The Report Committee for Peter Dev Marton
Certifies that this is the approved version of the following report:

Insurance and Financial Products to Mitigate Political and Credit Risk

APPROVED BY
SUPERVISING COMMITTEE:

William Inboden, Supervisor

James Galbraith, Co-Supervisor

Ehud Ronn

Insurance and Financial Products to Mitigate Political and Credit Risk

by

Peter Dev Marton, A.B.

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Abstract

Insurance and Financial Products to Mitigate Political and Credit Risk

Peter Dev Marton, MBA;MGPS

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Supervisors: William Inboden, and James Galbraith

This project explores insurance and financial products corporations use to transfer political and credit risk. In the post-WWII era, government agencies created new types of political risk and credit insurances to foster investments abroad. This market developed with greater participation from the private sector beginning in the 1990s. Concurrently, credit derivatives including credit default swaps (CDS) began, which worked similarly as hedges against default risk. This report develops a comparison of these two instruments, from their initial inception to their current regulation. From a policy perspective, the contrast between insurances and CDS illuminates some of the challenges the public sector faces when, in turn, working to foster foreign business activity and regulate the broader financial system.

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I. INTRODUCTION

The way corporations reduce the business risk associated with foreign activity has changed considerably over the past forty years. Through help from the public-sector (chiefly with the aid of the Export-Import Bank ("Eximbank") and the Overseas Private Investment Corporation (OPIC)), from the post-WWII period onwards corporations found ways to insure products and financing. As these insurance markets developed, private-sector companies such as American International Group (AIG), Zurich Insurance Group ("Zurich"), and Ace Limited, increasingly came online to supplant these government offerings for political and credit risks ranging from outright nationalizations of assets to sovereign and foreign corporate defaults. Additionally in the 1990s, financial companies, created financial innovations such as credit default swaps (CDS) that competed with these insurance products as a means to hedge against default risk largely without public-sector interference or regulation. To the extent oversight existed with these credit derivatives products, it may have misaligned market incentives. The AAA-credit rating a CDS imbued, part of the securitization process of packages such as mortgage-backed securities (MBS) and collateralized debt obligations (CDOs), were granted through credit-ratings agencies who earned commissions based on clients receiving high ratings. These developments raise serious questions about the current role of public agencies such as Eximbank and OPIC on the insurance front, and in turn the role the public sector plays to track financial innovations and ensure stability in the financial system.

To understand better the credit and political risk markets currently, I structure the paper as follows. First, I describe what constitutes political risk and credit insurance and trace its history since Congress first authorized the Export-Import Bank in 1948. With this insurance background, I offer a parallel explanation of credit default swaps and the development and growth of derivatives that led to their creation and widespread use. A recounting of the development of these tools reveals how at least one type of insurance, Non-Payment Insurance, which serves as a financial guarantee across credit events, and the capital-market based CDS compete to hedge against default risk. I conclude by suggesting possible trends in risk management within the context of changes in insurance and financial markets. Specifically, the insurance market sees the private sector adopting the policies originally within a public agency's mandate, and an increasing number of actors who offer coverage over a growing range of political and credit risks. In turn, the public sector arrived to the show quite late to regulate derivatives. Only recently through Dodd-Frank have policymakers worked to bring comprehensive oversight to these financial products, with the jury still out on current reforms. Finally, I explore how, while a political risk "derivative" does not yet exist, I trace how such a liquid market may develop as an alternative or supplement to current political risk insurance contracts.

II. MARKET PRICING OF RISK & UNCERTAINTY

Before delving into political and credit risk, it is instructive to define risk broadly. From a financing perspective, risk describes the likelihood an investment's return is different than expected. Risk management is the process to identify, analyze, and either accept or mitigate such variability in investment and business decision-making.[1] The "market price" for a given risk describes the equilibrium price that markets will bear for a certain outcome. For certain risks, actuarial science employs sophisticated modeling based on past information to create a point-estimate, or specific dollar value, to value the premium for insurance coverage. Examples abound; for example, through the aggregation of accidents that occur throughout the United States, an auto insurance provider can collect data specific to the insured such as car type, credit history, age, and other risk factors, and tabulate how much would be actuarially "fair," after recouping costs, for a user to pay for insurance.

At the same time, there are types of insurance where conditions simply do not allow for actuarial pricing. For example, without a rich data set specific to a company's business profile, one cannot identify the credit risk that firm has of a default, or a firm with foreign facilities of suffering from a government expropriation. The unique nature of these low-risk, but high-severity events prevents the tabulation of an actuarial value.[2]

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[1] Skipper & Kwan. Page 6.

[2] One of the first to recognize this distinction was Frank Knight in his 1927 dissertation *Risk, Uncertainty and Profit.* Knight notes three types of uncertainty. "A *priori* probabilities" follow certain logic (for example, the probability of a dice roll). Statistical probability describes where empirically "the proportions found in the past will hold in the future." Estimates, in turn have "no valid basis for classifying" a likelihood. What makes the challenge of political risk so great then, is that these political hazards fall at best within the realm of statistical probability.

Through the Law of Large Numbers, a corporation diversifies the damage a single claim causes, which allows for it to pool these potential damages. Similarly for a political risk or credit insurer, rather than have exposure to only one company, these commercial underwriters have exposure across multiple industry types, political perils, and locations. Active monitoring of exposures to any one of these criteria allows insurers to gain profits through the collecting of premiums from insured companies, while companies in turn can offset such catastrophic events.

Risk managers use a range of qualitative and quantitative approaches to help identify and measure exposure. Political risk forecasting has grown as a cottage industry, with more than twenty boutique-consulting firms concentrated in New York, Washington D.C., and London alone offering to help analyze a country's exposure.[3] Other advisory services including insurance brokers increasingly offer such guidance as part of their risk management solutions.[4] Scenario planning, popularized by the Rand Corporation and Royal Dutch Shell, offers another means to structure systematically the probability of future outcomes that might impact a firm.[5] More quantitative approaches try to operationalize the values of different risks through weighted indices. The tools they use range from proprietary, weighted indices based on longitudinal studies that employ a

[3] For an updated list of such firms, please to refer to my http://politicalriskbroker.com/ weblog.
[4] For example, the geopolitical advisory firm PRS Group publishes an "International Country Risk Guide" that offers weighted indices for twelve indicators. However, because these values exist only at the country-level and are industry-agnostic, some question the usefulness or validity of such forecasting. A number of insurance providers also publish risk metrics, including the export credit agency ONDD (here), which breaks down political risk across dimensions such as expropriation or transfer risk.
[5] Chermack, Thomas J. "Improving Decision-Making with Scenario Planning." *Futures* (April 2004). Available here.

series of different predictive variables to more subjective, qualitative assessments based on various social and political drivers.

Credit Rating Agencies (CRAs) provide another tool to analyze risk through the collection and analysis of data to rate the creditworthiness of state and corporate actors. These credit ratings agencies have a long history within the United States to overcome information asymmetry between investors and debt issuers. Three major actors (Standard & Poor, Moody's, and Fitch Ratings) have an oligopoly in the dissemination of these materials, controlling 94% of the global market.[6] While credit ratings agencies create transparency of different risk profiles, a review of CRAs' history reveals these three companies pivoted towards a commissions-based model that valued high ratings (rather than just a subscription package) in the lead up to the 2008 financial crisis. As a result, incentives became institutionalized where CRAs were reluctant assign poor grades to increasingly risky issuances, and therefore, created a false sense of stability in risky holdings.

Thus, there is a limited data set available to risk managers with respect to political risk, and to a less extent credit risk. However, through capital and insurance markets, corporations can take specific actions to transfer such adverse outcomes directly to third parties. In the next section, I identify how corporations identify specific political and credit risks.

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[6] Petit, Nicholas. "Credit Ratings Agencies, the Sovereign Debt Crisis and Competition Law." *European Competition Journal* (December 2011). Page 589. Available here.

III. POLITICAL RISK & STRUCTURED CREDIT INSURANCE

A) Definition

While there is no settled definition of political risk, the literature identifies political risk as any action from a state actor that can affect a corporation's profitability. For example, Skipper and Kwan's *International Risk* identifies political risk as "Any governmental action that diminishes the value of a firm operating within the political boundaries or influence of the government."[7] Some frame political risk more broadly; for example, Ian Bremmer, the CEO of one of the leading geopolitical risk consultancies, defines political risk as "The probability that a particular political action will presumably produce changes in economic outcomes."[8] Changes include not just a state's actions but also stem from non-state sources such as protestors or terrorists, who might affect a business's operations. "Sovereign" risk similarly describes direct government interventions in business outcomes as well as other political, economic, and local impacts.[9] For purposes of this research, political risk includes one-time events such as expropriations and more prolonged situations such as social unrest and currency inconvertibility.

Corporations can hedge against these political events that could lead to claims through political risk insurance (PRI) policies. In exchange for annual premiums

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[7] W. Jean Kwon and Harold D. Skipper. *Risk Management and Insurance: Perspectives in a Global Economy*. Wiley-Blackwell Publishing; Malden, MA (2009). Page 431.

[8] Bremmer, Ian. *The Fat Tail: The Power of Political Knowledge in an Uncertain World*. Oxford University Press (2010).

[9] Kesternich, Iris and Monika Schnitzer. "Who Is Afraid of Political Risk? Multinational Firms and Their Choice of Capital Structure." *Journal of International Economics*, Vol. 82, Iss. 2 (Nov. 2010> Available here.

throughout the life of a project or for a pre-determined number of years, a company can have an insurer cover against the cost should certain catastrophic events occur. Typically through an insurance broker, the company specifies "Terms and Conditions" written into a bespoke contract, whose range is some percentage of the book value of the investments depending on the sources of risk, and types of coverage provided (listed below). As well as asset protection, these insurers also transfer default risk of a sovereign or corporation's debt, and other different contractual issues through such annual premiums. Below I provide the types of coverage that AIG's "Political Risk and Structured Credit" specialty insurance line, the largest underwriter in the United States, currently provides.[10]

[10] AIG. Types of Political Risk Coverage. http://www.aig.com/political-risk_3171_418000.html

B) Types of Political Risk & Structured Credit Coverage

I) CONFISCATION, EXPROPRIATION, AND NATIONALIZATION

The most basic type of political risk insurance coverage is "Confiscation, Expropriation, and Nationalization (CEN)." These three terms refer to different ways that a government may take control of a foreign company's assets. Confiscation typically does not include repayment, expropriation seizes assets based explicitly from the national interest, and nationalization describes direct incorporation of a foreign entity into public ownership.[11] CEN played a leading role in concerns about political risk as a result of foreign governments expropriating corporate assets of more than one hundred companies between 1956 and 1971, primarily in the mining and oil and gas industries.[12] Since, most countries have adopted bilateral investment treaties with the United States, where governments agree to not expropriate property, and to submit to arbitration should such an event arise. Such terms generally reduced the likelihood of CEN events globally.[13] CEN policies served an important role to help insure companies against the potentially catastrophic losses that a government seizure would cause, particularly during the Cold War, when volatility in politically unstable regions may have otherwise reduced companies' desires to invest abroad.

