preservation. The rights of indigenous peoples and long-term residents must be considered, including rights to development that can sustain their communities into the future.

The regions are not devoid of political governance either. The Amazon Cooperation Treaty Organization (ACTO) coordinates between eight nations, and interacts with multilateral institutions and outside actors to formulate and implement regional policy. In the north, the Arctic Council is the primary governance body that brings together eight Arctic nations, indigenous communities, and extra-regional states and organizations. Aside from these main bodies, both regions have multiple layers of governance ranging from local cooperation structures to regional resource agreements to overarching international law.

The most critical similarity between the regions is their importance to the global climate. The Amazon is the world’s largest forest: its 390 billion trees store around 86 billion tons of carbon. The preservation of this region protects a vital reservoir of carbon dioxide, an important factor in preventing catastrophic climate change. In the Arctic, the polar ice cap regulates global weather patterns through the circulation of cold water and air to other regions of the world. But as the polar ice cap shrinks more every summer, weather patterns are expected to grow more volatile and, in a vicious feedback loop, the release of methane from the melting permafrost is anticipated to accelerate global warming.

The challenges of mitigation and adaptation are immense in both regions, and can only be overcome by cooperation. Both regions have implemented some successful policies, but as climate change accelerates, policy makers must also accelerate their efforts to serve the local populations and confront regional and global challenges. The ACTO and the Arctic Council can build on each other’s success to deal with these challenges. The following four lessons show how the governing bodies could learn from each other, by:

1. fostering meaningful indigenous participation in regional diplomacy;
2. understanding the regional environment;
3. incorporating traditional knowledge; and
4. developing sustainable business models.

Lesson #1: Fostering Meaningful Indigenous Participation in Regional Diplomacy

From the inception of the Arctic Council, indigenous groups have been directly involved in governance. The Amazon region has much to learn from this model.

The opening paragraph in the Arctic Council Declaration of 1996 reads:

Affirming our commitment to the well-being of the inhabitants of the Arctic, including special recognition of the special relationship and unique contributions to the arctic of indigenous people and their communities.

While indigenous groups are designated as "Permanent Participants" (PPs) instead of voting "Members" like the eight nation states, their involvement is nonetheless exceptional. The power granted by the Arctic Council Declaration is a form of soft law that requires consultation of indigenous peoples before decisions are made by consensus of the eight nations. Despite the legal limitations of the organization and separate status, the permanent participants hold "de facto power of veto" over any proposal, an unprecedented position in international governance bodies.

The influential position of indigenous groups in Arctic governance has strengthened a pan-Arctic identity and granted greater legitimacy to the Arctic Council. The Arctic Council Indigenous Peoples Secretariat (IPS) has allowed for a cohesive voice of the Arctic indigenous peoples through coordination and communication among the PPs and between these groups and the Arctic Council. The formal role of indigenous peoples gives legitimacy to the Arctic Council because it gives voice to the original inhabitants of the region. The work of the Arctic Council, especially with regard to environmental conservation, is also legitimized through the involvement of the indigenous groups.

The involvement of indigenous peoples in Arctic Governance has also led to concrete steps to protect their livelihood. For example, the evidence of persistent organic pollutants (POPs) in the traditional foods of the Inuit

and evidence of health effects in the northern populations gave a face to the threat from POPs. These findings made the argument for a global treaty more compelling, and led to the 2001 Stockholm Convention on Persistent Organic Pollutants, which acknowledges the threat to Arctic communities in the preamble.

By contrast, the indigenous peoples in the Amazon have no political status. The ACTO aims to protect the rights of indigenous peoples and support their well-being, but there is no formal role for indigenous peoples in the governance structure. The Organization has negotiated a cooperation agreement with the Confederation of Indigenous Organizations of the Amazon Basin (COICA); however indigenous peoples have limited participation in setting and managing any agenda. For example, the ACTO has funded cooperation efforts related to the health of voluntarily-isolated indigenous populations. Nevertheless, these policies are written by national government agencies interested in delivering services to indigenous populations, rather than involving them in political decision-making.

As in the Arctic, the meaningful inclusion of indigenous peoples' voices in the ACTO's structure could provide the organization with a genuine Amazonian identification. Moreover, it would place sustainable development work at the center of the regional cooperation, as indigenous Amazonians are presently at the forefront of conservation efforts. In Brazil, with historically high level of deforestations, indigenous territories are generally better conserved than any other lands.

