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Actively Managing Risky Behavior: How the Insurance Industry Should Address a Changing Climate

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Abstract

On March 13, 2015 the BBC reported a category-5 cyclone that ripped through the South Pacific island nation of Vanuatu, damaging up to 90% of capital city Port Vila's buildings and housing infrastructure. Just months earlier, the New Zealand Immigration and Protection Tribunal flirted with the idea of recognizing the world's first "climate refugees," thereby granting refugee status to a family fleeing the effects of climate change in the island nation of Tuvalu (McAdam 2014). Even here at home, Governor Brown of California ordered mandatory water use restrictions in response to a winter of record-low snowfall following a four-year period of drought (Nagourney 2015, April 1). Whatever the cause may be, the effects of a changing climate are proving to be costly, life threatening, and a major cause for concern for policymakers worldwide.

This paper will briefly present the far-reaching consequences of climate change, particularly natural disasters, and the state of modern environmental law seeking to mitigate climate change. I will then argue that climate change mitigation requires a multi-faceted approach and in this respect, the insurance industry, through policy construction and litigation, can play a substantial role in both reducing greenhouse emissions and mitigating the destructive effects of climate change. Several recent cases are presented that demonstrate effective strategies and potential best practices for insurers in developed and developing nations alike.

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A Changing Climate – Both Legally and Environmentally

The latest report by the United Nations Intergovernmental Panel on Climate Change (IPCC), the leading international body for the assessment of climate change, explains that human influence on the world climate system is indisputable and that recent anthropogenic greenhouse gas emissions, which are at the highest levels in human history, have substantially impacted both human and natural systems. The IPCC report asserts that the effects of increased greenhouse gas concentrations in the atmosphere are “extremely likely” to have been the dominant cause of climatic warming since the 1950s (IPCC 2014).

Irrespective of cause, the impact of climate change, including the damage from extreme weather and climate events over the past half-century, indicates the “sensitivity of natural and human systems to changing climate” (IPCC 2014). The IPCC report concludes that the risk of abrupt and irreversible climate change increases as the magnitude of warming increases. The complexity and extent of the risks posed by climate change in the coming decade will depend in large part on the actions taken, or not taken, by society today to decrease greenhouse gas emissions. Any viable pathway toward restoring pre-industrial atmospheric greenhouse gas levels must involve substantial reductions in emissions over the next few decades, and near zero emissions by the end of the century.

The IPCC report suggests that many policy options can help address climate change, but no single strategy will be sufficient. However, environmentalist efforts to advocate for climate change policy have been narrowly focused on only a handful of policies. In a 2004 essay titled, “The Death of Environmentalism,” Michael Shellenberger and Ted Norhaus argue that the environmentalist strategies of the 1970s, which involved an intense focus on legislative implementation of technical fixes like cap and trade systems, carbon pollution taxes, and vehicle mileage standards, fall woefully short of slowing down climate change. They argue that progress toward attaining a sustainable society with low carbon-emissions has also been stifled by the tendency of modern environmental advocates to assume that the “protect the environment” framing of the issue, which was successful in previous decades, still supplies political currency for pro-environment movements (Shellenberger and Norhaus 2009, 126). Based on Shellenberger and Norhaus’ analysis, efforts to combat climate change must embrace new and innovative avenues for reducing carbon emissions. One such alternative is to leverage the global insurance industry to mitigate both carbon emissions and the exposure to climate change related risks.

Enter the Insurance Industry

When misfortune befalls policyholders, the insurer will bear the burden. Insurers are thus motivated to minimize risk by limiting the extent of their coverage liability, coercing behavioral changes on the part of policyholders, or shifting the burden of financial responsibility onto other entities that are capable of protecting policyholders from damage or loss. Before discussing the ways insurers can mitigate risks and damages arising from climate change, it is useful to understand the scope of those risks.

In the past 30 years there have been \$4 trillion in pecuniary losses to natural disaster, in addition to 2.5 million lost lives. In the 1980s, the average annual economic loss to natural disaster was approximately \$50 billion. That number has grown to an average of approximately \$200 billion a year in the past decade (World Bank 2013). In 2012, Hurricane Sandy's 14-foot storm surge alone caused \$50 billion in direct damages, and contributed to global losses of \$165 billion. The following year global losses totaled nearly \$125 billion. The combined effects of urbanization and climate change are responsible for this growth in annual loss due to natural disasters (Messervy, McHale, and Spivey 2014).

Not only is the impact of climate change felt due to natural disasters, but extreme weather has also contributed significantly to a sharp rise in damages. For example, the Federal Crop Insurance Program (FCIP) made a record payout of \$17.3 billion for crop loss due to drought and extreme temperature in 2012. Supply chains are also significantly affected by climate change. In 2011, floods in Thailand caused \$15-20 billion in losses, greatly hindering the profitability of large corporations, like Ford and Toyota, which are reliant on a steady stream of parts and supplies (Messervy, McHale, and Spivey 2014).