II) POLITICAL VIOLENCE

Political Violence (PV) accounts for physical damage to assets, and can extend as well to business interruption as a result of social unrest, and "forced abandonment" of a foreign enterprise if the home government requires evacuation of personnel due to danger. Companies work out detail of coverage in the inception of a policy, but a typical

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[11] Fitzpatrick, William and Samuel DiLullo. "Seizure: Government and Nationalization of Corporate Assets." *Competition* Forum (2009). Available here. Page 548.
[12] Fitzpatrick et al. Page 548.
[13] Choi et al. Page 132.

PV policy includes protests and war. What this policy covers ranges as certain insurers for example have become less willing to provide terrorism insurance and put specific constraints on what constitutes war. Additionally, instability such as in Ukraine following the spring of 2014, causes insurers to greatly increased premiums, not insure such regions, or impose additional sub-limits that lower the amount a company can transfer to insurers. Similar uncertainty in the Middle East from the Arab Spring (where, for example, terrorism coverage costs 400 to 500 percent more than it did prior to the outbreak of protests) highlights how risk managers must actively apply for such risk coverage rather than wait until circumstances deteriorate.[14]

III) Currency Inconvertibility and Contract Frustration

Inability to convert profits into the home country's currency (inconvertibility) and contractual challenges have become more immediately concerning to risk managers. Currency inconvertibility refers to a situation where a company is unable to repatriate from a host country for a variety of reasons, including adverse regulatory conditions. Contract Frustration in turn refers to a cancellation of a contract by a buyer, which could include governments, government-sponsored agencies, due to political reasons such as selective enforcements of laws. A series of financial crises (including the sovereign debt defaults in Latin American markets of the 1980s and early 1990s, capital controls in Argentina in the early 2000's and claims related to the 2008 financial crisis), expanded

[14] Clark, Patrick. "Political Violence: How Insurers Measure the Risk." *Bloomberg* (9/1/11). Available here.

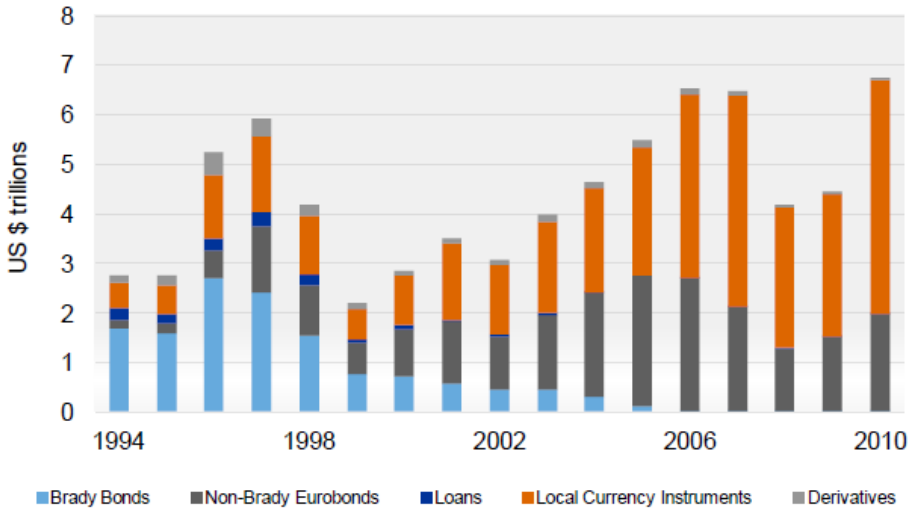
greatly the salience of this kind of protection especially in countries with weaker legal institutions where arbitration is harder to achieve.[15][16]

IV) SOVEREIGN PAYMENT DEFAULT

Sovereign payment default describes where a government defaults on its bond payments. From a financing perspective, governments go increasingly to capital markets through bond issuances, which increases the potential for direct sovereign risk for counterparties who purchase such bonds. This emerging market debt—and the attendant insurance that mitigate such exposure for banks— illustrates how political risk insurance covers increasingly complex risks for a wider range of participants (in this case, typically banks that hold sovereign debt).

[15] Simon, Jeffrey D. "Political Risk Forecasting." Futures (1985), 17(2), 132-148. Available here.
[16] Recently, insurers have added an additional layer of insurance, "Arbitration Award Default" coverage, where should companies win in a recognized arbitration court and the host country continues to refuses to pay, then the insurer would cover this contingency.

Exhibit 1: Emerging Markets Debt Trading Volume[17]



Indeed, that sovereign debt increased to some $34 trillion by 2009 shows how there debt issuers have high exposure to sovereign debt risk.[18] On a more contractual basis, coverage also exists for a "Non-Honoring of a Sovereign Obligation." In such a claim, a state or one of its enterprises may renege on its payments of a long-term contract (beyond just bond issuances).

V) NON-PAYMENT INSURANCE

Non-Payment Insurance (NPI) offers a more general contract that protects against financial default of an obligor (or debtor) whether for commercial or political reasons. Also referred to in industry as "financial guarantee" insurance, in contrast to a corporation's assets, NPI serves as a cover for a bank seeking to transfer credit risk. One leading broker describes advantages of this type of transfer strategy as an "uncorrelated

[17] Prasetyo, Yoal & Maniranjan Kumar. "The Investment Case for Emerging Market Debt." *Russell Research* (April 2012). Available here.
[18] Calculated Risk. "How Large is the Outstanding Value of Sovereign Bonds." (2010). Available here.

and non-systemic alternative to the secondary market…increasingly used by [financial institutions] as an offensive instrument to increase market share at the expense of competitors."[19] While a more complete discussion of NPI will take place later in this paper, in short, these attributes describe NPI's ability to create liquidity and provide capital relief tailored to a specific credit risk.

[19] Marsh Lenders Solutions Group. "Non-Payment Insurance" (2013).

C) History of Political Risk and Credit Insurance

The issue of political and credit risk came to the forefront in the post-WWII period as US corporations increasingly sought ways to insure their assets against expropriations and confiscation by foreign governments. Previously, companies either did not invest in volatile regions or recognized this danger as the cost of doing business. In particular, expropriations by regimes across Latin America and OPEC countries highlighted the dangers of operating abroad. In the United States credit insurance, wherein a company transfers the risk of the purchaser of their assets going delinquent on their loans to a third party, similarly began after World War II.

I) GROWTH OF PUBLIC-SECTOR INSURANCE PROGRAMS

Through the Marshall Plan and the creation of the U.S. Export-Import Bank (Eximbank), corporations could work with the U.S. government to help foreign buyers receive direct financing, and have their own streams of revenue insured. In the post-WWII period, fear of non-payment by foreign buyers was growing. Companies exported to riskier areas where purchasers did not have great credit. As one academic describes: the seller was "justifiably concerned about sending goods beyond his national borders to buyers of unknown financial reputation, where legal remedies to force payment, if necessary, may be either unavailable or too expensive to pursue."[20] For investors, serving a market via exports-only was the lowest-risk strategy for foreign entry. Because exports did not involve a transfer of capital or equity, a company could minimize

[20] Greene, Mark R. "Export Credit Insurance. Its Role in Expanding World Trade." *The Journal of Risk and Insurance* (June 1965). Available here.

potential losses to the actual flows of goods and services to the foreign country. Though this strategy reduced risk, it also limited the potential upside of presence within a market since serving a market via export might not be competitive with local production. The Eximbank therefore helped create incentives for foreign market entry to become economically feasible at a time when few would-be buyers stood ready to purchase American goods and services.

In the 1960s, as American corporations began to not only export goods to politically volatile areas but also increasingly locate facilities at these sites and invest in direct equity stakes, the U.S. government began to intercede further to support such business activity. Since foreign direct investment (FDI) by nature is long-term capital, not easily liquidated in a short period, such investments were inherently more risky than moving goods abroad. Specifically, joint ventures with a foreign corporation or government with a revenue-sharing agreement or wholly-owned subsidiaries offered deeper investment into a country's economy. The literature identifies a number of key factors that continue to drive such flows: regime type, openness of the country, size of market, labor productivity, and political stability.[21] Local conditions such as capital controls that limit the repatriation of funds, prohibitions against ownership of more tha 50% in certain "strategic" sectors, or have other constraints for foreign operators put a

[21] Gour Goswami and Samai Haider. "Does Political Risk Deter FDI Inflows? An Analytical Approach Using Panel Data and Factor Analysis." *Journal of Economic Studies* (2014) 41:2 , 233-252. Available here.

limit to such activity. [22] However, the increase beyond exports significantly enhanced the role of these new insurance measures

In addition to the Eximbank, export credit insurance was also popularized through the joint public-private Foreign Credit Insurance Association (FCIA). The FCIA formed in 1961 to "insure U.S. exporting companies against unforeseen defaults by foreign buyers and … import restrictions in foreign countries."[23] By the end of the 1960s, an American company could not only insure its products against foreign loss, but increasingly could have foreign debt exposures transferred to a combination of private insurers and the Eximbank. While the United States was one of the first to market such export credit insurance, countries all over the world developed their own export credit agencies, and several now dwarf the Eximbank's balance sheet.[24] Alongside export and credit insurance, political risk insurance created further incentives for FDI, and a more accommodating environment for American corporations.