Embracing indigenous peoples' participation in ACTO's space could correct the view of the region as a frontier as well. The invisibility of the indigenous peoples in the organization mirrors the view of the empty Amazon.

The governance structures of the Amazon and the Arctic are distinct in many ways. For example, the Amazon's ACTO is a treaty organization and the Arctic Council is not. However, the Arctic Council remains the global standard for ensuring systematic inclusion of indigenous groups. The ACTO should look to the successful inclusion of indigenous groups in the north as an example of effective governance processes that would enhance the ACTO's legitimacy and enable environmental protection efforts. In order to succeed in the

Neither region is a pristine space devoid of human contact . . . The rights of indigenous peoples and long-term residents must be considered, including rights to development that can sustain their communities into the future.



(Source: UNEP/GRID-Arendal)

regional cooperation endeavor, national governments and the ACTO need as much indigenous engagement as national diplomatic efforts.

Lesson #2: Understanding the Regional Environment

A second lesson from the Arctic that applies to the Amazon region is the environmental monitoring efforts that have resulted in regional policies and international treaties against harmful pollutants. The Arctic Monitoring and Assessment Programme (AMAP) is an internationally coordinated, science-based assessment, designed to support policy and decision-making. AMAP was started before the Arctic Council's creation and is now one of six working groups of the regional body.

From the outset, AMAP was designed to

... both regions will benefit from a more systematic inclusion of traditional knowledge in their regional projects. Both should employ the Inuit concept of *piliriqatigiinniq*: "working together for the common good."

go beyond monitoring and identify ways to "prevent, minimize and mitigate" the adverse effect of pollutants, climate change, and other threats to the Arctic environment. Acknowledging that the majority of research being conducted at the time was national in nature, the Inari Declaration described an "urgent need for cooperation" with existing national and NGO projects to create a regional understanding of the Arctic environment. The same urgency is required in the Amazon.

The work of the AMAP has impacted the international treaty negotiations, especially against pollutants such as POPs and heavy metal pollutants. The detrimental impacts of POPs on the Inuit population in the Arctic (as discussed in Lesson #1) were first published in an AMAP assessment report.

In the Amazon, a similar initiative is sorely needed, as there is no such mechanism providing basin-wide climate information

and monitoring. Efforts in this direction are underway, but lack the comprehensive nature of the AMAP. In addition to Amazon states sharing monitoring technology through situation rooms in different ACTO countries, there are ongoing collaborative efforts among Amazonian indigenous and NGO networks, scientists, and policy experts. An important example is that sixteen research organizations have been able to systemize, update, and integrate their databases within the scope of the Network of Environmental Geographic Information (acronym RAISG in Portuguese and Spanish). The ACTO project aims to transfer Brazilian technology to monitor forest cover, and the civil society-run RAISG has been able to assemble information from different sources to identify threats and pressures to the forests and indigenous peoples.

To transform environmental monitoring into impactful policy outcomes, an effort to analyze and report on the region as a whole is needed. Monitoring deforestation is not the only measure of the Amazon environmental health. Other areas, like water quality and biodiversity, can provide an important basis for ACTO to support both regional and national decision-making processes. The Arctic has been able to recognize the value of using inputs generated by independent sources so that information is useful for different actors. The ACTO should pursue a similar arrangement in

addition to their technology sharing programs.

Lesson #3: Incorporating Traditional Knowledge

As the global demand for food, water, and energy grows with the population, finding a risk management model that motivates business choices that are responsible to environmental concerns is in the best interests of the Amazon and Arctic inhabitants.

In the Amazon, the indigenous communities developed extensive knowledge and practices for using resources sustainably over millennia. More recently, the governance of territories has evolved to include both traditional

knowledge, generally referring to the way of knowing and the recurrent practices of indigenous and tribal peoples, and modern technology.

In the Rio Negro river basin, home to forty indigenous peoples along the borders of Brazil, Colombia, and Venezuela, the "Management of the World" project enables a shared understanding of particular challenges and the emergence of agreements and proposals for relevant public policies. Indigenous researchers analyze changes in the agricultural systems and fisheries, even identifying potential impacts of climate change. The cumulative and collaborative research then turns local observations into a series of maps and graphs, which are used as ecological calendars by local communities to manage their natural resources.