Large corporations are not only the victims of climate change but also the agent, thus putting insurers in a unique position to mitigate the effects of climate change as will be explained below. The world's 3,000 largest public companies have caused an estimated \$1.5 trillion in environmental damages as a direct result of their carbon emissions (UNEP FI and PRI 2010, 25). Approximately 60% of the adverse impacts are attributed to the following sectors: electricity, oil and gas, industrial metals and mining, food production, and construction and materials industry – each sector being heavily reliant on insurance to support risky and profitable ventures (UNEP FI and PRI 2010, 27). Because these sectors all contribute to global greenhouse gas emissions and rely on insurance policies to reduce operational risk, the insurance industry possesses substantial leverage over large stakeholders. With growing scientific and political attention on climate policy in the United States, the insurance industry has a unique opportunity to influence global climate policy. Climate change is a complex issue having variable impact across regions and localities, with developing countries bearing more risk than developed countries. Ian Kirk, Chief Executive of the Santam Insurance Group, believes the globally connected insurance industry – cutting “across regions, nations, individuals, businesses, and industries to pool the funds from many insured entities to pay for the losses that some may incur” – is uniquely positioned to become an important contributor to climate-risk management strategies. Moreover, the insurer's capacity to pool risks across regions helps to lessen the gap in climate management between developed and developing countries (Kirk 2012). To realistically combat climate change, the insurance industry is capable of influencing the behavior of corporate and individual actors. Litigation is one tool for doing so. By challenging insured greenhouse gas emitters and governments that fail to invest in climate-change related damage prevention, insurers can incentivize specific climate-change mitigating behaviors.

The virtue of climate litigation is that it ascribes a cost to the harmful effects of pollutants emitted by insured industries. By shifting the costs or risks of pollution onto industries, litigation can encourage risk and emissions reducing behaviors. In light of the aforementioned risks to life and property caused by climate change, the insurance industry can strategically conduct climate-related

litigation so as to encourage a change in the behavior of its carbon-emitting policyholders by shifting more risk onto those policyholders. Insurers can accomplish this by using litigation to reduce the insurer's liability under commercial general liability (CGL) insurance and commercial executive's insurance (CEI) policies, and through subrogation lawsuits designed to motivate municipal governments to maintain adequate investments in infrastructure.

Commercial General Liability Insurance

Commercial general liability (CGL) insurance policies protect businesses from the costs of personal injury and property damage suits that arise from business operations. A common provision of CGL policies gives the insurer a duty to defend the policyholder in such suits. Narrowing the scope of CGL insurance policies so that they do not cover suits that arise as a result of carbon emissions would force a policyholder to bear the costs of accidents resulting from emissions.

The Virginia Supreme Court was the first state high court to consider an insurance coverage lawsuit in *AES Corp. v. Steadfast Ins. Co.* (725 S.E. 2d 532 (Va. 2012)). The insurer's argument was that it did not have a duty to defend the insured in a suit related to the adverse effects of climate change because the policyholder intentionally emitted greenhouse gases. The dispute stemmed from claims lodged in federal court by the Native Village of Kivalina in *Native Village of Kivalina v. ExxonMobil Corporation*, 696 F.3d 849 (9th Cir. 2012), *cert denied* 133 S. Ct. 2390 (2013). The underlying dilemma was whether the joint defendants - constituting coal-burning utilities, coal producers, and energy companies - could be liable for damages that were allegedly related to their carbon emissions. The Village of Kivalina asserted that climate change was adversely affecting their community by causing the increased melting of Arctic sea ice (*AES* 2012). They complained that the break down of Arctic sea ice removes the ice barrier that protects the Village from disastrous winter storms (Messervy, McHale, and Spivey 2014, 13). While the case was ultimately dismissed at the Supreme Court⁸, a subsequent dispute between one of the *Kivalina* defendants and its insurer over the costs of the federal litigation was litigated in the Virginia state courts (See *Am. Elec. Power Co. v. Connecticut* (2011)). This latter dispute introduced a new precedent obligating the insurer to defend in cases involving carbon emissions and damages from climate change.

That Virginia state case involved the nature of CGL insurance policies issued by Steadfast Insurance to AES Corporation. The AES Corporation, holding multiple CGL insurance contracts with Steadfast Insurance, sought legal defense in the aforementioned *Kivalina* case. Steadfast Insurance denied coverage and filed a declaratory judgment action in Virginia state court claiming that AES Corporation intentionally emits carbon dioxide and "knew or should have known of the impacts" of those emissions (*AES* 2012, 533). Therefore, the CGL insurance contracts between AES and Steadfast did not require Steadfast to provide coverage in the form of a legal defense because, by the terms of the CGL policy itself, there had been no "occurrence"—or accident—on which AES could base its claim for coverage. In other words, Steadfast Insurance claimed that the damages claimed in *Kivalina* were not the result of an accident, and thus defense was not required

⁸ The federal case was dismissed on the basis that damages are not available under federal common law for such a claim by consequence of the displacement of federal common law by the Clean Air Act legislation,

because AES had intentionally emitted carbon dioxide and should have known the consequences of their actions.