Alongside the FCIA, political risk insurance appeared amidst Congressional disillusionment about the status quo surrounding foreign aid projects, and private corporations' desires to expand abroad. In 1969, the creation of a development finance agency, the Overseas Private Investment Corporation (OPIC), introduced a market-driven approach to help meet the United States' development cooperation policies. These

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[22] Jensen, Nathan. "Political Risk, Democratic Institutions, and Foreign Direct Investment." *Journal of Politics*,. Vol. 70, No. 4, October 2008, pages 1040-1052. Available through UT Library here.
[23] Funatsu, Hideki. "Export Credit Insurance." *Journal of Risk and Insurance* (53, 4 (Dec. 1986). Available here.
[24] Indeed, some 100 national export credit agencies exist worldwide, and the US ranks only fourth in size behind China, Japan, and Germany.

measures included directives to help alleviate poverty and create conditions to enable self-sustaining growth abroad.[25] The statutory basis for this agency was the Foreign Assistance Act of 1961, which called for an agency to "mobilize and facilitate the participation of United States private capital and skills in the economic and social development of less developed countries and areas, and countries in transition from nonmarket to market activities."[26] Such an entity set the foundation for political risk insurance, and furthered corporate participation in efforts to reduce poverty abroad.

At the outset, OPIC worked principally against three events a corporation might face:

1) "The inability to convert, into dollars, the local currency received by the investor as profits, or earnings, or return of the original investment;
2) The loss of investment due to expropriation, nationalization, or confiscation by action of a foreign government; and
3) Loss due to war, revolution, or insurrection"[27]

Such insurance policies offered American companies an effective guarantee should there be political events, in exchange for a premium based on the perceived riskiness of a project (typically about 1.5% of the investment).[28] At the time, President Nixon argued that OPIC would bring "businesslike management of investment incentives" to developing nations. From its inception, OPIC created a means to price political risk, incentivizing corporations to contribute to growth in low-income countries through direct

[25] Foreign Assistance Act of 1961 (P.L 87-195), Sec. 101. Page 16. Available here.
[26] Foreign Assistance Act of 1961 (P.L 87-195), Sec. 101. Page 122. Available here.
[27] U.S. Government Accounting Office. "The Overseas Private Investment Corporation: Its Role in Development" (February 27, 1981). Available from http://www.gao.gov/assets/140/134151.pdf.
[28] An important caveat, however: this value was not market-driven as OPIC did not compete with private actors for decades, which suggest an implicit government subsidy to effect such a foreign policy and business promotion agenda.

investment.[29] Because OPIC's deals worked over longer-term, project-based finance, it also helped to sustain a deeper relationship between American corporations and their foreign partners.

Qualifications for OPIC-insured projects stipulated certain criteria tied to poverty reduction, and projects that helped drive economic growth (to fulfill its mandate in development finance), but these provisions became more flexible over time. At first, resource extraction of metals and oil and gas were typically prohibited, as certain policymakers argued these industries did little to relieve poverty.[30] These conditions gave way to a growing sense that emerging markets could help the United States secure resources of strategic value. For example, in 1979 the United States depended on Africa for thirteen of nineteen crucial strategic minerals.[31] Even during the Carter Administration, despite OPIC's original intentions, "more than 60 percent of total insurance and finance was allocated to he oil and gas and mining sectors."[32] After President Reagan came into office in 1981, these shifts in OPIC's priorities became more pronounced, removing its emphasis on low per-capita-income states, thereby "undermining the focus on lesser-developed countries."[33] Limits on projects, to the extent there were any, were achieved through lobbying by environmental and union interests.

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[29] *Public Papers of the Presidents: Richard Nixon*. Washington, U.S. Government Printing Office, 1969. P. 412. From The Overseas Private Investment Corporation: Background and Legislative Issues (2012), here.
[30] Plucket, Blake. "The Foreign Corrupt Practices Act, OPIC, and the Retreat from Transparency." *Indiana Journal of Global Legal Studies* (Volume 15, Issue 1). Available from http://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1369&context=ijgls.
[31] Hendrickson, Roshen. "Adjustments in the Role of the Overseas Private Investment Corporation (OPIC) in Sub-Saharan Africa." *Africa Today*, Volume 58, No. 4, Summer 2012.
[32] Hendrickson (2012).
[33] Hendrickson (2012).

During the Clinton Administration, a further rhetorical shift occurred "aid-oriented approach to a focus on trade."[34] Throughout the 1980's and 1990s, political risk insurance became less directed at its original mission, so long as policies operated in high-risk regions.

Over this same period, the World Bank complemented OPIC with the Multilateral Investment Guarantee Agency (MIGA), whose mandate was to "provide investment insurance and investment promotion to developing countries."[35] MIGA's policies echoed coverages seen previously, with similar premiums: MIGA "prices to risk, and premium rates are decided on a per project basis, usually ranging between 30 and 100 basis point per investment (up to 150 in some cases per year)."[36] In other words, the World Bank was similarly able to offer a backstop guarantee for foreign investors in politically volatile regions, expanding the role political risk insurance played to a greater swatch of corporations around the world.

II) TRANSITION TO THE PRIVATE SECTOR

While OPIC and MIGA popularized this insurance and earned profits consistently from taking in premiums, there was not an immediate transition from private-market insurers to adopt this business line. Congress did make efforts to promote this effort, Explicitly writing into its reauthorizations, for example in the Overseas Private Investment Corporation Amendments Act of 1974, a directive to begin to coordinate with

[34] Hendrickson (2012).
[35] Jensen, Nathan. "Political Risk, Democratic Institutions, and Foreign Direct Investment." *Journal of Politics*,. Vol. 70, No. 4, October 2008, pages 1040-1052. Available through UT Library here.
[36] Jensen (2008).

the private sector: "it is the intention of Congress that the Corporation achieve participation by private insurance companies…. of at least 12 ½ per centum, and, under contracts issued on and after January 1, 1979, of at least 40 per centum." The legislation additionally called on OPIC to report directly to the relevant committees in the House and Senate where such percentages could not be achieved.[37] Tellingly, the Congress had to repeal these specific lines in 1978 due to a lack of appetite from private insurers.[38]

Where in the mid-1980's fewer than twelve insurers offered political risk insurance, half of whom were part of the Lloyd's of London syndicate, by the 1990s private-market insurers began to have a bigger appetite. Significantly these private players – including AIG, Ace, and Zurich – all had marine insurance products, so there was some experience for export risk previously. Indeed, the Vice Chairman of AIG Political Risk in 1987 described marine insurance as the basis for private policies.[39] In contrast to the new political risk insurance, marine insurance, which typically triggers payment should a merchant vessel not arrive at its destination due to events such as storms or enemy capture, existed since the mid-fourteenth century within the Italian city-states.[40] These private-sector insurers enacted political risk policies initially only with more established companies, and did not include inconvertibility or political violence.

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[37] Overseas Private Investment Corporation Amendments Act of 1974. Available here. Page 809.
[38] Kessler, Elizabeth. "Political Risk Insurance and the Overseas Private Investment Corporation: What Happened to the Private Sector?" New York Law School Journal of International and Comparative Law 13 N.Y.L. Sch. J. Int'l & Comp. L. (1992). Available through HeinOnline here.
[39] Paul, Douglas A. "New Developments in Private Political Risk Insurance and Trade Finance." *The International Lawyer* (21, 3, Summer 1987). Available here.
[40] Kingston, Christopher. "Governance and Institutional Change in Marine Insurance, 1350-1850." *European Review of Economic History*, 18 , 1 (2014). Available here.

Rather, they focused on the core Confiscation, Expropriation, and Nationalization (CEN) coverage. Thus, the transfer of such risk products from the U.S. agencies to the private market took time.

While OPIC was one of the few federal agencies to consistently have profits since its inception, private insurers throughout the 1990s were more conservative in their pricing and terms. For example, a private insurer like AIG might charge 300-350 basis points, or up to 3.5% of the value of an investment in premiums, where at the time OPIC, pending certain other criteria, might quote a lower rate (though ostensibly OPIC was not meant to compete directly). Price leveling occurred over time, but private actors also contrasted by sponsoring shorter project "tenors," or length of contract of up to three years, initially, and by the end of the 1990s as long as five years. In contrast, OPIC might insure for more than ten years and do so for companies taking on new investments with less of a track record.[41] Because OPIC is backed by the "full faith and credit" of the United States, and thereby ostensibly does not need to keep the reserve requirements a private insurer needs to meet claims, barring prohibitions OPIC could take on riskier investments at lower rates.[42] As a federal agency, OPIC also had the means to lean on host governments to make good on their bilateral investment treaties in the event of triggers such a nationalization in a way that private insurers could not.[43] At the same

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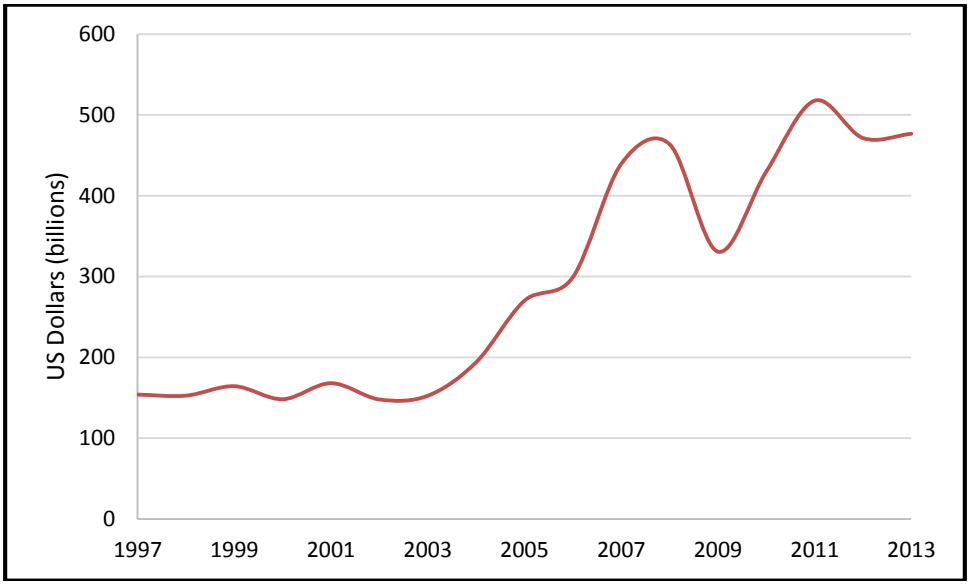
[41] Expert Interview. Stephen Kay (Marsh USA, Head of U.S. Political Risk Practice). 2/27/2015.
[42] Kessler, Elizabeth. "Political Risk Insurance and the Overseas Private Investment Corporation: What Happened to the Private Sector?" New York Law School Journal of International and Comparative Law 13 N.Y.L. Sch. J. Int'l & Comp. L. (1992). Available through HeinOnline here. Page 208.
[43] Kessler, Elizabeth. "Political Risk Insurance and the Overseas Private Investment Corporation: What Happened to the Private Sector?" New York Law School Journal of International and Comparative Law 13 N.Y.L. Sch. J. Int'l & Comp. L. (1992). Available through HeinOnline here. Page 212

time, more broadly within the insurance market, general lines such as Property/Casualty were becoming increasingly commoditized and seeing new competition. As such these new sources of revenue for private insurers were becoming increasingly palatable to the private sector. For many of these large private insurers, providing coverage for foreign investments had the added benefit of low basis risk compared to other claims events; for instance, a claim on a foreign mine would not correlate with other claim events that could tie up an insurer's funds, helping to diversify the overall portfolio.