This research collaboration requires a long-term, intimate understanding of the region that traditional knowledge can provide. It also places researchers and indigenous leaders on an equal footing on the issues of environmental management and governance policies. In Brazil and in Colombia, national governments have started to recognize such processes as official "long-term development plans" for these communities.

The Arctic Council has made efforts to incor-

Nations and Indigenous Groups in the Amazon,
(Source: Folha de S. Paulo)



porate traditional knowledge into its projects and reports genuinely and routinely. At the 2015 Arctic Council Ministerial Meeting, the Arctic Council Sustainable Development Working Group presented "Recommendations for the Integration of Traditional and Local Knowledge into the Work of the Arctic Council." The report acknowledges that the organization must do better at incorporating traditional knowledge into projects, but falls short of providing a plan to do so. The recommendations merely state that standards are needed in order to achieve "systematic inclusion of traditional and local knowledge in the work of the Arctic Council."

In the Arctic, indigenous groups are often called on to provide input to large-scale, transnational projects such as the AMAP. This is partially due to the deliberate engagement of indigenous communities at the international level that often exceeds engagement with national or subnational governments. As one critic has pointed out, "Such a formulation seems to suggest that indigenous traditions should provide answers to problems created by modern states in terms convenient for modern states."

Both the Amazon and the Arctic have not pursued a systematic approach to the inclusion of traditional knowledge in projects undertaken by the regional governance bodies, despite recognizing the value in doing so. The "Management of the World" project in the Rio Negro basin can act as a model for traditional knowledge inclusion in Arctic Council projects. However, both regions will benefit from a more systematic inclusion of traditional knowledge in their regional projects. Both should employ the Inuit concept of *piliriqatigiinni*: "working together for the common good."

Lesson #4: Developing Sustainable Business Models

The two regions have taken distinct paths to achieve sustainable development. In the Arctic, regional norms have guided development practices whereas in the Amazon development has been constrained by regulations. Neither approach has proven successful, but learning from each other could enhance each region's outcome.

This issue is especially ripe for cooperation between the two regions because of how business models proliferate globally. Although minerals are sovereign resources,

and thus not jointly managed by nations in the Amazon or in the Arctic, the development of business models for exploring them in one particular country may affect how these activities are developed in other areas in the same region. Investments are still in their infancy in both regions, making the establishment of norms and regulations for sustainable development critical.

In the Amazon, the discussion has centered on assessing the overall impact of extractive industries instead of a project-by-project evaluation. Proposed policies like declaring a moratorium on exploration, levying an environmental tax on companies when they begin exploring for natural resources, designating no-go zones, and paying for avoided extraction address the trade-offs of extraction. These policy options discipline governments and the private sector to ensure the total social cost is accounted for at the outset of a development project. So far, however, none of these regulations have been enacted, leaving both the revenues and the impacts of the oil and gas business, as well as those of mining, to sectoral and national norms.

In the Arctic, development has been constrained by norms of environmental stewardship which guide national policies and business practices. These norms continue to develop, such as the newly released Arctic Investment Protocol. Created by the World Economic Forum's Global Agenda Council on the Arctic, the voluntary principles emphasize development and investments that prioritize environmental stewardship and local and indigenous communities. Guggenheim Partners, a US-based investment firm, was the first business to endorse the investment protocol and plans to provide "long-term capital that carefully weighs environmental and societal impact." As the Arctic ice melts and the region becomes more accessible, norms may not be enough to balance the environmental and social interests.

Both norms and regulations are powerful in their own right, but would have unprecedented impact on sustainable development if fused. As the global demand for food, water, and energy grows with the population, finding a risk management model that motivates business choices that are responsible to environmental concerns is in the best interests of the Amazon and Arctic inhabitants.

Moving Forward

Shared ecosystems and the belief that

common values must be collectively safeguarded have triggered international cooperation in the Amazon and the Arctic. The lessons proposed here aim to further this cooperation through the principles of inclusion and shared responsibility. The ACTO, Arctic Council, and other regional bodies should seek to learn from each other through increased multi-stakeholder diplomacy. Sharing these lessons will allow both regions to thrive in the midst of increasingly complex challenges.