The Virginia Supreme Court ultimately sided with Steadfast, holding that an insurer has no duty to defend an insured policyholder in a nuisance case based on the effects of climate change because there is no accident or occurrence under an insurance policy where the insured is guilty of intentionally emitting greenhouse gasses (*AES* 2012, 532; Messervy, McHale, and Spivey 2014, 14). The AES Corporation's argument was that since the claims in the *Kivalina* case involved a charge of negligence, Steadfast's duties under the CGL policies were triggered because negligence claims typically trigger the duty to defend in insurance liability cases. However, the language used in the Steadfast Insurance CGL policy was fatal to the AES Corporation's argument because it required Steadfast to defend AES against claims for damages of bodily injury or property damage caused by an "occurrence" (Boyd 2011).

Thus, the way the Court construes the word "occurrence" as used in Steadfast's CGL policies is instrumental to this case. By the terms of the policy, an occurrence is "an accident, including continuous, repeated exposure to substantially the same general harmful condition" (*AES* 2012, 536). An accident, moreover, is "an event which creates an effect which is not the natural or probable consequence of the means employed . . . If a result is the natural or probable consequence of an insured's intentional act, it is not an accident" (*AES* 2012, 538). Again, since the complaint in *Kivalina* was that AES intentionally emitted carbon, and knew or should have known the impact of such emission on a coastal village like Kivalina, it did not matter that the disastrous effects were unintentional because "whether or not AES's intentional act constitutes negligence, the natural and probable consequence of that intentional act is not an accident under Virginia law" (*AES* 2012, 537). As such, for relevant insurance coverage to be triggered under Virginia law, the allegations in a complaint must claim damages from a fortuitous event or accident, and not from the natural and probable consequences of an intentional act such as emitting greenhouse gasses into the atmosphere (Boyd 2011).

The *AES* lawsuit demonstrates the importance of the precise wording of policies and the wording used in allegations by the plaintiff. When insurers are concerned about potential economic losses, whether they result from direct damages action against the insured – as would be awarded in a typical state claim seeking damages (See *Am. Elec. Power Co. v. Connecticut* (2011)) – or from providing the fees for legal defense on behalf of an insured policyholder (like at issue in *AES*), there is opportunity to drive public policy change in the courts. In state courts where the intentional emission of greenhouse gasses disqualifies a policyholder from coverage, policyholders will have an incentive to alter their behavior and reduce carbon emissions. Thus, the Virginia Supreme Courts in *AES* set an example for how the Court's role in the interpretation of CGL policies and the CGL policies themselves can all be part of an innovative strategy to mitigate climate change.

By construing the contents of these CGL contracts in the same manner as the *AES* court, courts complement the efforts of insurance companies to restructure their existing policies in order to decrease the risky behavior of the insured, as mentioned above (Vincent 2014). These innovative insurance policies are discussed later in this paper, primarily in the context of developing nations. Given the dissemination of IPCC reports and common knowledge about the dangers of climate

change, courts can view greenhouse gas emission as an intentional act with reasonably foreseeable consequences and hold insured emitters accountable for their actions. By removing insurance protections and attributing a heavier cost to behavior that leads to climate change and by shifting the burden of paying for the impact of climate change to the primary actor rather than the insurer, the courts and the insurance industry can encourage climate-risk management through litigation.

Commercial Executive's Insurance

Insurers could use litigation to similarly limit their liability in commercial executive's insurance (CEI) plans. Such plans are purchased to protect commercial executives from damages resulting from alleged or actual wrongful acts that might be committed in their positions as a commercial executive. Limiting the scope of such products could force the executives of carbon-emitting corporations to bear the full consequence of carbon emitting conduct.

In May 2014, Greenpeace, the World Wildlife Fund, and the Center for International Environmental Law sent inquiries to leading global insurers to ask whether director and officer liability insurance products would provide coverage for financial damage premised on climate change disaster (Messervy, McHale, and Spivey 2014, 14). This might be another instance where an insurance company's policy could discourage negligent behavior of an executive at an emitting firm, such as misleading the public about the impact of the firm's carbon emissions on the environment. Statements from Swiss Re and Allianz Se indicate that the insurance companies are likely to provide coverage under CEI policies except in the case of an intentional or illegal act (Swiss Re 2014; Allianz 2014).

Some insurance lawyers, in light of the *Steadfast* decision, suggest that any insurance policy for directors and officers would not provide coverage to an executive being sued for damages arising from climate change (Messervy, McHale, and Spivey 2014, 14). However, Munich Re, a large multinational reinsurance company, disagrees, saying instead "in the case of losses only indirectly related to climate change – perhaps resulting from a failure to meet consultancy obligations because policyholders such as engineers, architects or consultants have not considered the consequences of climate change... [s]uch losses are not based on climate change itself but on the fact that someone has neglected to give the subject sufficient consideration in his or her professional activity... [and] [t]hese losses are not untypical of liability insurance" (Ebert and Funk 2014). Should a suit like this arise, which is likely given the increasing frequency of climate litigation, the outcome will depend on the corporate law of the state litigating the suit. Some laws will recognize negligence with respect to carbon emissions as an intentional act that does not warrant coverage while others, similar to Munich RE's logic, may see it as an indirect oversight that is protected by the insurance policy. Like litigation over the terms of CGL insurance policies, CEI policies provide a similar opportunity for insurers to create powerful incentives for corporate officers to reduce emissions, embodying another viable option in a climate mitigation portfolio.