This increased interest from private actors coincided with a pickup in foreign activity in just the same risky areas PRI policies could help support. One metric to gauge this uptick on a macro level is Foreign Direct Investment (FDI) to emerging markets. MIGA does such a calculation to show the growth of FDI over time:

Exhibit 2: Direct Investment to Emerging Markets and Developing Economies[44]



Clearly, Net flows to emerging markets and developing economies, where presumably there may be greater political risks, increased steadily, with a setback because of the 2008 financial crisis. Such trends suggest foreign investments in more volatile regions will continue, though the hangover from the 2008 credit crunch may have put an upper bound in the short-term. As emerging-market country reforms remove restrictions on corporate actions and lower transaction costs, this form of international investment is likely to grow in popularity.[45]

[44] Data from International Monetary Fund's World Economic Outlook Database, April 2015. Available here.
[45] Cuerv-Cazurra, Alvaro & Luis Alfonso Dau. "Structural Reform and Firm Exports." *Management International Review* (2009). Available here.

III) NON-PAYMENT INSURANCE'S GROWTH

As a corollary to this growth in political risk insurance, the years from the 1990s to present day also see an evolution in the credit insurance market. In the early 1990s, a product at the time –also called political risk insurance or "financial guarantee" insurance – became available directly to banks to help insure against their debt, rather than just for asset protection. Specifically, this product allowed companies, chiefly banks, to distinguish between country risk and counterparty risk of a specific debt, and then insure against the former with an insurer. The low returns from lower interest rates in the United States brought a massive increase in funds flowing to emerging markets: $1.3 trillion in private capital moved to the private sectors in the developing world compared to only $170 billion in the previous decade.[46] As a result, banks purchased NPI in large volumes as they reached either self-imposed or government-mandated country constraints for lending.

This insurance therefore served an important role to provide capital relief, where companies could expand their balance sheets. Through these insurance products, banks could circumvent certain limits and requirements rather than turn away business. For example, a bank could create a debt deal where they earn 300-500 basis points (bps) above the LIBOR rate. Through an insurance placement, they could then pay around 120 bps to an insurer to cover against country risk and the remainder would be the cost of execution in addition to counterparty risk.[47] While this credit insurance did allow for

[46] Panitch, Leo and Sam Gandin. "Prelude to the Crisis: The US Treasury, Financial Markets, and 'Failure Containment.'" *Critical Sociology* (2014). Available here. Page 782.
[47] Expert Interview. Stephen Kay (Marsh USA, Head of U.S. Political Risk Practice). 2/27/2015

greater debt issuance, banks assumed this insurance would provide coverage even as its use was largely unproven.

The so-called "Tequila Crisis" gave rise to the first major challenge to the use of this tool. From the banks' vantage, by transferring political risks such as capital control and currency inconvertibility, banks could make lower but safer profits. However, when losses began to accumulate due to large credit losses, insurers argued successfully that Terms & Conditions written into individual policies had exclusions for credit risk and natural hazard—and thus did not cover the events unfolding. The 2001 Argentina crisis saw similar devaluations and exchange controls excluded from policies. Circumstances where banks paid out premiums but found themselves uninsured left many bankers burned. As one broker notes, "after Argentina [NPI] didn't take off…and demonstrated the weakness of the product." At the same time, however, insurers argued that these banks were sophisticated players who should have taken into account how these explicit exclusions from contracts could have played out given actual credit events.

IV) CURRENT INSURANCE CLIMATE

In 2015, the private political risk insurance market is not only robust, but also growing steadily in size and scope, and credit insurance has seen resurgence as well. While exports remain a consistent source for investors to make profits abroad, there exists a diverse array of foreign entry. A survey of investors conducted by the United Nations Conference on Trade and Development (UNCTD), shows how exports and "brownfield" (or follow-on investments) are the most popular means to invest abroad, but

companies are increasing their willingness to invest directly in new factories from the ground up ("Greenfield" investment):

Exhibit 3: Importance of Equity and Non-Equity Modes of Entry, 2012 and 2015[48]
(Respondents selecting "very important" or "extremely important")

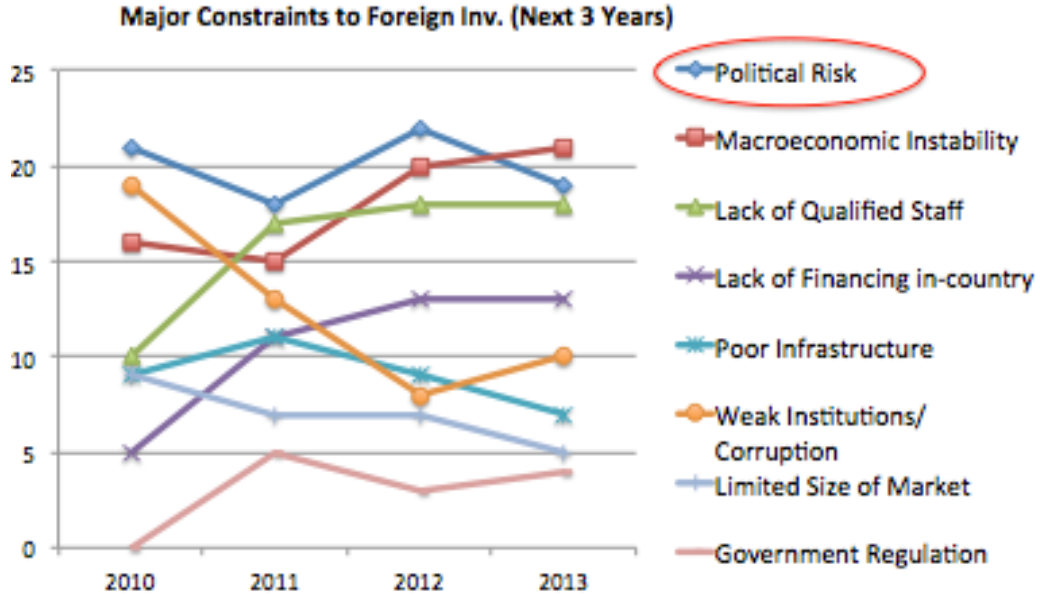
As well, companies in the past few years are exploring partnerships and increasing the degree to which they are building new facilities. This choice of which method a company employs will be dictated by country-level and industry-specific political and credit risks. For example, one study of foreign investments by affiliates of German multinationals shows that they hold a relatively smaller portion of equity in foreign affiliates when political risk is high, and consequently hold higher leverage.[49] Consequently,

[48] United Nations Conference on Trade and Development. "World Investment Prospect Surveys 2013-2015." New York (2013). Available here.
[49] Kesternich, Iris and Monika Schnitzer. "Who Is Afraid of Political Risk? Multinational Firms and Their Choice of Capital Structure." *Journal of International Economics*, Vol. 82, Iss. 2 (Nov. 2010> Available here.

organizational structure can serve as the first line of defense to determine the appropriate mix of assets, debt, and equity to reduce risk.

One way to disaggregate political risks from broader business risks is simply to ask investors about their decision-making process. The study below offers a range of concerns investors identify that affect FDI flows. This survey analysis demonstrates that while "macroeconomic stability" remains the critical factor for investors, the post-financial crisis period sees "political risk" affecting future investments.[50]

Exhibit 4: Major Constraints to Foreign Investment (In Next 3 Years)



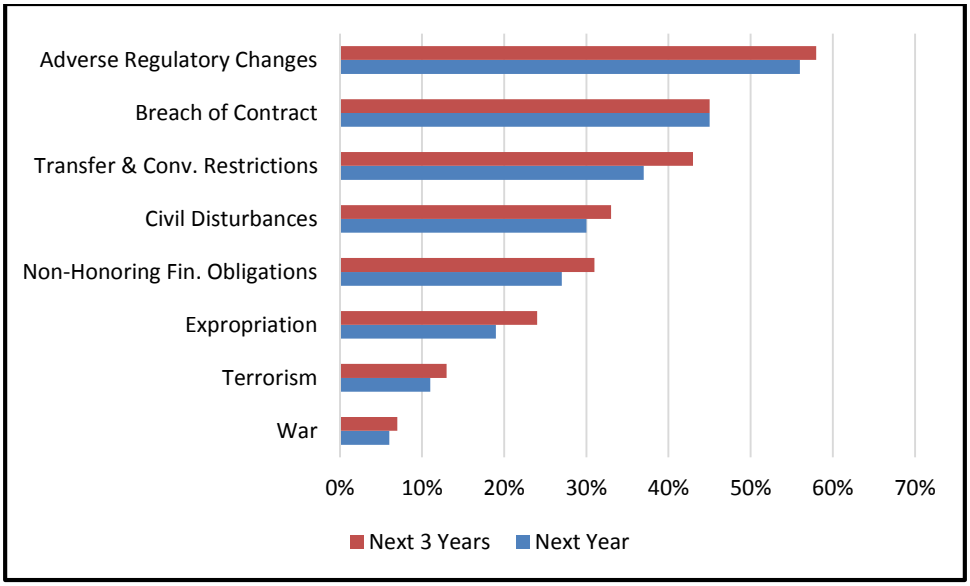
With increased openness as a result of globalization trends, the size of a local market is less deterministic for FDI, and local corruption appears relatively less significant. After

[50]Multilateral Investment Guarantee Agency. *World Investment Trends and Corporate Perspectives: The Political Risk Insurance Industry and Breach of Contract*. Washington, DC: MIGA, The World Bank Group. Available here.

political risk, lack of internal financing, and qualified staff have emerged as chief challenges to prospective foreign investors.