The Amazon and the Arctic are not the only regions that can offer examples of successful governance structures and strategies, but the current scholarship on regional governance structures is lacking. Further comparative research, such as examining trade blocs for models of sustainable development, could also contribute to the development of effective governance in critical regions such as the Amazon and the Arctic. ^{AR}

A native of rural South Dakota, Katie Burkhart is a master in public policy candidate at the John F. Kennedy School of Government at Harvard University and a Lieutenant in the US Navy Reserves. Katie graduated from the University of Pennsylvania in 2007 with a bachelor of arts degree in political science. Upon graduation, Katie commissioned as a surface warfare officer in the US Navy, deploying multiple times in support of Operation Iraqi Freedom, Operation Enduring Freedom, Counter Piracy and Ballistic Missile Defense. Katie then continued to serve ashore in Washington, DC, working in naval research and operations. At the Harvard Kennedy School, Katie focuses her studies on national security policy with special interest in maritime security and the Arctic region. Katie plans a life in public service at the intersection of defense and diplomacy. Working in or with governments, she desires to bring military experience and strategic foresight into policy planning and decision-making processes. Katie resides in Somerville, MA, where she spends her free time exploring New England, cheering for the Patriots football team, exploring the great outdoors, and spending time with friends.

Natalie Unterstell is a master in public administration candidate and Louis Bacon Environmental Leadership fellow at the John F. Kennedy School of Government at Harvard University. Natalie has several years of fieldwork experience in the Amazon region with the Instituto Socioambiental, the largest Brazilian civil society organization in rights-based environment conservation. She had an international posting with the Rainforest Foundation in Norway and then transitioned to policy development in governments in Brazil. First, Natalie worked as head of the Climate Change Agency of the Government of State of Amazonas, then as climate change and forests manager at the Ministry of the Environment, and, more recently, as director of sustainable development in the Strategic Affairs of the Brazilian Presidency. Natalie served as observer and then as negotiator on behalf of Brazil in the United Nations Framework Convention on Climate Change for several years and keeps contributing to climate policy and resolutions. She is currently an associate with Nivel.org and a columnist of the Climate Home portal. Natalie has chosen to move to Cambridge in an unconventional way: she sailed from Saint Lucia in the Caribbean to Boston, MA, with her husband during 80 days. They currently live aboard SV Rogue in the Charlestown Navy Yard. On sunny days, you can see them catching the wind in the outer islands.

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◆ Designing America's Defense for the Digital Age

By Joshua W. Welle

While the post-9/11 wars waged, the Department of Defense (DoD) did not focus on two imperatives to ensure military superiority: technology innovation and talent management. To millennials, these concepts are linked. The Pew Research Center found that 24 percent of those born between 1980 and 1995 believe their generation's uniqueness is tied to technology. At Harvard University, the most popular undergraduate course is Introduction to Computer Science (CS50). Secretary of Defense Ashton Carter, realizing the Iraq and Afghanistan conflicts required most of its the Pentagon's attention, is now making drastic changes to fix the technology gap and talent management challenges to create the "Force of the Future."

The recruiting statistics are disconcerting. A report from the Army War College explains that their personnel system is "trapped in the past" and pundits suggest action must be taken. Federal News Radio reports only 2.3 percent of 35,000 surveyed students plan to work in the federal government. The Office of Personnel Management (OPM) determined that only 7 percent of the government workforce were under the age of thirty in 2013, compared to 20 percent in 1975, suggesting the "government will be lost' without technologically savvy staff able to carry agencies into a digital future." Anecdotally, whether walking the halls at the John F. Kennedy School of Government at Harvard University or the Pentagon (both institutions with which I am familiar), few people want to serve in the DoD or know there are fulfilling careers available there.

I believe the American people lack the full story. After a decade serving in uniform and nearly two years as a software company co-founder, I see the DoD as more innovative than both pundits and citizens realize. This article fills the knowledge gap on what DoD innovation efforts exist today, but also recommends improvements to the ongoing efforts and encourages job seekers to pursue a career in uniform or as a DoD civilian.