Insurer's Use of Subrogation Lawsuits Against Municipalities

Another insurer strategy to shift financial costs back to the insured party that is polluting was explored through subrogation lawsuits in response to weather events in Chicago, Illinois in 2013. Subrogation is the right for an insurer to pursue a third party that caused an insurance loss to an insured, done as a means of recovering from the third party the amount of the claim paid to the insured for a loss. An insurer's threat of subrogation lawsuit against a municipality might cause the municipality to invest in improved infrastructure and climate-change reducing behavior. In 2014, Farmers Insurance, a subsidiary of the Zurich Financial Group, initiated a class action lawsuit against 200 Chicago communities for essentially failing to upgrade city infrastructure in accordance with the increased risks of climate change disaster. This action, taking the form of subrogation against a municipality, was a response to intense flooding in Chicago in the spring of 2013 (Messervy, McHale, and Spivey 2014, 14). Farmers Insurance claimed that the city's failure to adequately prepare city sewers and storm water drains was the proximate cause of the sewage water rising into people's homes. This water damage, Farmers Insurance further claimed, could have been avoided had the city of Chicago upgraded its storm water management plans. They argued that implementing an upgraded storm water management plan was the city's obligation because Chicago officials "knew climate change in the past 40 years has brought rains of greater volume, greater intensity, and greater duration than pre-1970 rainfall history". Public Chicago agencies should have been prepared to handle the record-flooding, and could have taken preventative measures such as emptying reservoirs or employing more sandbags and inflatable flood barriers (McCoppin 2014). Thus, on behalf of more than 600 property owners affected by the floodwaters, Farmers Insurance sought to recoup from local governments the money the insurer had paid out based on those actionable Chicago homeowner's policies. In other words, an insurance company sought to use the court to shift the financial responsibility for damages arising from natural disasters to governments that fail to adequately prepare for climate change.

Ultimately, Farmers Insurance withdrew the lawsuit just months after it was filed, but spokespersons explained that company officials were optimistic that the threat of lawsuit under these circumstances would encourage city and county governments to prepare their infrastructure in accordance with the foreseeable impacts of a changing climate, like the risk of more intense and frequent flooding. A Farmers Insurance spokesman said that the company "believe[s] our lawsuit brought important issues to the attention of respective cities and counties, and that our policyholders' interests will be protected by the local governments going forward" (McCoppin 2014).

Climate litigation, in which the government is a defendant, can be a burden on the taxpayers. Margo Ely, a counsel for 55 suburbs named in the Farmers Insurance suit and the executive director of the Intergovernmental Risk Management Agency, called the Farmers Insurance lawsuit withdrawal "a good legal decision and a good business decision," because "any liability was tenuous at best" and "the impact would have fallen on [Farmers Insurance's] own customers as property taxpayers" (McCoppin 2014).

While an insurance company would not want a reputation of passing the financial burden of disaster back to its own policyholders, the threat of suit at least puts the onus on government actors to diligently and fully inform the voting public about the municipality's inadequate disaster planning with respect to the threats of climate change. Responsible civic leaders might also be motivated by the threat of lawsuit to invest in infrastructural improvement rather than risk legal costs and pay potential damages in a successful subrogation action. For example, though the Farmers Insurance lawsuit was withdrawn, it still prompted a Chicago-area village named in the suit, Glenview Village, to approve a plan in the fall of 2014 geared at preventing flooding and protecting close to 1,500 homes (McCoppin 2014).

Indirect motivation through the risk of legal costs might be all that insurer-initiated lawsuits against a government for subrogation can accomplish. State law tort immunity generally protects government from lawsuits, which is why Michael Gerrard, leading environmental and insurance law expert at the Center for Climate Change Law at Columbia Law School, called the Farmers Insurance suit “bold and ambitious . . . and an uphill climb” (McCoppin 2014). The city of Chicago has taken commendable steps to curb emissions—it has shut down two coal plants, decreased the amount of traffic, and actively seeks to invest in public transit—but continued pressure is still necessary, especially for cities in general. According to Howard Learner, Director of the Environmental Law and Policy Center, a city is not a business entity like the insurance industry. While a company is overly concerned about its yearly profits, a government is most worried about how to use its money to protect its citizens today even if that comes with substantial long-term costs, meaning governments are unlikely to take swift action without outside motivation. As such, there is a significant role for insurers to play in climate-based litigation. Aggressive litigation that seeks to remove climate-change related events from the protection of insurance policies held by large carbon emitting companies effectively places a price on carbon emissions. Such litigation, though, is a strategy confined to developed nations that have robust legal systems. Further, climate litigation is generally retrospective, in that it provides a remedy to damage that has been done, and will only prevent future infractions when liability out-prices profit. As such, comprehensive climate mitigation and adaptation would further benefit from insurer initiatives that focus on the current and future behavior of insured actors. Developing nations, it turns out, provide a suitable platform to launch such innovative insurance products that could limit carbon emissions and climate-change related damages.

Innovative Insurance Products for Developing Nations

In the face of more intense and frequent weather events, sea-level rise, desertification and decrease in freshwater, developing countries are generally more exposed to the risks from climate change, as well as less capable of absorbing potential losses, due to a lack of resources and infrastructure (Goldberg 2012). While the preceding sections of this paper discuss climate mitigation strategies involving litigation, those strategies are limited in many developing nations. This section discusses potential adaptation strategies for developing nations.