When prompted, executives show consistency in terms of the specific regulatory and political risk exposures they identify.

Exhibit 5: Political Risks of Greatest Concern to Investors in Developing Countries[51]

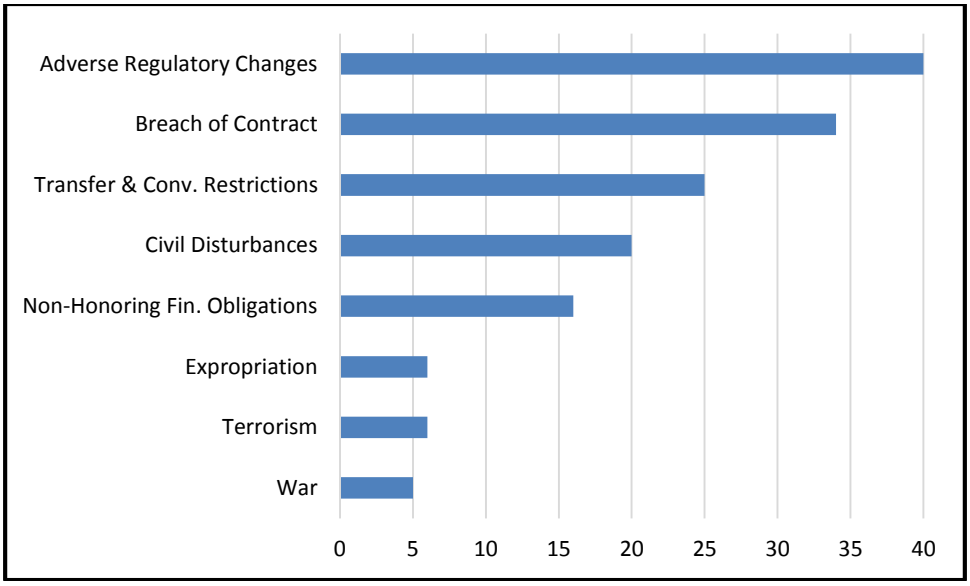


Although the history of political risk recalls large-scale expropriations or political violence as the chief business impediments, now more technical challenges (such as unexpected regulatory changes, breaches of contract, and "non-honoring of financial obligations" from governmental agencies) concern investors most. These perceptions show the wide range of events that fall within the purview of political and credit risks.

[51] Multilateral Investment Guarantee Agency. *World Investment Trends and Corporate Perspectives: The Political Risk Insurance Industry and Breach of Contract*. Washington, DC: MIGA, The World Bank Group (2014). Available here. Page 22

Self-reported data about the actual incidences of such challenges corroborate these concerns. Specifically, expropriation and nationalization have affected only six percent of these investors, while more than one-third of respondents cite experiences suffering adverse regulatory challenges and breach of contract.

Exhibit 6: % of Respondents Experiencing Financial Losses Due to the Following Risks[52]



The high self-reporting of regulatory changes and breach of contracts in contrast to war and other more news-worthy events shows these structural shifts in the market. Institutional and political environment in which these companies operate clearly determine firm behavior and investors' perceptions, but the specific political hazards have shifted.

In addition to this growth in foreign investment, more insurers are increasingly coming online to boost this industry. Put differently, PRI currently is a "soft" market,

[52] Multilateral Investment Guarantee Agency (2014). Page 24.

where premiums are decreasing due to new entrants. More insurers puts a downward price pressure, and also increases competition of insurers to insure longer-term coverage. Further, the past decades' low interest rates has prevented insurance companies from making profits on the asset side of their balance sheets and low loss ratios from a lack of payouts created strong incentives for such new entrants. Exhibit 8 lists the largest eighteen providers of political risk insurance and the maximum tenor that each offers for a project.[53]

Exhibit 7: Maximum Lines and Tenor for Private Insurers (Summer 2014)

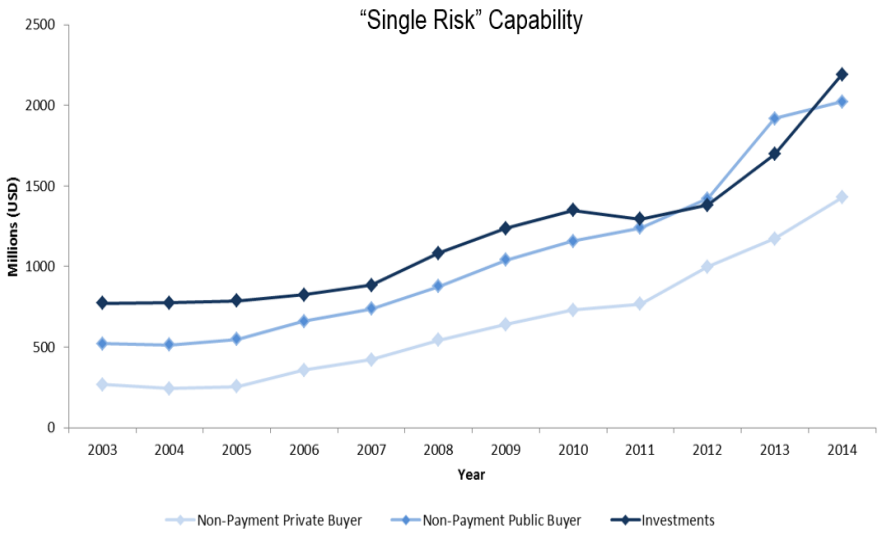
	PRI Max Line ($MM)	Max Tenor
ACE	100	15
AIG	120	15
Atradius	100	7
Aspen	100	15
Axis	50	7
Catlin	90	16
Coface Unistrat	65	7
Euler Hermes	100	8
FCIA	25	7
Garant AG	25	7
HCC Credit	50	7
Ironshore	40	7
Lancashire	200	10
LAU	20	5
Liberty	40	7
Sovereign	80	15
XL	100	10
Zurich	150	15
	1455	

[53] Marsh USA. "Capacity of Lenders." Summer 2014.

This data shows the large capacity in the private market. Particularly when brokers (such as Marsh, Aon, and Willis) can negotiate several insurers under the same policy, corporations are able to transfer risk for ever-greater amounts of their balance sheets at cheaper rates. If a broker could convince all of these underwriters to assume a specific company's or company's exposure, then there is as much as $1.455 billion dollars (the aggregate limits in the markets of all insurance provides) of coverage available.[54] That the maximum tenor increases so drastically, with the Lloyd's Syndicate Catlin offering a maximum tenor of sixteen years demonstrates the search for yield among insurers is now eclipsing the traditional shorter-term outlook. The graphic below demonstrates just how quickly this growth has occurred. For example, the largest participant, AIG, grown its own single-risk capability from around $15 MM as recently as 1994 to $120 million in 2015, but there are also far more insurance providers.

[54] Marsh USA. "Capacity of Lenders." Summer 2014.

Exhibit 8: Insurer's Market Capacity History for "Single Risk" (2003-2014)



With historically cheap rates, companies seeking to transfer over risk could lock in longer-term deals than ever before.

As premium rates and tenors between private and public-sector actors have begun to equilibrate, now the restrictions from actors such as OPIC (such as environmental feasibility tests), and the time required to do so have become the largest differentiator between public and private. For example, for OPIC to begin a new placement, it is not atypical for it to conduct environmental and labor studies that evaluate a project's impact, and may include site visits for larger projects. Because insurance policies of more than $50 million must go in front of OPIC's Board of Directors, which only meets quarterly, a project may sit in limbo for more than a year. In contrast, when asked about the shortest time from inception to execution of a policy, one broker noted he had closed a deal in

three weeks.[55] As such, private actors, particularly ones that need to operate on short timeframes, turn towards larger private insurers like ACE and AIG rather than appeal to the public sector.

On the bank side as well, insurers have become better attuned to the limits that events such as the Tequila Crisis and Argentina devaluation had on perceptions about political risk insurance to help insure debt. More specifically, non-payment insurance offers a far more encompassing catchall against credit events than its previous form. Significantly, while more traditional insurance coverages grew naturally from OPIC and Eximbank offerings, it was actually the regulatory environment that changed the incentives for banks to seek capital relief through insurance means that fostered the growth of this insurance type. These new products offer the potential for far fewer denials of coverage (the loopholes that allowed insurers to not pay out from previous credit events), and as such require higher premiums. As one broker explains: "[underwriters] have needed to adapt and what [banks] want must include default full-stop."[56] From pure political risk to NPI then, the private insurance market has readily adopted not only OPIC's private role, but showed great market responsiveness to market conditions.

[55] Expert Interview. Stephen Kay (Marsh USA, Head of U.S. Political Risk Practice). 2/27/2015.
[56] Expert Interview. Stephen Kay (Marsh USA, Head of U.S. Political Risk Practice). 2/27/2015.

IV. FINANCIAL DERIVATIVES & CREDIT RISK

A) Definition

Financial hedging refers to strategies corporations use to reduce a company's volatility or exposure to different risks. In this section, I provide a framework that explores the development of financial derivatives, how markets participants used such products historically, and the evolution of standards surrounding these financial tools. This research focuses on the changing nature of the financial system since the late twentieth century as banks and insurance companies increasingly "diversified their business away from the classic deposit-taking and lending function," and began to "engage in other activities from which they earn fees in addition to net interest."[57] After a brief accounting of the breakdown of the financial system in 2008, I turn to how corporations currently use derivatives, and look at products that may be able to serve is proxies for companies that seek to reduce their political and credit exposure. Finally, I explore changes in the regulatory order that have begun to emerge since the passage of the 2010 Dodd-Frank Act to describe the current context of derivatives' use.

A financial derivative is a "species of transactable contract in which:

(1) "The change in the price of the underlying asset determines the value of the contract
(2) The contract has some specified expiration date in the future"[58]

[57] Malz, Allan M. Financial Risk Management: Models, History, and Institutions.
[58] LiPuma, 34.