Innovation in the Digital Age

Secretary Carter administered a \$521 billion base defense budget in FY2015, with an additional \$64 billion in funding for

Admiral Harry B. Harris, Jr., commander of US Pacific Fleet, wears Google Glass while speaking at an Armed Forces Communications and Electronics Association (AFCEA) and US Naval Institute sponsored luncheon where he was featured as the keynote speaker. (Source: US Pacific Fleet, Flickr)





Cmdr. Matthew Kawas, USS Fort Worth (LCS 3) crew 103 commanding officer, describes the readiness control officer console to members of the Japan Maritime Self-Defense Force during a tour of the bridge aboard the littoral combat ship. (Source: Mass Communication Specialist 2nd Class Conor Minto, Flickr)

ongoing operations in Iraq and Afghanistan. The job is colossal: fighting terrorism, managing security assistance missions in Iraq and Afghanistan, and deterring adversaries capable of cyber, nuclear, and space attacks. At the same time, he is instituting reforms to ensure what *Wired* magazine calls a “cultural and logistical overhaul that will make the modern military-industrial complex nimble enough to provide the kind of innovation and support its twenty-first-century fighting force needs.” Secretary Carter’s Force of the Future must “stay ahead of a changing world, to stay competitive, to stay aware of new generations and attract them to [the] mission of serving the country, and to stay abreast of technology.”

Macroeconomic changes and adversarial advancements in technology are creating urgency for greater DoD innovation. In *The Solution Revolution*, Bill Eggers argues that “society is witnessing . . . a shift from a government-dominated model to one in which government is just one player among many.” Eric Schmidt, the former CEO of Google, characterizes the twenty-first century as a (digital) world that will reshape people, business, and nations. The digital age reflects a new type of society, one in which everything is connected to everything else, buttressed by space satellites, telecommunication systems, and cloud-enabled and ubiquitous wireless access. Secretary Carter is responsible for creating processes and systems to adapt to these changing times.

DoD Innovation: Science and Sustainability

Anecdotally, whether walking the halls at the Harvard Kennedy School of Government or the Pentagon (both institutions with which I am familiar), few people want to serve in the DoD or know there are fulfilling careers available. I believe the American people lack the full story.

Today, Google, Apple, and Facebook are on the technology cutting edge, able to scale with budget surpluses. Other Silicon Valley corporations drive advancement in artificial reality, robotics, and renewable battery supplies. Historically, however, the private sector was not the innovation leader; the federal government was the source of disruptive change.

Founded in 1958, following the Soviet Sputnik launch, the Defense Advanced Research Projects Agency (DARPA) was the exemplar of technological progress. DARPA’s risk-taking culture delivered innovation: ARPAnet (the Internet), the global positioning

system (GPS), digital speech translation, and gallium arsenide (a wireless friendly semiconductor). More recently, “. . . DARPA’s [sub-program TRANSAPP] is making smartphones battlefield-ready, so that soldiers can take full advantage of mobile

technology that’s improved the lives of countless civilians.”

The DoD also funds small business innovation. Established in the 1980s, the Small Business Administration created the Small Business Technology Transfer (STTR) and Small Business Innovation Research (SBIR) fund. These programs accelerate research and the expansion of public/private sector partnerships to include joint ventures. The STTR requires collaboration with a science research institution, while SBIR provides non-dilutive capital for entrepreneurs. Today, all of the military branches offer technology transfer grants to the private sector. The DoD disbursed more than one billion dollars towards



(Source: Mass Communication Specialist 2nd Class Conor Minto, Flickr)

efficiency but has strategic goals to be 25 percent energy independent by 2025.

Increase Technology Adoption

Though the DoD has an Operational Energy Strategy committed to greater resource independence and clean technology, Defense

small business innovation in FY2015.

In addition to connecting technologies to small businesses, the DoD is driving innovation for sustainable and ecological systems. Navy innovation includes: solid-state lighting, shipboard energy dashboards, stern flaps, and a bulbous bow to reduce fuel consumption. The Army established the Center for Advancement of Sustainability Innovation (CASI), which increases sustainability for water, waste resources, and natural infrastructure. Recently, the “NATO Zero Base Camp” initiative called for “alternative energy sources and developing multinational smart energy projects” to reduce dependency on fossil fuels and reduce costs.

The Air Force is reducing its reliance on energy and hazardous chemicals, implementing water resource management, and maintaining force readiness in the face of climate change. In 2013, acting Under Secretary of the Air Force Dr. Jamie Morin said, the Air Force is “focusing on the capability we get out of energy, each gallon, each watt of electricity . . . and will not accept the notion that one has to choose between energy efficiency and mission accomplishment.” Moreover, there is an immediate call for greater collaboration with technologies that use long-lasting batteries, wearable solar, fuel cells, and microgrids. The DoD rarely receives recognition for energy

Macroeconomic changes and adversarial advancements in technology are creating urgency for greater DoD innovation.