Many citizens in developing countries depend on small-scale agriculture for both subsistence and income. Such smallholding agriculture, which consists of small farms that rely mainly on family labor, also contributes substantially to the GDP of many developing nations, and as a result developing countries face increased risk of loss from drought, flooding, and other extreme weather events (Baarsch, Huppert, and Tewes-Gradl 2013; IFPRI 2014).

Agricultural insurance and microinsurance services can be a valuable component of a climate-risk management strategy in developing nations. According to two think tanks, Climate Analytics and Enterprise Solutions for Development (Endeva), microinsurance is “the protection of low-income people against specific perils in exchange for regular payments proportionate to the likelihood and cost of the risk involved,” and has been used increasingly as a tool to motivate smallholding farmers to manage their risks and invest in agricultural productivity (as opposed to rebuilding in the wake of an agricultural loss) (Baarsch, Huppert, and Tewes-Gradl 2013, 6). The products achieve this goal through a contract that incentivizes risk-reducing behavior, by granting direct payment for risk reduction and preventative pre-disaster payouts.

Contractual Incentives for Risk-Reducing Behavior

One way the insurance industry can help developing nations prevent extreme climate change is by rewarding risk-reducing behavior with incentives built into the microinsurance policy scheme. One such scheme is embodied in the agricultural insurance product “Kilimo Salama” - offered through a cooperative venture by Syngenta Foundation for Sustainable Agriculture, UAP Insurance, and Safaricom - which helps “Kenyan farmers... cope with risks from changing weather patterns by providing insurance for agricultural inputs, such as certified seeds,” and requires farmers to adopt Disaster Risk Reducing (DRR) measures in order to gain access to insurance (Baarsch, Huppert, and Tewes-Gradl 2013, 8). In practice, smallholding farmers who wish to purchase coverage must implement sufficient DRR measures and purchase specifically certified drought-resistant seeds; only then, after proper purchase, can farmer’s crops be insured under Kilimo Salama. Thus, purchasing farmers have invested in climate-adaptation through insurance-product based incentives.

Comparably, the “Red Hairy Caterpillar Insurance” product offered by People Mutuals in India is also designed to encourage smallholding farmers to implement DRR measures. The approach of People Mutuals of India was to lower the value of insurance premiums when policyholders took certain DRR measures. That is, an individual policyholder’s premium was adjusted to their actual risk exposure and since their exposure decreased as a result of DRR measures, the premium decreased as well. For example, smallholding farmers would pay a lower premium on insurance for caterpillar damages to crops if they plowed their fields in the summer, when fewer caterpillars are necessary, thus motivating policyholders to make sustainable decisions (Baarsch, Huppert, and Tewes-Gradl 2013, 8).

Direct Payment for Policy-Specific Risk Reduction

Direct payment by microinsurers for DRR implementation is another strategy to manage climate-change. Here the insurer directly provides smallholding farmers with required goods and services like training on water management, as carried out by People Mutuals of India; the option to implement DRR or adaptation measures in place of a premium payment as made famous by the Rural Resilience Initiative Harita; or simply provide reimbursement for DRR measures analogous to preventative health care (Baarsch, Huppert, and Tewes-Gratl 2013, 9).

One People Mutuals strategy has been to base their policies on rainfall indices and offer them exclusively to members of so-called “farming federations”. Within these farming federations, member-farmers are trained on climate change, drought, and water management issues in an attempt to “stimulate demand and build capacity”. People Mutuals will even support localized risk sharing amongst the farming federation members. For example, automatic rain gauge data from relevant localities will be used to determine a level of risk retention for the insured (Baarsch, Huppert, and Tewes-Gratl 2013, 9). As such, the policy achieves sustainability by encouraging certain community behaviors.

The Rural Resilience Initiative Harita (R4)—a risk management framework being used in Ethiopia (implemented by organizations like Oxfam America, Swiss Re, and the World Food Programme)—uses a combination of what Climate Analytics and Endeava call “improved risk management (risk reduction), insurance (risk transfer), microcredit (prudent risk taking) and savings (risk reserves)” to encourage smallholding farmers to improve agricultural security and sustainability (Baarsch, Huppert, and Tewes-Gratl 2013, 10). An intriguing component of the R4 strategy is the mechanism by which smallholding farmers can pay off their insurance policy premiums in the form of labor by working on local projects geared towards improving infrastructural capacity (like updating irrigation). Therefore, in this contractual strategy, the insurance provider and insured both essentially pay for and contribute to DRR measures. The strategy has been a success across Ethiopia, attracting 75,000 smallholding farmer policyholders, and inspiring similar programs in Senegal. The insurance company, then, is succeeding in inspiring climate-change adaptation and improving sustainability by offering a mutually beneficial policy.

Contractually Bargained and Preventative Pre-Disaster Policy Payouts

Insurers can also strategically influence the behavior of smallholding farmers by providing predictive information about expected events. One such insurance product is the Livelihood Protection Policy in St. Lucia, whereby the German Ministry for the Environment (through the Munich Climate Insurance Initiative) provides vulnerable smallholding farmers an index-based insurance scheme. Under the scheme, policy payouts are triggered by rainfall and wind speed indices that pass a certain threshold. The insurer facilitates preventative DRR measures by warning policyholders via text message (a DRR method itself) about a likely storm (Baarsch, Huppert, and Tewes-Gratl 2013, 10).