The name "derivatives" arises from the notion that these products have no intrinsic value independent of the underlying asset; rather, the reference asset or "underlying" that the derivatives is based on creates its value. Today there exists a diverse array of derivative products that allow for companies to purchase or sell a hedge against some position, for example the value of a currency relative to another, or the probability that a government may default on its debt, with a counterparty.

Credit risk refers to the measure of the uncertainty of future credit losses of a lender, due to a borrower's delinquency on payments of contractual obligations or default on a loan.[59] Empirically, credit risk results in the spread or difference between the credit-risky entity and the risk-free interest rate, a premium known as the "credit spread."[60] As corporations deal with counterparties abroad to help finance investments and financial firms find themselves with exposure to sovereign debt and foreign corporate debt securities, strategies to reduce such credit risk have become more common. In contrast then to the non-payment insurance, credit default swaps offer a capital-markets solution to credit risk.

B) Case of Credit Default Swaps

Through the use of credit default swaps, a company can purchase as hedge against default due to a credit event. A credit default swap is an instrument where a company pays another entity such as a bank a premium, where the initiator receives payment in the

[59] Albanese, Claudio; Brigo, Damiano; and Frank Oerte. "Restructuring Counterparty Credit Risk." *International Journal of Theoretical and Applied Finance* (16, 2 (2013). Available here.
[60] Financial Risk Management. Page 191.

event of a credit event, usually a bankruptcy or default of some reference asset.[61] Put differently, the buyer pays a protection seller a fixed fee each period (typically quarterly) in exchange for compensation should a default or credit event occur to a reference asset before the maturity of the CDS contract.[62] This fee is usually a constant amount, expressed as a percentage of the notional amount of the total debt, remitted quarterly.[63]

In part due to speculation - CDS do not require buyers to have a stake in the underlying asset - the CDS market grew quickly from a notional value of about $180 billion in 1998 to a peak of $58 trillion in late 2007.[64] Following the financial crisis, the use of CDS declined, to $21 trillion at the end of 2013, with a particular decrease in activity between banks.[65] Out of necessity, corporations that use a CDS to hedge a position frequently employ a CDS referencing an underlying asset that is different from, but ideally closely correlated to, the loan position being hedged. Because the CDS operates within a capital market, in other words, then there must be a demand for that type of CDS contract, for instance with a sovereign debt or a large corporation's debt issuance. To the extent that a hedge does not correlate perfectly with the actual risk that the corporation wishes to offset, there is higher basis risk. From CDS movements in recent elections, it appears banks use CDS's as proxies for political risk on their debt

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[61] Jongho, Kim. "From Vanilla Swaps to Exotic Credit Derivatives: How to Approach the Interpretation of Credit Events." *Fordham University Corporate Law Journal* (2008).

[62] Bhanot, Karan and Liiang Geo. "Types of Liquidity and Limits to Arbitrage—The Case of Credit Default Swaps." Available through the University of Texas site, here.

[63] Yadav, Yesha. "Case for a Market in Debt Governance." *Vanderbilt Law Review* (2014). Available through UT Library System here.

[64] Weistroffer, Christian. "Credit Default Swaps: Heading Towards a More Stable System." *Deutsche Bank Research* (December 21, 2009). Available here.

[65] Monetary and Economic Department. "Statistical Release: OTC Derivatives Statistics at End-December 2013." *Bank for International Settlements* (May 2014). Available here.

exposures.[66] Thus the two most important distinctions between NPI and CDS are that NPI requires ownership of the asset in question, and thus has less basis risk.

C) History of Derivatives

I) Growth of Forwards and Futures in the United States

A history of derivatives trading illustrates some of the contemporary rationales for CSD' use, as well as the lack of readiness from a regulatory standpoint the public sector exhibited in the face of its large growth. Derivatives trading within the United States began principally to help hedge against commodity risks. The most basic type, the forward contract, is an agreement between two parties to buy or sell an asset at a fixed price, for example an amount of grain, at a future period. The creation of the first exchange within the United States through the Chicago Board of Trade (CBOT) in 1848 facilitated such trading, and allowed farmers and merchants to come together to create standards for quantities and qualities of grains traded.[67,68] Through forward contracts, farmers could hedge against fluctuations in prices, which previously saw seasonal peaks in the summer and troughs in the winter, through what became known as "to arrive"

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[66] "Political Risk Drives CDS." *Derivatives Week* (4/23/2012). Available through UT Library via EBSCO Host here.

[67] Aran, Hemendra Aran & Alpesh Patel. *Global Financial Markets Revolution: The Future of Exchanges and Global Capital Markets*. Palgrave MacMillan Press (2006). Page 6.

[68] Forward contracts have a rich history well before the CBOT, dating back at least to the Italian merchant societies in Florence in the 13th and 14th centuries and English wool traders in the Middle Ages (Bell, 2007).

contracts.[69,70] In turn, merchants could lock in a price for future grain shipments rather than deal with these fluctuations.

In addition to forward contracts, a futures market also developed at exchanges. Futures allowed for greater flexibility in trading in gold, wheat, and pork. Futures and options allowed companies to "take deliberate (optimal) positions on future asset price movements and to sell off or take on the risks of price movements."[71] Futures offered similar trading activity as a forward contract, but because they could be traded throughout the life of the contract, offered a far more liquid means of doing so. Actors could come together to fulfill a "price discovery" function, where many participants tend to even out fluctuations. In other words: "Where a single flour miller or cotton spinner is in the market once, the speculator enters it hundreds or thousands of times, and his errors in judgement must show a correspondingly stronger tendency to cancel out and leave him a constant and predictable return on his operations."[72] Empirically, prices bear out how the advent of the CBOT reduced volatility from at least the 1870s onward once "grading" and "standardization" of goods occurred.[73]

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[69] Special Collections and University Archives, University of Illinois at Chicago. "Historical Note: Chicago Board of Trades Records." Available here.
[70] Tickell, Adam. "Dangerous Derivatives: Controlling and Creating Risks in International Money." *Geoforum*, Vol. 31, 1, (2002). Available here.
[71] Bryan, Dick & Michael Rafferty. "Financial Derivatives and the Theory of Money." *Economy and Society* (2006). Available here.
[72] Knight, Frank. *Risk, Uncertainty and Profit.* University of Chicago Press (1921). Page 256.
[73] Santos, Joseph. "Did Futures Markets Stabilize US Grain Prices?" *Journal of Agricultural Economics* (March 2002). Available here. Page 26

The twentieth century would continue to see deepening of these futures markets across a range of different assets outside of agricultural commodities.[74] However, it would not be until the end of the Bretton Woods System that the next cycle of financial innovations occurred, with a new role for derivatives in the financial system. Specifically, the Bretton Woods Conference in 1948 set a standard for the next two decades that standardized monetary policy around the world, pegging exchange rates to gold with the US dollar as the reserve currency. An adjustable pegging to the dollar, which in turn would pay out at a rate of $35 per ounce of gold, created a norm for international trade.

However, macroeconomic conditions eventually became the Bretton Woods System's undoing. For, if the dollar were the reserve currency, then should the United States begin to run large current-account deficits, its dollar convertibility at a fixed rate with gold would come into question. And such an effect is evident. Foreign governments were keen to accumulate dollar holdings for liquidity purposes after Bretton Woods' inception; European governments had gold (as opposed to dollars) account for less than ten percent of US balance of payments before 1958. This relationship quickly reversed: between 1959 and 1968, nearly two-thirds of U.S. balance of payments was financed through reductions in U.S. gold reserves.[75] Given this trend, something would have to give. By 1968 with a run on gold reserves, President Nixon put an end to US dollar-gold

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[74] This increase did include certain regulatory setbacks including the "Banning of Futures in 1936" as a response to speculation in the lead up to the Great Depression and the Chicago Onions Futures Act of 1958, which led to a "complete prohibition of onion futures trading order to assure the orderly flow of onions in interstate commerce," notably the only time in U.S. history that Congress banned futures trading of any commodity (Jacks, 2007)

[75] Hall et al. "Bretton-Woods System, Old and New, and the Rotation of Exchange Rate Regimes." *Manchester School* (March 2011). Available here. Page 298.

conversions that existed through gold pooling, and by 1973, the Bretton Woods System ended officially.[76]

II) POST- BRETTON WOODS PERIOD

Against a backdrop of newly flexible currency regimes, quickly there arose new challenges from floating rates wherein "inflation caused price instability in the foreign exchange markets and substantial relative price instability amongst industrialized countries suffering inflationary pressure but at different rates."[77] Amidst volatility between currencies came demands for derivative products that could arbitrate away currency and interest rate shifts. By 1972, the Chicago Mercantile Exchange created the International Money Market, which traded in currency futures, and several years later, introduced interest rate futures. The 1973 publication of "The Pricing of Options and Corporate Liability" by Fischer Black and Byron Scholes offered an option pricing model (commonly dubbed the "Black-Scholes formula"), helped to better approximate such futures' use as hedges, further increasing this trend.

Currency swaps allowed companies to protect against future changes in foreign currency prices. This financial instruments were first employed in an exchange between IBM and the World Bank in 1981. At the time the World Bank, which had already reached its borrowing limits with Switzerland and Germany, borrowed dollars in the U.S. markets and swapped this debt obligation with IBM in exchange for IBM's existing franc

[76] Hall et al. Page 299.
[77] Pryke, Michael & John Allen. "Monetized Time-Space: Derivatives – Money's 'New Imaginary'?" *Economy and Society* (December 2010). Available here.

and deutsche mark obligations.[78] Such an exchange, mediated through Solomon Brothers, allowed for one entity, the World Bank, to circumvent capital controls, while IBM protected itself from interest rate risk (the United States interest rate was as high as 17% to combat high inflation). This trade demonstrated how currency swaps not only offer a means to hedge, or to offset potential losses through an accompanying investment, but also a means to circumvent regulatory standards in place.