Secretary Carter should go further in at least three realms to increase technology adoption. First, high-tech systems are overfunded while low-end system architecture receives little attention. Computer systems supporting parts logistics, training, and maintenance are behind the technology curve. The DoD spent \$194 million on one-hundred Tactical Tomahawk missiles in 2015, but it continues to use broken human resource management

systems that anger servicemen. Soldiers and sailors are reliant on notebooks, clipboards, and networked laptops while their civilian counterparts exercise productivity with Apple Watches and cloud technology. Modern workflow solutions are needed to capture data analytics and increase defense readiness. These systems are equally important to the missiles and satellite defense infrastructure.

Second, the entire DoD must expand workforce cyber education to both protect the network and create a culture of digital warriors. Cyber security is essential to national defense and only a small segment understands it well. While service members must complete computer-based information assurance and cyber awareness training annually, this is not enough. Cyber security training must be offered face-to-face to allow dialogue about network architecture and security protocols. Navy ships fail cyber security inspec-

tion. Navy ships fail cyber security inspec-

tions because of poor control of network administrative privileges, lack of anti-virus updates to security patches, and non-routine backups to router and switch configurations. Improving the DoD's cyber security education and reinforcing the importance of individual responsibility in network defense is paramount.

Lastly, the DoD must embrace technological risk and transform buying requirements to achieve an innovative future. Former Secretary of the Army John McHugh explains, "In . . . Secretary Carter is poised to life—especially in the create the conditions for change. Pentagon—visions and Few Secretaries have had the ideas give way to priorities and realities." Secretary Carter's predecessor, Charles Hagel, established a Defense Innovation Initiative (DII) paradoxically at odds with Congress's Defense Federal Acquisition Regulation buying regulations. Civilian and military defense leaders lack the purchasing flexibility to prototype and test systems during pilot programs. Industry acquisition norms, cyber security, and contracting restrictions limit procurement professionals from buying DII new technology. The 2014 transition to the Risk Management Framework (RMF), a more flexible buying regime, was a start, but Secretary Carter must go further. He should create an educational program to train government civilians in the RMF processes and incentivize new buying methods.

DoD Innovation: People

Achieving scientific and sustainable innovations is only possible with talented workers. Secretary Carter explains that "in the face of generational, technological, and . . . labor market changes—we in the Pentagon must think . . . outside of our five-sided box" and attract the best and brightest. He enlisted acting Under Secretary of Defense Brad Carson to orchestrate an overhaul of DoD's human capital process—realizing that promotion, rewards, and assignment processes were outmoded compared to top-tier companies.

The Force of the Future is taking shape. Secretary Carter established a Defense Innovation Unit (DIU-X) in Sunnydale, CA, ten miles from Facebook's headquarters, which DIU-X fast-tracks technology from the private

sector to the Pentagon. The DoD is working with LinkedIn's CEO Reid Hoffman to revamp the military billeting system to appeal to the millennial generation. Secretary Carter authorized internships for DoD's mid-grade officers at SpaceX, Google's Alphabet, and Amazon to learn technology adoption strategies. He also recruited Chris Lynch, a serial entrepreneur, to lead the Defense Digital Service, a new office to reform information technology processes and cloud architecture delivery strategies.

Secretary Carter is also preparing the DoD for an inclusive and transparent future to attract top talent. Women are authorized to serve in combat roles as "Army Rangers and Green Berets, Navy SEALs, Marine Corps infantry, Air Force parajumpers and everything else that was previously open only to men." The decades-old retirement regime is being redesigned to mirror the civilian 401K systems. Servicewomen will be granted twelve-week maternity leave, double the previous policy. Active-duty members are able to take career sabbaticals to pursue private sector opportunities. Other forthcoming initiatives include changing height, weight, and age standards for military acceptance for critical billets in cyber security and data science. These policies take time to institute; Secretary Carter's leadership is creating a firm foundation.

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Accelerate the Digital Workforce

General Electric's iconic former CEO Jack Welch explained that "no company can sustain high productivity without culture change." McKinsey & Company posits that culture change requires creating consistent role models, adjusting formal structures to support desired shifts, and developing talent and skills. Applying that framework, Secretary Carter's Force of the Future can go further to accelerate the digital workforce.