Taking the index-based strategy further, the El Niño-Southern Oscillation (ENSO) Business Interruption Index triggers payouts in anticipation of extreme weather so that policyholders can have additional financial means to make loss-prevention arrangements (Baarsch, Huppert, and Tewes-Gradl 2013, 11). This Peruvian insurance product, offered by La Positiva and GlobalAgRisk, Inc., provides indemnities to policyholders when the Pacific Ocean water temperature variations in the spring hit certain index points that generally forecast the high likelihood of an El Niño event – inspiring proactive (and cheap) responses to natural disasters, as opposed to costly retrospective and remedial payouts.

In sum, it is practical and feasible for a microinsurance firm to induce risk-reducing behaviors through the construction of its contract and policy. A variety of strategies have been successful in multiple national contexts and should continue to be implemented. These microinsurance products are proving to be a cost-effective mechanism to support climate change adaptation in developing countries. Continued innovation in structuring microinsurance policies, thus, saves money, lives, and livelihoods in developing nations.

Conclusion

Continued carbon emissions threaten to exacerbate climate-related destruction that has been ongoing in recent decades. On a brighter note, Munich Re reported that 83% percent of Americans believe that climate change is occurring (Munich Re 2014). Munich Re's survey is important because it demonstrates the insurance industries' intimate engagement with the issue of climate change and because consumer attitude is important in precipitating action. The changing tide in public opinion, then, could signal growing support for viable solutions to the climate problem, and insurers like Munich Re are paying attention.

Given the multi-faceted and complex nature of the climate problem, policymakers should seek to address the problem with similarly complex and multi-faceted solutions. As I have argued, both innovative means of bundling and marketing insurance products for sale in developing nations and the use of climate litigation to decrease insurer protection for greenhouse gas emitters in developed nations like the United States represent feasible components of a multi-faceted solution. By structuring or restructuring insurance contracts, the behavior of the insured can be influenced in such a way that the impacts of climate change are sustainably managed. Given the pervasive presence of the insurance industry in the global economy, insurers can accordingly play a decisive role in global climate-risk management. I argue that this role must be active, strategic, and robust, and that the cases presented here demonstrate a set of viable strategies for insurers to take such an active role.

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Building a Lasting Peace in Colombia: Recommendations for Social and Political Transformation

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Introduction

Colombia has suffered more than two centuries of violence that has affected its people in many ways, including the country's economic growth. However, recently Colombia has shifted towards a path where economic and social prosperity is possible. One of the main factors for this change was the 1991 Constitution, which introduced two major changes: a legal framework to expand citizens' rights and an institutional framework to change the economic model at the time. On the one hand, the model of economic liberalization introduced by the constitution requires a less interventionist state whose main purpose is to protect property rights. On the other hand, a bigger state is needed in order to provide more rights to its citizens. For example, a state requires a greater bureaucracy to respond to increased citizen demands and to provide new public goods, among others. These two—seemingly contradictory—models coexist in Colombia, and in most western economies like the U.S. However, the coexistence of two contradictory models introduces social tensions when the institutional system favors one over the other. In the case of Colombia, more often than not, the favored model has been economic liberalization and a smaller state. Moreover, in Colombia, these tensions are stronger given the country's already exclusionary institutional system.

Historically, the Colombian institutional system has been designed as a response to violence. Violence in Colombia has affected everyone in the country one way or another. Yet, there are significant differences in how different groups have related to violence. The effect of continual violence on the poor forces them to disproportionately experience the long-run consequences of violence. On the other hand, the elites, a great majority of whom are living in big cities, have been traditionally separated from the violence, and only during the peaks of violence have they been significantly affected. It is during these peaks that the elites have “contributed” to much needed resolutions. Agreements reached by the elite, such as the National Front, while effective in decreasing physical violence, have also excluded the needs of some segments of the population who were not represented by the two traditional elite-dominated parties.

After almost two centuries of violence, effort was made to terminate physical violence and the rise and disappearance of different armed parties. In 2012 the Colombian government started peace negotiations with the major left wing guerrilla group in the country: the Revolutionary Armed Forces of Colombia (FARC). The peace negotiation process represents a historical opportunity to end physical violence in the country. However, while the magnitude and complexity of the armed conflict deserves government attention, physical violence is not the only challenge in the country. The current expansion of extractive economic activities, with their environmental impacts and poor labor conditions, are still a major concern, especially for the poor. Therefore, the current peace process is not only a historical opportunity to end physical violence; it can also be the start of an inclusive collaboration to tackle issues beyond violence.

The purpose of this article is to analyze the dynamics that create and perpetuate violence in Colombia, as well as to identify opportunities for social transformation. First, I present a historical background of the violence in Colombia and describe how this violence has been altered, but not ended, by the creation of a new constitution and by multiple exclusionary agreements between the warring parties. Second, I analyze the tensions inside the new development model proposed in the 1991 constitution. Third, I argue that the current peace negotiations with FARC are a window of opportunity to promote a more inclusive political framework in the country. This article identifies some of the elements that are fundamental to creating peace in the long run in Colombia. The final section offers recommendations to move towards a lasting peace.