While growth in derivatives began primarily within exchanges, the 1980s saw the increased use of swaps and the rise of "over-the-counter" (OTC) derivatives. As one author describes:

> "Although over-the-counter options and forwards had previously existed, [the 1980s] was the first decade with managers to come out of business schools with exposure to derivatives. Soon virtually every large corporation, and even some that were not so large, were using derivatives to hedge, and in some cases, speculate on interest rate, exchange rate, and commodity risk."[79]

Exchange-traded derivatives, as their name implies, are organized through a clearinghouse or exchange such as the London International Financial Futures Exchange (LIFFE) or the Chicago Mercantile Exchange (CME), and typically have "standard structures, require that money is placed with the exchange as a guarantee, and that extra margin payments have to be made against adverse market moves." In contrast, OTC derivatives are typically "tailored products which have no protection from the exchanges and are held 'off balance sheet.'"[80] The skyrocketing of the use of derivatives, including

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[78] "Why Do Global Firms Use Currency Swaps? Theory and Evidence (October 2004). Available here.
[79] Ye, George. "A Brief History of Derivatives." White Paper, Available here. From Don Chance's "Essays in Derivatives
[80] Tickell, Adam. "Dangerous Derivatives: Controlling and Creating Risks in International Money." *Geoforum*, Vol. 31, 1, (2002). Available here. Page

these more opaque OTC instruments, demonstrates how corporations turned to capital markets in the face of new structural challenges. [81]

This new growth for derivatives products did bring about some efforts towards harmonization of international finance. The Basel Accord on Capital Standards in 1987-1988 ("Basel I") was the first step on this track. One record refers to it as the "cornerstone of a new regulatory order."[82] In short, this meeting sought to foster "better supervision of internationally active banks in order to create a level playing field among different jurisdictions," which until then had quite different regulatory standards.[83] The Accord prescribed specific capital adequacy ratios based on the perceived risk of the bank's different asset classes. More specifically, banks had to pass certain reserve requirements based on the riskiness of their assets. For example, the "value-at-risk" formula worked to find the "worst-case loss of a truncated historical distribution" of the value of a bank's holdings.[84] Such techniques, with clear limitations based on modeling assumptions, created an estimate to serve as a "reasonably accurate guide to the 'main body' risk of most portfolios."[85] These measures, however, did not apply directly to OTC derivative products, which were considered "off-balance sheet." Even with more standards in place, derivatives continued to be outside the purview of regulatory reforms.

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[81] For an excellent distillation on the merits of OTC derivatives, refer to Daniel Marcus and Lievin Tshikali's "Some Misconception about OTC Markets in *Law and Financial Markets Review* (2010), here.
[82] Adam Tickell. "Dangerous Derivatives: Controlling and Creating Risks in International Money." *Geoforum* (February 2000). Available here. (who cites Kapstein)
[83] King, Michael R. & Timothy J. Sinclair. "Private Actors and Public Policy: a Requiem for the New Basil Accord." *International Political Science Review* (July 2003). Available here. Page 349.
[84] Maymim, Phillip Z. & Zakhar G Maymin. "Any Regulation of Risk Increases Risk." *Financial Markets and Portfolio Management* (Fall 2012). Available here. Page 301.
[85] Financial Risk Management. 93.

Derivatives trading showed its potential to create contagion to the broader economy with several high-profile collapses in the 1990s. The first in England from the century-old Barings Bank showed how a single trader was able to "evade both internal controls and external supervision in order to bring about a series of disastrous derivatives trades."[86] This incident led to the "Windsor Declaration", a meeting of 16 regulatory bodies that recognized the contagion effect of a derivatives trade gone wrong as well as the need for harmonization.[87] The demise of Long Term Capital Management, a prominent hedge fund in the mid-1990s, showed the contagion that the combined forces of leverage and derivatives could have on the broader market. From its inception in 1994 to its bankruptcy in 1998, LTCM was regarded as one of the pioneers in derivatives trading, with a star-studded cast at its helm. The leadership included "John Meriwether, who had been a bond trader at Salomon Brothers, and two finance-gurus, Myron Scholes and Robert C. Merton, who would both win Nobel Prize in 1997," as well as David Mullins, a former governor of the Federal Reserve.[88] At its peak, LTCM had relationships with fifteen of "Wall Street's biggest banks, leveraging $5 billion into more than $1 trillion in derivatives."[89] After its demise, one influential policymaker, Brooksley Born, recounted to the House Bank Committee in 1998: "This episode should serve as a wake-up call about the unknown risks that the over-the-counter derivatives market may

[86] Tickell.
[87] U.S. Commodities and Futures Trading Commission. "International Publications: Windsor Declaration." Available here.
[88] Barth, James R.; Caprio Jr., Gerard; and Ross Leving. *Guardians of Finance: Making Regulators Work for Us.* MIT Press (Cambridge, 2012). Page 95.
[89] Barth et al. Page 95.

pose to the US economy and to financial stability around the world."[90] As early as the 1990s then, the trading complexity brought about through derivative shows its negative potential on the real economy.

Changes to help contain such negative effects, however, did not materialize. Instead, by 1996 the Federal Reserve decided they would empower rather than constrain the use of derivatives, especially with respect to credit default swaps. Specifically, it allowed for banks to use credit default swaps to reduce a bank's "owner-contributed equity capital." In other words,

> "Regulators treated the securities guaranteed by an issue of the CDS as having the same risk level as the issuer (or, more accurately, the counterparty) of the CDS. Thus a bank that purchased credit default swap protection from AIG on collateralized debt obligations (CDOs) linked to subprime loans would have those CDOs treated as AAA securities, for capital regulatory purposes, because AIG had an AAA rating from …an SEC-approved ("blessed") credit-rating agency."[91]

In this scenario, these regulating bodies effectively outsourced whether issuers of CDS were creditworthy to credit-ratings agencies who stood to earn a profit by doing so.[92] Nor did the Fed create mechanisms to evaluate how a failure in the CDS market could cascade to other banks and institutions.

Much of the coordination that did take place came through a private-sector body, the International Swaps & Derivatives Association (ISDA). For example, an area of

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[90] Barth et al. Page 95.

[91] Barth, James R.; Caprio Jr., Gerard; and Ross Lveing. *Guardians of Finance: Making Regulators Work for Us.* MIT Press (Cambridge, 2012). Page 93.

[92] As one academic explains "The financial engineers of Wall Street put a highly volatile synthetic multiplier of credit derivatives on top of a fragile structured layer of securitization, thereby unwittingly setting the stage for a devastating chain reaction at the first signs of stress, which ended up paralyzing the global banking system" (Lucarelli, Page 435).

dispute within the derivatives space was how to standardize a deal if settlement from a credit event occurred. Through the "CDS Protocol," ISDA helped to create norms for such settlements of market orders in 2006.[93] However, this trade association's roles and incentives were never to create the proper safeguards to ensure stability the larger financial markets.

Most immediately salient to the crisis was the role these credit derivatives played in allowing banks to change their risks profiles. Products such as credit default swaps have been associated with moral hazard in particular because they reduced incentives to monitor borrowers, and as a result fueled credit expansion.[94] Particularly when certain firms such as Lehman Brothers combined CDS positions with enormous leverage, in the event of a credit crunch, these firms quickly became overly exposed. Due to the lack of transparency from OTC trading, this condition went unchallenged until there were a systemic event occurred in 2008.[95] These interconnections between banks greatly exacerbated any fallout throughout the banking system.

III) 2008 Financial Crisis and Beyond

These challenges came to a head in 2008 with AIG, which at the time of the liquidity crunch had some $500 billion notional exposure in CDS protection. After marking-to market the amount it owed as a credit protection seller on a portfolio of MBS

[93] *Derivatives Week.* "ISDA Finalizes CDS Protocol." (September 18, 2006). Available here.
[94] Alnassar et al. "Credit Derivatives: Did They Exacerbate the 2007 Global Financial Crisis? AIG: Case Study." *Procedia— Social and Behavioral Studies* (2014). Available here.
[95] Barth, James R.; Caprio Jr., Gerard; and Ross Lveing. *Guardians of Finance: Making Regulators Work for Us.* MIT Press (Cambridge, 2012).

following the collapse of the real estate market, AIG's capital reserves were reduced and, as a result, the company lost its AAA credit rating. Subsequent ratings downgrades triggered requirements to post tens of billions in dollars in collateral to AIG's CDS counterparties. While AIG highly rated, their swap deals did not require them to hold collateral on their positions; however, once downgraded, there were collateral calls from these debt investors who purchased the swaps. As debtholder covenants triggered, these downgrades had cascading effects: when AIG fell from AA+ to A+, AIG was required to post approximately $10.5 billion in collateral calls.[96] Because AIG could not provide this capital, rather than allow the insurer to fail, the U.S. government in late 2008 provided an emergency $85 billion loan to the company. In part because AIG's large CDS positions were chiefly occurring over the OTC market, relevant parties were not aware of the insurer's total exposure.[97] By June of 2009, the total bailout funding available to AIG through different programs grew to more than $180 billion.[98] As well, with non-performing securitized products flush in the system, the Fed took the additional unprecedented step of taking these formerly AAA-rated securitized products onto its own books.

In the wake of the financial crisis, the most immediate changes to the CDS market came principally from ISDA once more through the "Big Bang and Small Bang"

[96] Son, Hugh. "AIG Ratings Cut by S&P, Moody's, Threatening Fund Raising." *Bloomberg* (September 15, 2008).
[97] Loon. Page 95.
[98] Stowell. Page 121.

Protocols of 2009.[99] These steps work to further standardize protocols. The Big Bang Protocols created standard spreads, spread dates and the "hardwiring of credit event auctions."[100] Standard spreads and spread dates refer to the market maker of the CDS having fixed values for the quoted price of a CDS (for example 25 or 1,000 bps) whose CDS lasts for a certain number of years, say one or five years. While these spreads will vary based on market conditions, these standards at the inception reduced that upfront payments between buyers and sellers. The credit event auctions refer to a recognition of how, in the event of a CDS being triggered, there would be a norm for how the settlement would actually occur through a step-by-step auction process. These changes also led to greater adoption use of clearing and settlement organizations such as the Depository Trust and Clearing Corporation (DTCC) and the Intercontinental Exchange (ICE). While such changes did not have the force of law, these changes did impose some norms that would create greater stability in the use of such derivatives.