The DoD can create role models by training its Admirals and Generals to be generationally inclusive. Despite the importance of hard hours of combat operations and deployed missions, leaders must be more accepting of input from lower ranks. Many leaders foster a toxic environment unappealing to millennials because junior personnel are not heard and

decisions are top down. The Harvard Business Review explains, "overconfident, self-centered, productive, and rule-following employees were more likely to be toxic workers." George Reed describes toxic military leaders as those that are self-serving, inflexible, and petty. Strict compliance to standards and rules is fundamental to military operations, yet rule-abiding leaders stifle innovation, suppress risk taking, and increase operational stress. There is good news - toxic leaders are pushed out of the military. Organizational climate surveys are required within ninety days of commanding officers reporting to a new assignment and bad climate results are a punishable offense. In 2015, many Navy captains were fired for culture violations. Retired General David Barno writes that training role models at senior levels "is an essential investment in producing an adaptive officer corps that is well-prepared for a wide range of future challenges."

If the DoD desires innovation, it must flatten the hierarchical structure. The DoD requires an inclusive, 5-Generational (5G) ecosystem. This model appreciates the differences of each generation but focuses on the commonalities across all employees. On the battlefield, yes, command authority is singular with few exceptions. In the boardrooms (and wardrooms), however, organizational culture should leverage cross-generational collaboration. Former US army engineer Rob Albritton agrees, explaining the DoD needs to "recognize the situations where its hierarchical military organization is counterproductive to its mission" and flatten the organization. Millennials

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An Air Force student at the Defense Language Institute Foreign Language Center tests out new iPads and laptops engraved with DLI crest that were distributed to students as part of the school's transition to the EDU network environment. (Source: Presidio of Monterey Public Affairs.)



"expect information immediately and communicate through text messages, [and they] want nothing to do with hierarchy and reject traditional top-down communication." The Future Force cannot look to the most senior officials for answers; a 5G community allows all voices to be heard. Walter Isaacson, in the forward to General Stanley McChrystal's Team of Teams, agrees: in today's world, creativity is a collaborative endeavor.

Secretary Carter's Force of the Future does not currently meet talent and skills development needs. Detailing officers to fellowships at technology companies and increasing graduate school education is a positive start; however, Admirals and Generals need enterprise skills to transition upward to echelons leading thousands of troops in disparate missions. Senior leaders must have a certain pedigree of skills. If not, the DoD must recruit reservists into senior roles, leveraging their private sector acumen.

Tim Kane's widely quoted Bleeding Talent explains that officers should be able to exit and re-enter and re-exit and re-enter, and to serve as long a career as they want without career-tenure constraints. As a Time reporter explains, "why in the world are we gearing up for cyber warfare and simultaneously barring veterans now working for Symantec, Cisco, or Google to rejoin the ranks? That is folly." In an age of increased threats, and decreasing resources, the DoD must look to all sources of power to protect the America's interests.

The Way Forward

This is not the first article to call for DoD personnel management improvements; it will not be the last. Danger is clear and present. The chasm between the private sector and the DoD is too wide. The existing retention, promotion, and performance systems do not support America's national security needs. However, Secretary Carter is poised to create the conditions for change. Few Secretaries have had the professional agility to oversee wars abroad while cultivating a revolution in technology adoption and human capital management. Unfortunately, Secretary Carter is approaching the end of his tenure. Republicans and Democrats should either retain him as Secretary of Defense or solidify the new initiatives underway. Preparing men and women for war and ensuring the United States retains technical superiority goes beyond politics.

These changes are also essential for inspiring the younger generations to pursue a military career. College graduates: Consider the DoD as the place to innovate and create the foundational skills for exceptional service over a lifetime. Congress: Support the Force of the Future as necessary, progressive steps to increase force structure readiness. Secretary Carter's plan is needed to attract, retain, and reward the best.

In 2012, the National Association of Colleges and Employers reported college students most value opportunity for personal growth, job security, and good benefits—in that order. As a veteran, I believe no career meets those criteria better than the military. Aspiring leaders should consider the DoD the first chapter in a career of public service. Whether on the front lines or in support roles, advancing your education or testing your skills in corporate America—the DoD is more flexible than many believe. Secretary Carter and others know re-designing the workforce is required and the DoD is poised to make those changes with technology and human wellness front and center. *JR*

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