The History of An Exclusionary Political Framework

The history of Colombia in the 19th century is one of inconclusive wars (Sanchez, 2008). According to the author, with very few exceptions, the 14 wars that the country experienced throughout this century: (i) started as a continuation of a previous war, (ii) involved significant portions of the population—particularly the poor—who did not necessarily fight for personal causes and ideologies but rather as patronage for a chief, and (iii) reflected the social hierarchy of the military, where landowners, merchants and professionals were at the top of military leadership instead of those who had more military experience. In addition, the wars often ended with agreements among the elite members in dispute that included amnesties, a major political reform, or the creation of a new constitution (Sanchez Gomez 2008). By the end of the 19th century the country had more than six constitutions. Colombia's turmoil in its first century as an independent nation ended up with a constitution and an environment conducive to the use of violence as a political tool, like the 'Thousand Days' War (1899-1902) in which liberals were claiming political space from the conservatives in government.

Political violence still played a fundamental role in the design of the country's institutional system during the 20th century. Starting in the 1930's, the country experienced a period of renewed clashes between members of the Liberal and Conservative parties over political power. This period of violence, commonly known as "La Violencia", reached its peak in 1948 when a popular Liberal Party presidential candidate was murdered. Even though a formal war was never declared, the country witnessed a high death toll. In 1958, both party leaders at last agreed to put an end to the violence by taking turns to assume the presidential seat over a span of 16 years. This agreement—known as the National Front—was effective in ending violence, but it left out other political parties and ideological groups from the decision-making process.

While agreements among elites may have temporarily stopped the violence, they were not successful in building the foundations of an enduring state. These agreements were reactive to specific circumstances of violence. This ad hoc approach, in turn, shaped the institutional development of the country. Formation of the nation-state was limited to the strengthening of two traditional political parties while failing to address other fundamental questions. For example, in 1908 full pardon was conceded to militants involved in the 'Thousand Days' War as a quick end to the violence but little attention was given to justice (Aguilera 2001). Given that these agreements were reached between the leaderships of the parties involved, they did not incorporate the perspective from the rest of the population in terms of social welfare. Moreover, the post-conflict negotiations generally focused on amnesties rather than proposing changes to the structural conditions that generated violence in the first place, e.g. the concentration of land among few owners and the predominance of extractive economic activities (Galindo, Restrepo and Sánchez 2009). Cycles of violence, and the exclusionary negotiations, lead to the creation of a precarious state and a highly segregated country.

The 1991 Constitution: An Attempt at Inclusionary Political Framework

The 1991 Constitution was a response to yet another escalation of violence in the country. By the end of the 1980s Colombia experienced multiple forms of violence. The country had a governance crisis and drug lords increasingly turned to terrorism techniques to influence policy decisions. Additionally, clashes between government and guerrillas groups increased, and three presidential candidates were murdered. In the midst of this hostile political environment, however, the government was able to negotiate with the M19, a guerrilla group, leading to its demobilization. During this period, the idea to reform the constitution gained momentum and efforts were made toward incorporating the demobilized groups into the political system (Junguito, Cardenas and Pachon 2006). Therefore, similar to the National Front, the 1991 Constitution was conceived as a mechanism to resolve violence. It was also a mechanism for long-term peace-building, because, for the first time, the Constitution was the result of a participatory process in which none of the traditional political parties prevailed (Hurtado 2006). Despite major insurgent parties, like the FARC and ELN—The National Liberation Army—not participating in developing the new Constitution, this was a major democratic achievement that gave the hope of a new social order (Gaviria 1991). The Constitution's dual purposes to establish a new economic model and to expand citizens' rights created tensions. The Constitution included articles on market liberalization and privatization of public goods—under a mostly neo-liberal framework. It also incorporated political, economic, and social rights as well as new mechanisms for citizens' participation in public matters like referenda and plebiscites. It also opened the channels for a wider political spectrum and allowed for the creation of additional political parties besides the Conservatives and Liberals.

The expansion of citizens' rights requires an increased bureaucracy to respond to citizen demands and the state provision of public goods. Yet, the economic model introduced by the constitution calls for a smaller state whose main purpose is to protect property rights and correct some market failures. These two seemingly contradictory models coexist in most Western economies but these two conflicting priorities introduce social tensions when the institutional design of the country favors one objective over the other. In Colombia, these tensions run deep given the country's already exclusionary institutional system. From the perspective of economic development, the model has proven to be successful. According to the World Development Indicators of the World Bank (2014), Colombia is now an upper-middle income country after two decades of positive economic growth. The goal of expanding citizens' rights, however, has been less successful. Colombia's wealth distribution is highly unequal. Granted some significant improvement in both social and welfare policies, authorities continue to focus on achieving economic growth, hoping it might solve other issues including the huge challenge of inequality. This hope has not been realized and all forms of wealth in Colombia remain very concentrated. Unequal access to land, a key input for income generation in an economy that is dependent on extraction and plantations, explains the high Gini coefficient of 0.75 in 2006 (Galindo, Restrepo and Sánchez 2009).⁹