Post-financial crisis legislative reforms came principally through the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank"), and led to increased scrutiny of credit derivatives. The 2,300 page legislation called for an overhauling of much of the status quo in the regulatory environment. Relevant to credit derivatives, Congress mandated the use of clearing houses to help locate and standardize transactions between different counterparties, rather than trade over-the-counter where

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[99] Griffin, Paul A. "The Market for Credit Default Swaps: New Insights into Investors' Use of Accounting Information." *Accounting and Finance* (20140. Available here. Page 860

[100] Bannier, Christina E.; Heidorn, Thomas; and Heinz-Deiter Vogel. "Characteristics and Development of Corporate and Sovereign CDS." *The Journal of Risk Finance* (April 2015). Available here. Page 501.

possible. The Act empowered a number of different federal agencies, chiefly the Securities and Exchange Commission (SEC) and the U.S. Commodity Futures Trading Commission (CFTC), to regulate derivatives. The new legislation sought to "police the derivatives market and force once-private transactions onto open exchanges, in full view of regulators."[101] The first change was the introduction of central clearing. Through central clearing, a "central counterparty" (CCP) acts as an intermediary, assuming the role of a buyer and seller, and guarantees "contractual fulfillment if either party defaults."[102] This situation helped to reduce counterparty risk, and also created multilateral netting, which allowed for different counterparties to offset positions. As one author explains,

> "Suppose that three dealers are members of a CCP such that dealer 1 has a $1 million exposure to dealer 2 on a CDS, dealer 2 has a $2 million exposure to dealer 3 on the same CDS, and dealer 3 has a $1 million exposure to dealer 1 for the same CDS. Multilateral netting by a CCP means that only remaining exposure is dealer 2's exposure to dealer 3 for a net amount of $1 million."[103]

Coming off the financial crisis, where certain companies had such large notional-value positions in CDS, the use of a CCP helped to bring light to such exposure. In other words, the use of CCPs helped to create transparency in the markets, to reduce off-setting positions, and to create liquidity.

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[101] Deborah Solomon. "Gensler's Struggles Mark Regulatory Challenges." *Wall Street Journal* (July 19, 2011). Available here.
[102] Loon, Yee Change and Zhaodong Ken Zhong. "The Impact of Central Clearing on Counterparty Risk, Liquidity, and Trading: Evidence from the Credit Default Swap Market." Journal of Financial Economics (2014). Available here. Page 92.
[103] Loon, Page 94.

Rollout of Dodd-Frank, consistently faced hurdles to implementation after bill passage. For example, one year after President Obama signed the bill, regulating agencies had only created rules for 40 of 237 rules in the bill.[104] Prohibitions on certain trading activities through specifically Wall Street lobbying in December 2014 led to the rolling back of rules for the $700 trillion derivatives market.[105] More recently, a February 2015 bill passed in the House with only 29 Democratic votes that would allow large banks to continue to trade swaps in divisions with government backstops (rather than silo these units). In other words, the jury remains out as to whether further reforms are actually in place with lines of authority to oversee and regulate derivatives market makers.

Financial innovations therefore have a long history within the United States, as new hedging strategies crop up amidst changes within the larger macroeconomic environment. Particularly relevant to the study of political and credit risks, these innovations appear to have grown without much direct oversight until the post-financial crisis period. With Dodd-Frank, several regulators including the SEC and CFTC now assumedly play roles to ensure that to the extent that derivatives exist, they increasingly occur within a more a transparent clearing house. Additionally, while Basel I largely excluded off-balance sheet items, perhaps with Basel III, regulators will be better armed to incorporate credit derivatives such as CDS within the risk calculations for the proper capitalization and solvency of banks. Indeed, that exchange-traded CDS remain a small

[104] Eisinger, Jesse and Jake Bernstein. "From Dodd-Frank to Dud: How Financial Reform May Be Going Wrong." *Pro Publica* (June 3, 2011). Available here.
[105] Hopkins, Cheyenne; Dougherty, Carter; and Silla Bush. "Banks May Have Overplayed their Hand Fighting Wall Street Regulation." *Bloomberg News*, 2/11/2015). Available here.

proportion of the overall CDS market suggests that efforts currently underway to bring transparency into this market face great institutional challenges. More broadly speaking, excluding expected changes Dodd-Frank implementation, this historical process highlights the lack of government intervention in the formation and subsequent regulation of derivatives within the marketplace.

V. CONCLUSION

I) KEY TAKEAWAYS

This treatment of political risk insurance, which grew organically through a public-sector agency until the private sector saw room for profits, contrasts starkly with the rapid proliferation of the credit derivative market. Insurance, as a cover for assets in volatile regions or for corporate or sovereign debt, continues to demand that the risk agent hold some reference to the underlying asset. In turn, the CDS market grew quickly out of a derivatives environment that practically from its founding allowed for market participation often without direct control over the underlying. So long as there might be a market for a buyer and a seller, either through an exchange or through a tailored contract, two parties could offset risks.

There are of course meritorious purposes for both these insurance and finance tools. These "specialty" lines of insurance allow commercial underwriters to receive premiums in markets that likely have little correlation to their other large risk exposure (such as the general lines of Worker's Compensation and Property/Casualty). From the purchaser' vantage, typically through a broker, a company can guard against large losses that could be catastrophic to their businesses. In turn, banks are able to purchase such CDS's as protection against a negative outcome of their debt exposure, freeing up capital for other investments.

More broadly, the insurance history highlights how increasingly private-sector actors have come together to embrace what began as a public-sector solution to a market challenge. Structural changes in political risk insurance and credit insurance suggest that

public institutions such as OPIC and MIGA may continue to serve as the vanguard for political and trade-credit risk policies in the most politically volatile regions. The transition over OPIC's use shows some flexibility as a government agency to help promote a foreign policy agenda depending on the needs of the Administration. Within the private sector as well, the sustains appetite among underwriters shows how these types insurance will likely become more commonplace as a risk management strategy, with adequate supply to meet a growing scope of political and credit risks. As one broker notes: "Now for most risks except at the margin that are not underwrite-able, privates can do almost anything."[106] Indeed, one specific PRI contract on the asset side has grown to insure more than $1.5 billion of a company's facilities worldwide, with dozens of insurers coming together to serve as a first-line defense (and reduce a Fortune-50's exposure). A recent project in Haiti, where OPIC insured the post-earthquake re-building of Seaboard Overseas Limited's flour mill, which previously produced 95% of the country's flour, demonstrates how public PRI can work alongside private PRI without direct competition.[107] Additionally, the continued existence of OPIC and Eximbank, with growing balance sheets, suggests these institutions continue to operate beyond the goals that were set forth in their immediate charter, as for example OPIC moves more directly to support infrastructure-based investment funds rather than PRI-only.

[106] Expert Interview. Stephen Kay (Marsh USA, Head of U.S. Political Risk Practice). 2/27/2015.
[107] OPIC. "What We Offer— Project Profile: OPIC Insurance to Help Haiti Recover from the Earthquake." Available here.

In the financial space as well, new products including credit default swaps offer companies a different path to insure against delinquency and other credit events. From the first transactions at the Chicago Board of Trade, new innovations in finance allowed for new forms of risk-taking and risk mitigation. Changes in the marketplace after the collapse of the Bretton-Woods system saw corporations appeal to capital-markets solutions to hedge against a range of risks outside their core business function. Specifically related to credit default swaps, these instruments great liquidity to the system. While there is an observable credit spread for sovereign and corporate bonds, there is often little trading in these assets, where investors will hold the bonds for quite a long time, or until maturity. An active CDS market allows for bondholders to hedge without having to give up the bond; conversely, the protection seller gets a means to place a bet on the intuition that the bond will perform well, thus a potential for profits. Even if there were liquidity in these credit markets, the transaction costs of buying and selling, rather than doing so on a CDS market, may be quite high. A history of derivatives suggests that regulatory innovation and oversight did not keep pace with these new instruments. When the stakes are arguably much higher because of the role of speculation, allowing for much more betting to take place, these tools clearly led to mismanagement in the lead up to the 2008 financial crisis.

The fallout, however, from the over-extended position of AIG, as well as the false sense of security CDS protection engendered showed the drawbacks of such trading. The government's need to effectively bail out AIG, and the Federal Reserve holding trillions of dollars of CDS-guaranteed ABS and MBS on its balance sheet demonstrate how the

taxpayer has been left holding the bag even as profits from these securitizations and premiums have long since been rewarded. Improvements in market efficiency from more historical derivatives such as traded on the CBOT through price discovery are less evident for this synthetic market, where more actors are hedge funds betting on certain credit outcomes. In contrast, the insurance fallout from the Tequila Crisis, while showing at the time the limits of such coverage, did not extend beyond the industry. And, based on input from would-be insured companies, providers have re-tailored existing packages to deal with these previous flaws. The absence of government regulation to determine outcomes in either crisis is telling.

From the insurance vantage, regulation continues to exist primarily at the individual state-level through state agencies. The basis for such regulation, predicated on the McCarren-Ferguson Act of 1945 has seen little regulatory change. While Dodd-Frank Act did create a Federal Insurance Office (FIO) within Treasury, it remains to be seen how this addition will truly change the environment. In contrast, derivatives have seen sweeping change intended to bring greater transparency to the marketplace. Perhaps only the future will tell how these reforms for derivatives such as CDS can continue to serve a risk mitigation function at the corporate level (and in so doing foster growth and trade), without instilling fragility into the broader financial system.

II) NEXT ROUND OF RESEARCH

An additional area for exploration is to extend this convergence in the credit space (between Credit Default Swaps and Non-Payment Insurance) to a new political risk derivative product that aligns with more traditional PRI policies. Put differently, could a

corollary arise within the derivatives space that hedges against certain political risks? One argument against the arrival of such a product is that political risks do not have direct underlying assets from which a liquid market could develop. For example, a mature company such as GE has a long track record of holding short and long-term debt from which market makers could create a credit default swap. Such conditions do not exist for political risk claims. However, there are examples in financial derivatives where unlike in CDS' relation to debt, there is no actual underlying. For example, one cannot have ownership of weather events. And yet, disaster-related catastrophe bonds exist, as do a range of (admittedly illiquid) weather derivatives.

While there was a brief moment in the late 1990s when banks attempted to issues political risk derivatives, this market has clearly not taken off. In discussing why, one expert describes the "pendulum" of financial innovations, where perhaps as a result of the financial crisis, there is less demand for new, complex financial products. This paper then shows that corporations will continue to increase investments in politically volatile regions, and explore risk transfer strategies as they do so. While the analysis of the derivatives market showed that the regulatory environment may not be in place to truly prevent future systemic challenges, there could still be room for new financial innovations based on investors' appetites.

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