The Reproduction of Violence After the 1991 Constitution

High wealth and income inequality, combined with ongoing-armed conflict, creates two different trajectories for Colombia's citizens: one of prosperity for those who gain from the new economic system and one of economic hardship for those who cannot. The former group has access to services comparable to any high-income country; it also has avenues to claim civil rights

⁹ According to the World Factbook (CIA 2015) Colombia is the 10th most unequal country in the world.

and has the means to isolate itself from the armed conflict. The latter are systematically affected by the armed conflict. The conflict has produced at least six million victims of physical and psychological violence (Centro Nacional de Memoria Historica 2013) among which Colombia's poor are disproportionately affected (Galindo, Restrepo and Sánchez 2009). Violence forces the poor into deeper poverty, increases their dependence on state provision of social services, and restrains their ability to demand and exercise their rights as citizens. In sum, achieving both the economic and social objectives of the 1991 Constitution has been compromised by violence.

Even though the armed conflict deserves government attention, there are additional manifestations of violence that require equal attention. Perhaps one of the most relevant manifestations of economic violence is the historical land inequality: 80% of the land is still owned by 14% of the population (Oxfam 2013). Land redistribution efforts will require a significant intervention by the government, as the neo-liberal model has not been able to decrease land inequality. Instead, under high levels of inequality, a neo-liberal economic model is more likely to increase inequality.

Currently, the economy of the country depends heavily on energy and mining exports (CIA World Factbook 2015). Official policy encourages the growth of the mining industry in Colombia, now one of Latin America's largest mineral producers. Yet, historically, mining has been closely associated with precarious labor conditions and human rights violations. For this reason, while a thriving mining industry is desirable for economic growth, it also increases the vulnerability of the poor and their probability of playing an active role in the conflict. Therefore, one should not only focus on current violence but also try to understand the factors that foster further social conflict in the country and breed violence.

Peace Negotiations with FARC: A Window of Opportunity to Build an Inclusive Social Order

In 2012, Colombia's government started a peace process with the FARC, the oldest and largest leftist guerrilla organization in the country. Historically the FARC has challenged the government to establish a communist social order in the country. Reaching an agreement between these two parties could mark the "end" of armed conflict in Colombia. However, several peace negotiation processes in the past have barely altered the social order that was leading to violence in Colombia. For instance, the most recent peace negotiation with paramilitary groups in 2006 resulted in a massive demobilization of their members, but also in the creation of new criminal groups all over the country (CNRR 2007). Several factors will determine whether this new commitment to terminate violence translates into lasting peace in the country or into a temporary calm until the next eruption of violence.

One factor of concern is the failure to incorporate key parties in reaching this agreement. The ELN is still not part of the negotiation process, even though the group stated its desire to take part (El Universal 2015, Jan 26). Although, it is not necessary that peace agreements be reached simultaneously with both groups, the national reconciliation process can be undermined if victimization of some groups continues after the conflict.

A second concern stems from a shortsighted approach to the current reconciliation efforts. The history of the country has been one of war and violence. Therefore a genuine peace process should not only aim to resolve the last 50 years of conflict with the FARC and left wing guerrillas, but it should also be carefully crafted to ensure that violence will not erupt again. Assuming that peace can be instantaneously achieved and sustained is not only naïve but it could also discourage the design of policies and interventions that sustain long-run peace. Given the long history of

violence in the country, constructing an environment in which basic social interactions are not marked by violence is a major challenge.

A third concern is the assumption that, once an agreement is reached, economic growth will ameliorate the other social grievances. As previously discussed, the current economic model could deepen the vulnerabilities of those already living in impoverished conditions in the country. Therefore, achieving peace will rely on reconciling the tension between the economic and social aims of the Constitution.

Finally, we should be concerned about the absence of civil society groups and victims in the reconciliation process. During the last two decades, civil society groups in Colombia have been working with actual and potential victims of the conflict to develop alternative avenues for support. For example, they provide information on access to social programs and educate people on their rights as citizens. Civil society groups have also engaged victims in designing policies for their local communities. Incorporating their voices into the reconciliation process makes use of victims' insights, and allows for the creation of inclusive policies that are crucial to mitigating the tensions between the social and economic aims of the Constitution.

Conclusions

Overcoming the armed conflict in Colombia will entail more than clamping down on violence. Ending a history of more than two centuries of war and exclusionary policies requires an understanding of the country beyond the framework of violence in order to attain peace. In the current peace negotiation process with the FARC, several elements must be accounted for to achieve this purpose and to avoid the continuation of violence.

In this paper we identify key recommendations for the current peace process. First, the government should seek to incorporate other armed groups as part of the process while taking precautions against the creation of new victims. Second, governmental efforts should address reconciliation efforts to attain long term peace. Third, it is relevant to acknowledge that main sources of vulnerability for the population do not come exclusively from the armed conflict; there are tensions between the social and economic model currently in place. It is necessary to explore alternative mechanisms to mitigate this tension, especially when it is disproportionately affecting impoverished segments of the population. Finally, the peace process should incorporate the civil society that has been working with victims during the last two decades. All these considerations should be made to serve the purpose of reconciliation and to generate inclusive policies, which have fallen short in past settlements, so that lasting peace can be achieved.

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